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942410 fission 8,97827E+02
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Othe reaction 50100 to 30070 was not used, because 50100 is not in Library., (in subr pool)
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Othe reaction 80160 to 80161 was not used, because 80161 is not in library., (in sub-pool) Othe reaction 621470 to 621471 was not used, because 621471 is not in library., (in sub-pool)
Othe fission product transitions for $2240 were not used. Library fissile nuclides are
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Othe fission product transitions for 952430 were not used. Library fissile ruclides are 92230 92350 92410 92280 94230
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Othe fission product transitions for 96340 were not used. Library fissile ruckides are
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program verification information

code system: scale version: 4.2

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                    data from the light element, actinide, and fission product libraries
                      decay data, including genits and total energy, are from endifly-vi
                   neutron flux spectrum factors and cross sections were produced from
                   the "preses?" case updating all nuclides on the scale "burnup" library.
                                  fission product yields are from endf/b-v
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ŏ
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2/16/1996 date Library was produced
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number of nonzero off-diagonal matrix elements
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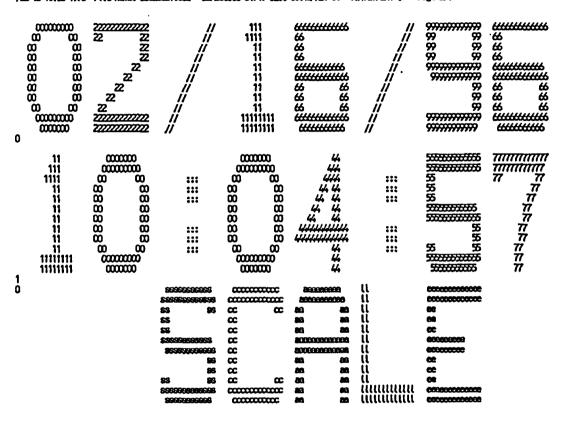
INFORMATION OF

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ses2h: beboook willook 15x15, 3.00x04, 20pxc/mtu burn high temp
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        cn249
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0 .results on logical unit no. 71, position 1, for time step 7, subcase 1. (run position 1, case position 1) title: ses2h: betwook wilcox 15x15, 3.00x16, 20gxc/mtu hum high temp
0 .results on logical unit no. 71, position 2, for time step 5, subcase 1. (run position 1, case position 1) title: ses2h: betwook wilcox 15x15, 3.00x16, 20gxc/mtu hum high temp
0 .results on logical unit no. 71, position 3, for time step 4, subcase 1. (run position 1, case position 1) title: ses2h: betwook wilcox 15x15, 3.00x16, 20gxc/mtu hum high temp
0 .terminated logical unit no. 71 with zero flag record.
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| n-gamma, fission and total nev/ | | 7.4945E+00 | 1.9691E+02 | 2.040E+02 | |
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| n-game, fission and total mev/ | | 7.867 5E+ 00 | 1.97195+02 | 2.050 (E+ 02 | |
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| pass 8, see helts after pass 1 Hittitititib coccoccocc bb bb co co | m m m m mm m mm m m m m | | | (1000) | 7777777777 22 72 22 72 22 72 22 72 |
| pass 8, eec helts after pass 1 Hillitititis bit bit co co bit the co co bit bit co co | 8 m m m m m m m m m m m m m m m m m m m | | | THERE SELECTIONS OF THE SELECTION OF THE | 777777777 22 22 22 22 22 22 22 22 |
| pass 8, eac helts after pass 1 thittititib coccoccocc the boccocccocc the bocccccccc the boccccccccc the boccccccccccc the bocccccccccccccccccccccccccccccccccccc | 8 m m m m m m m m m m m m m m m m m m m | | | (1000) | 7777777777 22 72 22 72 22 72 22 72 |
| pass 8, eec helts after pass 1 Hillitititis bit bit co co bit the co co bit bit co co | 8 m m m m m m m m m m m m m m m m m m m | | | THE | |
| pass 8, eec helts after pass 1 Hillitititis the lib co co the lib co co Hillitititis common co the lib co co Hillitititis co co | 8 m | 66 | Color Colo | THE STREET STREE | |
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| pass 8, eec helts after pass 1 Hillitititis the coccordor the the coccordor thillitititis coccordor the the coccordor the the coccordor the the cocc | 8 m | 66 | Color Colo | THE STREET STREE | |
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| pass 8, eec helts after pass 1 Hittitititis coccoccocc Hittitititis coccoccocc Hittitititis coccoccocc Hittitititis coccoccocc Hittitititis coccoccocc Hittitititis coccoccccc Hittitititis coccoccccc Hittitititis coccocccccc Hittitititis coccocccccc Hittitititis coccocccccc Hittitititis Coccoccccccccccccccccccccccccccccccccc | 8 | Section Sect | | THE STREET STREE | |
| pass 8, eec helts after pass 1 Hillithib coccosco Hillithib cocco | 8 | Section Sect | | THE STREET STREE | |
| pass 8, seechelts after pass 1 Hittitititib coccoscosco Hittitititib coccoscoscoscoscoscoscoscoscoscoscoscosc | 8 | Section Sect | | THE STREET STREE | |
| pass 8, eec helts after pass 1 Hillitititis coccocco Hillitititis coccoccoc Hillitititis coccoccoc Hillitititis coccoccoc Hillitititis coccoccocc Hillitititis coccoccocc Hillitititis coccoccocc Hillitititis coccoccocc Hillitititis coccoccocc Hillititis coccoccocc Hillititis Coccoccocc Coccoccoccocc Coccoccoccocc Coccoccoccoccoccoccocc Hillititis Coccoccoccoccoccoccoccoccoccoccoccoccocc | 8 | Control Cont | Marie | THE STREET STREE | |
| passe 8, eec helts after pass 1 Hillithib coccoccocc hb bb co cc hib bb co cc hillithib cc hb bb co cc hillithibib cc ccccccccc did di aa aa dd dd aa aa | 8 | Section Sect | | THE STREET STREE | |
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| pass 8, seechelts after pass 1 Hittitititib coccoccocc hit b co cc hit b cc hit cc hit b cc hit cc hit b cc hit c | 8 m m m m m m m m m m m m m m m m m m m | | | THE STREET STREE | |
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Feb 16 10:06 1996 File Name: s3020.cf.aut BBA000000-01717-0200-00012 REV 01 ATTACHMENT I - Page 694



program verification information

status

stat

```
this is not a scale configuration controlled code
                                                   ichnene: davis
                                        date of executions 02/16/96
                                        time of execution: 10:04:57
          -1q array has
                               1 entries.
          Oct array has
                               4 entries.
           to array has
                               6 entries.
          20 array has
                               2 estries.
1 logical assignants
Onester Library 12
 working library 0 screets file 18
 new Library
Oroblem description
Oigr-geometry (V/1/2/3--inf mod/slab/cyl/sphere
Oizn-runber of zones or material regions
One-mixing table largth
Oibl--shielded cross section edit option (0/1--no/yes)
Oibr-borderento factor edit option (0/1--no/es)
Oissopt-demonff factor option
Occurregence criterion 1.000000-05
Operatry correction factor for Migner retional approximation 1.3505400
          3q array has
4q array has
5q array has
                              & entries.
                              66 entries.
                              & etries.
          6q array has
7q array has
                                4 entries.
                                4 entries.
                                4 entries.
           80 array has
          9q array has
                                4 entries.
                              66 entries.
          10g array has
          11q array has
                               4 entries.
Onixing table
Ountry mixture isotope
1 1 9225
                                 number density new identifier
                                   3.29451E-04
4.10648E-06
                                                                92235
                         9234
                                                                92234
                                                                9225
9225
9225
                         92236
                                    6.780E-05
                         92238
                                    2.1752/E-02
                          8016
                                                                  80%
                                    4,55359E-02
                          8016
                                    2.09710E-02
                                                                36085
                         360B3
                                    1,83372=05
                                                                34055
38070
                         36055
                                    8.71779E-07
                        38030
39089
     9
                                    2.00600E-05
                                                                39089
42095
40075
                                    1.64607E-05
    10111213141516
                                    2.3051/E-05
                         42095
                         40075
                                     1.66590E-05
                                                                400%
400%
410%
430%
                         400%
                                    2,61240E-05
                                     1,92622-06
                         40095
41094
                                     1,43208E-11
                         43099
                                     2.55495E-05
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1,43117E-05
2,51927E-08
                       45105
45105
  T#PANNUXCAN#RHIRBXHXHHHH4444444444485XHXHXHXHX
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                        44101
                                   2.36761E-05
                        44106
                                   3.5087ZE-06
                                                                46105
                        46105
                                    1.03319E-05
                       46108
                                                                46108
                                   3.17250E-05
                                                               47109
                                   2.13200E-06
                       51124
                                    4.69872E-10
                       知
                                    1.14853E-05
                                   2.33193E-05
                       $155
$155
                                   6.64007E-09
                                    4.51576E-05
                        55134
                                    1.63057E-05
                       55155
                                    1.453E-05
                                                                व्यव्य
                       ST
                                                               $1$7
$21$8
                                   2.770636-05
                                   3.51878E-07
                                                                57139
                        57139
                                   2.7300XE-05
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                                   2.40560E-05
                        59141
                       59143
58144
                                   3.60052E-07
                                    6.940SE-06
                                    2.05000E-05
                       601/3
                       60145
                                    1.54707E-05
                                                               8143
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8147
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8199
                       61147
                                    4.51202E-05
                       61148
60147
                                    1.36887E-08
                                    1.28577E-07
                        62147
                                    2.2053/E-06
                       62149
                                   9.06657E-0B
                        62150
                                   5.8/210E-05
                                                               62151
                                    4.61651E-07
                       62152
                                    2.70675E-06
                        64155
                                   3.60027E-09
                        खाञ
                                    1.87279E-06
                        63154
                                    4.8%3E-07
                                                                63155
                        හාන
                                    2.11219E-07
                                   4.2515/E-02
                        40502
                                                                40502
                                                                 1001
5010
                         1001
                                    4.19420E-02
                         5010
                                   3,81515E-06
                         5011
                                                                 5011
                                    1.54894E-05
                                                               55133
98237
94289
94240
94241
94242
95244
95244
9534
9534
                        25133
                                    2.802/8E-05
                        93237
                                    5,7112E-05
                                    1.15605E-06
                       9425B
94259
                                    1.24276E-04
                       9230
9231
9232
                                    3.03325-05
   60
61
                                    1.811832-05
                                    2.91035E-05
                        95241
   62
                                    7.18357E-07
                        95243
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   ន
                                    3.835 BE-07
   ũ
                                    5.3017Æ-08
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   65
                                    1_0000E-20
                                    1.0000E-20
Operatory and material description
                                                                           type (0/1--fuel/mod)
Ozone sixture cuter disension temperature
1 1 4.68122E-01 9.75000E+02
                                                               extra xs
                                                            9.058//E-01
5.49010E-01
                         4.78790E-01
                                           2.93000E+02
                                           6.5000E+02
                                                             .0000E+00
                         5.4610Œ-01
                                           6.07600E+02
                                                              .00000
                         8. DXE-01
      7771 locations of 20000 available are required to make a ray master containing the self-shielded values
One purilicies in your problem have burderento factor determinated will copy from logical 12 to logical 1
             999 1/v cross sectio from log 12 to log 18 bordererio trigger 0
999 1/v cross sectio from log 18 to log 1 bordererio trigger 0
000by
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information only

| (pppppy) | 999 1/v cross sectio fro | on loo 18 to loo 1 | bardaranko triazer 0 |
|-------------------|-------------------------------|------------------------|---------------------------|
| | 1001 hydroxen fr | on log 12 to log 1 | bandererko trigger 0 |
| Осфу | 1001 hydrogen fri | | |
| Осфу | 5010 b-10 1273 212mp fro | on lou 12 to lou 1 | bandarenko trigger 0 |
| A | | on log 12 to log 1 | bondarenko trigger 0 |
| 0ccpy | | | |
| 0ccpy | 8016 axygen-16 fm | on log 12 to log 18 | bondarenko trigger 0 |
| 0αφήν | 8016 aygan-16 fn | on log 18 to log 1 | bandererico trigger 0 |
| ~~~ | 0016 Gyggt 16 111 | | |
| Осфу | 8016 avygen-16 fm | ona logg 18 to logg 1 | parajaranjeo prijestar (j |
| Ocepy | 36083 kg-83 fm | on log 12 to log 1 | bondarenko trikozen 0 |
| <u></u> | 36055 kr-65 fm | on log 12 to log 1 | bandarenko trigger 0 |
| Octoby | | un tour in the tour in | |
| 0ccpy | 38070 ar~90 fn | on log 12 to log 1 | bandarenko trigger 0 |
| Осфу | 39089 y-89 fn | on log 12 to log 1 | bandarenko trigger 0 |
| 77 | | | bondarenko trigger 0 |
| 0ccpy | | | |
| 0ccpy | 40094 zr-94 fri | on log 12 to log 1 | bandarenko trigger 0 |
| 0ccpy | 40095 zr-95 fn | ora logi 12 to logi 1 | bandarenko trigger 0 |
| | (CCC) minutes for | on log 12 to log 1 | bandererko triccer 0 |
| Ocopy | | | |
| Осфу | 41094 rb-94 fn | oralogi12 too logi1 | bandarerko trigger 0 |
| 0ccpy | | ona logo 12 too logo 1 | bandanenko trigger 0 |
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| Офру | 44101 ru-101 fr | onalog 12 to log 1 | bandarenko trianer 0 |
| Over | | on log 12 to log 1 | bondarenko trigger 0 |
| 0ccpy | | | |
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| Occopy | 45105 rh-105 fr | on log 12 to log 1 | banderenko trigger 0 |
| Остру | | one logs 12 too logs 1 | bandarenko trigger 0 |
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| Офру | | on log 12 to log 1 | porqueixo trigger 0 |
| 0cxpy | 47109 silver-109 fm | ora log 12 to log 1 | borderenko trigger 0 |
| 0 | 51124 sb-124 fn | om log 12 to log 1 | bonderento trigger 0 |
| (Copy | 31104 BU-104 111 | | |
| 0ccpy | | on log 12 to log 1 | bordarenico trigger 0 |
| Осфу | 54152 xe-152 fr | on log 12 to log 1 | bandarenko triazer 0 |
| ~ | | on log 12 to log 1 | bordererlo trigger 0 |
| 0cdbA | | | |
| (Coopty | | ora log 12 to log 1 | bandarenko trigger 0 |
| (COOPY | 55133 cesiun-133 fm | on loor 12 to loor 1 | borderenko triozen 0 |
| <u></u> | | on log 12 to log 1 | bondarerko trigger 0 |
| Octpy | 20 G-Di | | |
| Octoby | | on log 12 to log 1 | bozdarenko trigger 0 |
| Осфу | 55137 cs-137 fm | ona logi 12 to logi 1 | bordererko trigger 0 |
| 0 | | on log 12 to log 1 | bondarerko trigger 0 |
| Осфу | | | |
| (0ccpy | | on log 12 to log 1 | parametri frigger 0 |
| 0cepy | 58144 ce-144 fn | on log 12 to log 1 | banderento trigger 0 |
| (max) | 59141 pr-141 fm | on log 12 to log 1 | bordwerko trigger 0 |
| Осфу | 27 H - F1 | | |
| 0ccpy | 59143 pr-143 fr | on log 12 to log 1 | bordarenko triggar 0 |
| 0ccpy | 60143 ind-143 fr | on log 12 to log 1 | bandarenko trigger 0 |
| 0 | | on log 12 to log 1 | bardererko trigger 0 |
| (pxtpy | COMO ILLADO III | | |
| 0ccpy | 60147 nd-147 · fra | on log 12 to log 1 | borderello trigger 0 |
| Occipy | 6147 ps-147 fn | ona log 12 to log 1 | bandarenko trigger 0 |
| Осфу | 61148 ps-148 fr | ona log 12 to log 1 | bandarerko trigger 0 |
| uth | DING HITTED III | | |
| Осфу | 62147 sm-147 fn | ona log 12 to log 1 | bondareno trigger 0 |
| 0ccpy | <i>62149</i> sn-149 fn | ona loga 12 too loga 1 | bondarenko trigger 0 |
| 7 | | m log 12 to log 1 | bordererko trigger 0 |
| Осфу | | | |
| 0ccpy | 62151 sn-151 fr | on log 12 to log 1 | bordaranko triggar 0 |
| 0ccpy | 62152 sn-152 fr | ona loga 12 to loga 1 | bandererico trigger 0 |
| | | ca log 12 to log 1 | bondarerko trigger 0 |
| (CODE) | | | |
| (papy | | on log 12 to log 1 | parajarajo trigger 0 |
| Ocepy | <u>ක්ති පොසර</u> ණ | on log 12 to log 1 | bandarento triager 0 |
| 0 | | on log 12 to log 1 | bondarenko trigger 0 |
| (corps) | | | |
| 0ccpy | 92254 u-254 1043 sigo= fro | | pourpearlo trigger 0 |
| 0copy | 9225 uraniua-255 fr | om log 12 to log 1 | bondererko trigger 0 |
| | 92256 u-236 1163 sigo= fm | | burdererko trigger 0 |
| (CODD) | | | |
| 0ccpy | 92238 uranium 238 fr | on log 12 to log 1 | properate priese 0 |
| Occipy | 9527 reptunium 257 fro | on log 12 to log 1 | bordererio trigger 0 |
| | 94238 pur 238 1050 sigo fro | | bandererko trigger 0 |
| () | | | |
| (codby | 94239 plutonium-239 fri | ona log 12 to log 1 | bondarenko trigger 0 |
| • | • | | |

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from log 12 to log 1
Осфу
                   0.55 revircatula
                                                               bordererlos trigger 0
0copy
           94241
                   plutonium 241
                                    from las 12 to las
                                                               bondarenko trigger 0
Осфу
           02.22
                   plutonium 242 from log 12 to log
                                                               bandaranko trigger 0
          9531 am 341 1056 step from log 12 to log 1
9533 am 343 1057 218 from log 12 to log 1
9534 aurium 244 from log 12 to log 1
0ccby
                                                               bordererko trigger 0
0ccpy
                                                               bandarenko trigger 0
0copy
                                                               burdarerko trigger 0
      scale 4.2 - 27 grap neutron turnup library
          based on endi-b version 4 data with endi-b version 5 fission products
             compiled for nrc
                                   1/27/89
                last updated
                                   9/16/98
                    lunipetrie - oml
           tape id
                                                 4321
                                                                number of nuclides
                                                                                                        66
                                                               number of games groups
logical unit
           number of neutron groups
                                                  27
           first thermal group
                                                   15
                                           table of contents
         1/v cross sections normalized to 1.0 at 0.0253 ev
                                                                                                        999
                                                                                               1/v cross sections normalized to 1.0 at 0.0253 ev
                                                                                                         66
                          endf/b-iv met 1269/thms1002 uzdeted 10/13/89
                                                                                                       1001
         hydrogen
         b-10 1273 218ngo 042375 p-3 285k
boron-11 endf/b-1v met 1160
                                                                                                       5010
                                                            undeted 10/13/89
                                                                                                       5011
                                                            uzdeted 10/13/89
                                                                                                       8016
          avgan-16
                          endf/b-iv mat 1276
          aygen-16
                          endf/b-iv met 1276
                                                            updated 10/13/89
                                                                                                          6
          kr-83
                          mt=102,103,103,105,105,107
mt= 102
                                                           updated 10/13/89
                                                                                                      36083
                                                                                                      36065
          kr-85
          sr-90
                          mt=102
                                                            uzdeted 10/13/89
                                                                                                      38090
          y-89
                          mt=102
                                                            updated 10/13/89
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          27-93
                                                                                                      40075
                            mt= 102
          25-94
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                                                            ucdated 10/13/89
                          mt=102
          zr-95
                                                            updated 10/13/89
                                                                                                     40055
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                          mt=102
          zircalloy
                          endif/b-iv mat 1284
                                                            uzdated 10/13/89
         rb-94
                                                            updated 10/13/89
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                          mt=102
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         NO-52
                          nt=102
                                                            undeted 10/13/89
                          at=102
                                                                                                      43099
          tc-99
                                                            undeted 10/13/89
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                          nt=102
                                                            updated 10/13/89
          ru-101
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                          mt=102
                                                            undeted 10/13/89
                                                                                                      45105
                          mt=102
                                                            ubdated 10/13/89
          rh-103
          rh-105
                            nt= 102
                                                                                                     45105
         pd-105
                                                                                                      46105
                          at=102
                                                            undeted 10/13/89
                          mt=102
                                                                                                     46108
          pd-108
                                                            undeced 10/13/89
                          endf/b-iv met 1139
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                                                                                                     47109
          silver-109
                                                                                                     51124
          sb-124
                          at=102
                                                           undated 10/13/89
                         mt=102,103,104,105,105
mt=102,103,104,105,105
erati/to-iv mat 1254
                                                                                                      54131
                                                           undeced 10/13/89
         x=131
                                                                                                      54132
         x=132
                                                           updated 10/13/89
                                                                                                      5455
         xenon-135
                                                            undeted 10/13/89
                          mt= 102, 105, 104, 105, 107
erch/o-iv mat 1141
                                                                                                     54136
         xe-136
                                                                                                     $13
$13
$15
$15
          cesium-133
                                                            updated 10/13/89
         CS-134
                                                            undated 10/13/89
                          mt=102
         CB-125
                             mt= 102
                                                                                                     55137
56136
         CS-137
                          nt=102
                                                            updated 10/13/89
         ba-136
                         mt=102
                                                            updated 10/13/89
                                                                                                     57139
          la-139
                          mt=102
                                                            unated 10/13/89
                                                                                                     58144
59141
          ce-144
                             ast= 102
         mt=102,105,104,105,105,107
                                                            undeted 10/13/89
                                                                                                     59143
                                                            updated 10/13/89
                         mt=102
         nt-1/3
                         mt=102
                                                            updated 10/13/89
                                                                                                     60143
         nd-145
                                                                                                     60145
                          mt=102
                                                            uzdated 10/13/89
                                                                                                     60147
61147
61148
         nd-147
                          BE=102
                                                           undated 10/13/89
                          mt=102
                                                           undated 10/13/89
         pr-147
         DH-148
                             art=
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updated 10/13/89

62147

sn-147

endi/b-v fission product

| | | | | | | • | |
|---|--|----------------|---|---------------|--------------------------|---|--|
| | SER-149 | at=102,103 | .107 | uxdated 1 | 0/13/89 | id 62149 | • |
| | sm: 150 | mt=102 | | upplated 1 | Q/13/89 | id 62150 | |
| | sm-151 | mt=102.10B | ,104,105,106,107 | updated 1 | 0/13/89 | id 62151 | |
| | sm 152 | | 104,105,106,107 | uzdated 1 | 0/13/89 | id 62152 | - |
| | er 153 | | 104,105,106,107 | uzdated 1 | | id 63153 | |
| | eu 154 | mt=102,108 | ,104,105,106,107 | updated 1 | | id &154 | |
| | er-155 | m=102.103 | 104, 105, 106, 107 | undeted 1 | | M 83135 | |
| | ₩ 6 | mt=102 | ادر احد احد الما | undeted 1 | | id 6/155 | |
| | | | cs p-3 205k f-1/ | | 4 -4 -7 | id 92234 | • |
| | uranius-235 | endf/b-iv | | updated 1 | 0/13/AD | id 9225 | |
| | | | cs p-3 295k f-1/ | | | id 9236 | • |
| | | and the iv | | updated 1 | 0.417.490 | id 92238 | |
| | uranius-238 nextunius-237 | | | uzdated 1 | | id 95257 | |
| | | | | | uj cajar | id 94238 | |
| | | gu-y resku | acs p-3,265k f-1, | (CBK 1945) | 0.HT (ED) | id 94239 | |
| | plutanium 239 | | | updated 1 | | id 94239 id 94240 | |
| | plutonium 240 | | | updated 1 | | | |
| | plutonius 241 | | | uxisted 1 | | id 94241 | |
| | plutonium 242 | | MEC 1161 | _ updated 1 | ALIPADA | id 96262 | |
| | 802-241 1056 SI | goote needl | acs 218ngp p-3 2 | ZSK | | id 95241 | |
| | | | en 0,03% p3 23 | | | id 952/3 | |
| _ | curium 244 | endi/b-iv | | updated 1 | D/13/89 | id 96244 | |
| 0 | tape copy us | ed 01/0 | o's, and took | .00 seconds | | | |
| 1 | m | m | 111111111111 | ttttttttttt | 800000000 | m mil | |
| | m | m | 11111111111111 | ttttttttttt | 88888888888 | m mil | |
| | nn | n m | !! | tt | 86 80 | и и <u>II</u> | |
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| 0 | *** | *** | ************ | •• | | | |
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| | | | • | ij | 86366666666 | | |
| | | | ww | ii | | | |
| | | 46 | * * | ii | 96 95 | | |
| | | 86 | ** ** | ii | | • | |
| | | | ww | *********** | 85 93 | | |
| | | 88 | w | | 966666666666 | | |
| _ | quimini sa | 66 | Y | 1111111111111 | 2295363636 | | |
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| | **** | | | 44 | *********** | ,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | ********* |
| | | mmn. | | .11 | CECCULARION | // 9999999 | <i>CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC</i> |
| | | m_{m} | | 111 | CHARACTER | <i>!! ???????</i> ?? | (((((((((((((((((((((((((((((((((((((|
| | 0 0 22 | 22 | | 11]] | 66 | // 99 99 [.] | 66 |
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| | oo oo | | // | 11 | 66 | <i>II</i> 99 99 | 66 |
| | 00 00 | _22 | . // | 11 | *********** | // 999999999 | 600000000 |
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| | | 22 | // | 11 | 66 66 | // 99 | 66 66 |
| | 00 00 22 | | jj . | 11 | 66 66 | // 99 | 66 66 |

Feb 16 10:06 1996 File Name: s3020.cf.out BEN000000-01717-0200-00012 REV 01 ATTACHENT I - Page 700

| 0 | 000000 | | # | 11111111 11111111 | | # | 97777777777777777777777777777777777777 | |
|---|---|--|---|---|--|--|--|--|
| 1 | 11 111 1111 11 11 11 11 11 11 11 111111 | 88888888888888888888888888888888888888 | ::: ::: ::: ::: | 888 88 88 88 88 88 88 88 88 88 88 88 88 | | ::: ::: ::: ::: | 55 55 55 55 55 55 55 55 55 55 55 55 55 | ###################################### |
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| ***** | | |
|-------------------|---|--|
| **** | | Sinkin |
| *** | program verification information | **** |
| *** | bedrag an intential manuscrat | The State of |
| Add to | code system scale version: 4.2 | ******* |
| **** | | *** |
| **** | | |
| *** | | |
| *** | | **** |
| AAAA | • | #### |
| *** | program: c0c002 | Selection 1 |
| - | | State System |
| *** | creation date: 04/27/95 | (finderlander |
| *** | | |
| | Library: Anautronics/scale/exe | Addition |
| MANA | | |
| draft desk | | The state of |
| *** | this is not a scale configuration controlled code | *** |
| *** | | Printer. |
| *** | ictorene: devis | *** |
| *** | • | Self-Subs |
| *** | date of execution: 02/16/96 | Act de la constant de |
| *** | • • • • • | *** |
| Substitute | time of executions 10:04:58 | Sidesides |

```
1 entries.
0
          -1q array has
Õ
          Ozi array has
                              9 entries.
           1g array has
                             12 entries.
Oselect 65 ruclides from the master library on logical 1
0 ruclides from the working library on logical 2
0 ruclides from the working library on logical 3
             to create the new working Library on Logical 4
         61 resonance calculations have been requested
          O cutput option for anpx formatted cross section data.
Othe storage allocated for this case is 200000 words
          2q array has
                          65 entries.
          30 array has 915 entries.
          4g array has
                           65 entries.
O general information concerning cross section library
     tape identification runber
    runber of nuclides on tape
                                                     66
27
    number of neutron energy groups
     first thereal neutron energy group
                                                      5
number of gastra energy groups 0 direct access unit number 9 requires 117 blocks of length 1484 words
 - xedm tapa 4321
                            scale 4.2 - 27 group routron turnsp library
based on scall-b version 4 data with endi-b version 5 fission products
                                  compiled for mo
                                                         1/27/09
                                                          9/16/93
                                         Langetrie - amil
O ruciides from sedm tabe
           1/V cross sections normalized to 1.0 at 0.0253 eV
                                                                                                    1001
5010
5011
            hydrogen
                             ercif/b-iv met 1259/thrm1002 updated 10/13/89
           b-10 1273 218np 042575 p-3 293k
boron-11 endf/b-1v net 1160
                                                               updated 10/13/89
            aygen-16
                             and /b-iv mat 1276
                                                               updated 10/13/89
                                                                                                    8016
            00/02/1-16
kr-83
                             endf/b-iv mat 1276
                                                               undated 10/13/89
                                                                                                      6
                             nt=102,108,108,106,106,107
nt= 102
                                                               uzzleted 10/13/89
                                                                                                   36083
            kr-85
                                                                                                   3605
                                                                                                  38070
37089
            27-90
                             mt=102
                                                               undered 10/13/89
    101112131415141718192121212XXXX
             y-80
                             mt=102
                                                               updated 10/13/89
                                                                                                  27-93
                               mt= 102
            st=102
                                                               updated 10/13/89
            27-95
                             art=102
                                                               updated 10/13/89
            zircalloy
                             endi/b-iv met 1284
                                                               undeted 10/13/89
            rb-94
                             mt=102
                                                               undated 10/13/89
            mo-95
                             mt=102
                                                               updated 10/13/89
                                                                                                  43099
44101
            tc-99
                             mt=102
                                                               updated 10/13/89
            ru-101
                             mt=102
                                                               updated 10/13/89
            ru-106
                             mt=102
                                                               updated 10/13/89
                                                                                                  44106
            rh-103
                             mt=102
                                                               umbted 10/13/89
                                                                                                  4510B
                                                                                                  45105
            rh-105
                               mt= 102
           pd-105
                             mt=102
                                                               undeted 10/13/89
                                                                                                  46105
4610B
            pd-108
                             mt=102
                                                               updated 10/13/89
           silver-109
                             endf/b-iv met 1139
                                                               updated 10/13/89
                                                                                                  47109
                                                                                                  51124
54131
            $ 124
                                                               undeted 10/13/89
            x=-131
                             mt=102,108,104,105,106
                                                              updated 10/13/89
```

```
mt=102,103,104,105,105
                                                           updated 10/13/89
                                                                                            54132
           xe-132
                                                                                            54135
                          endf/b-iv mat 1294
    28
           xenon-135
                                                           umbted 10/13/89
                                                                                            54136
                             mt= 102, 103, 104, 105, 107
           xe-136
    updated 10/13/89
                           endf/b-iv met 1141
                                                                                            55133
           cesium 133
          CS-134
                                                           underted 10/13/89
                                                                                            55134
                          RE=102
                                                                                            2012
                                   102
           cs-135
                             et=102
                                                                                            55137
   出达农民农民政党公司的办会与办公司的公司的农民政党的政党
           cs-137
                                                           updated 10/13/89
                                                                                            56136
                          mt=102
                                                           underted 10/13/89
           Dar 136
                                                                                            57139
                          mt=102
                                                           undeted 10/13/89
           la-139
                             att= 102
                                                                                            58144
           œ-144
          P-1/3
                                                                                            59141
                           mt=102,105,104,105,106,107
                                                           undeted 10/13/89
                                                                                            59143
                                                           undeted 10/13/89
                           mt=102
          nd-143
                                                                                            60143
                                                           undeted 10/13/89
                          mt=102
                                                                                            60145
           rd-145
                           mt=102
                                                           undeted 10/13/89
                                                                                            60147
                          mt=102
                                                           updated 10/13/89
           nd-147
                                                                                            61147
          pn-147
                                                           undeted 10/13/89
                          m±=102
                                                                                            61148
           pr-148
                             nt= 102
                                                                                            62147
           sn-147
                           endi/b-v fission product
                                                           updated 10/13/89
                          mt=102,108,107
                                                           undated 10/13/89
                                                                                            62149
           sn-149
                                                           updated 10/13/89
                                                                                            62150
           sm-150
                           mt=102
                          mt=102,103,104,105,105,107
mt=102,103,104,105,105,107
mt=102,103,104,105,105,107
mt=102,103,104,105,105,107
                                                                                            62151
                                                           umbted 10/13/89
           sn-151
                                                                                            62152
           sm-152
                                                           undeted 10/13/89
                                                                                            ങ്ങ
                                                           undered 10/13/89
           er-122
                                                                                            63154
                                                           undeted 10/13/89
           eu-154
                                                                                            63125
                          ME=102, 108, 104, 105, 106, 107
                                                           undered 10/13/89
           er 122
                                                                                            64155
                           mt=102
                                                           ucdated 10/13/89
           œ+155
                                                                                            9234
          u-Z% 10/3 sign-5+4 reaklacs p-3 288k f-1/e-s(1.+5)
           uranium-255 endf/b-iv mat 1261
                                                           undeted 10/13/89
                                                                                            9235
                                                                                            92236
          u-256 1163 sigo-5+4 resklacs p-3 250k f-1/e-s(1.+5)
          uranium 258 endi/toriv met 1262
neptunium 257 endi/toriv met 1263
                                                           updated 10/13/89
                                                                                            92238
                                                                                            95257
                                                           umbted 10/13/89
                                                                                            pr-ZB 1050 sign-5+4 nauklacs p-3 25% f-1/e-n(1.+5)
           plutonium-239 ercif/b-iv met 1264
    59
                                                           undeted 10/13/89
           plutorium-240 erolf/b-iv met 1265
plutorium-241 erolf/b-iv met 1266
    80
                                                           umbted 10/13/89
                                                           updated 10/13/89
    61
           plutonium-242 endi/to-iv mat 1161
                                                           uzdated 10/13/89
    82
                                                                                            95241
          an-241 1056 sigp 544 navdacs 218 gp p-3 250k
an-243 1057 218 gp at 1-1/e-m 02036 p3 250k
                                                                                            952/3
                                                                                            9624
                           end /b-iv set 1162
                                                           uzdated 10/13/89
          curium 244
                                                                                           tenperature 975.00
Of/v cross sections normalized to 1.0 at 0.023 ex
                 erclf/b-iv met 1269/thrm1002 updated 10/13/89
                                                                                  1001
                                                                                           temperatures 607.60
0 hydrogen
                                                                                             50.00 yes selected
                               thermal scattering matrix runber 2 at a temperature of
0b-10 1273 218mp 042575 p-3 258k
                                                                                  5010
                                                                                           temperatures 607.60
                                                                                             50.00 Has selected.
                               thermal scattering matrix runber 2 at a temperature of
                                                                                           temperatures 607.60
                                                  uzdated 10/13/89
                                                                                  5011
0 boron-11
                 endf/b-iv and 1160
                                                                                             950.00 was selected.
                               thermal scattering matrix runber 2 at a temperature of
                                                                                           terperature 975.00
                 endi/b-iv met 1276
                                                  undsted 10/13/89
                                                                                  8016
0 oxygen-16
                                                                                           temperature 607.60
                                                                                    6
0 aggan-16
                 erdi/oriv met 12/6
                                                  uppleted 10/13/89
                                                                                           terperature 975.00
                 mt=102, 108, 108, 105, 106, 107
                                                  updated 10/13/89
                                                                                 36083
0 kr 83
Orescrepce data for this nuclide
                               82,202
                                                                                 = 975.000
Omes runber (a)
                                                      temperature(kelvin)
                                 7.004
                                                                                 = 1.8137241E-06
Contential scatter signs =
                                                      lumbed nuclear density
                                                                                = 4.6812201E-01
                          = 4988.190
                                                      Luap dimension (a-bar)
Ospin factor (g)
                          = .000000E+00
                                                      denicoff correction (c)
                                                                                = 3.4269261E-01
Cirrer radius
Othe absorber will be treated by the northein integral author.
                                                    signs(per absorber atom)= 9.414866/E+04
Omes of acclarator-1 = 15.995
Oncderator-1 will be treated by the norchein integral method.
                                                    signs(per absorber aton)= 1.0504055E+05
Organia of moderator-2 = 257.933
Omderator-2 will be treated by the northein 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
Outroup
              res abs
                               res fiss
                                                res scat
                              .000000
                                            -3.44412/E-03
           -2.7268ZE-03
  11
  12
            2.164301E-02
                              .000000E+00
                                            9_894224E-03
                              .00000E+00
                                           -1.766261E-01
  13
           -5.91653/E-01
  Ÿ.
            4.783/PEE-05
                              .00000E+00 -1.724147E-05
Oceas resonence integrals
                    resolved
                   1,44590E+02
Oabsarption
 fission
                    .000E+00

    elapsed time

                    .00 min.
0 kr-85
                                                                                  34085
                                                                                             temperatures
                     mt= 102
                                                                                                            975.00
                  mt=102
                                                                                             temperatures
0 = 90
                                                   undered 10/13/89
                                                                                  38090
                                                                                                            975.00
                                                   updated 10/13/89
                                                                                                            975.DD
0 y-89
                                                                                  30B9
                                                                                             temperature=
                  nt=102
Oresonence detai for this ruclide
                                                                                  = 975,000
Orress number (a)
                                                       temperature(kelvin)
                                                                                  = 1.6/60750E-05
Opotential scatter signs =
                                 3.64
                                                       lumped nuclear density
                                                                                  = 4.6812201E-01
                                                       lumo dimension (a-bar)
Ospin factor (g)
                           = 78.664
                           = .00000E+00
                                                       dercoff correction (c)
                                                                                  = 3.426926 E-01
Oinner radius
Othe absorber will be treated by the northern integral method.
Oness of moderator-1 = 15,995 signe(per absorber aton)= 1.0373749E+04
Oncerator-1 will be treated by the northein integral method.
Oness of moderator-2 = Z7,933 signe(per absorber aton)= 1.157389E+04
Oncderator-2 will be treated by the northeim integral method.
Othis rescreme enterial will be treated as a 2-dimensional object.
Oxolume fraction of lump in cell used to account for special self-shielding-1.00000
Gross
              res abs
                               res fiss
                                                nes scat
                              .00000E+00
                                            -4.070307E-04
            4.946419E-06
                              .00000E+00 -2.851098E-04
  10
           -1.010821E-04
Descess rescrence integrals
                    resolved
Osbsorption
                   1.4655E-01
 fission
                    .0000E+00

    elacaed time

                    .00 min.
                                                                                             tasperature 975.00
0 27-93
                    mt= 102
                                                   undated 10/13/89
                                                                                  4000%
                                                                                             terperature: 975.00
0 2-94
                  mt=102
Oresonance data for this nuclide
                                                                                  = 975.000
Oness runber (a)
                                95.100
                                                       temperature(kelvin)
                                                                                  = 2.6124020E-05
Opotential scatter signs =
                                 3.779
                                                       lumed nuclear density
                                                                                  = 4.6812201E-01
Ospin factor (g)
                           = 190.853
                                                       lump dimension (a-bar)
                                                       dencoff correction (c)
                                                                                  = 3.4269261E-01
Oimer radius
                           = .000000E+00
Othe absorber will be treated by the norcheim integral method.
Omess of anderstor-1 = 15.995
                                                     signa(per absorber atom)= 6,5365019E+03
Onchretor-1 will be treated by the northern integral method.
Omess of anderstor-2 = 257.933 signs(per absorber atom)= 7.2925973E+03
Oncderstor-2 will be treated by the northein integral method.
Othis resonance asterial will be treated as a 2-diamstoral object.
Ovolume fraction of lump in cell used to account for spatial self-shielding-1.0000
               res abs
                               res fiss
                                                res scat
Operato .
           -1.7158125-06
                              _00000E+00 -1.60B049E-03
   9
           -5.1K553E-05
                              _00000E+00
                                            -4.52140Œ-03
Descess resorance integrals
                    resolved
Oabscrption
                   3.43/6Œ-02
 fission
                    .0000E+00
- elapsed time
                    .00 min.
                                                   uzdated 10/13/89
                                                                                             tencerature 975.00
0 27-95
                 mt=102
O zircalloy endi/briv met 12
Oresonence data for this nuclide
                 endf/b-iv met 1284
                                                                                   40802
                                                   updated 10/13/89
                                                                                             tenperature= 650.00
                                                                                  = £50,000
Orass runber (a)
                                                       temperature(kelvin)
```

IKEOJ....

```
= 4.255602E-02
Opotential scatter signs =
                                6.385
                                                     lumped nuclear density
Ospin factor (g)
                                1.079
                                                     lump dimension (a-bar)
                                                                               = 5.4610002E-01
                          = 4.7878779E-01
                                                                               = 5.0864687E-01
Oirner redius
                                                     dencoff correction (c)
Othe absorber will be treated by the northeim integral method.
Othis rescreme naterial will be treated as a 2-dimensional object.
Ovolume fraction of lump in cell used to account for spatial self-shielding-1.00000
(Darado
              res abs
                              res fiss
                                               res scat
                                          -1.285907E+00
           -1.78059Œ-03
                             .000000E+00
          -5.88373E-02
                             .00000E+00 -2.695257E+00
  10
          -6.93335E-02
                             .00000E+00 -1.601321E+00
  11
          -1_BE3987E-01
                             .00000E+00 -7.920912E-01
Oescess rescrence integrals
                   resolved
                  2.2537E-01
Osborption
fission
                    -0000E+00

    elapsed time

                   .02 min.
                                                 undated 10/13/89
                                                                               41094
                                                                                         terperature= 975.00
0 rb-94
                 mt=102
Oresonence data for this ructide
Orness number (a)
                          = 93,101
                                                     temperature(kelvin)
                                                                               = 975.000
Opotential acatter signs =
                                                     lumped nuclear density
                                                                               = 1.4320781E-11
                               3.779
Dispin factor (g)
                         = 43808.801
                                                     lump dimension (a-bar)
                                                                               =4.6812201E-01
Dimer radius
                          = .0000000=+00
                                                     dencoff correction (c)
                                                                               = 3.4269251E-01
Othe absorber will be treated by the northeirs integral method.
Omes of moderator-1 = 15.995
                                                   signs(per absorber atom)= 1.1925910E+10
Omogrator-1 will be treated by the norchein integral method.
Omes of moderator-2 = 257,933 signs(per al
                                                   signs(per absorber aton)= 1.338366+10
Omderator-2 will be treated by the northern integral method.
Othis resonance material will be treated as a 2-dimensional object.
Ovolume fraction of lump in cell used to account for scatial self-shielding-1,0000
                              res fias
(parab
              res abs
                                              res scat
           1_03053E-02
                             .000005+000
                                           9.2533/Æ-04
  13
  ī.
           9.836727E-0B
                             .000000
                                          -4.054839E-04
Oucess rescreme integrals
                   resolved
Orbeandtion
                  9.15001E+01
                    .0000E+00
fission
                   .02 min.

    element time

0 10-95
                                                                               42075
                                                                                         temperature= 975.00
                mt=102
                                                 undated 10/13/89
Oresonance data for this nuclide
Omes number (a)
                               94.091
                                                     temperature(kelvin)
                                                                               = 975,000
                                                                               = 2.3051618E-05
Ocotential scatter signs =
                                3.806
                                                     lumed nuclear density
Ospin factor (g)
                          = 607.7%
                                                     lump dimension (a-bar)
                                                                               = 4.6812201E-01
                          = .00000E+00
                                                     dencoff correction (c)
                                                                               = 3.426026 E-01
Oimer radius
Othe absorber will be treated by the norcheim integral method.
Omes of moderator-1 = 15,995
                                                   signe(per absorber atom)= 7.4077100E+03
Omperator-1 will be treated by the northern integral method.
Omes of moderator-2 = 257.93 signs(per al
                                                  signs(per absorber atunt)= 8.25/6943E+03
Omogration 2 will be treated by the norche in 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
grap
              res abs
                              res fiss .
                                              res scat
  10
           4.875019E-03
                             _000000E+00
                                          -2.926810E-02
                                          -1.501381E-02
 11
          -9.137521E-03
                             .000000E+00
          6.20574<del>(E+</del>00
                            .000000E+00
                                          -7.13883E+00
  12
  13
           1.5608225-04
                             .000000E+00
                                          -1.886280E-05
Osucess resonance integrals
                   resolved
Debaarotion
                  9.55/502+01
                   -0000E+00
fission
```

- elapsed time

.OB min_

```
0 tc-99
                 mts172
                                                undated 10/13/80
                                                                             43099
                                                                                       termenatures 975.00
Oresonence data for this nuclida
Oness runber (a)
                               98, 150
                                                    temperature(kelvin)
                                                                             975.000
Opporatial scatter signs =
                               200
                                                                             = 2.55/0/56E-05
                                                    lunced nuclear density
Ospin factor (g)
                         = 4527,940
                                                    luno dimension (a-bar)
                                                                             = 4.6812201E-01
Dirner radius
                          # .000000E+00
                                                    dencoff correction (c)
                                                                             = 3.4269261E-01
Othe absorber will be treated by the northern integral method.
Omes of moderator-1 = 15.995
                                                 signs(per absorber aton)= 6.683/AKE+03
Concernator-1 will be treated by the northelm integral method.
Comes of moderator-2 = 257.953
                                                 signs(per absorber atmo> 7.4566987E+08
Oncerator 2 will be treated by the northern integral method.

Othis resonance material will be treated as a 2-dimensional object.
Oxolume fraction of lump in cell used to account for spetial self-shielding-1,0000
Garano
              res ets
                              nes fiss
                                             res acet
                            .0000E+00 -1.55325E-02
  11
           -3.277379E-02
  12
           -8.767703E-03
                            .000000=+00
                                         -3-10146F-04
  13 14
                            .00000E+00
           -5.338083E-01
                                         -2.808S0E-02
           -1.125903E+01
                            _000000=+00
                                         -3.59185/F-01
  15
           1_09245-02
                            _000000E+00
                                         -5.37888VE-04
  16
           4.83589E-03
                            .00000F+00
                                         -2.801829E-04
  17
           2.074197E-04
                            _00000F+00
                                         -1.191841E-05
Opicess resonence integrals
                   resolved
Outbeamption
                  3.19699E+02
 fission
                   .0000E+00
- elapsed time
                   .CB min.
0 ru-101
                at=102
                                               undated 10/13/89
                                                                             44101
                                                                                      temeratures 95.00
Orescriptoe data for this nuclide
Orees runber (a)
                         = 100,039
                                                   tempereture(lectvin)
                                                                             = 95.00
Occupation scatter signs =
                              1.95
                                                   lumped ruction density
                                                                             = 2.3676123E-05
Ospin factor (g)
                         = 8785,290
                                                   lum dimension (a-ber)
                                                                             = 4.6812201E-01
Dirner redius
                         = .0000000=+00
                                                   direction (c)
                                                                             = 3.4269261E-01
Othe absorber will be treated by the northeim integral method.
Oness of acclarator-1 * 15.995
                                                 signa(per absorber atom)= 7.2125169E+03
Oncderator-1 will be treated by the northern integral method.
Ones of ancierator-2 = 257.953
                                                 signature absorber atmos 8.064404F+03
Omoderator-2 will be treated by the northein integral method.
Othis resonance material will be treated as a 2-dinamional object.
Ovolume fraction of lump in cell used to account for spetial self-shieldings, com
Oproup.
             rea abs
                             res fiss
                                         res scat
-3.70604E-03
  11
          -3.6%15ZE-02
                            .00+300C+00
                            WWW.
  12
          -2.101600F-01
                                         5.00156E-02
  13
          -6.35325 E-01
                            .0000E+01
                                         -1.7000E-02
          2.367621E-04
                            .000000E+00
                                         4.1546E-05
Oceans resurence integrals
                  resolved
Oabsorption
                 7.8950E+01
fission
                   .00007+00
- elapsed time
                   .OS min.
0 ru-105
                mt=102
                                               updated 10/13/89
                                                                            44106
                                                                                      temperature= 975.00
0 rh-105
                mt=102
                                               updated 10/13/80
                                                                             4510B
                                                                                      tenberature= 975.00
Oresonence data for this nuclide
Oress rusber (a)
                         = 102.021
                                                                            = 975.000
                                                   temperature(kelvin)
Opportual scatter signs =
                               5.40B
                                                   lumped ructour density
                                                                            = 1.431172E-05
Ospin factor (g)
                                .500
                                                  lum dimension (arber)
                                                                            = 4.6812201E-01
                         = .0000000:+00
Oimer redius
                                                  dencoff correction (c)
                                                                            = 3.4269261E-01
Othe absorber will be treated by the norcheim integral method.
Oness of acclarator-1 = 15.995
                                                signs(per absorber atomb= 1.1951/57E+04
Onchrator-1 will be treated by the northein integral method.
Oness of acclarator-2 = 257.953
                                                signator absorber atomb= 1,331178/E+0%
```

```
Oncebrator-2 will be treated by the norcheim integral method.
Othis resonance material will be treated as a 2-dimensional object.
Oxclume fraction of lump in cell used to account for spatial self-shielding-1.00000
              res abs
                              res fiss
                                              res scat
Ottarb
                                           1,7898/9E-03
           1,204389E-03
                             .000000E+00
  10
          -5.018506E-03
                            -000000E+00
                                          -6.89820E-03
                             .00000E+00
                                          -2.52B39E-02
  11
          -2.892719E-02
                             .000000E+00
  12
          -4.875087E-04
                                          -2.801750E-05
  13
            .000000E+00
                             .000000E+00
                                             .000000=+00
                             .000000E+00
                                             _00000E+00
            .000000=+00
  ï
                                           3.1704Æ-03
           2.245639E-01
                             _00000E+00
  16
           2.530610E+01
                             .00000E+00
                                           -8.509989E-02
  17
          -1,890581E+02
                             .000000E+00
                                          -1.7677VE-01
           8.646072E+01
                                           2.602341E-01
                             .0000000
  18
  19
           1.1391/3E+01
                             .000000E+00
                                           -1.22K5B6E-03
                                          -2.40486E-03
                             .000000E+00
  20
           1.079305E+00
  21
           2.16570/E-01
                             .000000E+00
                                           1.9255E-03
  22
           2.583927E-01
                             .00000E+00
                                           2.92545E-03
  z
          -9.878527E-02
                             .0000000E+00
                                           1.787422-03
Opcess resonance integrals
                   resolved
Outportion
                   1.13325E+03
fission
                   .0000E+00

    elacoad time

                   .07 min.
                                                                              45105
                                                                                        temerature: 975.00
0 rh-105
                    mt= 102
                                                                                        tenperature= 975.00
0 pd+105
                 nt=102
                                                updated 10/13/89
                                                                              46105
Orescrence data for this nuclide
                         = 104.004
                                                                              = 975,000
Omes runber (a)
                                                     terperature(kelvin)
                                                                              = 1,0531927E-05
Opotential scatter signs #
                                4.059
                                                     lumed nuclear density
                                                                              = 4.6812201E-01
                         = 15210,000
                                                     lump dimension (a-bar)
Oscin factor (g)
                                                                              = 3.426926 E-01
Oimer radius
                          dencoff correction (c)
Othe absorber will be treated by the nurcheim integral method.
                                                   signs(per absorber atom)= 1.6527381E+04
Oracs of moderator-1 = 15.995
Onockretor-1 will be treated by the northein integral method.
                                                  signs(per absorber atom)= 1.8/39402E+04
Ones of moderator-2 = 257.953
Oncderator-2 will be treated by the norchein integral method.
Othis rescrence material will be treated as a 2-dimensional object.
Ovolume fraction of turp in cell used to account for spatial self-shielding-1.00000
Ograp
12
                              res fiss
              res abs
                                              res scat
           -6.80975/E-02
                             .00000E+00
                                           -2.334/5/E-03
                                           -1.8605/RE-03
  13
          -7.983XE-02
                             .000000E+00
           7.75/399E-04
                             .000000E+00
                                           -8.104906E-05
Oscess resonance integrals
                   resolved
                  6,11907E+01
Oubscrption
 fission
                    .0000E+00
- elapsed time
                   .07 min.
                                                                              46108
                                                                                        temperature: 975.00
0 pd-108
                 mt=102
                                                undeted 10/13/89
Orescrence data for this nuclide
                                                                              = 975.000
Omes rurber (a)
                              106.977
                                                     temperature(kelvin)
                                                                              = 3.173/99/E-05
Opotential scatter signs =
                                4.146
                                                     lumed nuclear density
                                                                              = 4.6812201E-01
                          = 21175.100
Oscin factor (g)
                                                     lump dimension (e-bar)
                          = .0000000E+00
                                                    dencoff correction (c)
                                                                              = 3.4269261E-01
Oimer radius
Othe absorber will be treated by the northein integral method.
                                                   signs(per absorber aton)= 5.38249730+04
Omes of moderator-1 = 15.995
Omderator-1 will be treated by the norche in integral method.

Omes of moderator-2 = 257.933 signator at
                                                  signa(per absorber atom)= 6.0051857E+04
Omogrator-2 will be treated by the norders integral setted.
Othis resonance saterial will be treated as a 2-disensional object.
Oxcluse fraction of lump in cell used to account for spatial self-shielding-1.0000
```

```
Blath.
              res abs
                              res fiss
                                               nes acat
                             .0000000=+00
           1.16976BE-04
                                           3.53060E-04
  12
                             _00000E+00
           -2.557494E+00
                                           -2.103978E+00
  13
           6_680858F-03
                             .000000=+000
                                            1_865999E-03
           8.56089E-02
                             ,000000E+00
                                           -3.21048E-05
  Б
          -1.841547E-01
                             .00000E+00
                                           8.083373E-05
  16
           2.94597E-04
                             .000000E+00
                                           -9.25674E-06
Ocicess rescrence integrals
                   resolved
Oabscrption
                  2.10993E+02
 fission
                    -0000E+00
- elacaed time
                   .07 min.
0 silver-109 erdf/b-iv mat 1139
                                                 undeted 10/13/89
                                                                                47109
                                                                                          temperatures 975.00
Oresonence data for this nuclide
Ottess number (a)
                          = 107,969
                                                      tenperature(kelvin)
                                                                                = 975,000
Optertial scatter signs = 4.988
                                                      lunped nuclear density
                                                                                = 2.1320018E-06
Ospin factor (g)
                          = 1441,870
                                                      lump dimension (a-bar)
                                                                                = 4.4812201E-01
                          # .000000E+00
                                                     dercoff correction (c)
                                                                                = 3.4269261E-01
Oimer nadius
Othe absorber will be treated by the northern integral method.
Oness of accerator-1 = 15.995
                                                   signa(per absorber atono= 8.0075/02E+04
Omoterator-1 will be treated by the northein integral method.
Omes of moderator-2 = 257.953 signa(per at
                                                   signs(per absorber aton)= 8.9359484E+04
Omderator-2 will be treated by the norders integral method.
Othis resonence material will be treated as a 2-dimensional object.
Ovoluce fraction of lunp in cell used to account for scatial self-shielding-1.0000
                                               res scat
Ograp
                              res fiss
              res abs
          -2.56/913E-04
                             .00000E+00 -2.992681E-04
  10
  ĬĨ
          -9.998%E-03
                             .00000E+00 -7.288189E-03
  12
          -7.463377E-01
                             -00000E+00
                                           -3.HSTTVE-02
                                           3.3807/8E-02
  13
           7.666948E-01
                             .000000E+00
          -2.031872E+01
                             .00000E+00
                                          -1.884823E+00
Ocioces resonance integrals
                   resolved
Osbearption
                  1,376142+03
 fission
                    .0000E+00
- elacond time
                    OB min.
0 $ 124
                                                 undated 10/13/89
                 mt=102
                                                                                           terperatures.
                                                                                           temperatures 975.00
0 xe-131
                 mt=102, 103, 104, 105, 106
                                                 underted 10/13/89
                                                                                 54131
Oresonence deta for this ruclide
                                                                                * 975.000
Oness number (a)
                              129,781
                                                      temperature(kelvin)
Quotential scatter signs =
                                4,301
                                                      lumped nuclear density
                                                                                = 1.1485292E-05
                              26.825
                                                                                = 4.6812201E-01
Ospin factor (g)
                                                      (a-bar)
                          = .000000E+00
                                                     direction (c)
                                                                                = 3.4269261E-01
Oimer nadius
Othe absorber will be treated by the northeim integral method.
Omes of moderator-1 = 15,995
                                                   signs(per absorber atom)= 1.485768/E+04
Oncderator-1 will be treated by the northeirs integral method.
Omes of accirator-2 = 257.955 signator absorber atom;= 1.6697699E+04 Omoderator-2 will be treated by the northein 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
(Caraup
              res abs
                               res fiss
                                               res scat
                                           -3.5385/E-05
           -3.83953/E-06
                             .00000E+00
          -2.589499E-04
                             .0000E+00
                                          -2.2577USE-04
  10
                                          -2.32090E-03
  11
          -3.12/8UE-03
                             .0000000
                             .00000E+00
                                          -5.519651E-03
  12
          -5.926KE-02
  Ü
          -8.8368185+01
                             .00000E+00
                                           -2.070617E+02
           1.039511E-02
                             .00000E+00
                                           1.45695Æ-02
Ocicess resonance integrals
                   resolved
                  7.37500E+02
```

Odborotion

1ETO a.s.

```
.00000E+00
fission
                   .08 min.
- elapsed time
                 Int=102, 103, 104, 105, 106
                                                                                54152
                                                                                         temperature= 975.00
                                                 updated 10/13/80
0 xc-132
Oresonence data for this nuclide
                                                                                = 975.000
                                                     temperature(kelvin)
Omess runber (a)
                          = 130,771
                                                                               = 2.3319530E-05
Opotential scatter signa = 4.301
                                                     lumed nuclear density
                                                     lump dimension (a-bar)
                                                                               = 4.6812201E-01
                         = 675.899
Ospin factor (g)
                                                                               = 3,425025 E-01
Oimer nedius
                          = .000000E+00
                                                     dercoff correction (c)
Othe absorber will be treated by the northeim integral method.
                                                   signa(per absorber atom)= 7.32260/5E+03
Oness of moderator-1 = 15.995
Oncerator-1 will be treated by the northeim integral method.
Oness of moderator-2 = 237,983 signs(per at
                                                   signe(per absorber aton)= 8.1697432E+03
Oncerator 2 will be treated by the norcheim integral method.
Othis resonance material will be treated as a 2-dimensional object.
Oxolume fraction of lump in cell used to account for scatial self-shielding=1.0000
                              res fiss
(prosp
              res abs
                                               hes scat
          -3.41318E-05
                             .00000E+00 -1.67753/E-04
  9
                             .00000E+00 -1.389546E-01
  10
          -1.091632E-02
          3.338920E-08
                             .00000E+00 -9.226723E-07
  11
Opcess resonance integrals
                   resolved
Orbsorption
                  9.65781E-01
                   .0000E+00
fission

    elapsed time

                   .08 min.
                                                 updated 10/13/89
                                                                                54135
                                                                                                         975.00
0 xeron 135
                 endf/b-iv met 1294
                                                                                          terrograft.re=
                mt= 102, 103, 104, 105, 107
endf/b-iv met 1141
                                                                                          temperatures 975.00
                                                                                54136
0 xe-136
                                                 updated 10/13/89
                                                                                          tesperature= 975.00
                                                                                50
0 cesiun-133
Orescrence data for this ruclide
                                                                                = 975,000
Omess number (a)
                          = 131.764
                                                     terperature(letvin)
lusped ructeer density
                                                                               = 2.8024819E-05
Opotential scatter signs = 7.100
                                                                                = 4.6812201E-01
Ospin factor (g)
                         = 374,437
                                                     (unp dimension (a-bar)
                          = ,0000000=+00
                                                                               = 3.4259261E-01
                                                     denoff correction (c)
Oirmer rective
Othe absorber will be treated by the nurcheim integral method.
Opens of moderator-1 = 15.995 signs(per at
Openstary-1 will be treated by the northeim integral method.
                                                   signs(per absorber atom)= 6.09315920+03
                                                   signs(per absorber atom)= 6.5357119E+03
Omes of moderator-2 = 258.051
Oncderator-2 will be treated by the northeim integral method.
Othis resorance material will be treated as a 2-dimensional object.
Oxolume fraction of lump in cell used to account for spatial self-shielding-1.0000
                              res fiss
                                               res scat
(Tarab
              res abs
           7.626775E-05
                             .000<del>000</del>
                                           -5.370493E-04
  10
          -3.89010Œ-03
                             .000000E+00
                                           -7.41171Æ-Œ
                             .000000E+00
                                           -2.506073E-01
  11
          -1.43/303E-01
          -2.22817SE-01
                             .000000E+00
                                           -3.098573E-02
  12
                             _00000E+00
                                           -2.0Y8/9E-02
  13
          -3.7057E-01
                                           -6.9358XE-01
          -1.585101E+01
                             .000000E+00
                             .000000E+00
                                            4.0x0337E-04
  ъ
           5.61768/E-03
           2.777807E-03
                             -00000E+00
                                           -2.25017E-04
  16
                             .000000E+00
                                           -1.83074E-04
  17
           2.352257E-03
                                           -1.677563E-04
           2.215079E-03
                             -000000=+00
  18
  19
           1.317512E-03
                             .000000E+00
                                           -9.68135ZE-05
Occass resonance integrals
                   resolved
                  3.460<del>55E+</del>02
Orbeanstian
fission
                   .0000E+00
                   .10 min.

    elapsed time

                                                                                                         975.00
                                                 updated 10/13/89
                                                                                55134
                                                                                          bancerature-
0 cs-134
                 mt=102
                                                                                                         975.00
                    st= 102
                                                                                25125
                                                                                          temerature:
0 cs-135
                                                                                                         975.00
                                                                                55137
                                                  undeted 10/13/89
                                                                                          terperature:
0 cs-137
                 mt=102
                                                                                56136
                                                                                          temperatures
                                                                                                         975.00
                 mt=102
                                                 underted 10/13/89
0 ba-136
```

INFORMATION OREY

```
Onesonence data for this ruclide
Omess runber (a)
                           = 134.737
                                                       temperature(kelvin)
                                                                                  = 975.000
Opotential scatter signs =
                                 4.835
                                                       lumed ructor density
                                                                                 = 3.5187762E-07
Ospin factor (a)
                           = 1247.690
                                                       (unp dimension (a-bar)
                                                                                 = 4.6812201E-01
Oimer radius
                            = .000000E+00
                                                       dencoff correction (c)
                                                                                 = 3.4259261E-01
Othe absorber will be treated by the norcheins integral method.
Orass of moderator-1 = 15.995
                                                    signs(per absorber atom)= 4.8528150E+05
Occuprator-1 will be treated by the northein internal method.
Oness of moderator-2 = 237.933
                                                    signa(per absorber atom)= 5,4142288E+05
Onoderstor-2 will be treated by the northeim integral method.
Othis resonance material will be treated as a 2-dimensional object.
Ovolume fraction of lump in cell used to account for scatial self-shielding=1.00000
                               res fiss
grap
               res abs
                                                res scat
            8.530/SE-07
                              .00000E+00 3,484196E-07
  11
           -4.36440E-05
                              .000000E+00
                                           -3.643748E-05
Ocicess resonance integrals
                    resolved
Osbsaration
                   1_39%52+00
                    .0000E+00
 fission
  elapsed time
                    .12 min.
0 La-139
                 mt=102
                                                  updated 10/13/89
                                                                                 57139
                                                                                            temperature: 975.00
Oresonance data for this nuclide
Orees runber (a)
                           = 137.713
                                                                                 = 975.000
                                                       temperature(kelvin)
Occupation scatter signs =
                                 4,906
                                                       lurged nuclear dursity
                                                                                 = 2.7305562E-05
                              145.885
Ospin factor (g)
                           #
                                                       lum dinersion (a-bar)
                                                                                 =4.6812201E-01
                           = .000000000000
Oimer radius
                                                      dercoff correction (c)
                                                                                 = 3.4259251E-01
Othe absorber will be treated by the northeim integral method.
Oness of acclerator-1 = 15.995
                                                    signatoer absorber atomb= 6.2547080E+03
Occurator-1 will be treated by the norchein integral method.
Occus of acceretor-2 = 257,933 signs(per al
                                                    signs(per absorber atom)= 6.9559902E+03
Occurator-2 will be treated by the norcheim integral method.
Othis resonance material will be treated as a 2-diameteral object.
Oxclume fraction of lump in cell used to account for spatial self-shielding-1.00000
ava
              res abs
                               res fias
                                                res scat
           -3.6230E-05
                              -000000E+00
                                            -3.095299E-05
  10
           -5.133480E-04
                              _00000E+00
                                            -2.7431Z7E-02
  11
             .000E+00
                              _000000E+00
                                              _00000E+00
           -9.3475/E-02
  12
                              .000000E+00
                                            -5.643091E-02
Occas resonance integrals
                    resolved
Osbsorption
                   8.03619E+00
 fission
                    -0000E+00

    classed time

                    .12 min.
0 cz=144
0 pr-141
                                                                                 58144
                    nt= 102
                                                                                            terperature:
                  est=102, 108, 104, 105, 106, 107
                                                 undsted 10/13/89
                                                                                 59141
                                                                                                          975.00
                                                                                            temperature=
Oresonance data for this ruclide
Omese runber (a)
                           = 139,677
                                                       tesperature(kelvin)
                                                                                 = 975.000
Occupital scatter signs =
                                                                                 = 2.40599F-05
                                 4.953
                                                       lumped nuclear dansity
Osoin factor (a)
                           = 1026,500
                                                      lumo dimension (a-bar)
                                                                                 = 4.6812201E-01
Cirrar radius
                           = .000000E+00
                                                                                 = 3.4269261E-01
                                                      dencoff correction (c)
Othe absorber will be treated by the northeim integral method.
                                                    signa(per absorber atom)= 7.0984277E+03
Omes of moderator-1 × 15.975
Ornderstor-1 will be treated by the norcheim integral method.
Oness of moderator 2 = 257,933 signature shorte Oncderator 2 will be treated by the nurchelm integral method. Othis resonance material will be treated as a 2-diametic bject.
                                                   signs(per absorber aton)= 7.919323E+03
Oxolune fraction of lump in cell used to account for spatial self-shielding-1.0000
                               res fiss
              res abs
(prate
                                                res scat
           -9.3444E-05
                             -00000E+00
                                           -3.182227E-01
  10
                                           -2.022333=+00
  11
           -1.52115/E-01
                             .000000E+0D
```

```
-3.55517XE-03
                            .00000E+00 -3,483960E-04
Occess resonance integrals
                   resolved
                  1.202516+01
Osbsorption
                   .0000E+00
fission
- elepsed time
                   .12 min.
                                                                                        temperature= 975.00
                                                updated 10/13/89
0 pr-1/3
                nt=132
                                                                                        temperature 975.00
                                                                              60143
                                                undeted 10/13/89
0 nd-143
                 mt=102
Orescrence deta for this nuclide
                                                                              = 975.000
                                                     temperature(kelvin)
                              141.682
Oness runber (a)
                                                                              = 2.0499990E-05
                                5.000
                                                     lumed ructeer density
Opotential scatter signs =
                                                                              = 4.6812201E-01
                                                     lum diseasion (a bar)
Ospin factor (a)
                          = 1964.860
                                                    dencoff correction (c)
                                                                              = 3.4269261E-01
                          = .000000E+00
Oirner ractius
Othe absorber will be treated by the northelm integral method.
                                                  signs(per absorber atom)= 8.3297422E+03
Omes of anderstor-1 = 15.995
Opporator-1 will be treated by the norcheim integral method.
                                                  signs(per absorber atom)= 9.2033XSE+03
Oness of acclerator-2 = 257.953
Ommerator 2 will be treated by the norcheim integral method.
Othis recoverce material will be treated as a 2-dimensional object.
Oxclume fraction of lump in cell used to account for spatial self-shielding-1.0000
Ograp
10
              res abs
                              res fiss
                                              res scat
                                           -1.244567E-04
          -2.01259E-04
                             -000000E+00
                                          -5.47ZZZE+00
  11
           -4.714201E-01
                             .000000E+00
                                          -1.541217E-01
          -3.13418EE-01
                             .0000000
  12
Opposs resonance integrals
                   resolved
                  5.050EXE+01
Orbeanstian
                    .00000=+00
 fission
- elepsed time
                   .12 min.
                                                                              60145
                                                                                        temperatures 975.00
0 nd 1/5
                 mt=102
                                                ucdated 10/13/89
Oresonence data for this nuclide
                                                                              = 975.000
                                                     temperature(kelvin)
Oppose number (a)
                                                                              = 1.547073/E-05
                                5.047
                                                     lumed nuclear density
Opotential scatter signs =
                                                                              = 4.6812201E-01
                          = 1007.250
                                                     lum dinension (a-bar)
Ospin factor (g)
                                                                              = 3,4269251E-01
                           = .0000000E+00
                                                     dercoff correction (c)
Oirner radius
Othe absorber will be treated by the norcheim integral method.
                                                   signs(per absorber aton)= 1.105/595E+04
Omes of audienator-1 = 15.995
Oncompator-1 will be treated by the norchein integral method.

Oness of moderator-2 = 257.953 signa(per at
                                                   signs(per absorber atox)= 1.251/515E+0/-
Oppdarator 2 will be treated by the northein integral method.
Othis resonance material will be treated as a 2-dimensional object.
Oxcluse fraction of lusp in cell used to account for spatial self-shielding-1.0000
                               res fiss
                                               res scat
(prosp
              res abs
   10
           -6.3334E-05
                             .000000E+00
                                           -9.9568/E-02
                                           -2.8985/E-01
  11
           -9.467698E-02
                             .000000E+00
           -2.29582E+00
                             _00000E+00
                                           -1.408134E+01
  12
  13
           9.55027Æ-05
                             -00000E+00
                                           2.048740E-04
  141516
           -2.098093E+00
                             .000000E+00
                                           -5.51205Œ-02
           5.8925 E-03
                             .000000E+00
                                           -4.59946E-04
            1.32664E-03
                             .00000E+00
                                           -1,451205E-04
  17
           9.642470E-04
                             *000000E+00 .
                                           -1.063907E-04
           8.539751E-04
                             .00000E+00
                                          -9.31389E-05
   18
                                           -8.060EEE-05
   19
            7.634093E-04
                             .00<del>+</del>2000000,
           2.839469E-05
                             -000000E+00
                                           -2.92054ZE-05
  20
Ocicess resonance integrals
                   resolved
                  2.04663E+02
Oubscrpt ich
                    .00000E+00
 fission
                   .13 min.
   elacoaci time
                                                                                         temperatures 975.00
0 nd-147
                 mt=102
                                                 updated 10/13/89
```

ຄ

```
temperatures 975.00
                 mt=102
                                                updated 10/13/89
                                                                               61147
0 ps-147
Oresonerce data for this nuclide
                                                                               = 975.000
Omess runber (a)
                          = 145.653
                                                     temperature(kelvin)
                                                                              = 4.5120153E-06
                               5.073
                                                     lurged ructeer density
Opotential scatter signs =
Ospin factor (g)
                          = 21589.500
                                                     lum diagraion (a-bar)
                                                                               = 4.6812201E-01
                                                    denceff correction (c)
                                                                               = 3.4269261E-01
Oimer radius
                          .0000000E+00
Othe absorber will be treated by the norcheim integral method.
                                                  signs(per absorber atom)= 3.7845547E+04
Ones of moderator-1 = 15.995
Oppderator-1 will be treated by the norcheim integral method.
Organs of moderator-2 = 257.953
                                                  signs(per absorber aton)= 4.2223832E+04
Oncerator 2 will be treated by the norcheim 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
              res abs
                              res fiss
                                              TER SCAL
Ograup
                                          -7.274823E-02
  12
          -2.27309E-01
                             .000000E+00
  Ī
          -5,826787E-02
                             .000000E+00
                                          -3.273887E-03
          -1.005808E+02
                             .000000E+00
                                          -4_320737E+01
  15
           4.15411E-02
                             _000000E+00
                                           6.973337E-03
                             _000000E+00
                                           1.7466DE-03
  16
           1.69750EE-02
  17
           1.369757E-02
                             .000000E+00
                                           1.150451E-03
                                           9.648321E-04
  18
           1.2537X2E-02
                             _000000E+00
                             .00000E+00
                                           5.007563E-05
  19
          6.9988E-04
Occess resonance integrals
                   resolved
                  1.99190E+03
Osborotion
fission
                   -0000E+00
                   .13 min.

    elapsed time

                                                                               61148
                                                                                         terperature: 975.00
0 par 148
                    st= 102
0 sm 147
                                                undeted 10/13/89
                                                                               6247
                                                                                         terperatures
                                                                                                       975.00
                 adf/b-v fission product
Oresonence data for this nuclide
                          = 145,653
                                                                               = 975.000
Omes runter (a)
                                                     temperature(kelvin)
                                5.003
                                                     lumbed nuclear density
                                                                               = 2.2033623E-06
Opportial scatter signs =
                                                                               = 4.6812201E-01
Ospin factor (g)
                                 .000
                                                     lump dinansion (a-bar)
                          = .000000E+00
                                                    dencoff correction (c)
                                                                               = 3.4269251E-01
Oimer radius
Othe absorber will be treated by the northeim integral method.
Ones of moderator-1 = 15.995
                                                  signs(per absorber atox)= 7.749902E+04
Oncoderator-1 will be treated by the nordrein integral method.
Oness of acclerator-2 = 257.953 signe(per al
                                                  signe(per absorber atom)= 8.6465391E+04
Oncerator-2 will be treated by the norchein integral method.
Othis resonance material will be treated as a 2-dimensional object.
Orolume fraction of lump in cell used to account for spatial self-shieldings1.0000
                              res fins
(group
              res abs
                                              res scat
                             .00000E+00
                                           1.026770E+00
  11
           2.531999E-01
                                          -1.801583E+00
  12
           6.92595 TE-01
                             _000000E+00
                             .000000E+00
                                          -3.361 K3E+00
  13
          -5.105210E+00
                             .00000E+00
                                          -9.227741E-03
          -6.485433E-01
  15
           3.10576E-01
                             -00000E+00
                                          -1.250%(CE-CI)
                             .000000E+00
                                          -3.73X30E-04
  16
           7.257601E-03
           4.281461E-US
                                          -2.40166E-04
  17
                             .00000E+00
           3.51083E-03
                             .000000E+00
                                          -1.997177E-04
  18
                                          -1,697E-04
                             ,000000E+00
  19
           2.91056Æ-03
                                          -4,62647DE-05
 ã
           8.434785E-04
                             _00000E+00
Descess resorence integrals
                   resolved
Orbearption
                  7.19852E+02
                    -00000E+00
fission
- elapsed time
                   .15 min.
                               thermal acattering matrix number 3 at a temperature of 900.05 was selected.
0 sn-149
                 mt=102,105,107
                                                updated 10/13/89
                                                                               62149
                                                                                         temperature 975.00
Oresonence data for this ruclide
```

```
Omess number (a)
                            = 147.638
                                                      temperature(kelvin)
                                                                                = 975.000
  Opotential scatter signs =
                                 3.260
                                                                               = 9.05/5708E-08
                                                      lumed nuclear density
  Ospin factor (a)
                           = 10/07,900
                                                      lum dimension (a-bar)
                                                                               = 4.6812201E-01
  Oimer radius
                            = .0000000E+00
                                                      derooff correction (c)
                                                                               = 3.4269261E-01
  Othe absorber will be treated by the northeim integral method.
                                                    signe(per absorber atom)= 1.853989E+06
  Oness of studenstor-1 = 15.925
  Omoderator-1 will be treated by the norche in integral method.
Oness of moderator-2 = 257.953 signs(per at
                                                    signe(per absorber ston)= 2,1012860E+06
  Ornderator-2 will be treated by the northein 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-1,0000
  Otab
                res abs
                                res fiss
                                                res scat
    11
             8.54657Æ-03
                               .000000=+00
                                            3.07153E-02
    12
            -5.606520E-02
                                            -1.83/109E-01
                              .000000E+00
                                            2.740474E-0B
    13
            2.252520E-02
                              .000000E+00
    14
            +1.12189E-03
                                            -8.37725E-03
                              .00000E+00
  Occess resurence interrals
                     resolved
  Osbsorption
                   B.04324E+02
                     -0000E+00
  fission

    elapsed time

                    .15 min.
  0 sn-150
                                                  updated 10/13/89
                  int=102
                                                                               62150
                                                                                         temperatures 975.00
  Orescrence data for this nuclide
                                148.629
                                                                               = 975.000
  Omess rusber (a)
                                                      temperature(izelyin)
  Occupial acetter signs =
                                 5.162
                                                      lumbed nuclear density
                                                                               = 5.8421019E-06
                           = 4376,420
  Ospin factor (a)
                                                      lumo disension (a-bar)
                                                                               = 4.6812201E-01
  Oimer radius
                           = .0000000E+00
                                                                               = 3.426926 E-01
                                                      dancoff correction (c)
  Othe absorber will be treated by the norcheins integral method.
                                                    signatoer absorber atoms 2.923/152E+04
  Oness of moderator-1 = 15,995
  Omderator-1 will be treated by the northern internal method.
  Onese of neclerator-2 = 257,953
                                                    signatoer absorber atomy= 3.2610619E+04
  Omobrator-2 will be treated by the northein integral method.
  Othis resonance staterial will be treated as a 2-dimensional object.
  Oxolume fraction of lump in cell used to account for spatial self-shielding-1.0000
  Ograp
                res abs
                               res fiss
                                                res acat
            -1.916898E-CB
    10
                              .000000E+00
                                           -1.8628/0E-02
                                           -4.970627E-01
    11
            -4,40323E-02
                              .000000E+00
            -1.43763/E-01
    12
                              .000±000
                                            -4.344102E-02
    13
            -9.971263E+00
                              .000000E+00
                                            -7.8577E+00
                              .000000E+00
                                            -6.36837E-05
    14
            1.064419E-04
- Descess resonance integrals
  n
                    resolved
                   2.83489E+02
  Outport ion
  fission
                     .00000E+00
  - elapsed time
                    .75 min.
  0 sm-151
                  mt=102,103,104,105,106,107
                                                 undeted 10/13/89
                                                                               62151
                                                                                         temperatures 975.00
  Oresonence data for this nuclide
                           = 149.623
                                                                               = 975.000
  Omes runber (a)
                                                      temperature(kelyin)
  Contential scatter signs =
                                5,185
                                                      lumped nuclear density
                                                                               = 4.61/E05/E-07
  Osoin factor (g)
                           = 7574.703
                                                      lum dimension (a-ber)
                                                                               = 4.6812201E-01
  Oimer radius
                                                                               = 3.426926 E-01
                           = .0000000E+00
                                                      demonstration (c)
  Othe absorber will be treated by the porchein integral method.
                                                   signs(per absorber atunt)= 3.69894/EHD
  Omess of moderator-1 = 15.995
  Oppdorator-1 will be treated by the northeirs integral method.
                                                   signa(per absorber atom)= 4.12/812/E+05
  Ones of acclerator-2 = 257.953
 Oxoderator 2 will be treated by the northein integral method.
Othis resonance material will be treated as a 2-dimensional object.
  Oxolume fraction of lump in cell used to account for spatial self-shielding=1.00000
  (parab
               res abs
                               res fiss
                                               res acat
            -2.66/ASE-01
                              .00000E+00 -2,407252E-02
```

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```
15
           1_4825XE+01
                            .000000=000
                                          7.495161E-02 ·
  16
          -2.18458/E+01
                            .000000E+00
                                          -6.21536E-02
  17
                            .000000E+00
           1.73420BE+02
                                          8.254912E-01
  123
          -3.209\\F+02
                            .000000E+00
                                          -1.78929E+00
  19
           6.252787E+01
                            .0000000
                                          .3.86725/E-01
           1.14100/E+00
  20
                            .000000E+00
                                          -1.381543E-04
  21
          -7.117630E-02
                            .000000=+00
                                          1,244101E-02
  22
           6.95279E-02
                            .00000E+00
                                          3.89917E-08
                            .0000E+00
  23
          -1.091929E-02
                                          3.3740B2E-04
Opicios rescripto integrals
                   resolved
Orbearation
                 2.05581E+03
                   .0000E+00
 fission
                  .17 min.

    elacsed time

0 sm-152
                mt=102, 105, 104, 105, 106, 107
                                                undated 10/13/89
                                                                                        temperatures 975.00
Orescripto dista for this ruclide
Omes ruster (a)
                                                    temperature(kelvin)
                                                                              = 975,000
                         = 150.615
Opotential scatter signs =
                               5.208
                                                    lumed ruclear density
                                                                             = 2.70672B1E-06
                         = 863,594
                                                    lum diameion (a-bar)
                                                                             = 4.6812201E-01
Ospin factor (g)
                          = .0000000E+00
                                                    denoff correction (c)
                                                                             = 3.4269261E-01
Oimer rectius
Othe absorber will be trested by the norcheim integral method.
Oness of moderator-1 = 15.995
                                                  signs(per absorber atom)= 6.3087125E+04
Oncobrator-1 will be treated by the norcheim integral method.
Onese of moderator-2 = 257.933
                                                 signs(per absorber atom)= 7.086563E+04
Oncorator-2 will be treated by the norcheim integral method.
Othis resonance material will be treated as a 2-diameteral object.
Oxclume fraction of lump in cell used to account for spatial self-shielding-1.0000
              nes abs
                             res fiss
                                             res acat
Caronso
           2,40253/E-06
                            .000000E+00
                                           1.158422E-04
  10
          -2.209(B)E-05
                            .000000=00
                                         -3.40343E-02
  11
          -3.158748E-02
                            000000E+00
                                          -1.201679E-01
          -2.1073/1E-01
                            .000000E+00
  12
                                          -6.678990E-01
                            .00000E+00
                                          1,007926E-01
  13
           4.146076E-02
          -1.800018E+02
                            .000000E+00
                                          -3.473057E+02
Cercess resonance integrals
                   resolved
Oubsorption
                 2.6789/E+03
                   .000E+00
 fission
- elapsed time .17 min.
                 mt=102,103,104,105,106,107
                                               uzdated 10/13/89
                                                                              සහ
                                                                                        temperature= 975.00
0 eu-153
Oresonence data for this ruclide
Oness runber (a)
                         = 151,607
                                                    temperature(lectvin)
                                                                              = 975.000
                                                                             = 1,872789E-06
                                                    lunged nuclear density
Opotential scatter signs = 9.731
                         = 12265,900
                                                    lump dimension (a-bar)
                                                                             = 4.6812201E-01
Ospin factor (a)
Oimer radius
                          = .000000E+00
                                                    dencoff correction (c)
                                                                             = 3,425925 E-01
Othe absorber will be treated by the northein integral method.
                                                  signs(per absorber atom)= 9.1179117E+04
Omes of moderator-1 = 15.995
Omobrator-1 will be treated by the norcheim integral method.
Omes of moderator-2 = 257,933 signa(per al
                                                 signature absorber atomi= 1.0172746E+05
Oncderator-2 will be treated by the northelm integral method.
Othis resource material will be treated as a 2-disarsional object.
Oxolume fraction of lump in cell used to account for spatial self-shielding-1.0000
Ograp
12
                              res fiss
             res abs
                                             res scat
                            .00000E+00 +6.169670E+02
          -3.15191 E-01
  13
          -2.59704E-01
                            .000000E+00
                                         -1.150879E-02
                                          -6.071Z9E-03
          -1.181352E+00
                            .000000E+00
                                          -6.05/39/E-02
           4.179K5E-02
                            .000000E+00
  ъ
                                          8.1525185-03
  16
          -3.307578E+00
                            .00000E+00
                                         -3.43756/E-03
  17
           1.50359E-01
                            .000000E+00
                                          -2.231180E-03
           7.726792E-02
                            .00000E+00
```

```
.00000E+00 -1.54108/E-03
            5.055416E-02
           -1,25380E-01
                              .00000E+00 -1.274912E-05
  20
Opicess resonence interrals
                    resolved
                   1.35238E+03
Outsorption
 fission
                     .00000E+00

    elassed time

                    .18 min.
0 au-154
                  mt=102, 103, 104, 105, 106, 107
                                                    updated 10/13/89
                                                                                   6354
                                                                                              temperature 975.00
Orescrence data for this ruclide
                                                                                   = 975.000
Orees ruiber (a)
                            = 152_601
                                                        temperature(kelvin)
Occtential scatter signs =
                                 9.731
                                                        lumped nuclear density
                                                                                   = 4.843943=-07
                           = 19135,801
                                                        lum dinersion (a-bar)
                                                                                   = 4.6812201E-01
Ospin factor (g)
                                                                                   = 3.4269261E-01
                           = .0000000E+00 '
Oirner radius
                                                       dencoff correction (c)
Othe absorber will be treated by the northeim integral method.
Omess of moderator-1 = 15.995 signs(per absorber atom)= 3.52/89976+05
Omoderator-1 will be treated by the norcheim integral method.
                                                     signa(per absorber atom)=3.9326916+05
Oness of moderator-2 = 257.953
Omogrator-2 will be treated by the northein integral method.

Othis resonance material will be treated as a 2-dimensional object.
Ovolume fraction of lump in cell used to account for scatial self-shielding=1.00000
                                res fiss
(prap
               res abs
                                             res scat
-6.26344E-02
  12
            -4.021110E-01
                              -00000E+00
  13
           -3.529810E-01
                              .000000E+00
                                            -2.641439E-02
                              .00000E+00
            2,707021E-01
                                              1.35382/E-02
  15
                                              2.0070E-02
            2.154105E-02
                              .00000E+00
                                              9.140B1Æ-02
  16
            7.0045235+00
                              .000000E+00
                                             -1.900830E+00
  17
           -1.450002E+02
                               .000000E+00
  18
            1.130/6E+02
                              _000000E+00
                                              1.854371E+00
      -1.01/953E+02
                                              1.1875295+00
  19
                               .000
Cerces rescrerce integrals
                    resolved
Obbscrition
                   2.1352SE+03
 fission
                     .0000E+00

    elemed time

                    .18 min.
                  mt=102, 103, 104, 105, 106, 107
                                                   updated 10/13/89
                                                                                   යස
                                                                                              temperature= 975.00
0 eu-155
                                                                                              temperature= 975.00
0 화 155
                  mt=102
                                                    updated 10/13/89
                                                                                   64155
Oresonence data for this ruclide
                           = 153,592
                                                                                   = 975.000
Omes runber (a)
                                                        temperature(læ(vin)
                                                                                   = 3.600273/E-09
Occupied acatter signs =
                                 5.277
                                                        lunced nuclear density
                           = 12700,100
                                                                                   = 4.6812201E-01
                                                        tumo dimension (a-bar)
Oppin factor (g)
                                                                                   = 3.4269261E-01
                           = .000000E+00
                                                       densoff correction (c)
Oimer radius
Othe absorber will be treated by the northein integral method.
Oness of moderator-1 = 15.995 signa(per absorber aton)= 4.7426442-07
Onoderator-1 will be treated by the rorche in integral method.
Oness of moderator-2 = 277.953 signa(per absorber aton)= 5.29163962-07
Omobrator-2 will be treated by the porchein 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-1.0000
Caraca
               res abs
                                res fiss
                                                 res scat
            -1.43937ZE+00
                               .00000E+00 -1.85954E-01
            1.540814E+00
                              .000000E+00
                                              1.98/4/8E-01
  13
            2.185907E-01
  14
                              -00000E+00
                                             9.8006/E-03
                              .000000E+00
                                             -2.237280E-04
           -3.396920E-01
                              .00000E+00
                                             -4.14885ZE-03
  16
            1.477357E+00
  17
            1.50009E-01
                              .000000E+00
                                             -1,47910E-03
            9,605182E-02
                                             -1.07806ZE-03
                              _000000E+00
  18
            6.295397E-02
                              _00000E+00
                                             -8.02594E-04
  19
  20
            1,670/01E-02
                               .000000E+00
                                              1.626967E-04
  Ž1
22
                               .000000E+00
                                                .0000E+00
             .000000E+00
             -00000E+00
                               .00000E+00
                                                .0000000
```

INFORMATION GALY

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```
35
24
25
             .0000E+00
                              .000000E+00
                                              .000000=+00
             .000000E+00
                              .000000E+00
                                              .00000E+00
           -2.128025E+03
                              _000000E+00
                                           -1.622201E+00
           -5.205858E+03
                              .000000E+00
                                             1.9615565+00
  77
           -1_60053E+03
                              .000000E+00
                                            7.392990E-01
Operes resorance integrals
                   resolved
Orbsonation
                   3.96990E+04
 fission
                     .0000F+00
                    .20 min.

    elapsed time

0.-234 1043 sign-5+4 navdacs p-3 285k f-1/em(1.+5)
                                                                                 9234
                                                                                           temperature= 975.00
Oresonence data for this ruclide
Omess number (a)
                          = 252.029
                                                      temperature(kelvin)
                                                                                = 975.000
Ocotential scatter signs = 10.021
                                                                                = 4,105483/E-05
                                                      lumed nuclear density
                          = 6948.450
                                                                                = 4_6812201E-01
Oppin factor (g)
                                                      lum dinersion (a-bar)
                          = .000000E+00
Oimer nactius
                                                      dencoff correction (c)
                                                                                = 3.426926 E-01
Othe absorber will be treated by the northeim integral method.
Ones of sockrator-1 = 15.995
                                                    signs(per absorber atom)= 4.1582947E+04
Omodrator-1 will be treated by the nordrein integral method.
Omeso of moderator-2 = 257.925 signs(per el
                                                   signs(per absorber aton)= 4,637/398E+04
Onceretor-2 will be treated by the northern integral method.
Othis resonance material will be treated as a 2-dimensional object.
Ovolume fraction of lump in cell used to account for scatial self-shielding=1.00000
Garara
              nes abs
                               res fiss
                                               res scat
           -1.961208E-02
  11
                              -00000E+00
                                           -5.722908E-02
           -1.601150E-01
                             .000000E+00
                                           -6.698953E-02
   12
           7.76050E-04
                             .00000E+00
                                           -6.473847E-04
  13
           -1.57926E+01
                             .0000000
                                           -2.586926F+00
Ocicess resurence integrals
                   nesolved
Outpeantian
                   5.85330E+02
                    .0000E+00
 fission
                   .20 min.
  elepsed time
0 uranium 255 endf/b-iv mat 1261
                                                  undated 10/13/89
                                                                                9225
                                                                                           temperature= 975.00
Orescrence data for this ruclide
                          = 233.025
                                                                                = 975.000
Omes number (a)
                                                      temperature(kelvin)
Octuatial scatter signs = 11,500
                                                      lumed ructeer density
                                                                                = 3.29509'E-04
                          = 15171.100
Ospin factor (g)
                                                                                = 4.6812201E-01
                                                      lump dimension (a-bar)
Oimer radius
                          = .00000000000
                                                     dencoff correction (c)
                                                                                = 3.426926 E-01
Othe absorber will be treated by the northein integral method.
                                                   signa(per absorber atont)= 5.163160/E+02
Oness of moderator-1 = 15.995
Oncderator-1 will be treated by the norchein integral method.
Omes of necessary = 28.00 signature shorter atom = 5.5629935-02 Oncomment of the treated by the northern integral method.

Othis resonance antomial, will be treated as a 2-dimensional object.
Ovolume fraction of lump in cell used to account for spatial self-shieldings-1.00000
Ograp
12
                              res fiss
              res abs
                                               res scat
           1.406612E+00
                          -8.762357E-01
                                           -3.29753/E-02
                                           -1.097110E-01
           -5.05275Æ+00
                          -2.519020E+00
  ซ
           -4,07000<del>€+</del>00 -2,511537<del>€+</del>00
                                           -2.790143E-02
Opcess resonance integrals
                   resolved
Orbeometican
                   2.15877E+02
                   1.28373E+02
 fission

    elapsed time .22 min.
    0.-236 1163 sigp-544 mardans p-3 28k f-1/e-m(1.+5)

                                                                                92256
                                                                                           temperature: 975.00
Oresonence data for this nuclide
                          = 254.017
                                                                                = 975.000
Ozzas nuster (a)
                                                      temperature(kelvin)
Ocotential scatter signa = 10,995
                                                      lurged nuclear desity
                                                                                = 6.7250581E-05
Ospin factor (g)
                          = 6328,490
                                                     lumo dimension (a-bar)
                                                                                = 4.6812201E-01
```

· INFORMATION OF LY

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dercoff correction (c) = 3.4269261E-01
Dimer radius
Othe absorber will be treated by the northein integral method,
Oness of ancierator 1 = 15,995
                                                  signe(per absorber atom)= 2.5376/65E+03
Oncerator-1 will be treated by the northern integral method.
                                                 signs(per absorber atom)= 2.8307280E+03
Omess of moderator-2 = 257.954
Omobrator 2 will be treated by the northein integral arthod.

Othis resonance material will be treated as a 2-diameteral object.
Oxolune fraction of lump in cell used to account for scatial self-shielding=1,0000
Ograp
              res abs
                             res fiss
                                             res scat
                                         -8.05267E-01
  11
                            .000000E+00
          -3.20525E-01
 12
          -1.740610E+00
                            .00000E+00 -1.17556EE+00
  Ï
          -7.067173E-02
                            .00000E+00 -3.5EE744E-05
  14
          -5.391120E+01
                            .000000E+00
                                          -4.77631EH00
Opcess resonance integrals
                   resolved
Odvarution
                 2.640492+02
                   .00000E+00
fission
- elepsed time
                  .22 min.
0 uranium 238 endf/b- iv mat 1262
                                               undered 10/13/89
                                                                             92258
                                                                                      temperature: 975.00
Oresonance data for this ruclide
                                                                             = 975.000
Omes runter (a)
                         = 236.006
                                                    temperature(ke(vin)
                                                    luped rucleer density
Quotential scatter signs = 10.599
                                                                             = 2.175239E-02
                                                                             = 4.6812201E-01
Ospin factor (g)
                         = 656,527
                                                    lumo diamension (a-bar)
                         = .000000E+00
                                                                             = 3.4269261E-01
Oirner ractius
                                                    dercoff correction (c)
Othe absorber will be treated by the northeim integral method.
Omes of acclarator-1 = 15.995
                                                 signaturer absorber atom)= 7.8573785E+00
Oxederator-1 will be treated by the northein integral method.
Oress of stolerator-2 = 255.041
                                                 signs(per absorber aton)= 3.3831647E-01
Omderator-2 will be treated by the northein integral method.

Othis resonance material will be treated as a 2-dimensional object.
Oxolumne fraction of lump in cell used to account for spatial self-shielding-1.00000
             res ebs
                             res fiss
Gran
                                             res acat
          -3.922/6/E-02
                                         -4.031110E-01
                            .00000E+00
          -1.025260E+00
                         -1.739109E-05
                                         -6.468191E+00
 10
 11
          -9.700805E+00
                            .000000E+00
                                         -2.68829/E+01
 12
          -4.30544E+01
                            -000000E+00
                                         4.997449E+01
 Ĩ
          -5,400053=+01
                            _000000E+00
                                         -1.765741E+01
 14
          -1.0474E+02
                            .000000E+00
                                         -6.058397E+00
Ociocia resonance integrals
                  resolved
Osbsarption
                 1,808575+01
                 5.04166-04
fission

    elected time

                  .25 min.
0 reptunium 237 endf/b- iv met 1263
                                               updated 10/13/89
                                                                             95257
                                                                                       temperature= 975.00
Oresonence data for this ruclide
Omese ruther (a)
                             25.012
                                                    tesperature(kelvin)
                                                                             = 975.000
Contential scatter signs = 10.500
                                                    lumbed nuclear density
                                                                             = 5.712825E-06
                         = 10100,800
                                                                            = 4.6812201E-01
Dapin factor (g)
                                                    lusp dimension (a-bar)
Oimer radius
                         = .000000E+00
                                                   dencoff correction (c)
                                                                            = 3.4269261E-01
Othe absorber will be treated by the northeirs integral method.
Omes of moderator-1 = 15.995
                                                 signs(per absorber aton)= 2.98986050404
Oncderator-1 will be treated by the norcheim integral method.
                                                 signs(per absorber atom)= 3.20701765+04
Oness of moderator-2 = 258.051
Oscilerator-2 will be treated by the northeis integral sethod.
Othis resonance material will be treated as a 2-dimensional object.
Oxolung fraction of lump in cell used to account for spatial self-shielding-1,0000
             res abs
                             res fiss
                                             res scat
grap
          -6.4159/EE-02
                         -2.341982E-06 -7.461254E-03
 11
                         -1.367187E-04
                                          4.61641 E-CB
 12
          2.26056E-03
                          8.2X057E-05
                                         4.653973=-03
          -1.053958E-01
```

INFORMATION DRLY

```
-1.720739E-01 -2.041332E-05 -2.414718E-03
Descess resonance integrals
                  resolved
                 2,92790=+02
Osbsontian
fission
                 1.38500E-01

    elapsed time

                  .27 min.
Qui-238 1050 sign-5+4 reaklacs p-3 250k f-1/e-m(1.+5)
                                                                            94258
                                                                                      tenperature= 975.00
Oresonence data for this ruclide
                                                   temperature(kelvin)
                                                                            = 975.000
                        × 236,167
Omesa runber (a)
Opotential scatter signs = 10,890
                                                   lumed nuclear density
                                                                            = 1.156030E-06
                        = 13130,600
                                                                            = 4.6812201E-01
                                                   lum dimension (a-bar)
Ospin factor (g)
                                                                            = 3.4269261E-01
                         = .000000E+00
                                                  derpoff correction (c)
Dinner radius
Othe absorber will be treated by the northeim integral method.
                                                signa(per absorber atom)= 1,4771209E+05
Omes of moderator-1 = 15.995
Oncderator-1 will be treated by the norchein integral method.
                                                signs(per absorber atom)= 1.584/058E+05
Omess of moderator-2 = 258.051
Oncderator-2 will be treated by the northern integral method.
Othis resorence material will be treated as a 2-dimensional object.
Ovolume fraction of lump in cell used to account for spatial self-shielding-1.00000
                             res fiss
                                            res acat
Oproup
             nes abs
                                        -7.182622E-03
          7.587170E-03
 11
                         -1.185391E-03
                                        -2.43B190E-03
 12
          -5.258791E-03 -5.998517E-04
 13
          3.688336E-01
                          7.36179Œ-02
                                        -1.347240E-02
          -3.83288E-01 -7.007144E-02
                                         8.539291E-03
Ocices resonance integrals
                  resolved
                 8.24762E+01
Oubscription
fission
                 9.080135+00
  elamed time
                  .27 min.
0 plutonium 239 erch/b-iv met 1264
                                               ucdated 10/13/89
                                                                            0270
                                                                                      temperatures 975.00
Oresonence data for this ruclide
                                                                            = 975.000
                         = 256,999
                                                   temperature(kelvin)
Opens runber (a)
Opotential scatter signs = -10.200
                                                   lurped nuclear density
                                                                            = 1.242759EE-04
                        = 6435.710
                                                   lump distansion (a-bar)
                                                                            = 4.6812201E-01
Ospin factor (g)
                                                                            = 3.4269261E-01
Oimer rectius
                         = .000000E+00
                                                   dencoff correction (c)
Othe absorber will be treated by the northein integral method.
Omess of moderator-1 = 15.995 signature absorber atom;= 1.3748618-08
Omoderator-1 will be treated by the northelm integral method.
                                                signs(per absorber aton)= 1.4736339E+05
Oness of moderator-2 = 258.051
Oncderator-2 will be treated by the norchein integral method.
Othis resorance material will be treated as a 2-disensional object.
Oxclume fraction of lump in cell used to account for spatial self-shielding-1.0000
                             res fiss
                                            res acet
Caronso
             res abs
          -2.58/350E-01
                         -1.041819E-01
                                         -7,897274E-02
  11
                         -8.551598E-01
                                         -2.99130E-01
 12
          -2.277330E+00
          -7.430213E+00
                         -4.370307E+00
                                         -1.138121E-01
          -2.36705/E+00 -1.26018EE+00
                                        -2.09979E-02
Descess resonance integrals
                  resolved
                 3,04900E+02
Oabscrption
fission
                 1.71365-02

    elapsed time

                  .28 min.
0 plutonium-240 endf/b-iv met 1265
                                               undeted 10/13/89
                                                                            94240
                                                                                      temperature 975.00
Oresonence data for this ruclide
                                                                            = 975.000
                                                   temperature(kelvin)
Oness runber (a)
                                                                            = 3.0295193E-05
                              10.579
                                                   lunced nuclear density
Opotential scatter signs =
                                                                            = 4.6812201E-01
                            669.24
                                                   lump dimension (a-bar)
Displin factor (g)
                                                   dencoff correction (c)
                                                                            = 3.4267251E-01
Oirmer radius
                         = .0000000E+00
Othe absorber will be treated by the northein integral method.
                                                 signa(per absorber atom)= 5.656906≌+03
Omes of moderator-1 = 15.995
```

Information only

```
Oppderator-1 will be treated by the northein integral method.
Omess of moderator-2 = 258.051
                                                signa(per absorber atom= 6.045213E+08
Orockrator-2 will be treated by the northein integral method.
Othis rescrence material will be treated as a 2-dimensional object.
Oxolure fraction of lump in cell used to account for scatial self-shielding-1,0000
(Daret)
             res abs
                             res fiss
                                            res ecet
  Q
          -7.751980E-05
                         -2.527774E-06
                                        -3.99897 E-04
  10
          -7.24789E-05
                         -4.475637E-04
                                        -3.3068/0E-02
          -2.280/58E-01
                         -1,31995E-05
  11
                                        -3.029641E-01
  12
          -3.118256E+00
                         -1.702781E-02
                                        -2.983013E+00
                         -2.39954/E-05
  13
          -3.913366E-01
                                         -2.851979E-02
            .000000E+00
                            .000000E+00
                                           .00000E+00
                          3,262550E-06
                                         3.363419E-03
  15
           1.71998/E-02
  16
          2,579993=+00
                          4.925270E-04
                                         3.156BE-01
  17
          3.78/549E+02
                          7.222978E-02
                                         3.331969E+01
                         -1.814CB9E+00
                                         -7,483503E+02
  18
          -9.50\828E+03
  19
                         8.448914E-02
                                         3.632724E+01
          4.425319E+02
  ã
          -9.45818E+01 -1.80086E-02
                                          1.798/5/2=100
Descess resonance integrals
                  resolved
                 3.8238/E+03
Ombsorption
                 1.7314200
 fission
- elacsed time .30 min.
0 plutonium 241 endf/b-iv met 1266
                                               undated 10/13/89
                                                                           94241
                                                                                     temperature: 975.00
Onescrence data for this ruclide
Omess runber (a)
                         = 238,978
                                                   temperature(kelvin)
                                                                           = 975.000
Oxtential scatter signa = 10.939
                                                   lumped nuclear density
                                                                           = 1.8118280E-05
                         = 16402,100
                                                                           = 4.6812201E-01
                                                   lum dimension (a-bar)
Ospin factor (g)
Oimer radius
                         dencoff correction (c)
                                                                           = 3.4269261E-01
Othe absorber will be treated by the northeim integral method.
Oness of moderator-1 = 15.995 signs(per absorber atom)= 9.4247178E+03 Oncderator-1 will be treated by the nordneiss integral sectod.
                                                signs(per absorber atomb= 1.0109266E+04
Omes of moderator-2 = 258.051
Oncderator-2 will be treated by the norchein integral method.
Othis resource material will be treated as a 2-diagrational object,
Oxclume fraction of lump in cell used to account for spatial self-shielding-1.00000
Grand
             १९५५ क्रिक
                             res fiss
                                            res acet
          -1.407894E-02
                         -1.3322/1E-02
                                         5.022025E-04
          -1.183183E+00 -9.084095E-01
                                         -3.40BD0E-02
  13
          -1.202047E+00
                         -8.51161ZE-01
                                         -3.6X329E-03
          1.7773/RE-02
                          1.592212E-02 -4.605964E-04
  15
Opices resonance integrals
                  resolved
                 5.062572+02
Osbscrption
                 4.24597E+02
 fission
- elamed time 32 min.
0 plutonium 242 endf/b-iv met 1161
                                               updated 10/13/89
                                                                           922/2
                                                                                     temperature= 975.00
Orescrence data for this nuclide
                            240,145
Dames number (a)
                                                   temperature(kelvin)
                                                   lunged nuclear density
                                                                           = 2.9105/80E-06
Opportial scatter signs =
                              10,6%
                         = 6606,710
                                                   lum dimension (a-bar)
                                                                           = 4.6812201E-01
Ospin factor (g)
                                                                           = 3.426926 E-01
                         = .000000E+00
Oimer radius
                                                   dencoff correction (c)
Othe absorber will be treated by the northern integral method.
Omes of moderator-1 = 15.995
                                                signs(per absorber atox)= 5.8675289E+04
Opportunitor-1 will be treated by the porchain integral method.
Crass of accierator-2 = 238,051
                                                signs(per absorber aton)= 6.2547/3E+04
Oncderator-2 will be treated by the northern integral method.
Othis resorance material will be treated as a 2-dimensional object.
Oxclume fraction of lump in cell used to account for spatial self-shielding=1.00000
             res abs
                             res fiss
                                            res acat
(Brorb
```

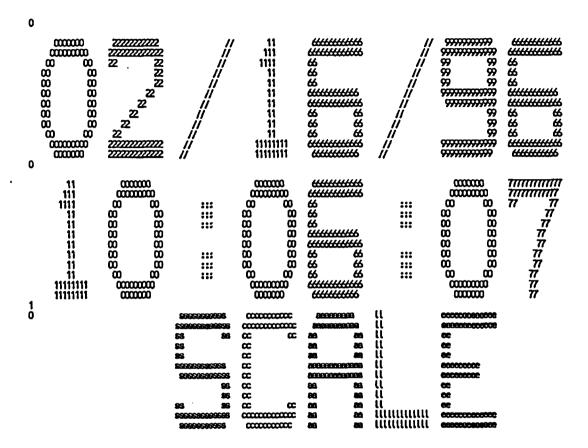
```
-7.9523/0E-03
                             .00000E+00
                                           -2.154490E-02
          -1_658367E-01
                             .000000E+00
                                           -3.20817/E-01
  12
           -4.553379E-04
                             .000000E+00
                                           -8.138200E-07
  13
           8.100781E-02
                             .000000E+00
                                            1.5107K8E-02
                                            -4.6B/42E+00
          -5.724017E+01
                             .00000E+00
  15
           4 00/002-02
                             .0000E+00
                                           -3.43080E-03
           1.5503338-02
                             .000000E+00
                                           -1_8/8019E-03
                             .00000E+00
                                           -1,430582-03
  18
           1.11251E-02
Omcess rescrence internals
                   resolved
                  1.07474E+08
Outpearption
                    .0000E+00
fission
- elapsed time
                   -32 min.
0zm24) 1056 sign-5+4 maxiacs 218mp p-3 285k
                                                                                 95241
                                                                                          temperatures 975.00
Orespense data for this nuclide
                          = 258,950
                                                      temperature(isolvin)
                                                                                 = 975.000
Omes runber (a)
Opotential scatter signs =
                                9.511
                                                      lumped nuclear density
                                                                                = 7.1835/9/E-07
                          = 82058.203
                                                      (um dimension (a-bar)
                                                                                = 4,6812201E-01
(ispin factor (g)
                          = .0000000=400
                                                      dercoff correction (c)
                                                                                = 3.4269261E-01
Cirner redius
Othe absorber will be treated by the nordwise integral method.
Cases of acclerator-1 = 15.95
                                                   signs(per absorber atom)= 2.37/08/9E+05
Oppderator-1 will be treated by the northeim integral method.
Omess of moderator-2 = 28.051 signature absorber atoms 2.549/3/3:405
Omderator-2 will be treated by the northeim integral method.
Othis recoverce material will be treated as a 2-dimensional object.
Occluse fraction of lump in cell used to account for special self-shieldings1.0000
                               res fice
                                               res scat
(prop
              res de
                                            4.248BE-03
            4.80847E-01
                           1.205702E-02
          -4.92(13E-01 -1.156366E-02
                                           -5.80/ASE-03
Opened recoverce integrals
                   recolved
                   1.03385-02
Osbsorption
                  1.075//E-00
 fission
- elassal time
                   .32 min.
                                                                                           tesperature: 975.00
0am 2/3 1057 218 gp let f-1/e-m 090576 p3 295k
                                                                                 052(3
Organizate data for this ruclide
                                                                                 = 975.000
Oness runber (a)
                          = 20.90
                                                      temperature(balvin)
                                                                                = 3.855V67E-07
= 4.6812201E-01
                                                      lumed nuclear density
Opotential scatter signs = 9.511
                                                     (up dimension (a-bar)
danceff correction (c)
Ospin factor (a)
                          = 82052,602
                                                                                = 3.426025E-01
Oirrer redice
                          = .000000E+00
Othe absorber will be treated by the rorcheim integral method.
                                                    signature electron store 4,452488E405
Omes of exchanger-1 = 15.995
Considerator 1 will be treated by the northein integral action.

Comes of moderator 2 = 238.051 signator a
Omes of suckretor-2 = 28.051 signs(per absorber atom)= 4.773955/E-405
Oscilerator-2 will be treated by the northein integral method.
Othis resonance material will be treated as a 2-discretional object.
Oxclume fraction of lump in cell used to account for special self-shieldings 1.0000
Gran
              res ebs
                               res fias
                                               res scat
           -1.098299E-02
                             3.156997E-04
                             .00000E+00 -7.305966E-05
           1_481003E-03
Opposes resonance integrals
                   resolved
Orbeanstian
                   1.60121E+02
 fission
                    .000E+00
  elapsed time
                    32 min.
                                                                                           temperatures 975.00
                                                 updated 10/13/80
0 curium-3/4 erulf/b-iv mat 1162
Oresprence data for this ruclide
                                                                                 = 975.000
                                                      temperature(lesivin)
Comes (Labor (a)
                                                      luped nuclear density
                                                                                 = $.3017/51E-08
Occupied scatter signs =
                          = 5251.50
                                                      lum dimension (e-bar)
                                                                                 = 4.6812201E-01
Oxpin factor (a)
```

```
= 3.4269261E-01
                          = .0000000E+00
                                                     dencoff correction (c)
Oimer radius
Othe absorber will be treated by the northelm integral method.
Oness of moderator-1 = 15.995
                                                   signe(per absorber aton)= 3.2207913E+06
Occupator-1 will be treated by the norcheim integral method.
                                                   signe(per absorber atom)= 3.4547208E+06
Oness of moderator-2 = 258,051
Oracirator 2 will be treated by the northein integral method.

Othis resonance material will be treated as a 2-dimensional object.
Oxolume fraction of lump in cell used to account for spatial self-shielding-1.00000
                              res fiss
                                               res scat
Ograp
Quality
              res abs
  11
           9.779739E-05
                           2.721719E-06
                                          8.77398/E-05
           1.56552E-04
                           1.130185E-05
                                           -4.530GRE-05
  12
  13
           1.8/992E-03
                           9.75265/E-05
                                            6.787102E-04
                          -1.054203E-02
          -1.728590E-01
                                           -5.64800XE-02
Descess resonance integrals
                   resolved
Osbeorption
                  6.13582E+02
                  3.540B0E+01
fission
                   - elapsed time
  elapsed time
      this xedm 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 reutron burrup Library
         based on eralf-b version 4 data with eralf-b version 5 fission products
            compiled for nrc 1/27/89
                                                            number of nuclides
          tece id
                                                            number of gamma groups
                                                                                                    0
                                                27
          number of neutron groups
                                                             logical unit
          first thermal group
                                         table of contents
                                                                                                   999
        1/v cross sections normalized to 1.0 at 0.0253 ev
                                                                                          <u> ちるなちななななななななななななななななななななななななななな</u>
                        eraf/b-iv met 1269/thrm1002
                                                                                                   1001
                                                        updated 10/13/89
        hydrogen
                                                                                                   5010
        b-10 1273 218ngp 042375 p-3 293k
                                                         updated 10/13/89
                                                                                                   5011
                        endf/b-iv met 1160
         baran-11
                                                                                                   8016
                        endf/b-iv met 1276
                                                         umbted 10/13/89
         aygen-16
                                                         updated 10/13/89
         avgen-16
                                                                                                     6
                        endf/b-iv ast 1276
                        mt=102,105,105,105,105,107
mt= 102
                                                         undeted 10/13/89
                                                                                                 34083
         lo-83
         kr-85
                                                                                                 36085
                        mt=102
                                                                                                 38090
                                                         undated 10/13/89
         27-90
                                                         undated 10/13/89
                                                                                                 39089
          Y-80
                        mt=102
                                                                                                 40075
         27-22
                                 102
                           at=
                                                         updated 10/13/89
                                                                                                  40094
         21-94
                        nt=102
                                                                                                  40095
                                                         undated 10/13/89
         ZT-95
                        mt=102
                                                                                                 40502
                        endf/b-iv and 1284
                                                         umbted 10/13/89
         zircallov
                                                         uzdated 10/13/89
                                                                                                 41094
         1<del>2</del>-41
                        mt=102
                                                         underted 10/13/89
                        mt=102
                                                                                                  42075
         ₽₽-95
                                                                                                  43077
                                                         umbted 10/13/89
         tc-99
                        mt=102
                                                         undeted 10/13/89
                                                                                                 44101
                        mt=102
         ru-101
                                                                                                  44106
                        mt=102
                                                         updated 10/13/89
         ru-106
                                                                                                 451CB
                        at=102
         rh-103
                                                         uzdeced 10/13/89
                                                                                                 45105
46105
                            mt= 102
         rh-105
                        mt=102
                                                         undeted 10/13/89
         四十105
                                                         undated 10/13/89
                                                                                                  4610B
                        mt=102
         pd-108
                                                         ubdated 10/13/89
                                                                                                 47109
         silver-109
                        endf/b-iv met 1139
                                                         undebed 10/13/89
                                                                                                 51124
         d-124
                        mt=102
                        mt=102,105,104,105,106
                                                         updated 10/13/89
                                                                                                 54131
         XE-131
                                                                                                  54132
         xe-132
                        Rt=102,103,104,105,105
eruf/b-iv met 1254
                                                         undered 10/13/89
                                                                                                  54135
         201-126
                                                         ucaboud 10/13/89
                        nt= 102, 105, 104, 105, 107
endf/b-iv met 1141
                                                                                                 54136
         xe-136
                                                                                                  ऋछ
         cesium-133
                                                         undated 10/13/89
                                                                                                 $13.
$13.
         CS-134
                        mt=102
                                                         underted 10/13/89
                           mt= 102
         CS-135
```

| | cs-137 | mt=102 | | updated 10 | rTL RO | ы Б | 5137 |
|---|--|---|--|---------------------------------------|--|------------------|---------------------|
| | ba-136 | nt=102 | | updated 10 | | | 5136 |
| | la-139 | mt=102 | | updated 10 | | | 739 |
| | œ-144 | nt= 1 | 02 | · · · · · · · · · · · · · · · · · · · | ,, | | 3144 |
| | pr-141 | | 3,104,105,106,10 | 7 updated 10 | /13/89 | | 7141 |
| | pr-143 | mt=102 | -,,,, | updated 10 | | id 59 | 743 |
| | nd-143 | mt=102 | | updated 10 | /13/89 | | 143 |
| | nd-145 | nt=102 | | updated 10 | /13/89 | id 60 | 7 4 5 |
| | nd-147 | nt=102 | | updated 10 | /13/89 | | 1147 |
| | pn-147 | mt=102 | | ujodated 10 | /1 3/8 9 | | 147 |
| | pn-148 | mt= 1 | | | | | 148 |
| | sm-147 | | fission product | updated 10 | | | 2147 |
| | sn 149 | mt=102,10 | 5,1U | updated 10 | | | 2149 MEO |
| | sm-150 | nt=102 | T 40 40E 400 40 | updated 10 | | | 2150 ME4 |
| | sn-151 | #E=102, 10 •+-102 40 | B,104,105,106,10 | 7 updated 10 7 updated 10 | | | 2151 2152 |
| | 881°153 841°153 | | 8,104,105,106,10 8,104,105,106,10 | | | | 153 |
| | er 154 | #t=102, 10 | 5,104,105,106,10 | 7 updated 10 | | | 154 |
| | en-122 | mt×102 10 | 3,104,105,106,10 | 7 updated 10 | | | 155 |
| | ₩ | mt=102 | 5,101,125,105,10 | updated 10 | | | 155 |
| | | | acs p-3 200k f-1 | | - | | 234 |
| | uranius-2 | | | updated 10 | /13/89 | id 92 | 235 |
| | u-256 1163 | sigo-544 naxl | acs p-3 255k f-1, | /e-π(1.+5) | • | id 92 | 236 |
| | uranius 2 | 38 endf/b-iv | #Bt 1262 | updated 10 | /13/89 | | 238 |
| | | <u>-237</u> endf/b-iv | | updated 10 | /13/89 | | 257 |
| | | | lacs p-3 295k f- | | | | 238 |
| | | r239 endi/b-iv | | undeted 10 | | | 239 |
| | | -20 endf/b-iv | | updated 10 | | | 240 241 |
| | | -241 endf/b-iv | | updated 10 | | | 242 242 |
| | | r2/2 endf/b-iv | iscs 218ngp p-3 2 | 2082 updated 10 | אסוט א | | 241 |
| | | | /em 0903/6 p3 2 | | | | 23 |
| | curium 24 | | | updated 10 | /13/89 | | 2 4 |
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| | erere erere | ## ## ## ## ## ## ## ## ## ## ## ## ## | ***** | ii ii ii | \$50003000000 \$500030000000 \$6 \$6 | | |



program verification information states and the code system scale version: 4.2 states and the code system and the code system

```
creation date: 04/27/95
                                              library: /neutronics/scale/exe
                                   this is not a scale configuration controlled code
                                              ichneme: davis
                                   date of executions 02/16/96
                                    time of executions 10:06:07
1
                        1200 d. sas2n; beboock wilcox 15x15, 3.00xX, 20xxd/intu burn high temp
                            1 estries.
        - la array has
         1q array has
                           5 entries.
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         So array has
                           12 entries.
Odirect access unit 9 requires 12 blocks of length 70% for cross section mixing.

1 200 d, ses2h: bebook wilcox 15x15, 3.00x2, 20p-d/mou burn high temp
Openeral problem description data block
                                  general problem data
 ige 1/2/3 = plane/cylinder/sphere izm number of zones
                                                      ion quadreture order
                                                      isct order of scattering
                                                      text Q/V2/3/4/3/6-c/k/alpha/c/z/r/h
     runber of special intervals
                                                                                                2020
     0/1/2/3 = vecum/refl/per/hite
                                                      i im irrer iteration maximum
 ibr right boundary condition
                                                      ion outer iteration maximum
mot runber of mixtures
                                                      iclc -1/Q/n--flat res/sn/qpt
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ms mixing table length
ign runber of energy groups
                                                      ith 0/1 = fonerd/adjoint
                                                      iflu not used(always ugtot)
                                           27
27
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idl 0/1/2/3-m/prt nd/pth n/both
ring number of neutron groups
                                                                                                3
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not number of games groups
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 ifty runber of first thermal group
                                    special options
                                                      ipn 0/1/2 diff. coef. peren
 ify 0/1 = none/heighting calculation
 ion volumetric sources (Q/nero/yes)
                                                      idim 0/1 = none/density factors 38*
                                                      iaz 0/n = rune/n activities by zone
 ipin boundary sources (O/myro/yes)
 im 0/1/2 = input 35*/34*/Lee last
                                                      ial Q/1=ncme/activities by interval
 itms meximum time (minutes)
                                                      ifct 0/1-no/yes upscatter scaling
                                                      ipyt 0/1/2-ro/k/alpha parametric arch
 ick1 0/1/2/3-rp/xsect/srce/flux-out
 isk broad group fluxes
ibln activity data unit
                                                      isen outer Iteration acceleration
                                                      rand band rebally parameter
 ibl 0/1/2 buckling geometry
                                      veighting data (ifg=1)
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27
                                                      ihtf total xsect pan in brd go tables
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| 0 | m ml čelen | | CHILD DUCK | X & WINN | table, etc. | | -tra |
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| | 1 999 | | | 2 | 9225 | 3.29451E-04 | |
| | 2 1001 3 5010 4 5011 5 8016 6 6 7 36083 8 36085 | | | 1 | 9234 | 4.10548E-05 | |
| | 3 5010 | | | | 9236 | 6.72909E-05 | |
| | 4 5011 | | | 1 | 92238 | 2.1752/E-02 | |
| | 5 8016 | | | 1 | 8016 | 4.553592-02 | |
| | 66 | | | 3 | - 6 | 2.07710E-02 | |
| | 7 36083 | | | 1 | 36083 | 1.8137ZE-06 | |
| | | | | 1 | 36055 | 8.7777E-07 | |
| | | | | 1 | 38090 | 2.00500E-05 | |
| | 10 39089 | | | 1 | 39089 42095 | 1.64607E-05 | |
| | 11 400% | | | 1 | 4000 | 2.30516E-05 | |
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| | 15 41094 | | | i | 41094 | 1.520E-11 | |
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| | 16 42095 17 43099 | | | i | 4510B | 1.43117E-05 | |
| | 1/ 43099 | | | 1 | 45105 | 2.51927E-08 | |
| | 18 44101 19 44106 | | | i | 44101 | 2.36761E-05 | |
| | 19 44106 20 45108 | | | i | 44106 | 3.50872E-06 | • |
| • | N 4010 | | | i | 46105 | | |
| • | 21 45105 | | | i | 46108 | 1.03319E-05 3.17250E-06 | |
| • | 22 46105 | | | i | | 2.13200E-06 | • |
| : | Z 46108 X 47100 | | | i | 47109 51124 | 4.69572E-10 | |
| : | 84 47109 25 51124 | | | i | 54131 | 1.14853E-05 | |
| | 8 54131 | | | i | 54152 | 2.331996-05 | |
| | 7 54132 | | | i | \$455 | 6.64007E-09 | |
| | 21 45105 22 44105 23 44108 24 47109 25 51124 26 54131 27 54132 28 54135 | | | i | 54136 | 4.51576E-05 | |
| | 2 XIX | | | i | 5513% | 1,630576-05 | |
| • | 50 55 53 55 | | | i | <u> </u> | 1.43530E-05 | |
| 7 | ñ 5534 | | | i | 55137 | 2.770635-05 | |
| | 2 55135 | | | i | 56136 | 3.51878E-07 | |
| 3 | S 55157 | | | i | 57139 | 2.7300/E-05 | |
| | × 56136 | | | i | 59141 | 2.40560E-05 | |
| 3 | 5 57139 | | | 1 | 59143 | 3.600B2E-07 | |
| 3 | 99 5415 50 5515 51 | | | i | 58144 | 6.94069E-06 | |
| - 1 | 97 59141 | | | i | 60143 | 2.05000E-05 | |
| - 3 | 8 59143 | | | i | 60145 | 1.54707E-05 | |
| 3 | 9 60143 | | | i | 61147 | 4.51202E-06 | |
| 7 | 99 60143 60 60145 | | | i | 61148 | 1.3087E-08 | |
| | 1 60147 | | | j | 60147 | 1.26677E-07 | |
| Z | 2 61147 | | | i | 62147 | 2.20836E-06 | |
| 7 | 3 61148 | | | i | 62149 | 9.0667E-0B | |
| | 4 62147 | | | i | 62150 | 5.84210E-06 | |
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                                                                                            3.6002/E-09
    47 48
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          62151
                                                                             63153
                                                                                             1.87279E-06
          62152
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                                                                                            4.B/430E-07
          खाञ
                                                                                            2.11219E-07
    63154
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          815
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                             1200 d, see2h: beboook willook 15x15, 3,00x1X, 20gxd/www.burn high temp
         nautron group parameters
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INFORMATION CT.

| | 27 | 1.0000E-02 | 2.072550 | 8.88201E+04 | 27 | 0 | 27 | 1.00000E+00 | |
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| • | 28 | 1.0000E-05 | 2.76310E+01 | باستناء وحاكم | كابته بسالي | 3.00.00, 20 | urlann i fram h | ich tem | |
| 1 | | mixture | order p(l) | activity | | , | quadrature co | nstants | |
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| | 23456789 | 1 | 3 | | | | -1.9728E-01 | 3 2 | -9.98548E-05 9.98548E-03 |
| | 3 | 2 | 3 3 | | | 5.05K3E-02 0 | -6.0419E-01 | 8 | A'XOYOF-M |
| | 5 | , | | | | 5.557538-02 | -5.58410E-01 | 8 | -3.1030E-02 |
| | 6 | | | | | 5.55753E-02 | -2.31301E-01 | 7 | -1.28593E-02 |
| | 7 | | | | | 5.5575E-02 | 2.31301E-01 | 6 | 1.28593E-02 |
| | 8 | | | | | | 5,58410E-01 -8,50774E-01 | 5 15 | 3.10/50E-02 0 |
| | | | | | | | -8.2178/E-01 | 15 | -4.2966E-02 |
| | ñ | | | | | | -6.01588E-01 | ŭ | -3.14537E-02 |
| | 12 | | | | | 5.225VE-02 | -2.20196E-01 | 13 | -1.1512EE-02 |
| | 13 | | | | | | 2.2019XE-01 | 12 | 1.15128E-02 |
| | 14 | | • | | | | 6.01583E-01 8.21784E-01 | 11 10 | 3.14537E-02 4.23665E-02 |
| | 72 | • | | | | | -9.E3032E-01 | 24 | 0 |
| | 101121314151617 101121314151617 | | | _ | | 4.5350E-02 | | 24 | -4.37099E-02 |
| | 18 | | • | • | | | -8.17361E-01 | 2 5 22 | -3.7055E-02 |
| | 19 | | | | | | -5.46143E-01 | Z 2 | -2.47597E-02 |
| | æ | | | | | | -1.91780E-01 1.91780E-01 | 21 | -8 <i>.6944</i> E-05 8 <i>.6944</i> E-05 |
| | 21 | | | | | | 5,46143E-01 | 19 | 2.47997E-02 |
| | 18 19 20 TO TO | | | | | | 8.17361E-01 | 18 | 3.70555E-02 |
| | 24 | | _ | | | 4.53360E-02 | 9.6414 3E -01 | 17 | 4.37077E-02 |
| | | nts for p(3) | | 7 | | E | | | |
| Car | | set 1 -2.79004E-01 | set 2 8.83256-01 | set 3 | set 4 -6,16919E-01 | set 5 | | | |
| | | -1.97289E-01 | | | -4.36220E-01 | 1.214116-02 | | | |
| | 3 | 1.97289E-01 | 8.8325E-01 | .00000=+00 | 4.3522E-01 | -1.21411E-02 | | | |
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| | | -5.58410E-01 -2.31301E-01 | 4.5201/E-01 | -2.25/13E-01 | -7.43201E-01 | 1.61276E-01 | | | |
| | 7 | 2.3130E-01 | 4.5201/E-01 | -2.2371E-01 | 3.078/4E-01 | | | | |
| | 8 | 5.58410E-01 | 4,52016E-01 | 2.70717-01 | 7.43201F-01 | 6.6H02HE-02 | | | |
| | 9 | -8.50774E-01 | -8.5725E-02 | 6.2883E-01 | -1.9855E-01 | -4,85833E-01 | | | |
| | 10 | -8.2178/E-01 | -8.5725E-02 | 5.4286ZE-01 | -1.9169/E-01 | 3.4424E-01 | | | |
| | | -6.01505E-01 | -8.5725E-02 | | -1,40530E-01 | 3.4/2/5E-01 | | | |
| | ß | 2.2019Œ-01 | -8.5725E-02 | -5.4286ZE-01 | 5.1363E-02 | -3,4425-01 | | | |
| | 14 | 6.01580E-01 | -8.5725XE-02 | .000000 | 1.408302-01 | -3,4426E-01 | | | |
| | 5 | | -8.57250E-02 | | | 3.44265E-01 | | | |
| | | -9.64K3E-01 | 4,4752E-01 | 7.73181E-01 | | -7.51005E-01 -6.2433E-01 | | | |
| | 18 | -8.17361E-01 | -4.49528E-01 | 3,202625-01 | 4.16320E-01 | 1.451/E-01 | | | |
| | 19 | -5.46K)E-01 | 4.4952BE-01 | -3.2025ZE-01 | 2.78176E-01 | 7.36575E-01 | | | |
| | ZD | -1.91780E-01 | -4.49528E-01 | -7.73181E-01 | 9.785XE-02 | 4.17ZXE-01 | | | |
| | 21 | I.VI/OLE-UI | - W200-UI | -1./3/8/E-UI | -9.76824E-02 -2.78176E-01 | -7.36575E-M | | | |
| | ä | | 4.4752E-01 | 3.2026ZE-01 | 4.16320E-01 | -1.4651/E-01 | | | |
| | 24 | 9.64K3E-01 | -4.47528E-01 | 7.73181E-01 | -4.91083E-01 | 6.2438E-01 | | | |
| 1 | int | ार्चीi | anid pts | zone no. | areas | Volumes | dens fact | ्रास्ट्रॉप्ट स्टार् | apac(int) |
| | 2 | 3 EDJUSE-US | 1,29351E-02 4,33409E-02 | 1 | 0 1.62798E-01 | 2.1090Œ-05 9.4931Œ-05 | 1,0000E+00 1,0000E+00 | 0 | |
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| | 4 | 1.1/2/9E-01 | 1.7415E-01 | i | 7.17848E-01 | 1.3110/E-01 | 1.00000E+00 | Ŏ | |

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5 2.34061E-01 2.93967E-01
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    6 3.53873E-01 3.80612E-01
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    8 4.42212E-01 4.55167E-01
    9 4.68122E-01 4.68814E-01
                                              2.94130E+00 4.0794EE-05
                                              2.95000E+00 1.16989E-02
   10 4.69507E-01 4.71481E-01
   11 4.73/56E-01 4.75/31E-01
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   12 4.77405E-01 4.78098E-01
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   15 5.1245E-01 5.2490E-01 16 5.37362-01 5.41731E-01
                                              3.21975E+00 8.21777E-02 1.0000E+00
                                             3.3763/E+00 2.9742/E-02 1.0000E+00
                                              3.4312500 5.15631E-02 1.0000E+00
   17 5.46100E-01 5.53513E-01
   18 5.60929E-01 5.70900E-01
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   19 5.80874E-01 5.96175E-01
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   20 6.11479E-01 6.45795E-01
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   21 6.8003/E-01 7.1/313E-01
22 7.48592E-01 7.6383E-01
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   25 7.79193E-01 7.89167E-01
                                              4,8582E+00 9.8711/E-02 1.0000E+00
   24 7.99141E-01 8.0654E-01
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                                                                                                                                                                                             8.13x6E-01 5.11k31E+00
1200 d, see2h: bebook wilcox 15x75, 3.00x4X, 20gxd/ntu 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 1.8578E-01 1.3470E-00 1.6507E-00 1.0578E-00 1.5764E-00 3.0522E-00 2.073E-00 2.0252E-00
2 1.8585E-01 1.3470E-00 1.6507E-00 1.0578E-00 1.5778E-00 3.0522E-00 2.073E-00 2.0252E-00
3 1.8577E-01 1.3470E-00 1.6507E-00 1.0537E-00 1.5778E-00 3.0515E-00 2.073E-00 2.0252E-00
4 1.8585E-01 1.3470E-00 1.6507E-00 1.0537E-00 1.5731E-00 3.0253E-00 2.053E-00 2.053E-00
5 1.8230E-01 1.3470E-00 1.6777E-00 1.0537E-00 1.5731E-00 3.0253E-00 2.8573E-00 2.0730E-00
6 1.810E-01 1.3570E-00 1.6508E-00 1.053E-00 1.5530E-00 2.9573E-00 2.8573E-00 2.0730E-00
6 1.810E-01 1.3570E-00 1.6508E-00 1.053E-00 1.5530E-00 2.9573E-00 2.8573E-00 2.0730E-00
8 1.7749E-01 1.2596E-00 1.6536E-00 1.0057E-00 1.5530E-00 2.9738E-00 2.0737E-00
9 1.7854E-01 1.2537E-00 1.6536E-00 1.0057E-00 1.5530E-00 2.9738E-00 2.0737E-00
10 1.7854E-01 1.2537E-00 1.6536E-00 1.0057E-00 1.5530E-00 2.9737E-00 2.8573E-00 2.0737E-00
11 1.7854E-01 1.2537E-00 1.6530E-00 1.0057E-00 1.5530E-00 2.9737E-00 2.8573E-00 2.0737E-00
12 1.7853E-01 1.2535E-00 1.6530E-00 1.0057E-00 1.5530E-00 2.9737E-00 2.8573E-00 2.0737E-00
13 1.7863E-01 1.2535E-00 1.6530E-00 1.0057E-00 1.5530E-00 2.9737E-00 2.8573E-00 2.0737E-00
14 1.77457E-01 1.2535E-00 1.6530E-00 9.9475E-01 1.5737E-00 2.8537E-00 2.8537E-00 2.0737E-00
15 1.7857E-01 1.2535E-00 1.6530E-00 9.9475E-01 1.4536E-00 2.8537E-00 2.8537E-00 2.0535E-00 1.5537E-00 2.8537E-00 2.8537E-00 2.0535E-00 1.5537E-00 2.8537E-00 2.8537E-00 2.0535E-00 2.0535E-00 1.5537E-00 2.8537E-00 2.8537E-00 2.0535E-00 1.5537E-00 2.8537E-00 2.8537E-00 2.0535E-00 1.5537E-00 2.8537E-00 2.8537E-00 2.0535E-00 2.0535
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          0 int. gp. 9 gp. 10 gp. 11 gp. 12 gp. 13 gp. 14 gp. 15 gp. 16 gp.
                                                                                                                                                                                             1,4516500 1,3132500 8,01246-01 6.72776-01 5,81256-01 3.64666-01
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                                                        5 1.5935/E+00 1.4545/E+00 1.31968E+00 8.08869E+01 6.79413E+01 5.91429E+01 3.664/0E+01 1.99769E+01
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| 6 | 1.5067=+00 | 1.45775E+00 | 1.30/215-00 | 8.1720RF-01 | 6.85718:-01 | 6.07769E-01 | 3.67610E-01 | 2.00675E-01 | |
| 7 | 1 9952-00 | 1.46009E+00 | 1.331905-00 | 8.24/AF-01 | A 021285-01 | 6.11210F-01 | 3.68\$2\$E-01 | 2-01341F-01 | |
| 8 | 1 400 | 1,46221E+00 | 1 33445-00 | 8 20005-01 | V 020075-VI | 6 10001E-M | 3 ADYLE-01 | 2.01947E-01 | |
| ă | 1 601635-00 | 1.46530E+00 | 1 33008-00 | 8 372405-01 | V CONCE-UI | 6 73082E-01 | 3 ADME-M | | |
| ń | 1,00000000 | 1.453/85+00 | 1.7702-00 | 0.3233C-01 | 7 000000 | 4.202E-M | 7 40035-01 | 2 02452-01 | |
| Ņ | 1.001025-00 | 1.403405-00 | 4.7/000-00 | 9.37/34r M | 7.0000C M | 4 7//E-M | 3.000E-01 | 2 023DE-01 | |
| !! | I OUZI ETW | 1.46379=+00 | 1.3.000-00 | 973/2/E-01 | 7.WEEE-UI | 4.2500ETUI | 3.09/3/E-U1 | 2.023825-01 | |
| 12 | 1.00256100 | 1.45380+00 | 1-3/00:100 | 0-3304F-01 | 7,010/02-01 | 0.200LEVI | 3,000,25-01 | 2,00415-01 | |
| ນ | 1.60262+00 | 1.464Z9E+00 | 1.5110-00 | 8-34/10E-U | /.UKCCE-UI | D_2000E-VI | 3.00000 | 2.02000-01 | |
| <u>¥</u> | 1,60367E+00 | 1.465316+00 | 1.3\3\E\0 | 8.3/59XE-UI | 7.U.348E-UI | 6.JUZYE-UI | 3./1302-01 | 2.U2001E-U1 | |
| 5 | 1.604782+00 | 1.4668/E+00 1.4678/E+00 | 1.3679E+00 | 8AVXE-01 | 7.07769E-01 | 6_35490E-01 | 3.709/æ-01 | 2,033UTE-UT | |
| 16 | 1.605305+00 | 1 <i>.46</i> 787£+00 | 1.348992+00 | 8.44005E-01 | 7.07973E-01 | 6.3896FE-01 | 3.713BTE-01 | 2.03585E-01 | |
| 17 | 1.60558E+00 | 1.4685/E+00 | 1.35053E+00 | 8.45854E-01 | 7,115625-01 | 6.4132EE-01 | 3.7160Æ-01 | 2.0377 3E -01 | |
| 18 | 1,60600E+00 | 1,46967E+00 | 1.352092+00 | 8.A8380E-01 | 7.13719E-01 | 6.446T7E-01 | 3.71863E-01 | 2.04019E-01 | |
| 19 | 1.6053E+00 | 1.47089E+00 | 1.355422+00 | 8.51287E-01 | 7.1619Œ-01 | 6.A8537E-01 | 3.72163E-01 | 2.030E-01 | |
| 20 | 1.607275+00 | 1,4725E+00 | 1.358Y/F+00 | 8.54930E-01 | 7.19362E-01 | 6.5349E-01 | 3.72532E-01 | 2.0 665E- 01 | |
| 7 | 1.60/825+000 | 1.47342E+00 | 1.3609E+00 | 8.576315-01 | 7.215285-01 | 6.5699E-01 | 3.72729E-01 | 2.0/895 -01 | |
| 22 | 1.602995+00 | 1.473525+00 | 1.35120F+00 | 8.5784/E-01 | 7.21757E-01 | 6.57209F-01 | 3.72637E-01 | 2.04889-01 | |
| | | 1,4752/6+00 | | | | | | | |
| ž | 1.60772-00 | 1.47290E+00 | 1 30000 | B ECCOC-M | 7 20505-01 | 4 551215-M | 2 774PE-M | 2 046785-01 | |
| | 1,007,345700 | 19 | 1-100 | 20 | 7.20.02.01 | 2000 | 3,7202-0, | 2 | |
| t. | grp. II | grp. 18 2.34091E-02 | Sir is | Str St | O CHACLE W | 4 5170C-M | A SECTION | A PRODE-W | |
| 1 | CONTEST OF | 2.3AUYIE-UZ | 1.10002-01 | 4.00/32-01 | y.orome.uc | 1.51/02-01 | 0. IOXOSCTUT | 4.009UE-UI | |
| 2 | 7.639/4E-UZ | 2.3/3392-02 | 1. NOVE-U | 4.UOCCE-UI | 7.07 EXE-U2 | 1.510UNE-U1 | 0.10USE-U) | 4.0000/E-UI | |
| 3 | 7.64750E-02 | 2.37291E-02 | 1.10/ZEE-01 | 4.04/8/E-01 | 9.6850E-02 | 1.522/IE-UI | 6.1912E-U | 4.6/40E-UI | |
| 4 | 7.67180E-02 | 2.50190E-02 | 1.1K9Œ-01 | 4.050/SE-01 | 9.808/XE-02 | 1.556/EE-01 | 6.3481 E-UI | 4./22/5E-UI | |
| 5 | 7.80191E-02 | 2.8420/E-02 | 1.13357E-01 | 4.09140E-01 | 1.003/EE-01 | 1.64 K-01 | 6.389E-01 | 4.8422XE-01 | |
| 6 | 7.92X0EE-02 | 3.2576/E-02 | 1.15/0ZE-01 | 4.1251 2. 01 | 1.04219E-01 | 1.7386/E-01 | 6.54551E-01 | 4.97501E-01 | |
| 7 | 8.0155¥-02 | 3.61209E-02 | 1.16900E-01 | 4.14997E-01 | 1.05681E-01 | 1_81413E-01 | 6.K622XE-01 | 5.07454E-01 | |
| 8 | 8.10014E-02 | 3.979332:-02 | 1.18253E-01 | 4.17252E-01 | 1.0B984E-01 | 1.88518E-01 | 6.7700/E-01 | 5.16683E-01 | |
| ğ | 8.14/XE-02 | 4.17918E-02 | 1.18953E-01 | 4.18620E-01 | 1.10187E-01 | 1.92614E-01 | 6.82603E-01 | 5.2148E-01 | |
| 10 | 8.15133E-02 | 4.2009E-02 | 1.19063E-01 | 4.1861/E-01 | 1.10367E-01 | 1.9333E-01 | 6.83/61E-01 | 5.22211E-01 | |
| ñ | R WWA-OD | 4.25210E-02 | 1.192225-01 | 4 1893CE-01 | 1.10535-01 | 1.9%776-01 | ARKENE-01 | 5.73739E-01 | |
| ö | R WATE-OD | 4.2237E-02 | 1 100/25-01 | 4 1904RE-01 | 1.107916-01 | 1.041975-01 | 6.8547 F-01 | 5.7300E-01 | |
| ñ | 8 181/3E-02 | 4.285/86-02 | 1 1057/5-01 | M-25206 Y | 1.111111-01 | 1 05139E-01 | 6.87087E-01 | 5.2525/F-01 | |
| ŭ | 9 77 DOC-00 | 4.41991E-02 | 1 202015-01 | 4 305 SE-01 | 1 121025-01 | 1 081745-01 | 10-E0100 A | 5 20/2/-01 | |
| ~ | 9 2007E-00 | 4.5800E-02 | 1 2117/5-01 | 4 221/4E-01 | 1 174/35-01 | 2 (020)E-M | A GROWE-M | 5 397152-01 | |
| 2 | 0.2003EV | 4 400 FT | 1.211342-01 | 4.22 NOE-UI | 1.000E-01 | 2 0000000 | 7 (82)45-01 | 5 39/575-01 | |
| 2 | STIDE W | 4.6955E-02 4.77555E-02 | 1.21/62-01 | 4.23130E*Ui | I. FOXUE-UI | 2.00000 | 7.000.00-01 | 5,300/E-01 | |
| 1/ | STANGE AN | 4.//33E-U2 | 1.22 ROE-VI | 4.200AC-UI | 1. DZDZE-UI | 2.0000000 | 7.00/332-01 | DAIDIE UI | |
| TIS . | 8.321E-02 | 4.83290E-02 | 1.22/BLE-UI | 4.2WBIE-UI | 1.10206-01 | 2JJ//04E-UI | 7.1NO2E-UI | 3 ACCULE-VI | |
| <u>19</u> | 8.42518E-02 | 5.00ES1E-02 | 1.23466-01 | 4.28/3E-01 | 1.1/4/E-U | 2.1513LE-01 | 7.18340E-UI | 2-29-ME-01 | |
| Z) | 8.4800E-02 | 5.16790E-02 | 1.233XE-01 | 4.2/20E-01 | 1, BAE-UI | 2.1/43E-UI | 7.2000E-UI | D-BUCKE-UI | |
| 21 | 8.51914E-02 | 5.281395-02 | 1.205E-01 | 4.28221E-01 | 1.2002E-01 | 2.Z53E-01 | 7.325 E-01 | 5.6/0XE-01 | |
| 22 | 8.52267E-02 | 5.292 15E- 02 | 1.2477E-01 | 4,28223E-01 | 1.20111E-01 | 2.208725-01 | 7.33757E-01 | 5.6850/E-01 | |
| 25 | 8.51267E-02 | 5.2640/E-02 | 1.24821E-01 | 4.ZXXXE-01 | 1.198/Æ-01 | 2.201225-01 | 7.32480E-01 | 5.6729 (E -01 | |
| 24 | 8.5005/E-02 | 5.22905E-02 | 1.261E-01 | 4.27525E-01 | 1.19521E-01 | 2.1917EE-01 | 7.30801E-01 | 5. 65862E -01 | |
| t. | arp. 25 | 972. 25 1.20105E-01 | grp. 27 | | | | | | |
| 1 | 1.95803E-01 | 1.2010XE-01 | 1.00/43E-02 | | | | | | |
| Ž | 1.95//QE-01 | 1.20022E-01 | 1_604285-02 | | | | | | |
| 3 | | 1.20\58E-01 | | | | | | | |
| ĭ | | 1.2266E-01 | | | | | | | |
| | | 1.28173E-01 | | | | | | | |
| | | 1.34381E-01 | | | | | | | |
| | | 1.391256-01 | 2 WATE-12 | | | | | | |
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| | | 1.4350/E-01 | | | | | | | |
| ¥ | C.20440E-UI | 1.45756E-01 | C.IIIOE-W | | | | | | |
| | | 1.46278E-01 | | | | | | | |
| | | 1.4673/E-01 | | | | | | | |
| 12 | | 1.4702E-01 | 2.41679E-02 | | | | | | |
| 77 | 2 XXXX | 1 476265-01 | 7 (TKE_10 | | | | | | |

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16 2.31583E-01 1.53082E-01 2.57881E-02
                         17 2.3317/E-01 1.5/698E-01 2.63213E-02
                         18 2.35811E-01 1.57524E-01 2.72960E-02
                          19 2.39083E-01 1,60961E-01 2,84387E-02
                        20 2,43438E-01 1,65651E-01 2,99428E-02
                     21 2.6957E-01 1.6948E-01 3.1179E-02 22 2.47727E-01 1.7046E-01 3.1547E-02 23 2.4727E-01 1.70128E-01 3.1545E-02
                        24 2.4656E-01 1.69513E-01 3.13679E-02
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                         12 8.321/2E-01 -6.55026E-02 7.9808E-01 13 6.9958E-01 -5.72788E-02 6.7083E-01
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                        14 6.22912-01 -8.77902-02 5.77029-01 15 3.675/2-01 -9.539812-03 3.6568-01 15 3.675/2-01 -7.33179-03 1.986972-01
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                         17 8.1420/E-02 -9.71775E-05 7.64719E-02
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                          18 4.1733E-02 -2.8001E-02 2.3650E-02
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                          19 1.18918E-01 -1.56190E-02 1.10714E-01
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| | 2.83661E-01 7.05084E-02 |
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| 21 1.10135E-01 -2.50569E-02 9.6674.1E-02 .00000E+00 .00000E+00 1.54127E-02 .0000E+00 7 | 7 (1909/25-02) |
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| 22 1.92276E-01 -7.1653ZE-02 1.51921E-01 .00000E+00 4.42529E-02 .00000E+00 1 | 1.16099E-01 |
| 25 6.82396-01 -1.25906-01 6.19016-01 .00000+00 .00000+00 7.05656-02 .00000+00 4 | 4.4454 9E- 01 • |
| 2. 5.2130xE-01 -1.0407/E-01 4.6734/E-01 .0000000. 00:000E-00 6.12538E-02 .0000E-00 3 | 3.37362E-01 |
| | 1.4283E-01 |
| | 9.015Z/E-02 |
| | 1.32570E-02 |
| 28 2.31425e01 5.7505c-02 2.31035e01 .0000E00 2.3457c-03 3.72532e-01 .0000E00 1 | 1.59195E+01 |
| If fine grap summry for zone 2 by grap including sum for all graps in line 28 | |
| Ogrp. fix source fiss source in scatter alf scatter out scatter absorption leakage | balance |
| 0.535.1- 0.43000. 0.43000. 0.43000. 0.43000. 0.43000. 0.43000. | 1.00000E+00 |
| 2 ,0000000,000,000000,000,000000,000,000 | 1.0000E+00 |
| | 1.0000E+00 |
| | 1.0000E+00 |
| 8 60-583027, 00+300000, 00+30000, 00+30000, 00+30000, 00+30000, 00+30000, 00+30000, 00+30000, 00+30000, 00+30000, 00+30000, 00+30000, 00+30000, 00+300000, 00+30000, 00+30000, 00+30000, 00+30000, 00+30000, 00+300000, 00+30000, 00+30000, 00+300000, 00+300000, 00+300000, 00+3000000, 00+300000, 00+300000, 00+300000, 00+300000, 00+300000, 00+3000000, 00+3000000, 00+3000000, 00+3000000, 00+3000000, 00+300000000, 00+30000000, 00+3000000, 00+3000000, 00+30000000000 | 9.9999E-01 |
| | 1.0000E+00 |
| | 9.9999E-01 |
| | 9.9999E-01 |
| | 9.9997E-01 |
| | 9.9997E-01 |
| | 1.0000E+00 |
| | 1.00000=+00 |
| 80-3354.1- 00-3000. 00-3000. 00-3000. 00-3000. 00-3000. 00-3000. 27 | 1.0000E+00 |
| | 1.0000E+00 |
| 5 .000E+00 .000E+00 .000E+00 .000E+00 .000E+00 .000E+00 2.0489E-08 9 | 9.9990E-01 |
| | 1.0000E+00 |
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| 2 .0002+00 .00+2000. 00+20000. 00+20000. 00+20000. 00+20000. | 1.0000E+00 |
| 80-57172.2 00-5000. 00-5000. 00-5000. 00-5000. 00-5000. 2 | 1.0000E+00 |
| 80-35104.1· 00-3000. 00-3000. 00-3000. 00-3000. 00-3000. x | |
| CO-3527.7. 00-3000. 00-3000. 00-3000. 00-3000. 00-3000. 55 | 1.0000E+00 |
| 80-2012/04.1 00-2000. 00-2000. 00-2000. 00-2000. 00-2000. 82 | 1.000E+00 |
| | 1.0000E+00 |
| | 1.0001E+00 |
| | total flux |
| | 5.66226E-0B |
| | 4.10212E-02 |
| 2 1.2505e+00 1.1655e-01 1.2547ie+00 1.1655e-01 .0000e+00 .0000e+00 .0000e+00 4 2 1.65153e-00 1.45527e-01 1.62657e-00 1.45527e-01 .0000e+00 .0000e+ | 5.1546E-02 |
| | 3.1915XE-02 |
| | 4.81369E-02 |
| | 9.2672E-02 |
| | 9.0018/E-02 |
| | 6.57050E-02 |
| | |
| | 5.0888E-02 |
| | 4.6478E-02 4.25163E-02 |
| | 2.6382E-02 |
| | |
| | 2, <i>222</i> 69E-02 1,98086E-02 |
| 1 0,0000-00 0,0000-00 0,0000-00 0,0000-00 0,0000-00 0,0000-00 0 0,0000-00 0 0,0000-00 0 0,0000-00 0 0,0000-00 0 0,0000-00 0 0,0000-00 0,000-00 0 | 1,17521E-02 |
| 5 3.684E-01 -9.5395E-03 3.6554E-01 -9.5366E-05 .0000E-00 | |
| | 6.A2179E-05 |
| | 2.5884E-05 |
| | 1.33810E-05 |
| | 3.78101E-05 1.3282E-02 |
| 20 4.19102E-01 -2.67453E-02 4.18357E-01 -2.67453E-02 .00000E+00 .00000E+00 1 | 1.JONETUZ |

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22 2.05548-01 •7.15488-02 1.94278-01 •7.16528-02 .00000+00 .00000+00 25 7.04308-01 •1.25038-01 6.85638-01 •1.25038-01 .00000+00 .00000+00 24 5.35328-01 •1.07018-01 5.26078-01 •1.00078-01 .00000+00 .00000+00
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .0000E+00 1.50752E-01
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                                                                                                                                                                                                                                                                                                                                                          .0000E+00 .0000E+00 .0000E+00 4.5522E-02 .0000E+00 .0000E+00 .0000E+00 3.2634E-02 .0000E+00 5.4473E-08
                                   25 2.31970E-01 -5.25060E-02 2.24755E-01 -5.27962E-02
2 153/06-0 4 24/06-0 2 157/06-0 4 257/06-0 00000-0 00000-0 3 22/06-0 2 2 33/06-0 15/07/06-0 2 31/06-0 2 31/06-0 2 31/06-0 2 31/06-0 3 22/06-0 2 31/06-0 3 22/06-0 2 31/06-0 3 22/06-0 2 31/06-0 3 22/06-0 2 31/06-0 3 20/06-0 2 31/06-0 3 20/06-0 2 31/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20/06-0 3 20
                               26 1.55/00E-01 -4.84/68-02 1.47/0E-01 -4.85/0E-02 .0000E+00 .000E+00 .000E+00 .000E+00 .000E+00 .000E+00 .000E+00 .000E+00 .000E+00 .000E+00 .000E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .0000E+00 5.0122EE+00
                                  19 1.24/96E-01 6.41674E-05 1.2189EE-01 -1.50591E-02
                                                                                                                                                                                                                                                                                                                                                                  .0000E+00
                                                                                                                                                                                                                                                                                                                                                                                                                                     _00000E+00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .0000E+00 1,4242E-01
                                  20 4.27318E-01 -1.51289E-05 4.25401E-01 -2.68431E-02
                                                                                                                                                                                                                                                                                                                                                                  .00000E+00
                                                                                                                                                                                                                                                                                                                                                                                                                                       -0000E+00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .0000E+00 4,89027E-01
                                  21 1.193(3E-01 6.70112E-05 1.14803E-01 -2.51628E-02
                                                                                                                                                                                                                                                                                                                                                                  .0000E+00
                                                                                                                                                                                                                                                                                                                                                                                                                                        .00000E+00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .0000E+00 1.36211E-01
                                 22 2.18680E-01 4.33475E-07 2.03548E-01 -7.15485E-02
                                                                                                                                                                                                                                                                                                                                                                .0000E+00
                                                                                                                                                                                                                                                                                                                                                                                                                                       _0000E+00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .0000E+00 2.49137E-01
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| | | | | 4 | ***** | | ***** | |
|---------------|--------------------------|--------------------------|--------------------------|--------------|-------------------|-------------------|--------------------------|--------------------------|
| 25 | | -3.2225E-06 | | | .00002+00 | .0000E+00 | | 8.32/5/E-01 |
| 24 | 5.65102E-01 | 9,4628 3E -07 | | -1.07011E-01 | .0000E+00 | .00000E+00 | .00000E+00 | 6.4206/E-01 |
| 25 | 2.46187E-01 | 1,11305E-06 | 2.31970E-01 | -5.2500E-02 | .0000E+00 | ,000 0 | .000 0E+ 00 | 2.7X872E-01 |
| 26 | 1.6917Æ-01 | -8.7477 X- 05 | 1.53406E-01 | -4.84463E-02 | .0000E+00 | .00000E+00 | .0000000000 | 1,90525E-01 |
| 27 | 3.12850E-02 | -2.9161E-07 | 2.59X67E-02 | -1.3VL/F-02 | .00000=+00 | .0000E+00 | .0000E+00 | 3.46002E-02 |
| 28 | | 5.21995E-06 | | 5.057275-02 | 4.5426E-10 | .0000E+00 | .00000E+00 | |
| | TOLD SLITTERY | | P34 (102.01 | >1001LL 00. | 713-222-10 | | 100000 | |
| | | fiss source | in scatter | alf scatter | cut scatter | absorption | leekage | belance |
| 0 gp | | | | | | | | |
| 1 | .00000 | | .00000 | 2.321445-02 | 2.2061E-02 | 3.7528E-08 | 2.03183E-09 | |
| 2 | .0000€+00 | 1.9508/E-01 | 7.64510E-03 | 2.72390E-01 | 1.87909E-01 | | -1.4789E-08 | 1.0002E+00 |
| 3 | .0000E+00 | 2.16067E-01 | 7.76674E-02 | 2.81575E-01 | 2.7810Œ-01 | 1.56570E-02 | 9.3059Œ-08 | 9.9998XE-01 |
| 4 | ,000 02+ 00 | 1.23586E-01 | 1.53XE-01 | 1,94025E-01 | 2.3150E-01 | 7.47182E-05 | 9.58997E-08 | 1.0000E+00 |
| 5 | .000 0E+ 00 | 1.63760E-01 | 2.10169E-01 | 4.90681E-01 | 3.6X1/E-01 | 4.5190XE-0B | -1,7540E-08 | 9.99989E-01 |
| 6 | -0000E+00 | 1.76/6DE-01 | 4.205E-01 | 1.3449E+00 | 5.98774E-01 | 7.13818E-05 | 1.740 40E -07 | 1,00001E+00 |
| 7 | .00000E+00 | 8.7116/E-02 | 6.644ZZE-01 | 1.77499E+00 | 7,4390/E-01 | 7.641SE-03 | 9.98467E-09 | 9.99990E-01 |
| ė | .0000E+00 | 1,34131E-02 | 7.80732E-01 | 1.75078E+00 | 7.80301E-01 | 1.39074E-02 | 3.20919E-08 | 9.99920E-01 |
| ğ | .0000E+00 | 9.73270E-04 | 7.70802E-01 | 1.55874E+00 | 7.48053E-01 | 2.38051E-02 | 3.3/927E-09 | 9.998936-01 |
| | .000000 | 7.2284E-05 | 7.4471Æ-01 | 1.4170E+00 | 7.0874Œ-01 | 3.6118XE-02 | 3.2166E-08 | 9.99900E-01 |
| 10 | | | | | | 5.93804E-02 | 4.98413E-08 | 9.99942E-01 |
| 11 | .0000€ | 5.68697E-06 | 7.13894E-01 | 1.312196+00 | 6.5%SE-01 | | | |
| 12 | .000 0 | 3.93500E-07 | 5.70611E-01 | 7.09685E-01 | 5.05699E-01 | 6.49518E-02 | 4.67273E-08 | 9.99974E-01 |
| 13 | .000E+00 | 6.3/369E-08 | 5.01663E-01 | 5.5835BE-01 | 4,40194E-01 | 6.148/SE-02 | 5.61550E-09 | 9.99971E-01 |
| 14 | .0000E+00 | 1.2575E-08 | 4.7765E-01 | 5.0576/E-01 | 3.89278E-01 | 8.8399E-02 | 5.230E-08 | 9.99989E-01 |
| 14 15 | .0000E+00 | 1.420725-09 | 2.57774E-01 | 2.31142=-01 | 2.48259E-01 | 9.408VE-03 | -1.72 000 -06 | 1,000/22+00 |
| 16 | .0000E+00 | 4.17172E-10 | 1.7506E-01 | 1.05612E-01 | 1.67293E-01 | 7.70273E-03 | -1.69593E-06 | 1.000(2E+00 |
| 17 | .0000E+00 | 1.34350E-10 | 9,30263E-02 | 3.17637E-02 | 8.758/Æ-02 | 1.05141E-02 | 4.43419E-06 | 1,00025E+00 |
| 18 | .00000 | 9.61905E-11 | 8.21837E-02 | 1.7633E-02 | 5.02962E-02 | 3.18795E-02 | 1.978575-06 | 1.00007E+00 |
| ที | .00000 | 1.35992E-10 | 1.26021E-01 | 5.808/5=-02 | 1.1250E-01 | 1.37420E-02 | 6.41674E-06 | 1.000185+00 |
| aő | | 2.211395-10 | | | | | -1.51289E-06 | 1.0005/E+00 |
| | .00000 | | 3.00/97E-01 | 3.50205E-01 | 2.70810E-01 | | | |
| <u>21</u> | .000E+00 | 3.23675E-11 | 1.43927E-01 | 6.57911E-02 | 1.167552-01 | 2.716/8E-02 | \$ <u>7017</u> | 1.0001/E+00 |
| 22 | .000 0E+ 00 | 3.75537E-11 | 2.6415E-01 | 1.57767E-01 | 1.87339E-01 | 7.67529E-02 | 4.33479E-07 | 1.00016€+00 |
| · 33 | .0000E+00 | 3.5905E-11 | 6.02026E-01 | 8.76009E-01 | 4.714CE-01 | | -3.2225E-06 | 1.00029E+00 |
| 24 | .000 0E+0 0 | 9.77301E-12 | 6.18501E-01 | 7.51209E-01 | 5.0127E-01 | 1.1739E-01 | 9.46ZFE-07 | 1,00020E+00 |
| <u>න</u> ක | .000000 | 2.84090E-12 | 4.06057E-01 | 3.0/507E-01 | 3.42202E-01 | 6.37821E-02 | 1.11305E-05 | 1,000136+00 |
| 26 | .0000E+00 | 2.0060BE-12 | 3.14728E-01 | 3.06639E-01 | 2.56056E-01 | 5.7736/E-02 | -8.7477 3 E-06 | 1,0001/E+00 |
| 7 | .0000E+00 | 4.78059E-13 | 1.03823E-01 | 6.22783E-02 | 8.71758E-02 | 1.66419E-02 | -2.9161Æ-07 | 1.000E+00 |
| 28 | .0000E+00 | | 9.552/9=+00 | 1.55567E+01 | 9.52/8=+00 | 1.00197E+00 | 5.3973Æ-06 | 1.0007E+00 |
| | rt bdy flux | | lft but flux | lft lækææ | non rate | fiss rate | fluctor2 | total flux |
| 0 ab | 1.7560E-01 | | 1.8372/E-01 | -0000E+00 | 2.4300/E-05 | 2.6989E-05 | .00000 | 3.70280E-01 |
| | | | 1.34641E+00 | .0000E+00 | 1.652K/E-05 | 1.190166-02 | .0000E+00 | 2.6/33/E+00 |
| 2 | | -1.47890E-08 | | | | | .00000 | 3.357016+00 |
| 3 | 1.530975+00 | | 1.600000 | .0000E+00 | .00000 | 1.4467E-02 | | |
| 4 | 9.7660BE-01 | 9.58997E-08 | 1.04479E+00 | .000E+00 | .000 0 | 6.22017E-05 | .0000 | 2.07560E+00 |
| 5 | 1.4675 (E+ 00 | -1.75400E-08 | 1.57771E+00 | .0000E+00 | .0000E+00 | 1.766/SE-05 | .00000 | 3.1274£+00 |
| 6 | 2.8215E+00 | 1.7405E-07 | 3.05070E+00 | .0000E+00 | .000000 | 1.AZ756E-05 | .0000E+00 | 6.005 80E+ 00 |
| 7 | 2.783245+00 | 9.9867E-09 | 2,905735+00 | .00000€+000 | .0000€+00 | 1,31999E-05 | ,0000E+00 | 5.807/8E+00 |
| 8 | 2.06673E+00 | | 2.08273 E+ 00 | ,00000E+00 | .0000E+00 | 1.200E-05 | .000000=00 | 4,30728E+00 |
| 9 | 1.6074/E+00 | 3.34927E-09 | 1.53777E+00 | .0000E+00 | .0000E+00 | 1.6816E-05 | .000000 | 3.3360/2+00 |
| 10 | 1.47279E+00 | | 1.4506E+00 | _0000E+00 | .0000E+00 | 3.58150E-05 | .0000E+00 | 3.05175€+00 |
| iĭ | 1.359525+00 | 4.9841SE-08 | 1.310535+00 | .0000E+00 | .00000E+00 | 7.79913E-05 | .0000E+00 | 2.7998£+00 |
| ij | 8.5589E-01 | 4.672752-08 | 7.9808Œ-01 | 4000E+00 | .0000E+00 | 1.05125-02 | .00000E+00 | 1.7462E+00 |
| ច | 7.1954E-01 | 5.61500E-09 | 6.70082E-01 | _0000E+00 | .0000E+00 | 1.2529/E-02 | .0000E+00 | 1.46851E+00 |
| ¥ | 4.562E-01 | 5.2/3/05-08 | 5.77029E-01 | -0000E+00 | .0000E+00 | 7.72479E-05 | .0000E+00 | 1.31566 |
| | | | | | | 1.69067E-05 | .0000 | 7.707925-01 |
| 5 | | -1.7205€-06 | 3.646E-01 | .0000E+00 | .0000E+00 | | | |
| 16 | | -1. 45972- 05 | 1.98007E-01 | .00000 | .00000 | 1.21205-03 | .0000 | 4.2363E-01 |
| 17 | 8.47554E-02 | 4.43419E-06 | 7.64719E-02 | .0000E+00 | .000E+00 | 1.2555E-05 | .0000€+00 | 1.71639E-01 |
| 18 | 5.21060E-02 | 1.97867E-06 | 2.34500E-02 | .00000E+00 | .0000E+00 | 7.33272E-04 | .0000E+00 | 9.13507E-02 |
| 19 | 1.24/0Œ-01 | 6.A1674E-05 | 1.1071/E-01 | .000000E+00 | .00000E+00 | 2.00% TSE-05 | .0000E+00 | 2.50918E-01 |
| 20 | 4.27318E-01 | -1.51200E-06 | 4.0479ZE-01 | .0000E+00 | .0000E+00 | 1.3999XE-02 | .0000E+00 | 8.76302E-01 |
| 21 | 1.1754E-01 | 6.7011ZE-06 | 9.65741E-02 | _00000E+00 | .0000E+00 | 1.54127E-02 | .00002=+00 | 2.3470BE-01 |
| Ž Ž | 2.18680E-01 | 4.33473E-07 | 1.51921E-01 | .00000E+00 | .00000E+00 | 4.AZZE-02 | .00000E+00 | 4.14737E-01 |
| 方 | 7.2000/E-01 | | 6.1901Œ-01 | .0000E+00 | | 7.05654E-02 | .0000E+00 | 1.44946E+00 |
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24 5,65102E-01 9,46295E-07 4.67341E-01
                                                                                                           .00000E+00
                                                                                                                                       .00000E+00 6.12939E-02
                                                                                                                                                                                                .0000E+00 1.11227E+00
        25 2.46187E-01 1.11305E-05 1.9603E-01
                                                                                                           .00000E+00
                                                                                                                                       .00000E+00 3.45226E-02
                                                                                                                                                                                                .00000E+00 4.78987E-01
        26 1.69172E-01 -8.74975E-06 1.20267E-01
                                                                                                                                       .0000E+00 3.16494E-02
                                                                                                           -0000E+00
                                                                                                                                                                                                .00000E+00 3.17966E-01
        27 3.1260E-02 -2.91616E-07 1.6072EE-02
                                                                                                          _00000E+00
                                                                                                                                      .0000E+00 8.98464E-0B
                                                                                                                                                                                                .0000E+00 5.406/E-02
                                                                                                          .0000E+00 2.4469E-03 3.7255E-01
        28 2.31512E+01 5.21999E-06 2.31043E+01
                                                                                                                                                                                                .00000E+00 4.81547E+01
      eleased time .00 min.
 Odirect access unit 9 requires 516 blocks of length 1456 for cross section weighting.
 1 transport cross section weighting function
                 97. 1 97. 2 97. 3 97. 4 97. 5 97. 6 97. 7 97. 8 2.5893-02 2.51122-02 3.5502-02 1.5882-02 2.51122-02 3.5502-02 4.68672-03
          2 3.85702-03 3.91746-02 4.85%-02 2.94578-02 4.47096-02 8.41746-02 4.75746-02 7.0275-03 3.14286-03 3.34206-02 4.52006-02 2.71747-02 4.22436-02 8.00946-02 4.57826-02 5.4296-03 4.108486-03 1.22976-02 1.66666-02 1.02756-02 1.75846-02 3.3406-02 1.9276-03 1.9446-02 2.4756-02 1.55846-02 2.42566-02 4.62506-02 2.65306-02 3.34806-03 1.94466-02 2.47566-02 1.55846-02 2.42566-02 4.62506-02 2.65306-02 3.34806-03 1.94466-02 2.47566-02 1.55846-02 2.42566-02 4.62506-02 2.65306-02 3.34806-03 1.94466-02 2.47566-02 1.55846-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.42566-02 2.425666-02 2.425666-02 2.425666-02 2.425666-02 2.425666-02 2.425666-02 2.425666-02 2.425666-02 2.425666-02 2.425666-02 2.425666-02 2.425666-02 2.425666-02 2.425666-02 2.425666-02 2
Core gr. 9 gr. 10 gr. 11 gr. 12 gr. 13 gr. 14 gr. 15 gr. 16 1 4.61278-08 5.59746-08 1.22538-02 1.35278-02 1.57618-02 2.05746-08 1.53486-08
           2 6.9276-03 8.40016-03 1.8926-02 2.20192-02 1.9256-02 2.99356-02 3.2066-03 2.45792-03 3.5.54266-03 7.85916-03 1.75946-02 2.05926-02 1.77846-02 2.73366-02 2.99326-03 2.27426-03
                 1.85/50E-03 3.2109E-03 7.0267E-03 8.1750E-03 7.1812/E-03 1.0988E-02 1.25/3/E-03 9.4261EE-04
           5 3.21719E-03 4.56712E-08 1.0019E-02 1.17744E-02 1.0019E-02 1.57767E-02 1.78652E-03 1.33397E-03
                9p. 17 9p. 18 9p. 19 9p. 20 9p. 21 9p. 22 9p. 23 9p. 34 2.14701E-08 5.47367E-08 3.51060E-08 5.4707E-08 5.47367E-08 3.51060E-08 5.4707E-08 5.47367E-08 2.75227E-02 2.75227E-02
                 3,265E-03 9,4130E-03 5,207E-03 8,900/E-03 8,425/E-03 2,409/E-02 4,1617E-02 3,566/E-02
           3 3.01702-03 8.6944E-03 4.8905E-03 8.3567E-03 7.80167E-03 2.22477E-02 3.8647E-02 3.3105E-02
           4 1,2000E-03 3,4120E-03 1,950E-03 3,4200E-03 1,3115E-03 8,9020E-03 1,5600E-02 1,3560E-02 5 1,75777E-03 4,7510E-03 2,8660E-03 4,8660E-03 4,47043E-03 1,2666E-02 2,2620E-02 1,91671E-02
 Octor orp. 25 orp. 25 orp. 27 orp. 28
1 1.5505-02 1.04705-02 2.79816-03 3.65405-01
                 1,77476E-02 1,63040E-02 4,54813E-08 5,90777E-01
           3 1.6560E-02 1.5065E-02 4.1760E-03 5.4456E-01 4 6.64154E-03 6.01781E-03 1.53054E-03 2.1908E-01
           5 9.44909E-03 8.59190E-08 2.27131E-03 3.13461E-01
                                                           1200 d. ans2h: beboock wilcox 15x15, 3.00x12, 20p.cl/miu burn high temp
 Ocell averaged fluxes
 Ozone grp. 1 grp. 2 grp. 3 grp. 4 grp. 5 grp. 6 grp. 7 grp. 8
           2 1.784216-01 1.292616-00 1.694206-00 1.005696-00 1.516936-00 2.994346-00 2.536556-00 2.07046-00
           3 1.771976-01 1.28046-00 1.60916-00 9.957206-01 1.505196-00 2.887596-00 2.821566-00 2.08846-00
          4 1.759/E-01 1.265/E-00 1.562/E-00 9.776/E-01 1.4719/E-00 2.855/E-00 2.76/E-00 2.062/E-00 5 1.7789/E-01 1.265/E-00 1.612/E-00 9.9719/E-01 1.502/E-00 2.856/E-00 2.820/E-00 2.820
Ozore grp. 9 grp. 10 grp. 11 grp. 12 grp. 13 grp. 14
1 1.59475:00 1.45925:00 1.3285:00 8.12085:01 6.82635:01 5.96365:01
2 1.601975:00 1.463605:00 1.339725:00 8.330865:01 7.00876:01 6.241835:01
                                                                                                                                                                                           grp. 15 grp. 16
3.666/0E-01 2.00766E-01
                                                                                                                                                                                            3.600E-01
                1.60419E-00 1.46611E-00 1.36519E-00 8.39610E-01 7.06114E-01 6.32862E-01 3.70996E-01 2.08099E-01
           4 1.60732E-00 1.478/2E-00 1.35881E-00 8.55150E-01 7.19/40E-01 6.53439E-01 3.73/50E-01 2.0/450E-01
          5 1.60277e-00 1.4617e-00 1.3615e-00 8.35092e-01 7.02576e-01 6.32093e-01 3.70317e-01 2.02866e-01
Ozone grp. 17 grp. 18 grp. 19 grp. 20 grp. 21
1 7.85526-02 3.05526-02 1.14236-01 4.10806-01 1.084176-01
                                                                                                                                                              970. 22
1.66582E-01
                                                                                                                                                                                                                        972. 24
4.9036E-01
                                                                                                                                                                                             grp. 23
                                                                                                                                                                                           6.45731E-01
         2 8.5657-02 4.216/6E-02 1.191/E-01 4.18751E-01 1.106/9E-01 1.9530/E-01 6.866/E-01 5.2272E-01 3 8.2288E-02 4.5062E-02 1.2068E-01 4.2188E-01 1.1289E-01 2.0088E-01 6.9559/E-01 5.3270E-01
           4 8.483/E-02 5.17515E-02 1.2636E-01 4.27270E-01 1.19010E-01 2.1767/E-01 7.27527E-01 5.617/6E-01
          5 8.2/619E-02 4.39892E-02 1.2050E-01 4.21007E-01 1.12760E-01 1.99259E-01 6.99379E-01 5.34379E-01
0zone grp. 25 grp. 26 grp. 27
1 2.07487E-01 1.30952E-01 1.92274E-02
           2 2.24051E-01 1.4605E-01 2.4020E-02
          3 2.2800E-01 1,5058E-01 2.5134/E-02
           4 2.44091E-01 1.66469E-01 3.02307E-02
           5 2,30079E-01 1,52762E-01 2,59661E-02
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Offux disadientage factors (zone average/cell average-flux)

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0zre gp. 1 gp. 2 gp. 3 gp. 4 gp. 5 gp. 6 gp. 7 gp. 8
1 1.076560 1.036560 1.037660 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.0376000 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.0376000 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.0376000 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600 1.037600
1 9.55025-01 9.9305-01 9.83595-01 9.6335-01 9.6335-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.6355-01 9.
Ozone grp. 25 grp. 26 grp. 27
1 9.01825E-01 8.57224E-01 7.40431E-01
2 9.73852E-01 9.59054E-01 9.25052E-01
                   3 9.93971E-01 9.85722E-01 9.67991E-01
                   4 1.06092E+00 1.089772E+00 1.16424E+00
                    5 1.0000E+00 1.0000E+00 1.0000E+00
 Ocell averaged currents
0zme gp. 1 gp. 2 gp. 3 gp. 4 gp. 5 gp. 6 gp. 7 gp. 8
1 2,6892-05 2,51122-02 3,5610-02 1,50832-02 2,906-02 5,5032-02 3,5962-02 4,6967-05
2 3,65702-05 3,91746-02 4,875412-02 2,96192-02 4,47092-02 8,41742-02 4,77516-02 7,02752-05
3 3,14312-05 3,34202-02 4,32202-02 2,717472-02 4,2743-02 8,00842-02 4,576272-02 5,62542-05
4 1,0845-05 1,22712-02 1,66672-02 1,02732-02 3,33406-02 1,92732-02 2,02572-05
                   5 1,7507E-03 1,9144E-02 2,47551E-02 1,5584/E-02 2,4257E-02 4,62570E-02 2,65130E-02 3,3484/E-03
Corre gr. 9 gr. 10 gr. 11 gr. 12 gr. 13 gr. 14 gr. 15 gr. 16
1 4.61272-03 5.57792-03 1.25525-02 1.456275-02 1.27525-02 1.95615-02 2.55745-03 1.65655-03
2 6.92762-03 8.40185-03 1.87826-02 2.201925-02 1.77565-02 2.75355-02 2.75725-03 2.25792-03
3 5.54265-03 7.86916-03 1.75942-02 2.05592-02 1.77565-02 2.75355-02 2.75725-03 2.27542-03
4 1.85605-03 3.216935-03 7.02578-03 8.175905-03 7.81242-03 1.09805-02 1.25532-03 9.42585-04
                    5 3.2179E-03 4.5672E-05 1.0039E-02 1.1774E-02 1.0539E-02 1.57767E-02 1.7856E-03 1.3392E-03
Octor orp. 17 orp. 18 orp. 19 orp. 20 orp. 21 orp. 22 orp. 25 orp. 24
1 2.14701E-03 5.47367E-03 3.51060E-03 5.9907ZE-03 5.4607E-03 1.53156E-02 2.7327E-02 2.3326EE-02
2 3.2666E-03 9.41307E-03 5.2507ZE-03 8.9907ZE-03 8.4236E-03 2.4037CE-02 4.1617ZE-02 3.5666E-02
                  3 3.01702-03 8.67542-03 4.80032-03 8.32502-03 7.80163-03 2.226772-02 3.85542-02 3.31032-02 4 1.26542-03 3.42632-03 1.9332-03 3.42632-03 3.51132-03 8.902542-03 1.58642-02 1.35662-02
                   5 1.757/4E-05 4.75100E-05 2.8668E-05 4.80E0E-05 4.47040E-05 1.26449E-02 2.2620E-02 1.9167/E-02
0zore gr. 25 gr. 26 gr. 27
1 1.55365-02 1.04735-02 2.76815-03
2 1.774765-02 1.630405-02 4.548135-08
                              1,6607E-02 1,50615E-02 4,17603E-03
                  4 6.6413/E-03 6.0178/E-03 1.5306/E-03 5 9.4470/E-03 8.5919/E-03 2.27/13/E-03
                                                                                          vol. fraction
                                           Volume
                                      6.88%3E-01
                                                                                                    3.30/53E-01
                                                                                                    1.52/6E-02
                                      3.17522-02
                                      2.1672/E-01
1.14/5/E+00
                                                                                                     1.04122E-01
                                                                                                     5.49878E-01
                                      2.081<del>4/E+</del>00
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          elapsed time .02 min.
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program verification information

section

code system: acale version: 4.2

section

section

section

program: c0c008

section

section

creation date: 04/27/55

section

se

```
O -iq array has 1 entries.
O tq array has 4 entries.
O iq array has 6 entries.
O 2q array has 2 entries.
Iliquical assignants
Craster library 12
soratch file 18
now library 1
Oproblem description
Cigregementy (CV1/2/3--inf and/alab/cyl/sphare 2
Diam-nuber of zones or material regions 4
Cha-making table length 7
Cibl--shielded cross section edit option (CV1--no/es) 0
Cibr--borderato factor edit option (CV1--no/es) 0
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| COLIMENT | gence crite | riaj 1. | 0000E-02 | | 4 |
| Obsusp | y correcti | as tector | tot Midden Leggid | nal approximation | 1,200:400 |
| Ŏ | 3q array | | entries. | | |
| 0 0 | 4q array | | etrie. | | |
| ŋ | 2d wileh | | entries. | | |
| 0 | d ausy | | entries. | | |
| ŏ | 7d array | | entries. | | |
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| Ď | 3d array | | entries. Entries. | | |
| ŏ | 10g array | | entries. | | |
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| Dentry | mixture | Sotope | number density | new identifier | |
| 1 | 3 | 8016 | 2.09710E-02 | 201 | |
| • | 3 | 1001 | 4.19420E-02 | 202 | |
| 7 | ž | 5070 | 3.855E-05 | 203 | |
| Z | 3 | 5011 | 1,5488E-05 | 204 | |
| Š | 3 2 1 1 | 40502 | 4.25156E-02 | 205 | |
| 6 | ī | 92235 | 1.08967E-04 | 200006 | |
| 7 | i | 92234 | 1,35823E-06 | 200007 | |
| 8 | i | 92236 | 2.2 2565E -05 | 200008 | |
| 2345678910 | 1 | 92238 | 7.18805E-05 | 200009 | |
| 10 | İ | 8016 | 1,50611E-02 | 200010 | |
| 11 | 1 | 8016 | 1.15315E-02 | 200011 | |
| 12 | į | 36083 | 5.9989Æ-07 | 200012 | |
| 13 | 1 | 36085 | 2.883/3E-07 | 20013 | |
| 1123454789818888888888888888888888888888888888 | 1 | 38090 | 6.63%F0E-06 | 200014 | |
| 15 | 1 | 39089 | 5.4444E-06 | 200015 | |
| 16 | ! | 42095 | 7,63/39E-06 | 200016 | |
| 1/ | 1 | 40075 | 5.4438BE-06 | 20017 | |
| 16 | 1 | 40094 | 8.6405XE-06 | 200018 | |
| 30 | i | 40095 | 6.372(BE-07 4.7366E-12 | 20019 20020 | |
| 24 | i | 41094 | 8.45055E-05 | 20021 | |
| 20 | i | 43099 45108 | 4.7336/E-06 | 200022 | |
| 77 | | 45105 | 8.3325 4E -09 | 200023 | |
| 2 | 1 | 44101 | 7.83094E-06 | 20024 | |
| × × | i | 44106 | 1.16052E-06 | 200025 | |
| - | i | 46105 | 3,41731E-05 | 200026 | |
| 27 | i | 4610B | 1.04/51E-06 | 200027 | |
| 28 | 1 | 47109 | 7.05¥6E-07 | 200028 | |
| 29 | 1 | 51124 | 1.552/dE-10 | 200029 | |
| 30 | 1 | 54131 | 3.79879E-06 | 200030 | |
| · 31 | i | 54132 | 7.71300E-06 | 200B1 | |
| 32 | j | 54135 | 2.196ZZE-09 | 200082 | |
| 33 | 1 | 54136 | 1.49860E-05 | 20033 | |
| <u>34</u> | 1 | <u>55134</u> | 5,388KE-07 | 200084 | |
| 35 | 1 | 55135 | 4.74731E-05 | 20025 | |
| <u> 36</u> | 1 | 25/37 | 9.163736-05 | 20036 | |
| 5/ | ! | 56136 | 1.16385E-07 | 20037 20038 | |
| 30 | 1 | 57139 FOL/1 | 9.0588/E-05 | 20039 | |
| 37 VC | 1 | 59141 501/3 | 7.9569E-06 1.19082E-07 | 2000 | |
| 40 41 | ł | 59143 58144 | 2.2956/E-05 | 20041 | |
| 75 | i | 60143 | 6,78043E-06 | 200042 | |
| Ŕ | i | 60145 | 5.11697E-06 | 20003 | |
| Z | i | 61147 | 1,49234E-05 | 200044 | |
| 75 | i | 61148 | 4.5Z/57E-09 | 200045 | |
| 33.53.53.33.33.44.44.44.44.44.44.44.44.44.44.44 | j | 60147 | 4.25602E-08 | 2000/6 | |

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                                    6.1932E-07
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                                     1.73336-08
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                                    3.3075E-21
Operatory and autorial description
Ozone mixture cuter dimension temperature
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8067 locations of 20000 available are required to sake a rea master containing the self-shielded values. One ruclides in your problem have borderente factor data-bored will copy from logical 12 to logical 1
                   1/v cross sectio from log 12 to log 1 hydrogen from log 12 to log 18
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            38070
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                                        from lay 12 to lay
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                                                                     bondarento trigger 0
            40075
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                                                                     bordererko trigger 0
                                        from log 12 to log 1 from log 12 to log 18
Осфу
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                                                                     bondarento trigger 0
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0<del>op</del>y
                     zircalloy
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                                        from lag 18 to lag
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0copy
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                                        from log 12 to log 1
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            44101
                     ru-101
Oppy
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                    ru-105
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                    rh-103
                                                                  bonderenko trigger 0
                                      from lay 12 to lay
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           45105
                    rh-105
                                                                  bandarenko trigger 0
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                                                                  bandarenko trigger 0
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                    pd 108
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Офу
           47109
                    silver-109
                                      from log 12 to log
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                                      from lag 12 to lag
Octable
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           51124
                    sb-124
                                                                  bandarenko trigger 0
           54131
                                      from lag 12 to lag
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                                      from lag 12 to lag
from lag 12 to lag
Occipy
           54102
                    xe-132
                                                                  bondanenko trigger 0
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Осфу
                    ZE-ronesk
                                      from log 12 to log
from log 12 to log
Copy
           54136
                    xe-136
                                                                  bandererko trigger 0
0cepy
           55133
                    cesium-133
                                                                  bandererko trigger 0
                                      from log 12 to log
from log 12 to log
from log 12 to log
from log 12 to log
from log 12 to log
55134
                                                                  bondererlos trigger 0
                    cs-134
           55135
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                                                                  bondanerko trigger 0
           52127
                    CS-137
                                                                  bundanenko trigger 0
           56136
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OODDA
OODDA
                    ba-136
           57139
                    la-139
                                                                  bondarenko trigger 0
Ocepy
           58144
                    œ-144
                                      from log 12 to log
                                                                  burdererko trigger 0
59141
                    p-141
                                      from lag 12 to lag
                                                                  bandarenko trigger 0
           57143
                   p~1/3
                                      from log 12 to log
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                                      from log 12 to log
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           60143
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                   m+143
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                                                                  bondererko trigger 0
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                    nd-147
                                      from lag 12 to lag
                                                                  bordererico trigger 0
           61147
                                      from log 12 to log
Офу
                    pn-147
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           61148
                    pn-148
                                      from lag 12 to lag
                                                                  bondarenko trigger 0
(COCP)
                                      from log 12 to log
from log 12 to log
from log 12 to log
Офу
                    sm 147
                                                                  bandererlas trigger 0
           62149
Осфу
                    sm-149
                                                                  bardererlo trigger 0
           62150
                    sn-150
                                                                  borderenko trigger 0
Ocepy
Octpy
           62151
                                      from lay 12 to lay
                                                                  bonderento trigger 0
                    877:151
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           62152
                    sn-152
                                      from log 12 to log
from log 12 to log
           खाञ
                                                                  bondarento trigger 0
                    en-122
Oppy
           63154
                    er-154
                                                                  bonderenko trigger 0
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from log 12 to log
           8122
                                                                  bandarerko trigger 0
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0copy
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           9234
                   u-234 1043 sign= from log 12 to log
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           9225
                                      from log 12 to log 1
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           92236
                   u-236 1163 sigos from log 12 to log
                                                                  bandarenko trigger 0
                   uranium 238
neptunium 237
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                                      from lag 12 to lag
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OCC Y
                  pt-258 1050 sigo from log 12 to log
pluconjun-259 from log 12 to log
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           9,238
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           230
                    plutonium 240
                                      from lag 12 to lag
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       scale 4.2 - 27 grap neutron burrup library
          besed on endi-b version 4 data with endi-b version 5 fission products
                                    1/27/89
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                     Laipetrie
                                                   4321
                                                                  number of nuclides
                                                                                                             70
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logical unit
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           first thermal group
                                             table of contents
         1/v cross sections normalized to 1.0 at 0.053 ev
                                                                                                          200070
                                                             updated 10/13/89
                           erclf/b-iv aut 1269/thrad002
                                                                                                             202
          hydragen
         hydrogen endf/b-iv mat 125
b-10 1273 218mp 042375 p-3 250k
                           andf/b-iv sat 1269/tired002
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                                                                                                          20057
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| b-10 1273 218n | go 042375 p-3 293k | | id 200058 |
|-------------------|---|--------------------------------------|------------------------|
| baran-11 | erchi/b-iv met 1160 | updated 10/13/89 | fd 204 |
| baran-11 | endf/b-iv mat 1160 | uzdated 10/13/89 | id 200059 |
| avgen-16 | endf/b-iv mat 1276 | updated 10/13/89 | id 201 |
| oxygen-16 | endf/b-iv mat 1276 | undated 10/13/89 | id 200010 |
| avygen-16 | endf/b-iv met 1276 | uixdated 10/13/89 | id 200011 |
| kr-83 | nt=102,103,103,105,106,107 | updated 10/13/89 | id 200012 |
| kr-85 | ant= 102 | • | id 200013 |
| sr~90 | mt=102 | updated 10/13/89 | id 200014 id 200015 |
| y-89 | at=102 | updated 10/13/89 | id 200015 |
| zr-93 | nt= 102 | _ | id 200017 |
| zr-94 | at=102 | updated 10/13/89 | id 200018 id 200019 |
| 27-95 | nt=102 | updated 10/13/89 | id 200019 |
| zircalloy | endi/b-iv mat 1284 | updated 10/13/89 | id 205 |
| zircalloy | ercif/b-iv mat 1284 | updated 10/13/89 | id 200056 |
| rb-94 | at=102 | updated 10/13/89 | id 200020 |
| m-95 | mt=102 | updated 10/13/89 | id 200016 |
| tc -99 | at=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 | 1 . 140 | id 200023 |
| pd-105 | nt=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 | m=102,103,104,105,106 | updated 10/13/89 | id 20030 |
| xe-132 | mt=102,103,104,105,106 | updated 10/13/89 | id 200031 |
| xangn-135 | endf/b-iv mat 1294 | _updated 10/13/89 | id 200032 id 200033 |
| xe-136 | mt= 102, 105, 104, 105, 1 | V/ | id 200033 id 200060 |
| cesium 133 | eruif/to-iv met 1141 mt=102 | updated 10/13/89 updated 10/13/89 | id 20034 |
| ca+134 ca+135 | mt= 102 | chance ich pios | id 20005 |
| CS-137 | m=105 | updated 10/13/89 | id 200036 |
| ba-136 | mt=102 | uzzlatuci 10/13/89 | id 200037 |
| la-139 | MZ=102 | updated 10/13/89 | id 200038 |
| ce-144 | mt= 102 | 4 | id 200041 |
| pr-141 | mt=102,103,104,105,106,107 | updated 10/13/89 | id 200039 |
| F-143 | nt=102 | updated 10/13/89 | id 200040 |
| nd-143 | mt=102 | undated 10/13/89 | id 200042 |
| nd-145 | mt=102 | undeted 10/13/89 | id 200043 |
| nd-147 | st=102 | undated 10/13/89 | id 20006 |
| pn-147 | nt=102 | updated 10/13/89 | id 20004 |
| pn-148 | mt= 102 | • | id 2000/5 |
| sn 147 | erdi/b-v fission product | updated 10/13/89 | id 200047 |
| an 149 | st=102,103,107 | updated 10/13/89 | id 2000/8 |
| an-150 | mt=102 | updated 10/13/89 | id 2000/9 |
| sn-151 | mt=102,103,104,105,106,107 | u pdated 10/13/89 | id 200050 |
| an-152 | nt=102,103,104,105,106,107 | updated 10/13/89 | id 200051 id 200053 |
| జూర్లు | mt=102,103,104,105,106,107 | updated 10/13/89 | ld 200053 |
| au-154 | mt=102,103,104,105,106,107 | updated 10/13/89 | id 200054 |
| en 🔯 | nt=102,103,104,105,105,107 | updated 10/13/89 | id 2000 5 5 |
| gd-155 | mt=102 | _updated 10/13/89 | id 200052 |
| 424 NA 819 | 0544 maxlacs p-3 285k f-1/em | (1.72) | id 20007 id 20006 |
| uraniur-235 | endi/b-iv mat 1261 | updeted 10/13/89 | id 200008 id 200008 |
| uranium-238 | 0-544 mauklacs p-3 285k f-1/e-m endf/b-iv set 1262 | updated 10/13/89 | ki 20009 |
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| D238 1050 ei | go-5-4 nawklacs p-3 255k f-1/e- | m(1.+5) | id 2000s2 |
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Feb 16 10:06 1996 File Name: s3020.cf.cut BEN000000-01717-0200-00012 REV 01 ATTACHENT I - Page 744

| | 11111111 | 000000 | | | 000 | 0000 | 6666 | ****** | | 11111111 | 0000000 |
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| | progrem verification information | Strik Stell |
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| ritaleisk | code system: scale version: 4.2 | *** |
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<sup>1
0 -</sup>iq array has 1 entries.
0 0q array has 4 entries.
0 iq array has 12 entries.
0 select 5 nuclides from the master I 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 naw working library on logical 4

¹ resonance calculations have been requested

```
O output option for ampk formatted cross section data
Othe storage allocated for this case is 200000 words
         20 array has 70 entries.
30 array has 15 entries.
         4d arrey has
                           5 entries.
O general information concerning cross section library
    tace identification runber
    number of nuclides on tape
                                                  65
                                                  27
    number of neutron energy groups
                                                  75
    first thermal neutron energy group
number of grams energy groups 0
0 direct access unit number 9 requires 72 blocks of length 1484 words
- xedm tape 4321
                          scale 4.2 - 27 group neutron burnup Library
                             based on entif-b version 4 data with entif-b version 5 fission products
                                                      1/27/89
                                compiled for mc
                                                      9/16/93
                                    last updated
                                       Laboratrie - orni

    work tabe 4349

 xschn weighted tape--parent case entitled-- 1200 d. sas2h: baboock willow 15x15.
  3.00-6%, 20a-d/mtu burn high temp
O nuclides from aschn tape
                                                                                               REARES
                                                           updated 10/13/89
                           erclf/b-iv mat 1269/thrm1002
           hydrogen
          b-10 1273 218mp 042375 p-3 259k
                                                            undeted 10/13/89
                           endi/b-iv and 1160
           borar-11
                                                           underted 10/13/89
                           endf/b-iv met 12/6
            avgen-16
                                                           undeted 10/13/89
                           erulf/b-iv met 1284
           zircalloy
O nuclides from work tace
                                                                                              999
1001
          1/y cross sections normalized to 1.0 at 0.0253 ev
                           endf/b-iv set 1259/thres1002
                                                           undeted 10/13/89
           hydrogen
                                                                                              5010
          b-10 1273 218rpp 042375 p-3 285k
borgr-11 mrdf/b-iv mat 1160
                                                                                              5011
                                                           undeted 10/13/89
                                                                                              8016
                           erchi/b-iv mat 1276
                                                           undeted 10/13/89
    10
           aygen-16
                                                            updated 10/13/89
           acygen-16
                                                                                                 6
    endf/b-iv set 12%
                           mt=102,103,103,105,105,107
mt= 102
                                                           undeted 10/13/89
                                                                                             34083
            kr-83
                                                                                             34055
            b-85
                                                                                             38090
                           mt=102
                                                            undeted 10/13/89
            sr~90
                                                                                             37059
                                                           uzdated 10/13/89
                           st=102
           7-89
20-89
                                                                                             40075
                              mt= 102
                                                                                             400%
400%
                                                           updated 10/13/89
                           mt=102
            25-94
                                                           undeted 10/13/89
                           at=102
            27-95
                                                                                             4000
41004
42005
                                                           uzdated 10/13/89
                           endf/b-iv met 1284
            zircallov
                                                           uculatoral 10/13/89
            rb-94
                           st=102
           m-75
                           st=102
                                                           undated 10/13/89
```

st=102

mt=102

mt=102

at=102

at=102

st=102

mt=102

mt= 102

erclf/b-iv met 1139

nt=102,103,104,105,105 nt=102,103,104,105,105 eruf/b-iv mst 1254

£-33

LT-101

ru-106

rh-103

rh-105

pd-105

pd-108

sb-124

xe-131

x=132

xeron-135

32

silver-109

43077

44101

44105

45105

45105

46105

46108

47109

51124

54131

5412

54135

undeted 10/13/89

updated 10/13/89

umbted 10/13/89

uzdated 10/13/89

undeted 10/13/89

undated 10/13/89

undated 10/13/89

updated 10/13/89

updated 10/13/89

umbted 10/13/89

updated 10/13/89

```
xe-136
                               mt= 102, 108, 104, 105, 107
                                                                                              54136
    34
35
                                                                                              55133
           cesium-133
                           ent/b-iv set 1141
                                                            undeted 10/13/89
                                                                                              55134
    3733
           cs-134
                           mt=102
                                                            undated 10/13/89
           cs-135
                              11
                                    102
                                                                                              55135
                                                                                              55137
           cs:137
                           mt=102
                                                            undated 10/13/89
                           ME=102
           ba-136
                                                            uzabted 10/13/89
                                                                                              56136
    94488484489
           la-139
                           mt=102
                                                            undeted 10/13/89
                                                                                              57139
                                                                                              58144
           ce-144
                              mt= 102
                                                                                              59141
           pr-141
                           mt=102,103,104,105,106,107
                                                            undebed 10/13/89
           D-143
                           mt=102
                                                            umbced 10/13/89
                                                                                              59143
           nd-143
                           mt=102
                                                            undeted 10/13/89
                                                                                              60143
                                                            ucdeted 10/13/89
                                                                                              60145
           nd-145
                           mt=102
           nd-147
                           mt=102
                                                            updated 10/13/89
                                                                                              60147
           pn 147
                                                                                              61147
                           at=102
                                                            undeted 10/13/89
           pn-148
                              mt= 102
                                                                                              61148
           sm-147
                           endf/b-v fission product
                                                            umbted 10/13/89
                                                                                              62147
                                                                                              62149
    50
51
                           mt=102,103,107
                                                            undeted 10/13/89
           sm-149
                           at=102
                                                            ucdated 10/13/89
                                                                                              62150
           an-150
    222422222
                           mt=102,103,104,105,106,107
                                                            undsted 10/13/89
                                                                                              62151
           sar 151
                           nt=102,103,104,105,105,107
nt=102,103,104,105,105,107
nt=102,103,104,105,105,107
                                                            undated 10/13/89
                                                                                              62152
           an 152
                                                                                              खछ
           ar 53
                                                            undated 10/13/89
                                                            updated 10/13/89
                                                                                              63154
           ar 154
           eu-155
                                                            umbted 10/13/89
                                                                                              63755
                           at=102,103,104,105,106,107
                                                                                              64155
           cd-155
                           mt=102
                                                            undeted 10/13/89
                                                                                              92234
          u-254 1043 sigo-5+4 neuklacs p-3 255k f-1/er
                                                          (1.+5)
           uranium 235 endi/b-iv met 1261
                                                            undeted 10/13/89
                                                                                              92235
                                                                                              92236
    60
          u-256 1163 sigo-514 maxiacs p-3 255k f-1/en(1.+5)
                                                            updated 10/13/89
                                                                                              92238
           uranium-238 endi/to-iv mat 1262
           neptunium-257 endif/to-iv sest 1263
                                                            umbord 10/13/89
                                                                                              95257
    62
          pu-293 1050 sign-544 newtacs p-3 29% f-1/e-m(1.45)
plutonius-299 emit/b-iv set 1264
plutonius-240 emit/b-iv set 1265
update
                                                                                              9238
9239
9230
    8
    4
                                                            undeted 10/13/89
                                                            ucdated 10/13/89
    65
                                                                                              9231
9232
9231
    66
           plutonium 241 erulf/b-iv met 1266
                                                            undated 10/13/89
    ā
           plutonium-242 endi/b-iv set 1161
                                                            updated 10/13/89
    68
          ar-241 1056 sign-5+4 naxiacs 210 pp p-3 250k
          an-243 1057 218 gp at f-1/e-m 0003/6 p3 253k
curlun-24 endf/b-iv met 1162
                                                                                              9523
                                                            ucdated 10/13/89
                                                                                              962/4
                  entif/b- iv met 1269/thres1002 updated 10/13/89
                                                                                    202
                                                                                             temperatures 607.60
0 hydrogen
                                thermal acattering matrix number 2 at a temperature of
                                                                                              50.00 was selected.
                                                                                    28
                                                                                             temperatures 607.60
0b-10 1273 218mp 042375 p-3 258k
                                thermal acattering matrix runber 2 at a temperature of
                                                                                              550.00 uss selected.
                                                  undeted 10/13/89
                                                                                             temperatures 607,60
                                                                                    204
0 boron-11
                  endf/b-iv met 1160
                               thermal acattering matrix number 2 at a temperature of 1276 updated 10/13/89
                                                                                               550.00 was selected.
                  endf/b-iv met 1276
                                                                                             temperatures 607.60
0 oxygen-16
                                                                                    205
                                                                                             temperature: 650.00
                                                   undated 10/13/89
0 zircalloy
                 entif/b-ly met 1284
Oresonance data for this ruclide
                                90,436
                                                       terperature(kelvin)
turped rucker density
                                                                                  = £50,000
Omes runber (a)
                                                                                  = 4.255602E-02
                                 6.35
Opotential scatter signa =
                                                                                  = 6,7309999E-01
                                 1.079
                                                       lump dimension (a-bar)
Ospin factor (g)
                           # 6.324600E-01
                                                       denoff correction (c)
                                                                                  = 1.6805907E-01
Oirmer ractius
Othe absorber will be treated by the nurcheim integral method.
Othis resonance material will be treated as a 2-dimensional object.
Oxolumn fraction of lump in cell used to account for spatial self-shielding-1.00000
OETGLD
              res abs
                               res fiss
                                                res scat
           -1.15675ZE-03
                              .000000E+00
                                            -7.806053E-01
                                            -2.075Z/UE+00
           4.6297E-02
                              -1,35198/E+00
           -5.962250E-02
                              .0000000
  10
                              .00000E+00
  11
           -1.76167Æ-01
                                            -7.350731E-01
Descess resonance integrals
                    resolved
```

Outscrption 2.92/02E-01
fission .00000E+00
- elapsed time .00 min.
- elapsed time .02 min.
1 this sectn working tape was created 02/16/96 at 10:06:11
the title of the parent case is as folious
sectn weighted tape--parent case entitled-- 1200 d, see2h: bebook wilcox 15x15,
3.00x12, 20g-c/mtu burn high tapp

| tape id | 8670 | | | 70 |
|---------------------|--|---------------------|-------------|--------|
| number of ne | utran graps 27 | | | Q |
| first theme | | | | 4 |
| | table of | contents | | |
| hydrogen | erclf/b-iv mat 1269/thrm10 | 02 updated 10/13/89 | id | 202 |
| b-10 1273 218r | go 042575 p-3 289k | • | id | 203 |
| boron-11 | endf/b-iv mat 1160 | updated 10/13/89 | id | 204 |
| avgen-16 | endf/b-iy mat 1276 | updated 10/13/89 | id | 201 |
| ziroalloy | erclif/b-iv mat 1284 | updated 10/13/89 | id | 205 |
| 1/v cross sect | ions normalized to 1.0 at 0 | 1.0253 ev | d | 999 |
| hydrogen | endf/b-iv mat 1269/thrmi0 | 02 updated 10/13/89 | id | 1001 |
| b-10 1273 218- | gp 042375 p-3 293k | • | id | 5010 |
| boron-11 | endf/to-iv mat 1160 | updated 10/13/89 | id | 5011 |
| asygen-16 | endf/b-iv mat 1276 | updated 10/13/89 | id | 8016 |
| aygen-16 | endf/b-iv mat 1276 | updated 10/13/89 | fd | 6 |
| kr-83 | mt=102,108,108,105,106,10 | 7 updated 10/13/89 | id | 36083 |
| kr-85 | mt= 102 | • | id | 36065 |
| er-90 | mt=102 | updated 10/13/89 | id | 38090 |
| y-80 | mt=102 | updated 10/13/89 | id | 37089 |
| 27-75 | nt= 102 | • | id | 40095 |
| zr-94 | mt=102 | updated 10/13/89 | id id | 40094 |
| 21~95 | mt=102 | updated 10/13/89 | id | 40095 |
| zircalloy | endif/b-iv set 1264 | updated 10/13/89 | 10 | 40302 |
| nb-94 | mt=102 | updated 10/13/89 | id id | 41094 |
| 100-95 | mt=102 | updated 10/13/89 | fd | 42095 |
| tc-99 | mt=102 | updeted 10/13/89 | id id | 43099 |
| ru-101 | mt=102 | updated 10/13/89 | (d | 44101 |
| ru-106 | mt=102 | uppted 10/13/89 | id id | 44106 |
| rh-103 | mt=102 | updated 10/13/89 | id | 451CB |
| rh-105 | nt= 102 | | id id | 45105 |
| pd-105 | nt=102 | updated 10/13/89 | id | 46105 |
| p z ⊁108 | mt=102 | updated 10/13/89 | id id | 46108 |
| silver-109 | endi/b-iv mat 1139 | updated 10/13/89 | id | 47109 |
| sb-124 | mt=102 | upplated 10/13/89 | id id | 51124 |
| xe-131 | mt=102,103,104,105,106 | updated 10/13/89 | id | 54131 |
| xe-132_ | mt=102,103,104,105,105 endf/b-1v mat 1294 | updated 10/13/89 | id | 54132 |
| XETOT-135 | endif/b-iv mat 1294 | updated 10/13/89 | id | 54135 |
| xx-136 | mt= 102, 105, 104, 10 | 5, 107 | fd | 54136 |
| cesium 133 | endi/to-iv mat 1141 | updated 10/13/89 | id id | 55133 |
| cs- <u>134</u> | nt=102 | upotated 10/13/89 | (d | 55134 |
| යං <u>ග</u> | mt= 102 | 4 . 4 4 4 4 4 4 4 4 | id id | 55135 |
| cs-137 | mt=102 | updated 10/13/89 | id | 55137 |
| ba-136 | st=102 | undated 10/13/89 | r r r | 56136 |
| la-139 | mt=102 | updated 10/13/89 | id | 57139 |
| o ≥ 144 | art= 102 | | 1d | 58144 |
| p-1/1 | mt=102,103,104,105,106,10 | 7 updated 10/13/89 | id | 59141 |
| p~143 | mt=102 | undated 10/13/69 | 10 | 59143 |
| nd 1/3 | mt=102 | undeted 10/13/89 | id | 60142 |
| nd-145 | mt=102 | updated 10/13/89 | ы | 601/25 |
| nd-147 | mt=102 | updated 10/13/89 | k | 60147 |
| p n -147 | mt=102 | · updated 10/13/89 | id | 61147 |

| Ō | uraniumi ur 256 1166 uraniumi neptuniu puz 238 100 plutoniu plutoniu plutoniu plutoniu plutoniu an 241 100 | ## (12, 16] ## (12, 16] ## (12, 16] ## (12, 16] ## (12, 16] ## (12, 16] ## (12, 16] ## (12, 16] ## (12, 16] ## (12, 16] ## (12, 16] ## (12, 16] ## (12, 16] ## (13, 16] ## (13, 16] ## (13, 16] ## (13, 16] ## (13, 16] ## (14, 16] ## (15, 16] ## (16 | fission product 5,107 3,104,105,106,106,105,104,105,105,105,105,105,105,105,105,105,105 | / updated 10 /e-m(1.+5) updated 10 | /13/89 /13/89 /13/89 /13/89 /13/89 /13/89 /13/89 /13/89 /13/89 /13/89 | atatatatatatatatatatatatatatatatatatat | 28888888888888888888888888888888888888 | |
|---|--|--|---|--|---|--|---|---|
| | DX | \$6565555563 \$256555556666 \$6 \$6 \$65655556666 \$66655656666 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 | | | | P P P P P P P P P P P P P P P P P P P | 100 100 | |
| | ###################################### | 20000000000000000000000000000000000000 | ****** | | 80000000000000000000000000000000000000 | | | |
| | 88 88 88 88 88 88 88 88 88 88 | | | 11 111 1111 11 11 11 11 | 60 60 64 67 68 69 69 64 64 64 64 64 64 64 64 64 64 64 64 64 | | 99999999999999999999999999999999999999 | 66 69 64 64 65 66 67 67 67 67 67 67 67 67 67 67 67 67 |

| | | 72 72 711111111111111111111111111111111 | 222 / | <i>#</i> | 11 11 1111 1111 | i 1111 | 66 66 67 68 | # | 22222222 222222222 22 22 22 22 22 22 22 | ************************************** |
|-----|---|---|--|--|--|--|--|---|--|--|
| 1 0 | 11 111 1111 11 11 11 11 11 11 11 111111 | 888888 | 00 00 00 00 00 00 00 00 00 00 00 00 00 | :::: :::: :::: :::: :::: :::: :::: :::: :::: | 88 88888888888888888888888888888888888 | 88 88 88 88 88 88 88 88 88 88 88 88 88 | 66666666666666666666666666666666666666 | | 11 111 1111 111 11 11 11 11 11 11 111111 | |

| ***** | | ***** |
|-----------------|---|------------|
| | | ****** |
| | | **** |
| *** | | *** |
| AAAA | program verification information | **** |
| Scholist | | ****** |
| | code systems scale versions 4.2 | . **** |
| SAMA | • | *** |
| *** | | ***** |
| | | ***** |
| | • | **** |
| **** | | **** |
| | program: c0c001 | ***** |
| | | dukdukdi |
| telekinir | creation date: 04/27/95 | |
| **** | | ***** |
| *** | Ulbrary: /nsutronics/acale/exe | |
| *** | | |
| | | **** |
| | this is not a scale configuration controlled code | **** |
| **** | talanama akada | **** |
| *** | jobrana: davis | **** |
| **** | data of execution: 02/16/96 | deletelete |

•

```
time of execution: 10:06:12
1
                        1200 d. second part of ses2h pass to make library
        -1q array has
                           1 entries.
        Og array has
O
                          11 entries.
         1ci array has
                           15 entries.
0
                           10 entries.
         2ti array has
                           12 entries.
         3g array has
         40 array has
                           9 entries.
                          12 entries.
         50 array has
Odirect access unit 9 requires 12 blocks of length 704 for cross section mixing.
                        1200 d, second part of see2h pass to make library
Openeral problem description data block
                                  general problem data
 ige 1/2/3 = plane/cylinder/schere
                                                     isn ausdrature order
                                                     isct order of scattering
 iam number of zones
                                                     iest 0/1/2/3/4/5/6-q/k/alpha/c/z/r/h
 im number of special intervals
                                                                                             .
Э
Э
Э
 ibl 0/1/2/3 = vecum/refl/per/white
                                                     in irrer iteration maximum
                                                     ion outer iteration maximum
 ibr right boundary condition
 mox number of mixtures
                                                     icle -1/0/n--flat res/sn/cot
                                                     ith 0/1 = fonerd/adjoint
 MB mixing table length
                                          27
                                                    iflu not used(always with)
iprt -2/-1/Q/nwixture xsec print
 ign number of energy groups
my number of neutron groups
                                          27
                                                    idi 0/1/2/3-m/prt nd/psh n/both ipbt -1/0/i=nome/fine/all bal. prt
                                           ۵
 non number of genera groups
 lifts runber of first thermal group
                                   special options
                                                    ipn 0/1/2 diff. coef. param
 ifg 0/1 = none/heighting calculation
                                                     idin 0/1 = none/density factors 30*
 ion volumetric sources (0/1970/yes)
                                                    isz Q/n = nore/n activities by zone isi Q/1-nore/activities by interval
 ipe boundary sources (Q/mmp/yes)
ifn Q/1/2 = input 33*/34*/use last
                                           0
 itus maximum time (mirutes)
                                          10
                                                     ifct O/I=no/yes upscatter scaling
                                                     ip/t 0/1/2-ro/k/alpha parametric arch
 idt1 0/1/2/3=rp/xsect/srce/flux--cut
                                                    isen outer iteration acceleration
 isk broad group fluxes
 ibln activity data unit
                                                    ribrid band rebalin parameter
 itkl 0/1/2 buckling geometry
                                     seighting data (ifg-1)
                                                     intf total xeect pan in brd go tables
 ican -1/0/1=cell/zone/region weight
                                                    ndsf pan g-g or file runber
 ignif number of broad groups
 tp 0/10/20/30/40 0/c/e/ac/a
                                           0
                                                    rust table length or max order
                                                    macm extra 1-d x-sect positions
      -2/-1/0/negted yeart print
                                          -2
      -1/n anian xsect print
                                   floating point parameters
                                                         cyl/plaint for buckling
                                 1.0000E-04
                                                                                     -0000E+00
 eps overall convergence
ptc point convergence
                                                         plane depth for buckling 2,0000E+02
                                 1.0000E-04
                                                    ďε
                                                         void stressing correction .0000E+00
 and roundization factor
                                 1.0000E+00
                                                    VSC
                                                         ip/1=1/2-k/alcha
                                  .0000E+00
                                                                                    1.0000E+00
     eigenvalus guses
                                                         ev charge eps for search 1.0000E-03
                                  .0000E+00
 om eigenvalue modifier
                                                    AFTER THAN DRIVER AND FOR SEARCH 7.50000E-01
bf buckling factor=1.420892 1.42089E+00
                                   2611 locations for mixing
     this case will require
```

this case has been allocated 200000 locations

| 1 0 0 | 13q атву 14q атву 15q атву | has 70 entries. | part of ses2h pass (| | , | |
|-------------|---|-----------------|----------------------|----------------|---|------------|
| 0 | | | data block 2 (mixing | | | |
| 0 | ructides | ccc | | mixing table | | edra |
| | ou paba | identification | mixture | corporent | atom deraity | xsect id/s |
| | 1 202 | | 3 3 3 2 | 201 | 2.09710E-02 | |
| | 2 203 | | 3 | 202 | 4.19420E-02 | |
| | 3 204 | | 3 | 205 | 3.85 DE- 06 | |
| | 4 201 | | 3 | 204 | 1.5/88/E-05 | |
| | 5 205 | | 2 | 205 | 4.2515 4E -02 | |
| | 2 208 3 204 4 201 5 205 6 999 7 1001 8 5010 | | 1 | 92255 | 1.08967E-04 | |
| | 7 1001 | | 1. | 9225% | 1.358235-06 | |
| | 8 5010 | | 1 | 92236 | 2.22565E-05 | |
| | 9 5011 | | 1 | 92258 | 7.18805E-03 | |
| | 10 8016 | | 1 | 8016 | 1.50611E-02 | |
| | 11 6 | | 1 | 6 | 1.15315E-02 | |
| | 12 36063 | | 1 | 360B3 · | 5.99894E-07 | |
| | 13 36065 | | 1 | 36085 | 2.83%\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | |
| | 14 38090 15 39089 | | 1 | 38090 | 6.63/AOE-05 | |
| | 15 39089 | • | 1 | 39089 | 5.444/E-06 | |
| | 16 40095 | | 1 | 42075 | 7.62/37E-06 | |
| | 17 400% | | ! | 40093 | 5.44388E-06 | |
| | 18 40095 19 40802 | | 1 | 40094 | 8.64097E-05 | |
| | 19 40302 | | 1 | 40095 | 6.3720EE-07 | |
| | 20 410% | | 1 | 41094 | 4.7555E-12 | |
| | 21 42095 | | 1 | 43099 | 8.450 00E -06 | |
| | 22 43099 | | | 4510B | 4.7336/E-06 | |
| | 2000 2000 2000 2000 2000 2000 2000 200 | | 1 | 45105 | 8.33256E-09 7.83094E-05 | |
| | 24 44106 | | 1 | 44101 44105 | 1.16052E-06 | |
| | 25 45105 | | i | 46105 | 3.41731E-05 | |
| | 25 45105 27 46105 | | i | 4610B | 1.0481E-06 | |
| | 28 46108 | | i | 47109 | 7.05166E-07 | |
| | 29 47109 | | i | 51124 | 1.552425-10 | |
| | 30 51124 | | i | 5431 | 3.7887E-05 | |
| | 31 5451 | | i | \$452 | 7.71300E-06 | |
| | 32 54132 | | i | 54136 | 2.196225-09 | |
| | 33 5435 | | i | 54136 | 1,495600-05 | |
| | 34 54136 | | i | 55134 | 5.3931/2-07 | |
| | 35 35 35 | | i | 555 | 4.74731E-05 | |
| | 36 55134 | · | 1 | 55137 | 9.16378E-06 | |
| | 37 55155 | | 1 | 56136 | 1.16385E-07 | |
| • | 38 55137 | | 1 | 57139 | 9.0588/E-06 | |
| | 39 56136 | | 1 | 59141 | 7.95657E-06 | |
| | 40 57139 | | 1 | 99143 58144 | 1.19082E-07 | |
| | 41 58144 | | 1 | 58144 | 2.2556/E-05 | |
| | 42 59141 | | 1 | 60143 | 6.780X3E-05 | |
| | 43 59143 | | 1 | 60145 | 5.11699E-06 | |
| | 44 60143 | | | 61147 | 1.49234E-06 | |
| | 45 60145 | | 1 | 61148 | 4.5Z/57E-09 | |
| | 46 60147 47 61147 | |] | 60147 | 4,25602E-08 | |
| | 47 61147 | |] | 62147 | 7.2876E-07 | |
| | 48 61148 49 62147 | | 1 | 62149 62150 | 2.99879E-08 | |
| | 49 62147 | | 1 | 62150 62151 | 1.93239E-06 1.52692E-07 | |
| | 50 62149 51 62150 | | 1 | 62152 | 8.9528E-07 | |
| | 51 62150 | | í | 64155 | 1.19080E-09 | |
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| 1 0 total 0 int. 1 2 3 4 5 | gp. 1 1.363E-02 1.3156E-02 1.3156E-02 1.3166E-02 1.3176E-02 | 1200 d, se grp. 2 9.13913=-02 9.13397=-02 9.13523=-02 9.14348=-02 9.1570=-02 | grp. 3 1.12872E-01 1.1280EE-01 1.1282E-01 1.12842E-01 1.13138E-01 | 9862h pass to 979. 4 6.973666-02 6.903866-02 6.911666-02 6.919486-02 6.932786-02 | grp. 5 1.0236E-01 1.0278E-01 1.0278E-01 1.0256E-01 1.0356E-01 | grp. 6 1.92625-01 1.92755-01 1.92525-01 1.93575-01 1.93665-01 | 1.95131E-01 1.95092E-01 1.95145E-01 1.95301E-01 1.95548E-01 | 1.47062E-01 1.47057E-01 1.47069E-01 1.47077E-01 1.47140E-01 |
| 1 0 total 0 int. 1 2 3 4 5 | gp. 1 1.31612E-02 1.31560E-02 1.31567E-02 1.31667E-02 | 1200 d, se grp. 2 9.139/15-02 9.1339/16-02 9.13526-02 9.1354/16-02 | grp. 3 1.12872E-01 1.1280E-01 1.1282E-01 1.12842E-01 | 975. 4 6.913665-02 6.903665-02 6.911665-02 6.91965-02 | grp. 5 1.0236E-01 1.0236E-01 1.0236E-01 1.0236E-01 | grp. 6 1.92625-01 1.92756-01 1.92525-01 1.920575-01 | 1.95131E-01 1.95082E-01 1.95189E-01 1.95301E-01 | 10-32074.1 10-37274.1 10-37274.1 10-37274.1 |
| 1 0 total 0 int. 1 2 3 4 5 | gp. 1 1.3%13E-02 1.31567E-02 1.31667E-02 1.3167E-02 1.31937E-02 | 1200 d, se grp. 2 9.13975-02 9.13976-02 9.1526-02 9.15706-02 9.17756-02 | orp. 3 1.12672E-01 1.1260E-01 1.1262E-01 1.12542E-01 1.1358E-01 1.1350E-01 | 972. 4 6.973666-02 6.90866-02 6.91866-02 6.91866-02 6.91866-02 6.952786-02 6.951126-02 | grp. 5 1.0236E-01 1.0236E-01 1.0236E-01 1.0236E-01 1.0336E-01 1.0346E-01 | grp. 6 1.92525-01 1.92525-01 1.92525-01 1.93665-01 1.93665-01 | 1.95151E-01 1.95092E-01 1.95145E-01 1.95301E-01 1.9554E-01 1.95897E-01 | 1.47052E-01 1.47057E-01 1.47057E-01 1.47057E-01 1.47140E-01 1.47157E-01 |
| 1 0 total 0 int. 1 2 3 4 5 6 7 | gp. 1 1.31619-02 1.31500-02 1.31507-02 1.31606-02 1.31618-02 1.31618-02 1.3246-02 | 1200 d, se grp. 2 9.13975-02 9.13576-02 9.15526-02 9.15716-02 9.17756-02 9.20506-02 | 979. 3 1.12872E-01 1.1280E-01 1.1282E-01 1.1343E-01 1.1340E-01 1.1343E-01 1.1343E-01 | 972. 4 6.973665-02 6.90865-02 6.911665-02 6.911665-02 6.952765-02 6.951125-02 6.974905-02 | grp. 5 1.0236E-01 1.0236E-01 1.0236E-01 1.0236E-01 1.0336E-01 1.0336E-01 1.0336E-01 1.0336E-01 | grp. 6 1.528/2E-01 1.52750E-01 1.5255E-01 1.5265E-01 1.5266E-01 1.5466E-01 1.54725E-01 | 1.95131E-01 1.95092E-01 1.9519E-01 1.95301E-01 1.9559E-01 1.9559E-01 1.96327E-01 | 1.47062E-01 1.47057E-01 1.47069E-01 1.47097E-01 1.47140E-01 1.47197E-01 1.47267E-01 |
| 1 0 total 0 int. 1 2 3 4 5 6 7 8 | gp. 1 1.31612-02 1.31562-02 1.31562-02 1.31622-02 1.31622-02 1.32162-02 1.32162-02 | 1200 d, se grp. 2 9.139/15-02 9.139/76-02 9.1526-02 9.1434/8-02 9.17756-02 9.17756-02 9.20206-02 9.2039/8-02 | 979. 3 1.12872E-01 1.1280E-01 1.1282E-01 1.1340E-01 1.1340E-01 1.1340E-01 1.1340E-01 | 9852h pass to 975. 4 6.9036/E-02 6.9116/E-02 6.9116/E-02 6.9327/E-02 6.9516/E-02 7.005/8E-02 | grp. 5 1.02562-01 1.02562-01 1.02562-01 1.02562-01 1.03562-01 1.03562-01 1.03562-01 | 572. 6 1.92522-01 1.92522-01 1.92522-01 1.92532-01 1.92542-01 1.92542-01 1.92542-01 | 1.95131E-01 1.95082E-01 1.95185E-01 1.9554E-01 1.9554E-01 1.9587E-01 1.95327E-01 1.95327E-01 | 1.47052E-01 1.47057E-01 1.47057E-01 1.47047E-01 1.47147E-01 1.47257E-01 1.47250E-01 |
| 1 total 0 int. 1 2 3 4 5 6 7 8 9 | 979. 1 1.31612-02 1.31562-02 1.31562-02 1.31612-02 1.31612-02 1.31612-02 1.3262-02 1.3262-02 | 1200 d, se grp. 2 9,13913E-02 9,13397E-02 9,1352E-02 9,1570E-02 9,1775E-02 9,20250E-02 9,20391E-02 9,2039E-02 | 979. 3 1.12872E-01 1.1280E-01 1.1282E-01 1.1282E-01 1.1340E-01 1.1340E-01 1.1479E-01 1.1479E-01 | 973. 4 6.973665-02 6.90366-02 6.90366-02 6.91666-02 6.95276-02 6.951725-02 6.951725-02 7.00586-02 7.00388-02 | grp. 5 1.0236E-01 1.0236E-01 1.0236E-01 1.0236E-01 1.0336E-01 1.0336E-01 1.0336E-01 1.0336E-01 1.0336E-01 | grp. 6 1.9252E-01 1.9252E-01 1.9252E-01 1.9264E-01 1.9264E-01 1.9264E-01 1.9264E-01 1.9265E-01 | 1.95131E-01 1.9502E-01 1.9514SE-01 1.9554SE-01 1.9554SE-01 1.9522E-01 1.9503E-01 1.9503E-01 | 1,47052E-01 1,47057E-01 1,47057E-01 1,47057E-01 1,47140E-01 1,47257E-01 1,47250E-01 1,47250E-01 |
| 1 total 0 int. 1 2 3 4 5 6 7 8 9 10 | 97. 1 1.31612-02 1.31502-02 1.31502-02 1.31632-02 1.31632-02 1.32162-02 1.3202-02 1.32776-02 | 1200 d, se STL 2 9.13976-02 9.133976-02 9.15238-02 9.15736-02 9.20506-02 9.23516-02 9.26536-02 9.26536-02 | 97P. 3 1.12872E-01 1.1280E-01 1.1282E-01 1.1382E-01 1.1372E-01 1.1372E-01 1.1479E-01 1.1479E-01 | 972. 4 6.97346-02 6.97346-02 6.9746-02 6.9746-02 6.9746-02 7.00566-02 7.00566-02 7.00566-02 | grp. 5 1.02862-01 1.02862-01 1.02862-01 1.02862-01 1.03662-01 1.03662-01 1.03662-01 1.03622-01 | grp. 6 1.9262E-01 1.9275E-01 1.9262E-01 1.9266E-01 1.9468E-01 1.9468E-01 1.9468E-01 1.9468E-01 | 1.951316-01 1.95026-01 1.951456-01 1.95546-01 1.95526-01 1.952276-01 1.95026-01 1.95026-01 | 1,47052E-01 1,47057E-01 1,47057E-01 1,47057E-01 1,47157E-01 1,47257E-01 1,47250E-01 1,47250E-01 1,47450E-01 |
| 1 total 0 int. 1 2 3 4 5 6 7 8 9 10 11 | gp. 1 1,31612-02 1,31602-02 1,31602-02 1,31612-02 1,31612-02 1,31612-02 1,3262-02 1,3262-02 1,3262-02 1,3262-02 1,3262-02 1,3262-02 1,3262-02 | 1200 d, se grp. 2 9.13976-02 9.135976-02 9.15596-02 9.15706-02 9.15706-02 9.253916-02 9.26306-02 9.26306-02 9.30166-02 | 9P. 3 1.2872-01 1.2892-01 1.1282-01 1.1382-01 1.13722-01 1.13722-01 1.14722-01 1.14722-01 1.14722-01 1.14722-01 | 972. 4 6.97346-02 6.97346-02 6.97346-02 6.97346-02 6.97346-02 7.0556-02 7.0556-02 7.05576-02 7.05576-02 | grp. 5 1.025/2-01 1.025/2-01 1.025/2-01 1.025/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 | 573. 6 1,928/25-01 1,9255-01 1,9255-01 1,926/5-01 1,946/6-01 1,946/6-01 1,946/6-01 1,956/6-01 1,956/6-01 1,975/6-01 | 1.95/31E-01 1.95/3E-01 1.95/3E-01 1.95/3E-01 1.95/3E-01 1.95/3E-01 1.95/3E-01 1.95/3E-01 1.95/3E-01 1.95/3E-01 | 1,4765E-01 1,4705E-01 1,4705E-01 1,4774CE-01 1,4774CE-01 1,4725CE-01 1,4725CE-01 1,4725CE-01 1,4745CE-01 1,4745CE-01 1,4745CE-01 |
| 1 total 0 total 0 int. 12 3 4 5 6 7 8 9 10 11 12 | gp. 1 1.316/13-02 1.315/03-02 1.316/03-02 1.316/13-02 1.316/13-02 1.376/13-02 1.376/13-02 1.376/13-02 1.376/13-02 1.376/13-02 1.376/13-02 1.376/13-02 | 1200 d, se STD. 2 9.13978-02 9.13376-02 9.13536-02 9.15706-02 9.15776-02 9.25316-02 9.25316-02 9.25316-02 9.3316-02 9.3316-02 9.3316-02 | 9P. 3 1.2872-01 1.2828-01 1.2828-01 1.18428-01 1.18408-01 1.18478-01 1.18478-01 1.18478-01 1.18478-01 1.18478-01 1.18478-01 | 970. 4 6.9366-02 6.9086-02 6.9166-02 6.9166-02 6.95172-02 6.95172-02 6.95172-02 7.00580-02 7.00572-02 7.00572-02 7.00572-02 | grp. 5 1.02862-01 1.02862-01 1.02862-01 1.02862-01 1.03662-01 1.03662-01 1.03662-01 1.03622-01 | grp. 6 1.9262E-01 1.9275E-01 1.9262E-01 1.9266E-01 1.9468E-01 1.9468E-01 1.9468E-01 1.9468E-01 | 1.951316-01 1.95026-01 1.951456-01 1.95546-01 1.95526-01 1.952276-01 1.95026-01 1.95026-01 | 1,47052E-01 1,47057E-01 1,47057E-01 1,47057E-01 1,47157E-01 1,47257E-01 1,47250E-01 1,47250E-01 1,47450E-01 |
| 1 total 0 total 0 total 1 2 3 4 5 6 7 8 9 10 11 12 13 | gp. 1 1,31612-02 1,31602-02 1,31602-02 1,31612-02 1,31612-02 1,31612-02 1,3262-02 1,3262-02 1,3262-02 1,3262-02 1,3262-02 1,3262-02 1,3262-02 | 1200 d, se grp. 2 9.13976-02 9.135976-02 9.15596-02 9.15706-02 9.15706-02 9.253916-02 9.26306-02 9.26306-02 9.30166-02 | 9P. 3 1.2872-01 1.2892-01 1.1282-01 1.1382-01 1.13722-01 1.13722-01 1.14722-01 1.14722-01 1.14722-01 1.14722-01 | 972. 4 6.97346-02 6.97346-02 6.97346-02 6.97346-02 6.97346-02 7.0556-02 7.0556-02 7.05576-02 7.05576-02 | grp. 5 1.025/2-01 1.025/2-01 1.025/2-01 1.025/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 | 573. 6 1,928/25-01 1,9255-01 1,9255-01 1,926/5-01 1,946/6-01 1,946/6-01 1,946/6-01 1,956/6-01 1,956/6-01 1,975/6-01 | 1.95/31E-01 1.95/3E-01 1.95/3E-01 1.95/3E-01 1.95/3E-01 1.95/3E-01 1.95/3E-01 1.95/3E-01 1.95/3E-01 1.95/3E-01 | 1,4765E-01 1,4705E-01 1,4705E-01 1,4774CE-01 1,4774CE-01 1,4725CE-01 1,4725CE-01 1,4725CE-01 1,4745CE-01 1,4745CE-01 1,4745CE-01 |
| 1 total 0 total 0 total 1 2 3 4 5 6 7 8 9 10 11 12 13 | gp. 1 13/6/3-02 1.3/56/3-02 1.3/6/3-02 1.3/6/3-02 1.3/6/3-02 1.3/6/3-02 1.3/6/3-02 1.3/6/3-02 1.3/6/3-02 1.3/6/3-02 1.3/6/3-02 1.3/6/3-02 1.3/6/3-02 | 1200 d, se STD. 2 9.13976-02 9.13376-02 9.13526-02 9.157706-02 9.17756-02 9.20306-02 9.203156-02 9.33156-02 9.33156-02 9.33156-02 9.33156-02 9.33156-02 | 9P. 3 1.2872-01 1.2802-01 1.2802-01 1.2802-01 1.1802-01 1.1802-01 1.18722-01 1.18722-01 1.18722-01 1.18722-01 1.18722-01 1.18722-01 1.18722-01 | 972. 4 6.97366-02 6.97366-02 6.97366-02 6.9746-02 6.9748-02 6.9748-02 7.0056-02 7.00578-02 7.00578-02 7.00578-02 7.00578-02 7.00578-02 7.00578-02 7.00578-02 | sp. 5 1.0236-01 1.0236-01 1.0236-01 1.0236-01 1.0336-01 1.0336-01 1.0336-01 1.0336-01 1.0336-01 1.0336-01 1.0336-01 1.0336-01 1.0336-01 | 573. 6 1.52552-01 1.52552-01 1.52552-01 1.52552-01 1.52552-01 1.52552-01 1.57552-01 1.57552-01 1.57552-01 1.57552-01 | 1.803E-01 1.804E-01 1.805E-01 1.805E-01 1.805E-01 1.802E-01 1.803E-01 1.803E-01 1.803E-01 1.803E-01 1.803E-01 | 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 |
| 1 total 0 int. 1 2 3 4 5 6 7 8 8 9 90 11 12 15 14 | gp. 1 131613-02 131663-02 131663-02 131613-02 131613-02 131613-02 13603-02 13603-02 13603-02 13603-02 13603-02 13603-02 13603-02 13603-02 13603-02 13603-02 13603-02 13603-02 13603-02 13603-02 | 1200 d, se STL 2 9.13976-02 9.133976-02 9.15230-02 9.15736-02 9.253916-02 9.253916-02 9.2536-02 9.330156-02 9.33066-02 9.33066-02 | 9p. 3 1.1292E-01 1.1292E-01 1.1292E-01 1.1292E-01 1.1392E-01 1.1392E-01 1.1492E-01 1.4992E-01 1.5192E-01 1.15392E-01 1.15392E-01 1.15392E-01 | 972. 4 6.97345-02 6.97345-02 6.97345-02 6.97345-02 6.97345-02 6.97345-02 7.05575-02 7.05975-02 7.10576-02 7.10576-02 7.10576-02 7.10576-02 7.10576-02 7.10576-02 7.10576-02 | 975. 5 1.025/2-01 1.025/2-01 1.025/2-01 1.025/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 | 573. 6 1,928/25-01 1,926/25-01 1,926/25-01 1,936/25-01 1,946/25-01 1,946/25-01 1,956/25-01 1,975/25-01 1,975/25-01 | 1.5813E-01 1.5813E-01 1.5813E-01 1.5813E-01 1.5813E-01 1.5813E-01 1.5813E-01 1.5813E-01 1.5813E-01 1.5813E-01 1.5813E-01 1.5813E-01 1.5813E-01 1.5813E-01 | 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 |
| 1 total 0 int. 1 2 3 4 5 6 7 8 9 9 10 11 12 13 4 15 15 | gp. 1 1316/13-02 1,31507-02 1,31507-02 1,316/13-02 1,316/13-02 1,316/13-02 1,3246-02 1,326/13-02 1,326/13-02 1,3378-02 1,3378-02 1,3378-02 1,3378-02 1,3378-02 | 1200 d, se grp. 2 9.13976-02 9.133976-02 9.15286-02 9.15706-02 9.25706-02 9.25706-02 9.25156-02 9.35156-02 9.35156-02 9.35156-02 9.35156-02 9.35156-02 9.35156-02 9.35156-02 9.35156-02 9.35156-02 9.35156-02 9.35156-02 | 9P. 3 1.1202-01 1.1202-01 1.1202-01 1.1202-01 1.1302-01 1.13752-01 1.14752-01 1.15762-01 1.15762-01 1.15762-01 1.15762-01 1.15762-01 1.15762-01 | 970. 4 6.9366-02 6.9086-02 6.9086-02 6.9186-02 6.9528-02 7.0566-02 7.0582-02 7.0582-02 7.0572-02 7.10472-02 7.10472-02 7.10572-02 | 975. 5 1.025%-01 1.025%-01 1.025%-01 1.025%-01 1.035%-01 1.035%-01 1.035%-01 1.035%-01 1.035%-01 1.035%-01 1.035%-01 1.035%-01 1.035%-01 1.035%-01 1.035%-01 1.035%-01 | 573. 6 1.928/2-01 1.9252-01 1.9252-01 1.9252-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 | 1.58 (3E-01 1.58 (| 1.47052-01 1.47057-01 1.47057-01 1.47107-01 1.47107-01 1.47507-01 1.47507-01 1.47507-01 1.47507-01 1.47507-01 1.47507-01 1.47507-01 1.47507-01 |
| 1 total 0 int. 1 2 3 4 4 5 6 6 7 8 9 10 112 13 14 15 16 | 57. 1 131613-02 131567-02 131567-02 131613-02 131613-02 131613-02 13061-02 | 1200 d, se STD. 2 9.13976-02 9.13376-02 9.13376-02 9.15706-02 9.25016-02 9.25156-02 9.3515-02 9.3515-02 9.3515-02 9.3515-02 9.3515-02 9.3515-02 9.3515-02 9.3515-02 9.3515-02 9.3515-02 9.3515-02 9.3515-02 | 9P. 3 1.2872-01 1.2828-01 1.2828-01 1.3088-01 1.3088-01 1.3738-01 1.4758-01 1.4758-01 1.5358-01 1.5358-01 1.5358-01 1.5358-01 1.5358-01 1.5358-01 | 972. 4 6.97366-02 6.97366-02 6.97366-02 6.9736-02 6.9736-02 6.97376-02 6.97376-02 7.005976-02 | 972. 5 1.02562-01 1.02562-01 1.02562-01 1.02562-01 1.02562-01 1.02562-01 1.02562-01 1.02562-01 1.02562-01 1.02562-01 1.02562-01 1.02562-01 1.02562-01 1.02562-01 1.02562-01 1.02562-01 1.02562-01 1.02562-01 | 973. 6 1.9252-01 1.9252-01 1.9252-01 1.9252-01 1.9452-01 1.9452-01 1.99516-01 1.9952-01 1.9952-01 1.9952-01 1.9952-01 1.9952-01 2.02516-01 | 1.98131E-01 1.9802E-01 1.9803E-01 1.9803E-01 1.9803E-01 1.9803E-01 1.9803E-01 1.9803E-01 1.9803E-01 1.9803E-01 1.9803E-01 1.9803E-01 1.9803E-01 | 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47902-01 |
| 1 total 0 int. 1 2 3 4 5 6 7 7 8 9 10 11 12 13 14 15 16 17 | 57. 1 131612-02 1,31567-02 1,31567-02 1,31612-02 1,31612-02 1,31612-02 1,326 | 1200 d, se STP. 2 9.13976-02 9.133976-02 9.133976-02 9.13776-02 9.17756-02 9.2030-02 9.203916-02 9.30156-02 9.30156-02 9.30156-02 9.30156-02 9.30156-02 9.30156-02 9.30156-02 9.30156-02 9.30156-02 9.30156-02 9.30156-02 9.30156-02 9.30156-02 9.30156-02 9.30156-02 9.30156-02 9.30156-02 9.30156-02 | 9P. 3 1.2872-01 1.1282-01 1.1282-01 1.1282-01 1.1382-01 1.1382-01 1.13722-01 1.1472-01 1.1572-01 1.1582-01 1.1582-01 1.1582-01 1.1582-01 1.1582-01 | 972. 4 6.97366-02 6.97366-02 6.97366-02 6.9736-02 6.9736-02 6.9736-02 7.05576-02 7.05576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.26706-02 7.26706-02 7.26706-02 7.26706-02 7.26706-02 7.26706-02 7.26706-02 | 975. 5 1.025%-01 1.025%-01 1.025%-01 1.025%-01 1.035%-01 1.035%-01 1.035%-01 1.035%-01 1.035%-01 1.035%-01 1.035%-01 1.035%-01 1.035%-01 1.035%-01 1.035%-01 1.035%-01 | 573. 6 1.928/2-01 1.9252-01 1.9252-01 1.9252-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 | 1.58 (3E-01 1.58 (| 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 |
| 1 total 0 int. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 | gp. 1 131613-02 131603-02 131603-02 131613-02 131613-02 131613-02 13003-02 | 1200 d, se STL 2 9.13976-02 9.13376-02 9.13376-02 9.14346-02 9.14756-02 9.17756-02 9.23316-02 9.23316-02 9.33156-02 9.33156-02 9.33766-02 9.35766-02 9.55706-02 9.55706-02 9.55706-02 | 9p. 3 1.1292e-01 1.1292e-01 1.1292e-01 1.1292e-01 1.1392e-01 1.1392e-01 1.1492e-01 1.1499e-01 1.1592e-01 1.1592e-01 1.1692e-01 1.1692e-01 1.1692e-01 1.1692e-01 | 972. 4 6.97342-02 6.97342-02 6.97342-02 6.97342-02 6.97342-02 6.97342-02 7.05972-02 7.05972-02 7.10572-02 | 97. 5 1.025/2-01 1.025/2-01 1.025/2-01 1.025/2-01 1.025/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 | 973. 6 1,928/2:-01 1,925/2:-01 1,925/2:-01 1,926/2:-01 1,926/2:-01 1,926/2:-01 1,925/2:-01 1,925/2:-01 1,925/2:-01 2,025/2:-01 2,025/2:-01 2,025/2:-01 2,025/2:-01 | 1.9818E-01 1.9818E-01 1.9818E-01 1.9828E-01 1.9828E-01 1.9828E-01 1.9828E-01 1.9838E-01 1.9838E-01 1.9838E-01 1.9838E-01 1.9838E-01 1.9838E-01 1.9838E-01 1.9838E-01 1.9838E-01 1.9838E-01 1.9838E-01 1.9938E-01 2.0988E-01 | 1.47052-01 1.47057-01 1.47057-01 1.47105-01 1.47105-01 1.47505-01 1.47505-01 1.47505-01 1.47505-01 1.47505-01 1.47505-01 1.47605-01 1.47605-01 1.47605-01 1.47605-01 1.47605-01 1.47605-01 1.47605-01 1.47605-01 1.47605-01 |
| 1 total 0 int. 1 2 3 4 5 6 7 8 9 10 112 13 14 5 16 17 18 19 | 57. 1 131612-02 1,31567-02 1,31567-02 1,31612-02 1,31612-02 1,31612-02 1,326 | 1200 d, se STL 2 9.13976-02 9.13376-02 9.13376-02 9.14346-02 9.14756-02 9.17756-02 9.23316-02 9.23316-02 9.33156-02 9.33156-02 9.33766-02 9.35766-02 9.55706-02 9.55706-02 9.55706-02 | 9P. 3 1.2872-01 1.1282-01 1.1282-01 1.1282-01 1.1382-01 1.1382-01 1.13722-01 1.1472-01 1.1572-01 1.1582-01 1.1582-01 1.1582-01 1.1582-01 1.1582-01 | 972. 4 6.97366-02 6.97366-02 6.97366-02 6.9736-02 6.9736-02 6.9736-02 7.05576-02 7.05576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.16576-02 7.26706-02 7.26706-02 7.26706-02 7.26706-02 7.26706-02 7.26706-02 7.26706-02 | sp. 5 1.02362-01 | 573. 6 1.52552-01 1.52552-01 1.52552-01 1.52562-01 1.55562-01 1.55562-01 1.55562-01 1.55562-01 1.55562-01 1.55562-01 1.55562-01 1.55562-01 2.00552-01 2.00552-01 2.00552-01 2.00552-01 2.00552-01 | 1.5813E-01 1.5812E-01 1.5812E-01 1.5822E-01 1.5822E-01 1.5822E-01 1.5822E-01 1.5822E-01 1.5822E-01 1.5822E-01 1.5822E-01 1.5822E-01 1.5822E-01 1.5822E-01 1.5822E-01 1.5822E-01 1.5822E-01 1.5822E-01 1.5822E-01 1.5822E-01 | 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 |
| 1 total 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 | 57. 1 1.316/13-02 1.315073-02 1.315073-02 1.31673-02 1.31673-02 1.3263-02 1.3263-02 1.3263-02 1.3263-02 1.3263-02 1.3263-02 1.3263-02 1.3263-02 1.3263-02 1.3263-02 1.3263-02 1.3263-02 1.3263-02 1.3263-02 1.3263-02 | 1200 d, se STD. 2 9.13978-02 9.13978-02 9.13978-02 9.159708-02 9.159708-02 9.255918-02 9.255918-02 9.251588-02 9.251588-02 9.251588-02 9.251588-02 9.251588-02 9.251588-02 9.251588-02 9.251588-02 9.251588-02 9.251588-02 9.251588-02 9.251588-02 9.251588-02 9.251588-02 9.25158-02 9.25158-02 9.25158-02 9.25158-02 9.25158-02 9.25158-02 9.25158-02 9.25158-02 | 9P. 3 1.1202-01 1.1202-01 1.1202-01 1.1202-01 1.1302-01 1.1502-01 1.1502-01 1.1502-01 1.1502-01 1.1502-01 1.1502-01 1.1502-01 1.1502-01 1.1502-01 1.1502-01 1.1502-01 1.1502-01 1.1502-01 1.1502-01 1.1502-01 | 979. 4 6.9366-02 6.9086-02 6.9086-02 6.9186-02 6.9186-02 6.9186-02 7.0586-02 7.0587-02 | 975. 5 1.025%-01 1.027%-0-01 1.027%-0-01 1.025%-0-01 1.025%-0-01 1.035%-01 | 973. 6 1.928201 1.9252-01 1.9252-01 1.9252-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 1.9452-01 2.0452-01 2.0452-01 2.0452-01 2.0452-01 | 1.5813E-01 1.5814E-01 | 1.47052-01 1.47057-01 1.47057-01 1.47107-01 1.47107-01 1.47507-01 1.47507-01 1.47507-01 1.47507-01 1.47507-01 1.47507-01 1.47507-01 1.47507-01 1.47507-01 1.47507-01 1.47507-01 1.47507-01 1.47507-01 1.47507-01 1.47507-01 |
| 1 total 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 | 57. 1 131613-02 131567-02 131567-02 131613-02 131613-02 131613-02 132613-02 132613-02 132613-02 132613-02 133613-02 | 1200 d, se STD. 2 9.13976-02 9.13976-02 9.13526-02 9.13776-02 9.13776-02 9.23916-02 9.23156-02 9.31556-02 9.31556-02 9.37766-02 9.37766-02 9.37766-02 9.37766-02 9.37766-02 9.37766-02 9.37766-02 9.37766-02 9.37766-02 9.37766-02 9.37766-02 9.37766-02 9.37766-02 9.37766-02 9.37766-02 9.37766-02 | 9P. 3 1.2872-01 1.1282-01 1.1282-01 1.1282-01 1.1382-01 1.1392-01 1.1492-01 1.1592-01 1.1592-01 1.1592-01 1.1592-01 1.1592-01 1.1592-01 1.1592-01 1.1592-01 1.1592-01 1.1592-01 1.1592-01 | 972. 4 6.97366-02 6.97366-02 6.97366-02 6.9736-02 6.9736-02 6.97376-02 7.05576-02 7.05576-02 7.1047 | ### Water Water | 973. 6 1.9252-01 1.9252-01 1.9252-01 1.9252-01 1.9452-01 1.9452-01 1.9552-01 1.9552-01 1.9552-01 1.9552-01 2.0572-01 2.0573-01 2.0573-01 2.0573-01 2.0573-01 2.0573-01 | 1.58131E-01 1.5813E-01 1.5813E-01 1.5853E-01 | 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 |
| 1 total 1 2345678910111213141516171819201 | 57. 1 131613-02 131663-02 131663-02 131613-02 131613-02 131613-02 13603-02 13603-02 13603-02 13603-02 13603-02 13603-02 13603-02 13603-02 13603-02 13603-02 13603-02 13603-02 13603-02 13603-02 13603-02 13603-02 13603-02 | 1200 d, se STP. 2 9.13978-02 9.133976-02 9.133976-02 9.157706-02 9.157706-02 9.253916-02 9.253916-02 9.35866-02 9.35866-02 9.35866-02 9.35866-02 9.35866-02 9.35866-02 9.35866-02 9.35866-02 9.35866-02 9.35866-02 9.35866-02 9.35866-02 9.35866-02 9.35866-02 9.35866-02 9.35866-02 9.35866-02 9.35866-02 | 9P. 3 1.2872-01 1.1282-01 1.1282-01 1.1282-01 1.1382-01 1.1382-01 1.1472-01 1.1472-01 1.1582-01 1.1582-01 1.1582-01 1.1782-01 1.1782-01 1.1782-01 1.1782-01 1.18722-01 1.2872-01 1.2872-01 | 972. 4 6.91366-02 6.9036-02 6.91366-02 6.9136-02 6.9126-02 6.951126-02 7.05576-02 7.05576-02 7.10576-02 | 97. 5 1.02832-01 | 573. 6 1,9252-0 1,9252-0 1,9252-0 1,9352-0 1,9552-0 1,9552-0 1,9552-0 1,9552-0 1,9552-0 2,0252-0 2,0252-0 2,0553-0 2,0552-0 2,0552-0 2,0552-0 2,0552-0 2,0552-0 2,0552-0 | 1.5813E-01 1.5813E-01 1.5813E-01 1.5813E-01 1.5823E-01 1.5823E-01 1.5823E-01 1.5823E-01 1.5823E-01 1.5823E-01 1.5823E-01 1.5823E-01 1.5823E-01 1.5823E-01 1.5823E-01 1.5823E-01 1.5823E-01 2.0823E-01 2.0823E-01 2.0823E-01 | 1.47052-01 1.47042-01 1.47042-01 1.47042-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.48052-01 1.48052-01 1.48052-01 |
| 1 total 1 2345678910111213141516171819201 | gp. 1 131613-02 131603-02 131603-02 131613-02 131613-02 13043-02 13043-02 13043-02 13043-02 13043-02 13043-02 13043-02 13043-02 13043-02 13043-02 13043-02 13043-02 13043-02 13043-02 13043-02 13043-02 13043-02 13043-02 13043-02 | 1200 d, se STP. 2 9.13978-02 9.13978-02 9.13978-02 9.157708-02 9.157708-02 9.25578-02 9.25578-02 9.25778-02 9.37658-02 9.37658-02 9.37658-02 9.37658-02 9.37658-02 9.37658-02 9.37658-02 9.37658-02 9.37658-02 9.37658-02 9.37658-02 9.37658-02 9.37658-02 9.37658-02 9.37658-02 9.37658-02 9.37658-02 9.37658-02 9.37658-02 | 9p. 3 1.1272-01 1.1292-01 1.1292-01 1.1292-01 1.1392-01 1.1392-01 1.1492-01 1.1492-01 1.1592-01 1.1592-01 1.1592-01 1.1592-01 1.1592-01 1.1592-01 1.1592-01 1.1592-01 1.1592-01 1.1592-01 1.1592-01 1.1592-01 | 979. 4 6.9366-02 6.9086-02 6.9086-02 6.9186-02 6.9128-02 6.9278-02 6.9278-02 7.0597-02 7.0597-02 7.0597-02 7.0597-02 7.1571-02 7.1571-02 7.1571-02 7.3999-02 7.3999-02 7.3999-02 7.4598-02 7.4598-02 7.4598-02 7.4598-02 7.4598-02 7.4598-02 7.4598-02 7.4598-02 7.4598-02 7.4598-02 7.4598-02 | 97. 5 1.025/2-01 1.025/2-01 1.025/2-01 1.025/2-01 1.025/2-01 1.035/2-01 1.035/2-01 1.035/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.05/2-01 1.105/2-01 1.115/2-01 1.115/2-01 | 573. 6 1,928/2-01 1,925/2-01 1,925/2-01 1,925/2-01 1,945/2-01 1,945/2-01 1,955/2-01 1,955/2-01 1,955/2-01 1,955/2-01 2,025/2-01 2,025/2-01 2,025/2-01 2,025/2-01 2,025/2-01 2,095/2-01 2,095/2-01 2,095/2-01 2,095/2-01 2,095/2-01 2,095/2-01 | 1.9838E-01 | 1.47052-01 1.47052-01 1.47052-01 1.47152-01 1.47502-01 |
| 1 00 int 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 11 12 13 14 15 16 17 18 19 20 12 12 12 12 12 12 12 12 12 12 12 12 12 | 57. 1 1.316/13-02 1.315673-02 1.315673-02 1.31673-02 1.31673-02 1.31673-02 1.32673-02 | 1200 d, se STD. 2 9.13978-02 9.13378-02 9.13378-02 9.13378-02 9.15776-02 9.15776-02 9.25516-02 9.25516-02 9.35156-02 9.35156-02 9.35156-02 9.35766-02 | 9p. 3 1.2872-01 1.2828-01 1.1282-01 1.13082-01 1.13082-01 1.13082-01 1.14752-01 1.14752-01 1.15362-01 1.15362-01 1.15722-01 1.16722-01 1.16722-01 1.16722-01 1.2072-01 1.2072-01 1.2072-01 1.2072-01 1.2072-01 | 902. 4 6.9366-02 6.9366-02 6.9366-02 6.9366-02 6.9512-02 6.9512-02 6.9512-02 6.9512-02 7.0555-02 7.0555-02 7.0555-02 7.0555-02 7.15576-02 7.155 | 972. 5 1.0256-01 1.0256-01 1.0256-01 1.0256-01 1.0356-01 | 573. 6 1.925201 1.925201 1.925201 1.925201 1.925201 1.925201 1.925201 1.925201 1.925201 1.925201 2.025201 2.025201 2.025201 2.025201 2.025201 2.025201 2.025201 2.025201 2.025201 2.025201 2.025201 2.025201 2.025201 2.025201 2.025201 2.025201 | 1.5833E-01 1.5832E-01 1.5832E-01 1.5832E-01 1.5832E-01 1.5832E-01 1.5832E-01 1.5832E-01 1.5832E-01 1.5832E-01 1.5832E-01 1.5832E-01 1.5832E-01 2.0832E-01 | 1.47052-01 1.47052-01 1.47052-01 1.471952-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 |
| 1000 int 1234567891011121314516178178178178188 | gp. 1 131613-02 131663-02 131663-02 13163-02 13163-02 13163-02 1363-02 1363-02 1363-02 1363-02 1363-02 1363-02 1363-02 1363-02 1363-02 1363-02 1363-02 1363-02 1363-02 1363-02 1363-02 1363-02 | 1200 d, se STD. 2 9.13976-02 9.13976-02 9.13976-02 9.13976-02 9.13776-02 9.13776-02 9.13776-02 9.23916-02 9.23916-02 9.31556-02 9.31556-02 9.31556-02 9.3156-02 | 9P. 3 1.1292E-01 1.1292E-01 1.1292E-01 1.1292E-01 1.1392E-01 1.1392E-01 1.1492E-01 1.1492E-01 1.1592E-01 1.2192E-01 1.2192E-01 1.2192E-01 1.2192E-01 1.2192E-01 1.2192E-01 | 952 pass to 972 4 6.91366-02 6.91366-02 6.91366-02 6.9126-02 6.95126-02 7.05576-02 7.05576-02 7.10576-02 | ### ### #### #### #### ##### ##### ##### ###### | 573. 6 1.9252-01 1.9252-01 1.9252-01 1.9352-01 1.9352-01 1.9532-01 1.9532-01 1.9532-01 1.9532-01 2.0552-01 | 1.803E-01 1.800E-01 1.800E-01 1.800E-01 1.800E-01 1.800E-01 1.800E-01 1.800E-01 1.800E-01 1.800E-01 1.800E-01 1.800E-01 2.000E-01 2.000E-01 2.000E-01 2.000E-01 2.000E-01 2.000E-01 2.000E-01 2.000E-01 2.000E-01 2.000E-01 | 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.48032-01 1.48032-01 1.48032-01 1.48032-01 1.48032-01 |
| 1000 int 1234567891011121345161781781781783 | 57. 1 1.316/13-02 1.315673-02 1.315673-02 1.31673-02 1.31673-02 1.31673-02 1.32673-02 | 1200 d, se STD. 2 9.13978-02 9.13378-02 9.13378-02 9.13378-02 9.15776-02 9.15776-02 9.25516-02 9.25516-02 9.35156-02 9.35156-02 9.35156-02 9.35766-02 | 9p. 3 1.2872-01 1.2828-01 1.1282-01 1.13082-01 1.13082-01 1.13082-01 1.14752-01 1.14752-01 1.15362-01 1.15362-01 1.15722-01 1.16722-01 1.16722-01 1.16722-01 1.2072-01 1.2072-01 1.2072-01 1.2072-01 1.2072-01 | 902. 4 6.9366-02 6.9366-02 6.9366-02 6.9366-02 6.9512-02 6.9512-02 6.9512-02 6.9512-02 7.0555-02 7.0555-02 7.0555-02 7.0555-02 7.15576-02 7.155 | 972. 5 1.0256-01 1.0256-01 1.0256-01 1.0256-01 1.0356-01 | 573. 6 1.925201 1.925201 1.925201 1.925201 1.925201 1.925201 1.925201 1.925201 1.925201 1.925201 2.025201 2.025201 2.025201 2.025201 2.025201 2.025201 2.025201 2.025201 2.025201 2.025201 2.025201 2.025201 2.025201 2.025201 2.025201 2.025201 | 1.5833E-01 1.5832E-01 1.5832E-01 1.5832E-01 1.5832E-01 1.5832E-01 1.5832E-01 1.5832E-01 1.5832E-01 1.5832E-01 1.5832E-01 1.5832E-01 1.5832E-01 2.0832E-01 | 1.47052-01 1.47052-01 1.47052-01 1.471952-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 |
| 1000 int 1234567891011121345161781781781783 | gp. 1 131613-02 131663-02 131663-02 13163-02 13163-02 13163-02 1363-02 1363-02 1363-02 1363-02 1363-02 1363-02 1363-02 1363-02 1363-02 1363-02 1363-02 1363-02 1363-02 1363-02 1363-02 1363-02 | 1200 d, se STP. 2 9.13976-02 9.133976-02 9.133976-02 9.133976-02 9.137766-02 9.233976-02 9.233976-02 9.233976-02 9.33976-02 | 9p. 3 1.1292-01 1.1292-01 1.1292-01 1.1292-01 1.15192-01 1.15192-01 1.16192-01 | 972. 4 6.91366-02 6.91366-02 6.91366-02 6.91366-02 6.91366-02 6.91366-02 7.00566-02 7.00566-02 7.00576-02 7.00 | 97. 5 1.025/2-01 | 973. 6 1,9252-01 1,9252-01 1,9252-01 1,9352-01 1,9352-01 1,9352-01 1,9352-01 1,9352-01 1,9352-01 2,0252-01 2,0252-01 2,0252-01 2,0352-01 | 1.58 (3E-01 1.58 (| 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.48052-01 1.48052-01 1.48052-01 1.48052-01 1.48052-01 1.48052-01 1.48052-01 1.48052-01 1.48052-01 1.48052-01 |
| 1000 mt 12345678901125456789222222 | gp. 1 131613-02 131603-02 131603-02 131613-02 131613-02 131613-02 13263-02 | 1200 d, se STD. 2 9.13978-02 9.13978-02 9.13978-02 9.13978-02 9.157708-02 9.157708-02 9.255918-02 9.2 | 9p. 3 1.2872-01 1.2823-01 1.2823-01 1.18723-01 1.18723-01 1.18723-01 1.18723-01 1.18723-01 1.18723-01 1.18723-01 1.18723-01 1.18723-01 1.18723-01 1.18723-01 1.2872-01 1.2872-01 1.2872-01 1.2872-01 1.2872-01 1.2872-01 1.2872-01 1.2872-01 1.2872-01 1.2872-01 1.2872-01 1.2872-01 1.2872-01 1.2872-01 1.2872-01 | 979. 4 6.9366-02 6.9066-02 6.9066-02 6.9166-02 6.9126-02 6.9126-02 7.0596-02 7.0596-02 7.0597-02 | 975. 5 1.025%-01 1.025%-01 1.025%-01 1.025%-01 1.025%-01 1.025%-01 1.035%-01 | 573. 6 1.928201 1.925201 1.925201 1.925201 1.925201 1.925201 1.925201 1.925201 1.925201 1.925201 2.025201 | 1.58 (3E-01 1.58 (| 1.47052-01 1.47052-01 1.47052-01 1.47152-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.47502-01 1.48502-01 |
| 1000 int 1234567891011121345161781781781783 | gp. 1 131613-02 131603-02 131603-02 131613-02 131613-02 131613-02 13263-02 | 1200 d, se STP. 2 9.13976-02 9.133976-02 9.133976-02 9.133976-02 9.137766-02 9.233976-02 9.233976-02 9.233976-02 9.33976-02 | 9p. 3 1.1292-01 1.1292-01 1.1292-01 1.1292-01 1.15192-01 1.15192-01 1.16192-01 | 972. 4 6.91366-02 6.91366-02 6.91366-02 6.91366-02 6.91366-02 6.91366-02 7.00566-02 7.00566-02 7.00576-02 7.00 | 97. 5 1.025/2-01 | 973. 6 1,9252-01 1,9252-01 1,9252-01 1,9352-01 1,9352-01 1,9352-01 1,9352-01 1,9352-01 1,9352-01 2,0252-01 2,0252-01 2,0252-01 2,0352-01 | 1.58 (3E-01 1.58 (| 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.47052-01 1.48052-01 1.48052-01 1.48052-01 1.48052-01 1.48052-01 1.48052-01 1.48052-01 1.48052-01 1.48052-01 1.48052-01 |

| 28 | 1.37580E-02 | 9.79069E-02 | 1.21469E-01 | 7.47380E-02 | 1.1186E-01 | 2,098 68E -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 | 1.0728/E-01 | 1.01096E-01 | 6.55511E-02 | 5.59250E-02 | 5.30837E-02 | 2.8B573E-02 | 1.53289E-02 |
| ż | 1.160Z3E-01 | 1.0728XE-01 | 1.01101E-01 | 6.55560E-02 | 5.59287E-02 | 5.30909E-02 | 2.8957/E-02 | 1.59500E-02 |
| ž | 1.160ZZE-01 | 1.07277E-01 | 1.010B0E-01 | 6.55321E-02 | 5.59059E-02 | 5,30569E-02 | 2.89528E-02 | 1.59260E-02 |
| ĭ | 1.16018E-01 | 1.07256E-01 | 1.01031E-01 | 6.547452-02 | 5.58511E-02 | 5,29750E-02 | 2.88X58E-02 | 1.59162E-02 |
| 3 | 1.16011E-01 | 1.0722/E-01 | 1.0095Æ-01 | 6.53057E-02 | 5.57678E-02 | 5.265096-02 | 2.8820/E-02 | 1.590YE-02 |
| 6 | 1.16002E-01 | 1.07180E-01 | 1.0087E-01 | 6.52679E-02 | 5.565 E-02 | 5.2/812E-02 | 2.87870E-02 | 1.58818E-02 |
| 7 | | 1.07122E-01 | 1.00721E-01 | 6.51109E-02 | 5.55081E-02 | 5.2677E-02 | 2.8747E-02 | 1.58566E-02 |
| | 1.15991E-01 | 1.0704E-01 | 1.005435-01 | 6.4904E-02 | 5.53 | 5.21690E-02 | 2.869(E-02 | 1.58362E-02 |
| 8 | 1.59785-01 | | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | 5.5134E-02 | 5.18980E-02 | 2.8633E-02 | 1.57946-02 |
| 9 | 1.1596/E-01 | 1.03971E-01 | 1.00376E-01 | 6.47121E-02 | | | 2.86012E-02 | 1.57680E-02 |
| 10 | 1.15970E-01 | 1.06902E-01 | | 6.45370E-02 | 5.49747E-02 | 5.16517E-02 | 2.E566E-02 | |
| 11 | 1.1597Œ-01 | 1.038(25:-01 | 1.0009XE-01 | 6.43775E-02 | 5.4860E-02 | 5.1/5/5E-02 | | 1.574372-02 |
| 12 | 1.1597 E-01 | 1.06829E-01 | 1.00054E-01 | 6.4345XE-02 | 5.47987E-02 | 5.13798E-02 | 2.854/E-02 | 1.573608-02 |
| 13 | 1.159276-01 | 1.069036-01 | 9.97914E-02 | 6,42635E-02 | 5.47180E-02 | 5.12637E-02 | 2.65Z/3E-02 | 1.57241E-02 |
| 14 | 1.15857E-01 | 1.05741E-01 | 9.98/AE-02 | 6,40B49E-02 | 5.45579E-02 | 5.10150E-02 | 2.848XE-02 | 1.57022E-02 |
| 15 | 1.15783E-01 | 1.06639E-01 | 9,%KE-02 | 6.38003E-02 | 5.43076E-02 | 5.052K3E-02 | 2.85548E-02 | 1.56680E-02 |
| 16 | 1.15680E-01 | 1.0646E-01 | 9.9230E-02 | 6.33%0E-02 | 5.3585/E-02 | 4.99760E-02 | 2.8375Œ-02 | 1.56077E-02 |
| 17 | 1.15587E-01 | · 1.05301E-01 | 9.8X5ZE-02 | 6.28779E-02 | 5.347432-02 | 4.953X3E-02 | 2.82520E-02 | 1.55471E-02 |
| 18 | 1.15521E-01 | 1.0519XE-01 | 9,5515Œ-02 | 6.2X820E-02 | 5.31001E-02 | 4,87672E-02 | 2.81827E-02 | 1.5 /867E- 02 |
| 19 | 1.15470E-01 | 1.0602BE-01 | 9.820B0E-02 | 6.21150E-02 | 5.2761Æ-02 | 4,83481E-02 | 2.8077Æ-02 | 1.5425E-02 |
| 2Ö | 1.1544Œ-01 | 1.05745E-01 | 9.8007E-02 | 6.18776E-02 | 5.2533E-02 | 4.77124E-02 | 2,7998/E-02 | 1.538216-02 |
| 21 | 1.153/E-01 | 1.05899E-01 | 9.78711E-02 | 6,1712E-02 | 5.2572/E-02 | 4.76789E-02 | 2.7X587E-02 | 1.53/RE-02 |
| ž | 1.15429E-01 | 1.058/SE-01 | | 6,1975ZE-02 | 5.2256E-02 | 4.75119E-02 | 2.7823E-02 | 1.532566-02 |
| 3 | 1.1542Œ-01 | 1.05821E-01 | | 6.15118E-02 | | 4.7323E-02 | 2.7899XE-02 | 1.53079E-02 |
| 7 4 | 1.15/2/E-01 | 1.05802E-01 | 9.76531-02 | 6.14550E-02 | 5.21171E-02 | 4.7312E-02 | 2.78570E-02 | 1.52999E-02 |
| ž | 1.5421E-01 | 1.05791E-01 | 9.76269E-02 | 6.14211E-02 | 5.2085Æ-02 | 4.7264E-02 | 2.7824ZE-02 | 1.52891E-02 |
| ž | 1.15419E-01 | 1.05787E-01 | 9.76178-02 | 6.14101E-02 | 5.20757E-02 | 4.7347E-02 | 2.78221E-02 | 1.52679E-02 |
| 27 | 1.154162-01 | 1.0578XE-01 | | 6.14160E-02 | 5.20817E-02 | 4.789XE-02 | 2.78278E-02 | 1.52907E-02 |
| ž | 1.1541Æ-01 | 1.0579/E-01 | | 6.1435E-02 | | 4.72570E-02 | | 1.5280E-02 |
| 0 int. | | | /····································· | ~~~~~ | | | | |
| | | an 14 | an N | സെവ | am 21 | OTT). 22 | am, 23 | ano. 2% |
| 1 | grp. 17 | grp. 18 5 09025-08 | grp. 19 | 3 4 4 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | grp. 21 1.05307E-02 | grp. 22 2.16097E-02 | 7.33210E-02 | QTD. 24 6.05480E-02 |
| 1 | 6.8337E-03 | 5.06897E-05 | 1,03301E-02 | 3.4541E-02 | 1.06307E-02 | 2.16097E-02 2.16116E-02 | grp. 25 7.33210E-02 7.33162E-02 | 6.05480E-02 6.05480E-02 |
| 1 2 | 6.8372E-03 | 5.0387E-08 5.0706E-08 | 1.05301E-02 1.05314E-02 | 3,A5560E-02 | 1.0307E-02 1.0319E-02 | 2.16097E-02 2.16116E-02 | 7.33162E-02 | 6.03340E-02 |
| 1 2 3 | 6.8352E-03 6.8350E-03 | 5.0337E-05 5.07032E-05 5.03135E-05 | 1.05301E-02 1.05314E-02 1.05347E-02 | 3,45565E-02 3,45419E-02 | 1.05307E-02 1.06319E-02 1.06207E-02 | 2.16097E-02 2.16116E-02 2.15750E-02 | 7.33162E-02 7.32002E-02 | 6.03340E-02 6.02128E-02 |
| 1 2 3 4 | 6.8357E-03 6.8350E-03 6.8350E-03 6.8760E-03 | 5,0007E-05 5,0706E-05 5,0615E-05 5,0007E-05 | 1,0301E-02 1,0331Æ-02 1,05247E-02 1,05081E-02 | 3,45567E-02 3,45417E-02 3,45066E-02 | 1.05307E-02 1.05319E-02 1.0520/E-02 1.059/0E-02 | 2.16097E-02 2.16116E-02 2.15755E-02 2.1484E-02 | 7.33162E-02 7.32007E-02 7.20474E-02 | 6.05340E-02 6.0212EE-02 5.99522E-02 |
| 1 2 3 4 5 | 6.8572E-03 6.8572E-03 6.8550E-03 6.8760E-03 6.85076E-03 | 5.0397E-05 5.0704E-05 5.0515E-05 5.0397E-05 5.0047E-05 | 1.030E-02 1.033E-02 1.034E-02 1.038E-02 1.0380E-02 | 3,45565-02 3,45495-02 3,45345-02 3,445345-02 | 1.05307E-02 1.05319E-02 1.0520/E-02 1.053/0E-02 1.055/1E-02 | 2.16097E-02 2.16116E-02 2.15755E-02 2.1478/E-02 2.13700E-02 | 7.33162E-02 7.3200E-02 7.3247E-02 7.3270E-02 | 6.03%0E-02 6.0212E-02 5.99522E-02 5.9960E-02 |
| 1 2 3 4 5 6 | 6.85372E-03 6.85350E-03 6.85350E-03 6.85760E-03 6.85776E-03 6.85217E-03 | 5.0397E-05 5.0704E-05 5.0315E-05 5.0398E-05 5.0048E-05 4.9574E-05 | 1,0301E-02 1,0316E-02 1,0347E-02 1,0301E-02 1,0280E-02 1,0240E-02 | 3.4556E-02 3.4506E-02 3.4506E-02 3.450E-02 3.450E-02 | 1.05307E-02 1.05319E-02 1.05307E-02 1.05547E-02 1.05001E-02 | 2.16097E-02 2.16116E-02 2.16750E-02 2.1476VE-02 2.15700E-02 2.15700E-02 | 7.33162E-02 7.3200E-02 7.3247E-02 7.3270E-02 7.3070E-02 | 6.033/0E-02 6.0212E-02 5.9522E-02 5.9530E-02 5.9050E-02 |
| 1 2 3 4 5 6 7 | 6.8939E-03 6.8930E-03 6.8930E-03 6.87450E-03 6.86076E-03 6.84211E-03 6.81767E-03 | 5,0397E-05 5,0705E-05 5,0393E-05 5,0393E-05 5,0345E-05 4,9574E-05 4,8539E-05 | 1,03301E-02 1,03316E-02 1,0337E-02 1,0330E-02 1,0230E-02 1,0248E-02 | 3.4565E-02 3.4549E-02 3.4506E-02 3.4536E-02 3.4325E-02 3.4325E-02 | 1.05307E-02 1.06319E-02 1.06304E-02 1.06540E-02 1.05001E-02 1.06326E-02 | 2.16097E-02 2.16116E-02 2.15750E-02 2.14754E-02 2.15700E-02 2.12052E-02 2.09859E-02 | 7.33162E-02 7.32002E-02 7.3247E-02 7.32703E-02 7.32703E-02 7.14319E-02 | 6.03340E-02 6.0212E-02 5.9522E-02 5.9540E-02 5.9530E-02 5.8600E-02 |
| 1 2 3 4 5 6 7 8 | 6.8572E-03 6.8572E-03 6.8550E-03 6.8576E-03 6.8577E-03 6.8577E-03 6.7554E-03 | 5.0007E-05 5.0706E-05 5.0015E-05 5.0006E-05 5.0046E-05 4.9574E-05 4.85436E-05 4.8105E-05 | 1.030E-02 1.0316E-02 1.03XE-02 1.030E-02 1.030E-02 1.02XE-02 1.02XE-02 | 3,4566E-02 3,4549E-02 3,4536E-02 3,4536E-02 3,4536E-02 3,4560E-02 3,4752E-02 | 1.0507E-02 1.0539E-02 1.0520E-02 1.0554E-02 1.0507E-02 1.0535E-02 1.0535E-02 | 2.16097E-02 2.16116E-02 2.15750E-02 2.14757E-02 2.15700E-02 2.12052E-02 2.09550E-02 2.09050E-02 | 7.33162E-02 7.32009E-02 7.25474E-02 7.25713E-02 7.20703E-02 7.14319E-02 7.06250E-02 | 6.033/0E-02 6.02128E-02 5.99522E-02 5.9950E-02 5.9050E-02 5.7980E-02 |
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13 2.4757E-02 1.7477E-02 3.2608E-03
14 2.4408E-02 1.7140E-02 3.551ZE-03
15 2.3928E-02 1.6447E-02 3.0207E-03
              16 2.32257E-02 1,59751E-02 2.8257ZE-03
             17 2.2552E-02 1.53/21E-02 2.65/40E-03
18 2.1876E-02 1.4765E-02 2.5280E-03
            9 2.1255E-02 1.420XE-02 2.405XE-03
20 2.0745E-02 1.350XE-02 2.3585E-03
21 2.057XE-02 1.355XE-02 2.255XE-03
22 2.013XE-02 1.335XE-02 2.255XE-03
              Z 1.9%/VE-02 1.32/6/E-02 2.2527/E-03
              24 1,98005E-02 1,31139E-02 2,21612E-03
            25 1,97052-02 1,30502-02 2,205102-03
26 1,965192-02 1,30052-02 2,196722-03
             27 1.96365E-02 1.29705E-02 2.19655E-03
             28 1.96/67E-02 1.299/3E-02 2.19625E-03
     elapsed time .02 min.
  If the group assery for zone 1 by group including sum for all groups in line 28
0 gp. fix source fiss source in scatter all scatter at scatter absorption leslage balance
1 .0000000 .0000000 .0000000 5.12542-04 6.76512-04 5.44742-06 -7.34742-04 9.999900-01
2 .0000000 .0000000 3.857392-04 6.20472-08 8.76472-08 1.77258-04 -7.94742-08 9.999612-01
3 .0000000 .0000000 3.857392-05 5.48242-08 1.22422-02 9.308132-05 -1.04802-02 9.999772-01
4 .0000000 .0000000 5.611942-03 3.607542-08 1.23522-02 4.20942-05 -6.425142-08 9.999872-01
5 .0000000 .0000000 1.02502-02 1.75402-02 2.00942-02 4.797372-05 -1.06502-02 9.999772-01
                                                                      .0000E+00
                               .0000E+00
                               .00000
                              .00000E+00
                              .00000E+00
                                                                         ,0000E+00 5.59526E-02 6.57431E-02 5.24657E-02 5.52827E-05 3.41596E-03 9.59940E-01
                              .00000E+00
                                                                     .0000000 3.5576-02 3.51720-02 4.13848-02 6.08150-03 3.51740-03 9.99980-01 .0000000 3.55760-02 2.8898-02 3.5576-02 1.35560-03 5.8998-03 9.99980-01 .000000 2.162310-02 1.09782-02 2.02163-02 1.115670-03 1.25680-03 9.99980-01 .000000 1.416660-02 4.531870-03 1.35120-02 7.5576-05 7.35680-04 1.0000000 .000000 7.25576-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25680-03 1.25
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             16
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             17
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                                                                      .00000+00 6.4159E-03 8.8070E-04 4.8153E-03 2.7557E-05 1.5750E-03 9.9998E-01 .0000E+00 1.0597E-02 2.8059E-02 2.5543E-02 2.6578E-03 1.1766E-03 9.9998E-01 .0000E+00 2.5690E-02 2.002E-02 2.5543E-02 2.6578E-04 2.4721E-03 1.0000E+00 .0000E+00 1.2998E-02 3.9894E-03 1.0059E-02 1.002E-04 1.7277E-03 9.9998E-01 .0000E+00 1.2998E-02 3.9894E-03 1.0059E-02 1.002E-04 1.7277E-03 9.9998E-01 .0000E-04 1.7277E-03 9.9998E-04 1.7277E-03 9.9998E-04 1.7277E-03 9.9998E-01 .0000E-04 1.7277E-03 9.9998E-04 1.7277E-03 
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             19
                              .000E+00
                               .0000E+00
             2222245X
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                              -000E+00
                                                                       .0000E+00 6.1825/E-02 7.4086)E-02 4.8660E-02 1.07547E-08 1.21000E-02 9.99992E-01
                              .000E+00
                                                                       .00000+00 6.5946E-02 7.6557E-02 5.4297E-02 1.2799E-03 1.0279E-02 9.9999E-01 .0000E+00 4.3869E-02 2.9899E-02 3.8462E-02 7.5999E-04 4.4444E-03 9.99994E-01
                               .0000E+00
                              -0000E+00
                                                                         .0000E+00 3.508/0E-02 3.3/68/2E-02 3.09/03/E-02 7.75/7/4E-04 3./40/52E-03 9.9999/4E-01
                              .0000E+00
                                                                        ,00000E+00 1.19145E-02 7.2635E-05 1.1050E-02 2.7647E-04 5.79019E-04 9.9999E-01
                              .00000E+00
                                                                       .0000E+00 7.77425E-01 7.77476E-01 7.77425E-01 6.0780EE-03 -6.05021E-03 9.99965E-01
                               -0000E+00
                                                                    rt leekage litt boy flux lift leekage non rate fiss rate flux'dot"2 total flux
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1 1.328/3E-02 -7.3497/E-04 1.31657E-02 .0000E+00 3.75257E-11 .0000E+00 2.05359E-05 1.66106E-02 9.254/3E-02 -7.54102E-05 9.1434/E-02 .0000E+00 .0000E+00 8.99269E-05 1.1571/E-01
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2 9.32136E-02 -8.98139E-05 9.2546/E-02 -7,94192E-05
                                                                                                                                                                                                                                                                             .0000E+00 .0000E+00 1.12400E-05 1.55151E-02
                              3 1.5448E-01 -1.12502E-02 1.15100E-01 -1.04830E-02
                                                                                                                                                                                                                                                                              .0000E+00
                                                                                                                                                                                                                                                                                                                                   .0000E+00 1.27389E-05 1.92162E-02
                              4 7.094/2E-02 -6.8482E-03 7.0727/E-02 -6.8551/E-03 5 1.05/21E-01 -1.03341E-02 1.05/83E-01 -1.0668/E-02
                                                                                                                                                                                                                                                                               .000000=+00
                                                                                                                                                                                                                                                                                                                                    .0000E+00 7.4562E-06 1.18099E-02
                                                                                                                                                                                                                                                                         .0000E+00
                                                                                                                                                                                                                                                                                                                                    .0000E+00 8.64728E-06 1.76198E-02
5 1.682E-01 -1.0331E-02 1.682E-01 -1.0531E-02 1.000E-00 0.000E-00 1.0082E-05 3.3361E-02 7 1.962E-01 -1.153E-02 1.962E-01 -1.153E-02 1.962E-01 -1.153E-02 1.962E-01 -1.153E-02 1.962E-01 2.366E-02 1.962E-01 2.366E-01 1.366E-01 1.
                              6 1.98/38E-01 -1.87218E-02 1.97769E-01 -1,9953/E-02
                              7 1.9660E-01 -1.13538E-02 1.96203E-01 -1.19391E-02
                       S G F G F
                                                                                                  .0000E+00 2.1014E-02 1.4732E-02 1.2881E-02 4.3648E-05 2.0363E-08 9.99978E-01 .0000E+00 1.10616E-02 5.46978E-08 1.5005E-02 6.9060E-05 3.21178E-08 9.99978E-01 .0000E+00 1.10616E-02 5.46978E-08 1.6606E-02 5.8558E-05 5.0848E-04 1.0000E+00 .0000E+00 3.7658E-08 6.4578EE-04 3.2599E-08 1.8464E-05 3.6388E-04 1.0000E+00 3.30278E-08 6.4578EE-04 3.2599E-08 1.34658E-05 3.6288E-04 9.9998E-01 .0000E+00 3.30278E-08 4.2018E-04 2.8288E-08 1.34658E-05 9.9998E-01 .0000E+00 5.3778E-08 1.2881E-04 2.8288E-08 3.15878E-05 9.0978E-01 .0000E+00 1.31158E-02 1.0463E-02 1.8313E-02 1.36478E-04 1.8598E-08 9.9998E-01 .0000E+00 1.2150E-02 5.9658E-08 9.9998E-01 .0000E+00 1.2150E-02 5.9658E-08 9.9998E-01 .0000E+00 1.2150E-02 5.36598E-08 9.9998E-01 .0000E+00 3.50598E-02 3.46598E-02 2.44978E-02 5.3478E-04 5.8578E-03 1.0000E+00 .0000E+00 3.25658E-02 3.45698E-02 2.44978E-02 3.46598E-04 5.8578E-03 9.99998E-01 .0000E+00 3.25658E-02 3.45698E-02 2.46978E-02 3.46598E-04 5.959998E-01 .0000E+00 3.25658E-02 3.45698E-02 3.46598E-04 3.4668E-04 2.35998E-01 1.0000E+00 3.25658E-02 1.45578E-02 3.46598E-04 3.4668E-04 2.35998E-01 1.0000E+00 3.25658E-02 1.45578E-02 3.46598E-04 3.4668E-04 2.35998E-01 9.99998E-01 .0000E+00 1.70550E-02 1.45578E-02 1.45788E-02 3.4668E-04 2.35998E-01 9.99998E-01 .0000E+00 1.70550E-02 1.45578E-02 1.45788E-02 3.4668E-04 2.35998E-03 9.99998E-01 .0000E+00 1.70550E-02 1.45788E-02 3.4668E-04 3.4668E-04 2.35998E-03 9.99998E-01 .0000E+00 1.70550E-02 1.45788E-02 3.46788E-02 3.4668E-04 2.35998E-03 9.99998E-01 .0000E+00 1.70550E-02 1.45788E-02 1.45788E-02 3.46788E-02 3.46788E-04
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                                              .000E+00
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                                             .0000E+00
        0 grp. rt bdy flux rt leskage lft bdy flux lft leskage rfn rate
1 1.3450E-02 -1.2910E-08 1.33116E-02 -9.0139E-04 1.9859E-11
                                                                                                                                                                                                                                                                                                                                                                                     flux-dam2 total flux
                                                                                                                                                                                                                                                                                                                             fiss rate
                                                                                                                                                                                                                                                                                                                                  .0000E+00 1.07812E-05 8.80639E-03
                            2 9.46621E-02 -1.32221E-02 9.3213/E-02 -8.98139E-05
                                                                                                                                                                                                                                                                            -0000E+00
                                                                                                                                                                                                                                                                                                                                    _0000E+00 4.8001Æ-05 6.1766E-02
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.0000E+00 4.95Z70E-05 7.64740E-02
.0000E+00 2.24022E-05 4.69701E-02
                    3 1.1709E-01 -1.6557E-02 1.1548E-01 -1.12502E-02
                                                                                                                                                                                                                        .00000E+00
                       4 7.1912/E-02 -1.0507/E-02 7.094/2E-02 -6.8482BE-03
                                                                                                                                                                                                                        .00000E+00
              4 7.19726-02 -1.05076-02
5 1.07262-01 -1.605316-02
6 2.01025-01 -2.5271216-02
7 1.981152-01 -1.774502-02
8 1.478742-01 -3.667302-03
9 1.55742-01 -3.667302-03
11 9.96742-02 5.262712-03
12 6.36562-02 6.340972-03
13 5.475942-02 5.984842-03
14 5.085062-02 9.035326-03
15 5.87502-02 1.78452-03
                                                                                                                         1,05821E-01 -1,03341E-02
                                                                                                                                                                                                                         .00000E+00
                                                                                                                                                                                                                                                                    ,00000E+00 2,65090E-05 7,00543E-02
                                                                                                                         1.98/30E-01 -1.87218E-02
                                                                                                                                                                                                                        .00000E+00
                                                                                                                                                                                                                                                                    ,00000E+00 4,47378E-05 1,313ZZE-01
                                                                                                                         1,96608E-01 -1,13538E-02
                                                                                                                                                                                                                        .00000E+00
                                                                                                                                                                                                                                                                    .00000E+00 3,15020E-05 1,29821E-01
                                                                                                                         1,47581E-01 -2,77540E-05
                                                                                                                                                                                                                        .00000E+00
                                                                                                                                                                                                                                                                    .00000E+00 1.720B9E-05 9.724Z2E-02
                                                                                                                        1.15%/E-01 5.55/8/E-04
1.068/E-01 1.37/60E-08
                                                                                                                                                                                                                                                                    .0000E+00 1.1950E-05 7.62619E-02
,0000E+00 1.0017E-05 7.0252E-02
                                                                                                                                                                                                                        .000000=+00
                                                                                                                                                                                                                        .00000E+00
                                                                                                                                                                                                                       .0000E+00
.0000E+00
.0000E+00
                                                                                                                                                                                                                                                                   ,00000+00 9.32104-06 6.57025-02
,00000+00 5.43104-06 4.25605-02
,00000+00 4.50666-06 3.58886-02
,00000+00 4.257605-06 3.33446-02
                                                                                                                        1.000/1E-01 3.32289E-05
                                                                                                                        6,43292E-02 4,05302E-05
                                                                                                                       5.4769E-02 3.8947E-08
5.1863E-02 5.8228E-08
              14 5.0500E-02 9.0345E-05 5.055E-02 5.82276E-05
15 2.8330E-02 1.0573E-05 2.6530E-02 7.3600E-04
16 1.5430E-02 1.0573E-05 4.6474E-05 4.5003E-04
17 6.58512E-05 1.01275E-05 6.6474E-05 6.5003E-04
18 4.25490E-05 2.57376E-05 4.5733E-05 1.55297E-05
19 9.8114E-05 1.7700E-05 9.9857E-05 1.6542E-05
20 3.5553E-02 3.6530E-05 3.3548E-02 2.4672E-05
21 9.7759E-05 2.6730E-05 1.0036E-02 1.71201E-05
22 1.8850E-02 7.8334E-05 1.9943E-02 5.0005E-05
23 4.6800E-02 7.8334E-05 1.9943E-02 5.0005E-05
                                                                                                                                                                                                                        .00000E+00
                                                                                                                                                                                                                                                                    .00000E+00 2.30912E-06 1.87553E-02
                                                                                                                                                                                                                                                                   .0000E+00 1.505E-06 1.0332E-02
.0000E+00 4.4803E-07 4.3774E-08
.0000E+00 2.9208E-07 2.9252E-08
                                                                                                                                                                                                                        ,00000E+00
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                                                                                                                                                                                                                        .0000E+00
                                                                                                                                                                                                                                                                   .0000E+00 6.8890E+07 6.5261E+05
.0000E+00 2.60151E+06 2.21995E+02
.0000E+00 6.0090E+07 6.5537ZE+03
                                                                                                                                                                                                                        .0000E+00
                                                                                                                                                                                                                        .00000E+00
                                                                                                                                                                                                                                                                    ,00000E+00 1,17597E-06 1,28634E-02
              23 6.6828E-02 1.7659E-02 6.8628E-02 1.2008E-02 24 5.3868E-02 1.5259E-02 5.5697E-02 1.0008E-02 23698E-02 7.0626E-03 1.7589E-02 4.8634E-03 1.6578E-02 5.37770E-03 1.7589E-02 3.4659F-03 27 2.9882E-03 1.0890E-03 3.2839E-03 5.8647E-04
                                                                                                                                                                                                                                                                    .0000E+00 3.6757E-06 4.45390E-02
                                                                                                                                                                                                                        .00000E+00
                                                                                                                                                                                                                                                                    .0000E+00 2.20519E-06 3.59753E-02
                                                                                                                                                                                                                        .00000E+00
                                                                                                                                                                                                                      .0000E+00
.0000E+00
.0000E+00
                                                                                                                                                                                                                                                                   .0000E+00 7.5985E-07 1.4059E-02
.0000E+00 3.9251E-07 1.1245E-02
.0000E+00 4.5097E-08 2.044VE-03
28 1.73101E-00 -9.26183E-05 1.73410E-00 -6.6475/E-03 1.9895E-11 .0000E-00 3.1782E-04 1.4652E-00 1fring grap summy for zone 4 by grap including sum for all graps in line 28 0 grp. fix source fits source in scatter all scatter at sca
                   28 1.73101E+00 -9.65189E-08 1.73410E+00 -6.64754E-08 1.9989E-11
                                                                                                                                                                                                                                                                   .0000E+00 3.1192/E-04 1.1405/E+00
                                .00000+00 1.2566E-08 4.5162E-01 4.6516E-01 3.595/E-01 8.1650E-02 -9.0546E-08 9.9990E-01 .00000+00 1.41650E-02 9.2569E-01 9.7663E-02 1.5663E-01 7.7750E-03 1.0000E+00 .0000E+00 4.15367E-10 1.6000E-01 9.7663E-02 1.5663E-02 9.90087E-03 1.0002E+00 .0000E+00 1.35762E-10 8.5665/E-02 2.95966E-02 7.67639E-02 9.90087E-03 1.0002E+00 .0000E+00 1.35762E-10 1.6850E-02 4.8053E-02 9.90087E-03 1.0009E+00 .0000E+00 1.3559E-10 1.6459E-01 1.2559E-01 2.7850E-02 1.7863E-03 1.0009E+00 .0000E+00 1.2559E-10 1.7863E-01 1.2565E-01 2.7850E-02 1.7863E-03 1.0009E+00 .0000E+00 3.2279E-11 1.3653E-01 6.3660E-02 1.7850E-01 2.6279E-02 1.6000E+00 3.2279E-11 1.3653E-01 6.3660E-02 1.2850E-01 2.6279E-02 1.6000E+00 3.2279E-11 1.3653E-01 6.3660E-02 1.2850E-01 2.6279E-02 1.0000E+00 3.2279E-01 1.3653E-01 6.3660E-02 1.2850E-01 2.6279E-02 1.0000E-00 3.2279E-01 1.2850E-01 2.6279E-01 3.2850E-01 2.6279E-01 3.2850E-01 2.6279E-01 3.2850E-01 2.6279E-01 3.2850E-01 3.2850E-
                                     ,0000E+00 3.73874E-11 2.5724TE-01 1.60511E-01 1.87976E-01 7.70540E-02 -7.83945E-03
                                                                                                                                                                                                                                                                                                                                                       1,00019E+00
                                    ,0000E+00 3.5788E-11 6.11882E-01 9.1589E-01 4.9289E-01 1.3885E-01 -1.7899E-02 ,0000E+00 9.73027E-12 6.4860E-01 8.08187E-01 5.38919E-01 1.2578E-01 -1.5225E-02
                                                                                                                                                                                                                                                                                                                                                       1.00031E+00
                                                                                                                                                                                                                                                                                                                                                       1.0002ZE+00
                                .00000+00 2.84836-12 4.3028-01 3.27752-01 3.48525-01 6.8643-02 -7.85876-05 .00000+00 1.99730-12 3.35861-01 3.36000-01 2.77886-01 6.2648-02 -5.37766-05 .00000+00 4.79846-13 1.10502-01 6.68576-02 9.36668-02 1.76846-02 -1.08526-03 .00000+00 1.00000+00 8.88856+00 1.431226-01 8.88856+00 9.92146-01 9.22246-05
                                                                                                                                                                                                                                                                                                                                                       1.00013E+00
                                                                                                                                                                                                                                                                                                                                                       1,00012E+00
                                                                                                                                                                                                                                                                                                                                                       1.0000E+00
                                                                                                                                                                                                                                                                                                                                                       1.00005E+00
   0 grp. rt bd/ flux rt leskage lft bd/ flux lft leskage
1 1.3756E-02 2.66880E-09 1.3550E-02 -1.2910E-03
                                                                                                                                                                                                                        non rate
                                                                                                                                                                                                                                                                   fiss rate
                                                                                                                                                                                                                                                                                                              flucture2
                                                                                                                                                                                                                                                                                                                                                       total flux
                                                                                                                                                                                                                  2.2948E-03
                                                                                                                                                                                                                                                              2,548536-05
                                                                                                                                                                                                                                                                                                        3.05/52E-04 3.4968/E-01
                    2 9.7889/E-02 4.62509E-08 9.45620E-02 -1.32721E-02
                                                                                                                                                                                                                 1.56323:-05
                                                                                                                                                                                                                                                              1.10581E-02 1.60928E-03 2,45579E+00
                   3 1.2144E-01 5.6384E-03 1.1708E-01 -1.68573E-02 .0000E+00 1.32870E-02 1.8583EE-03 3.08300E+00
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4 · 7.47215E-02 4.0760E-08 7.1912/E-02 -1.05076E-02 .0000E+00 5.6559E-03 8.8669E-04 1.8965/E+00 5 1.118/0E-01 1.13271E-07 1.0720E-01 -1.6031E-02 .0000E+00 1.60271E-03 1.03328E-03 2.85757E+00
                                                  5 1.118/0E-01 1.132/TE-07 1.072/E-01 1.003/E-02 .0000E-00 1.62/TE-03 1.053/E-03 2.85/57-00 6 2.096/3E-01 1.786/E-07 2.000E-01 1.003/E-02 .0000E-00 1.62/TE-03 1.033/E-03 5.32/ZE-00 7 2.063/E-01 1.786/E-07 2.000E-01 1.766/E-02 .0000E-00 1.62/TE-03 1.730/E-03 5.32/ZE-00 7 2.063/E-01 1.786/E-01 1.766/E-01 1.766
                                              5 2.78616-02 -9.28326-06 2.83106-02 1.78516-08 .000006-00 1.597056-08 1.09558-04 7.107006-01 16 1.550006-02 -5.617016-06 1.56605-08 1.09736-08 .00006-00 1.12106-08 5.61666-05 3.90566-01 17 6.24626-03 2.87506-06 6.596126-08 1.09736-08 .00006-00 1.12106-08 1.59706-05 1.59708-01 18 3.34266-03 2.65186-06 9.811146-08 1.771076-08 .00006-00 1.87676-08 1.97936-06 8.78366-02 19 9.19578-03 2.65186-06 9.811146-08 1.771076-08 .00006-00 1.87636-08 3.02256-05 2.39708-01 20 3.227616-02 -1.59846-05 3.5656-02 3.68136-08 .00006-00 1.87636-08 3.02256-05 2.39708-01 22 1.00106-02 -5.983166-06 1.58016-02 7.83346-03 .00006-00 1.87056-02 4.012126-05 2.26778-01 22 1.00106-02 -5.983166-06 1.58016-02 7.83346-03 .00006-00 1.47056-02 4.012126-05 4.16148-01 25 5.85036-02 -5.983166-06 1.58016-02 1.78556-02 .00006-00 4.44038-02 4.012126-05 4.16148-01 25 5.85036-02 4.73046-06 1.53386-02 1.73346-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.55036-02 1.
77 2.765E-GB 7.055E-GB 2.565E-GB 1.050E-GB 2.000E-GB 2.000E-GB 1.765E-GB 1.765E-GB 5.889E-GB 1.765E-GB 2.765E-GB 2.765E-GB 2.3165E-GB 3.7627E-GB 1.765E-GB 4.3527E-GB 1.765E-GB 
              0 gp. rt bdy flux rt lestage lift bdy flux lift lestage ron rate flux rate flux dd 2 total flux 1 1.376/E-02 2.6880E-09 1.3167E-02 .0000E-00 2.3007E-03 2.5465E-03 3.362/E-04 3.7737E-01 2 9.7880E-02 4.6250E-08 9.143/E-02 .0000E-00 1.5632E-05 1.1058E-02 1.758/E-03 2.6873E-00
                                                               3 1.2144E-01 5.63894E-08 1.12928E-01 4 7.47219E-02 4.07060E-08 6.91704E-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .0000E+00 1.32870E-02 1.9752EE-05 3.32175E+00
.0000E+00 5.6855E-05 9.5837E-04 2.0430E+00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .0000E+00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   _0000E+00
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5 1.11840E-01 1.13271E-07 1.02995E-01
                                                                  .0000E+00 .0000E+00 1.60271E-05 1.11789E-03 3.05589E+00
      6 2.09812E-01 1.71846E-07 1.92925E-01
                                                                   _00000E+00
                                                                                     .0000E+00 1.2648/E-03 1.87047E-03 5.73062E+00
                                                                                     .0000E+00 1.15758E-03 1.3265/E-03 5.5781/E+00
          2.0553E-01 -4.58545E-06
                                              1.93174E-01
                                                                   .00000E+00
          1.49040E-01 -3.2050E-07
                                                                                    .0000E+00 1.13574E+08 7.54Z9E+04 4.09864E+00
                                                                   .00000E+00
                                              1,47069E-01
      9 1.15413E-01 9.41713E-05
                                              1.160228-01
                                                                   ,00000E+00
                                                                                    .0000E+00 1.48174E-03 5.09567E-04 3.1807EE+00 .0000E+00 3.16392E-08 4.63320E-04 2.91860E+00
     10 1.05799E-01 -2.97725E-06 1.07281E-01
                                                                   .000<del>1</del>
                                                                                    .00000E+00
     11 9.76494E-02 -4.18098E-06 1.01089E-01
     12 6.14479E-02 -1.66196E-06 6.55422E-02
                                                                   .0000E+00
    13 5.211/1E-02 1.600/8E-06 5.59/50E-02 1/4.7305E-02 -3.76107E-07 5.3070E-02
                                                                   .00000E+00
                                                                  ,00000E+00
                                                                                    .0000E+00 1.55705E+05 1.17715E+04 7.77414E+01 .0000E+00 1.12102E+05 6.02852E+05 4.25438E+01
    15 2.78/61E-02 -9.2958/E-05 2.885/6E-02 16 1.5300E-02 -5.61701E-06 1.59279E-02
                                                                  .0000E+00
                                                                                    .0000e-00 1.1670e-03 2.1672e-05 1.7581e-01 .0000e-00 6.9870e-04 8.7626e-06 9.7003e-02 .0000e-00 1.8834e-05 3.2750e-05 2.5690e-01 .0000e-00 1.31901e-02 1.28118e-04 8.9654e-01
     17 6.248E-03 2.8560E-06 6.8866E-08
                                                                   .00000E+00
     18 3.3426E-03 4.09092E-07 5.0655EE-08
                                                                   .0000E+00
    19 9.19375E-03 2.65518E-06 1.0527Æ-02
20 3.22761E-02 -1.5084E-05 3.4650Œ-02
                                                                   _00000E+00
                                                                   .00000E+00
                                                                                    .0000E400 1.4905E-02 2.6455E-05 2.4855E-01 .0000E400 4.4453E-02 4.4656E-05 4.58654E-01 .0000E400 7.37467E-02 1.7004E-04 1.66057E-00
     21 8.80020E-03 1.27850E-05 1.05271E-02
                                                                   .00000E+00
     22 1.6010/E-02 -5.9831/E-06 2.16013E-02
                                                                   .000DE+0D
    25 5.856%E-02 -3.58508E-05 7.3500E-02 24 4.55585E-02 9.1256E-07 6.08540E-02
                                                                   .00000E+00
                                                                   .00000E+00
                                                                                     .0000E+00 6.553/8E-02 1.05803E-04 1.30770E+00
     Z 1.964/E-02 4.7304/E-06 2.73313E-02
                                                                   .0000E+00
                                                                                     .0000E+00 3.71580E-02 3.6794/E-05 5.68589E-01
                                                                                    .0000E+00 3,4122E-02 1,8649E-05 3,80537E-01
     26 1.297/EE-02 -8.856/DE-08 -1.9735/E-02
                                                                   .0000E+00
     27 2,1965E-03 7.05898E-08 3,74897E-08
                                                                  .00000E+00
                                                                                    .0000E+00 9.6566E-05 1.59856E-05 6.5146E-02
     28 1.71966E+00 -2.94197E-05 1.73977E+00
                                                                  .0000E+00 2.3169E-03 3.7627ZE-01 1.2983E-02 4.74844E+01

    element time .02 min.

Odirect access unit 9 requires 556 blocks of length 216 for cross section weighting.
   transport cross section weighting function
      e gp. 1 gp. 2 gp. 3 gp. 4 gp. 5 gp. 6 gp. 7 gp. 8
1 1.17813E-US 5.10618E-US 5.31911E-US 2.51851E-US 3.1847E-US 5.5215E-US 3.71522E-US 1.7447E-US
2 7.17752E-U4 5.0422E-US 5.81787E-US 3.4520FE-US 4.30137E-US 6.1489E-US 4.3282E-US 2.1497E-US
Ozone grp. 1
     3 1.20780E-05 5.53410E-05 5.908/SE-05 2.90080E-05 3.86173E-05 6.77728E-05 4.3725E-05 1.8534E-05 4.82978E-04 4.3755E-05 4.9058E-05 2.3752E-05 2.8510E-05 4.8008E-05 3.3273E-05 1.8008E-05 8.53678E-04 4.41300E-05 5.00478E-05 2.41967E-05 2.82978E-05 4.8880E-05 3.3750E-05 1.8008E-05
0erre gr. 9 gr. 10 gr. 11 gr. 12 gr. 13 gr. 14 gr. 15 gr. 16
1 1.1140E-03 1.0146E-03 1.027E-03 8.7576E-04 8.026E-04 1.070FE-03 3.278E-04 1.7544E-04
2 1.752E-03 1.9561E-03 2.0409E-03 1.6054E-03 1.4342E-03 1.7401E-03 6.3552E-04 3.5556FE-04
3 1.1224E-03 1.0529E-03 1.200E-03 1.2240E-03 1.034E-03 1.6057E-03 3.900E-04 2.2260E-04
     4 1.5772E-03 1.0500E-03 1.0507E-03 6.7618E-04 6.0000E-04 6.550E-04 3.1140E-04 1.6167E-04 5 1.572E-04 6.954EE-04 3.1616E-04 1.6467E-04 1.6467E-04 6.2502E-04 6.954EE-04 3.1616E-04 1.6467E-04
George grp. 17 grp. 18 grp. 19 grp. 20 grp. 21 grp. 22 grp. 23 grp. 24
1 1.175/06-04 2.551006-04 2.078276-04 5.032616-04 2.92206-04 8.55226-04 2.100196-03 1.76126-03
2 2.04806-04 3.947766-04 3.43416-04 8.866486-04 4.61476-04 1.278286-03 3.21596-03 2.711676-03
      3 1.817/2E-04 4.4007/E-04 3.1911/E-04 6.9657/E-04 4.6057/E-04 1.3631E-05 3.2016/E-05 2.7169/E-04 7.3633E-05 8.254/E-05 1.2631E-04 3.852/E-04 1.3632E-05 8.254/E-05 1.2631E-04 3.852/E-04 1.3632E-05 8.254/E-05 1.2631E-05 8.07407E-04
      5 7.5517/E-05 1.008/1E-04 1.3465/E-04 4.0043/E-04 1.5627/E-04 3.9601/E-04 1.152/E-05 9.080/5E-04
0are gp. 25 gp. 25 gp. 27 gp. 28
1 7.80216-04 5.55908-04 8.46702-05 4.28506-02
2 1.25246-05 8.92546-04 1.555206-04 5.55346-02
      3 1.24816-08 9.311206-04 1.738176-04 5.22246-02 4 3.35666-04 2.005166-04 2.552266-05 3.45726-02
      5 3.856/E-04 2.41/5/E-04 3.255/E-05 3.547/1/E-02
Broad group parameters
           uper energy mid energy
2.0000E+07 2.6656E+05
                                                       velocity
                                                    1.9708E+09
                                 2.6555
                                                                        7.2287E-01
             9.000E+05
                                                                        2.7719E-01
                                 1.5177E+05
                                                    1.0210E+07
                                                                        1.204ZE-10
             4.0000E-01
                                 1.244E-01
                                                    3.6880E+05
             1.0000E-05
                                     1200 d. second part of sas2h pass to make library
Ocell averaged fluxes
```

| Czone grp. 1 grp. 2 grp. 3 1 3.92526-01 1.15406-00 2.05376-01 2 3.98192-01 1.135116-00 2.00378-01 3 4.01626-01 1.13526-00 1.95326-01 4 4.15346-01 1.13536-00 1.70376-01 5 4.165706-01 1.135316-00 1.70376-01 Oflux disadvantage factors (zone average/cell average-flux) | · |
|--|--|
| 0zore grp. 1 grp. 2 grp. 3 1 9.43011e-01 9.5805re-01 1.2583e+00 2 9.5565e-01 9.5804e-01 1.1555e+00 3 9.62782e-01 9.5804e-01 1.1555e+00 4 1.00407e+00 1.00013e+00 9.8553e-01 5 1.0000e+00 1.0000e+00 1.0000e+00 0xel(averaged currents | • |
| 0zore grp. 1 grp. 2 grp. 3 1 1.7309E-02 1.25404E-02 6.44907E-03 2 1.93314E-02 2.60139E-02 9.95008E-03 3 1.9231E-02 2.2697E-02 1.01079E-02 4 1.5362E-02 1.63172E-02 2.8697E-03 5 1.5578E-02 1.66296E-02 3.2697ZE-03 0zore volume vol. fraction | |
| 1 1.26600 4.523602 2 1.666701 6.656603 3 6.523601 2.356702 4 2.562401 1.0000000 5 2.7544001 1.0000000 - elapsed time .02 min. 1 ccccccccc ccccccccc uu uu pp pp cc | |
| Comment | \$2665959595 \$266595959595 \$2 \$3 \$2665959595 \$265595959595 \$3 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 |
| 000000 227777772 // 11 0000000 277777722 // 111 | |

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| 1 | 11 1111 1111 1111 11 11 11 11 11 111111 | | ::: | 888 88 88 88 88 88 88 88 88 88 88 88 88 | | ::: ::: ::: ::: | 11 111 1111 11 11 11 11 11 11 11 111111 | |
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| | | **** |
|---|---------------------------------------|-------------|
| | program verification information | deletek |
| | • • | |
| | code system: acale version: 4.2 | |
| | • • • • • • • • • • • • • • • • • • • | thirtie |
| *** | <u> </u> | ***** |
| - | | |
| infalls (to) | | phints: |
| h de la | | dedránicá |
| | program: c0c005 | **** |
| the same | Figure and | *** |
| - | creation date: 04/27/95 | *** |
| | a caria i cacci. Oquifio | **** |
| | library: /nautronics/acale/eve | yladrásárás |
| | indle lime and sed on | **** |

```
this is not a scale configuration controlled code
                                                               jobneme; devis
                                                  date of evacutions 02/16/96
                                                  time of execution: 10:06:14
            -1q array has
                                       1 entries.
            Oci array has
                                       1 entries.
            Oci array has
                                        1 entries.
             1q array has
                                        1 entries.
             ld array has
                                        1 entries.
                                        1 entries.
              la array has
                                       1 entries.
                                       1 entries.
             1q array has
             20 array has
                                       1 entries.
              * core allocated to array-data (by -155 or default) see 20000 sords. *
* broad 3-group flux selighting factors *
                            therm = .5134
                           res = .4563
fast = 3.5488
O user requested (see jadi) that only the ruckide transitions presently included in 0 origen library be updated.

1cross sections, available from sopx (normalized to thermal flux), berns
                               10010 to 10020 2.86/86E-01
10010 tot-cap 2.86/86E-01
50100 to 40100 2.56/8E-02
50100 to 40000 3.9669E-03
                                 50100 to 10020 3.93698E-05
                                50100 to 30070 3.29435+08
50100 to 2004 3.29435+08
50100 to 10050 9.566235-02
                               50100 to cop 3.25/25-08

50110 to 50100 1.13/13-08

50110 to 50120 4.363/25-08

50110 to 40110 1.45103-06

50110 to 10010 1.45103-06
                                50110 to 40090
50110 to 10080
                                                         1,2XXXE-05
                                                         1.29493E-05
                                 50110 to 30080
                                                         1,69049E-04
                                50110 to 20040
50110 tot-cap
                                                         1.69049E-04
                                                         4.505/E-03
                                 80160 to 80170
                                                         1,53057E-04
                                80160 to 70160 9.54968E-05
80160 to 10010 9.54968E-05
                                80160 to 70150
                                                         1.87650E-05
                                80160 to 10020
                                                         1,8760E-05
                                80160 to 60130 2.74917E-02
                                80160 to 20040 2.77/9176-02
80160 to 80161 4.36088-08
```

80160 tot-cap 2.77630E-02 360630 to 360820 2.25862E-02 360830 to 360810 2,38476E-09 360830 to 360840 1,56736E+02 360830 to 350830 9.19933E-04 360830 to 10010 9.19933E-04 360830 to 350820 7,46029E-06 360830 to 10020 7,46029E-06 360630 to 350810 2.60751E-06 360830 to 10080 2,60751E-06 360830 to 340810 4,22004E-08 360830 to 20080 4,22004E-08 360830 to 340800 4,95479E-05 360830 to 20040 4.95479E-05 35050 tot-cap 1.56760E+02 35050 to 350850 1.42215E+00 360E0 tot-cap 1,42215E+00 380700 to 380710 6,37478E-01 380500 tot-cap 6.37476E-01 350800 to 350500 1.00873E-00 1.008736+00 390890 tot-cap 400750 to 400740 1,39837E+01 400750 tot-cap 400740 to 400750 1.39837E+01 1.95314E-01 1.9331/E-01 400940 tot-cap 400750 to 400760 2.31722E+00 2.317225+00 400950 tot-cap 410940 to 410950 3.99047E+01 410940 tot-cap 3.99247E+01 420950 to 420960 3.88237E+01 420950 tot-cap 3.882576+01 430990 to 430980 6.853616-08 430990 to 431000 9.12749E+01 430990 tot-cap 9.12817E+01 441010 to 441070 441010 tot-cap 2,93552-vi 441050 to 441070 9,03142-01 7,93142-01 7,93142-01 441010 to 441020 2.95358E+01 441060 tot-cap 9.03144E-01 451030 to 451030 2.48212E-08 451080 to 451040 3,49220E+02 451050 tot-cap 3,49222=+02 451050 to 451060 8.22652=+03 451050 tot-cap 8.22552+05 461050 to 461050 3.50150E+01 461050 tot-cap 3.501505+01 461080 to 461090 7.077055+01 461080 tot-cap 7.077055+01 471080 to 471080 5.772035-08 471090 to 471100 3.78681E+02 471090 to 461090 3.25365E-04 471000 to 10010 3.25365=04 471000 to 451050 2.76540E=04 471000 to 471001 6.4446E=01 471090 tot-cap 3.78687E+02 511260 to 511250 1.2449E+01 511200 tot-cap 1,24/78-01 541310 to 541300 6,978/78-02 541310 to 541320 1,468/48-05 541310 to 541320 2,578/98-02

541310 to 531310 4,17669E-05 541310 to 10010 4.1766E-05 541310 to 531300 5.85917E-07 541310 to 10020 5.85917E-07 541310 to 531250 6.01824E-07 541310 to 10080 6.01834E-07 541310 to 521280 1.99381E-05 541310 to 20040 1.99381E-05 \$4130 tot-cap 2.57/60=02 \$4130 to \$4130 1.13062=02 \$4130 to \$4130 2.37/96=05 \$4130 to \$4130 9.54/27=01 \$4130 to \$31320 8.60056=06 541320 to 10010 8.60055E-06 541320 to 531310 3.64400E-07 541320 to 10020 3.6440E-07 541320 to 531300 4.9066E-08 541320 to 10080 4.9066E-08 \$4150 to \$2120 1,08297-06
\$4150 to \$2000 1,08297-06
\$4150 to \$2000 1,08297-06
\$4150 to \$4150 1,480216-06 %1350 to %1350 1,48021E+05
\$41350 to \$41350 1,48021E+05
\$41350 to \$41350 1,98400E+02
\$41350 to \$41350 5,90890E+05
\$41350 to \$41370 1,2528E+01
\$41350 to \$31350 3,5713E+07 541360 to 10010 3.57113E-07 541360 to 531350 1.32956E-07 541360 to 10020 1.32956E-07 541360 to 531340 3.00873E-08 541360 to 10030 3,00573E-08 541360 to 521330 2,99573E-07 541360 to 20040 2,99573E-07 541360 tot-cap 1,446985-01 551330 to 551320 9,06666-08 551330 to 551340 1.08135E+02 551330 to 541330 9.72211E-04 5130 to 5430 9.77211E-04
55130 to 10010 9.77211E-04
55130 to 53130 1.54730E-05
55130 to cap 1.54730E-05
55130 to cap 1.05145E-02
55130 to cap 1.31579E-02
55130 to cap 2.21534E-01
55130 to cap 2.3772E-01
55130 to cap 9.3372E-01
56130 to cap 9.3372E-01
56130 to cap 9.3372E-01
56130 to cap 9.3372E-01
56130 to cap 9.3372E-01
571330 to 5700 8.0531E-00 57130 to 57140 8.0/515240
57130 to cap 8.0/515240
551440 to 581450 1.27143240
581440 to cap 1.27143240
591410 to 591400 6.489712-08
591410 to 591300 1.864652-06 591410 to 571370 2.78096E-06 591410 to 20040 5.7384E-05 591410 to 581400 1.9772/E-05 591410 to 10010 5,60674E-05

591410 to 591420 1.20857E+01 591410 to 581410 5.28492-05 591410 to 10020 1.65362-05 591410 to 581390 1.734012-06 571410 to 30150 571410 to 10050 571410 to 571390 571410 to 20050 571410 to 571380 1.73401E-05 1.67463E-08 591410 to 57150 1.67463E-05
591410 to 2000 1.67463E-05
591410 to 57050 5.46054E-05
591410 tot-cap 1.20525E-01
591430 tot-cap 1.20525E-01
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601470 to 601450 1.956016-02 611470 to 591430 9.62018E-06 611470 to 20040 8.8539E-06 611470 to 601460 1.33155E-06 611470 to 201420 1.33152E-05
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611470 to 591450 5.66570E-09
611470 to 591440 7.9518E-05
611470 to 591440 7.9518E-05 611470 tot-cap 5.95240E+02 611480 to 611490 1.20952E+04 611480 tot-cap 1.209525+04

621470 to 621460 9.07486E-02
621470 to 621450 8.18566E-03
621470 to 601430 7.01333E-05
621470 to 601430 1.33599E-03
621470 to 601450 1.6666E-04
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221470 to 2000 6.78025-06
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221470 to 20140 1.22556-08
221470 to 22140 1.22576-08
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221570 to 20140 1.257726-05
221570 to 20140 1.2 61530 to 611490 4.60126-05 61530 to 611490 4.60126-05 61530 to 20040 6.75243E-04

631530 to 621520 8,34917E-06 631530 to 10010 6,99057E-05 631530 to 631540 6,35374E+02 631530 to 621530 6.70570E-05 631530 to 10020 5.5000E-06 631530 to 621510 1.2332/E-06 631530 to 10030 1.2352/E-06 631530 to 611510 2.81953E-08 631530 to 20180 2,819535-08 631530 to 611500 6,272305-04 63530 tot-cap 6.55376-02 63550 to 63530 3.18576-02 63550 to 63530 1.1472/6-05 63550 to 63530 1.1556-10 631540 to 20040 8.10868E-04 631540 to 621530 2.51107E-06 631540 to 10010 1.32731E-03 631540 to 631550 1.08256-03 631540 to 621540 1,32730E-08 631540 to 621540 1,32730E-08 631540 to 10000 2,50067E-06 631540 to 10000 4,25037E-06 631540 to 631520 1,80256E-08 631540 to 20050 1,8025E-08 631540 to 641510 8,108638-04 631540 to 641510 8,108638-04 631540 to 631540 2,622218-02 631550 to 631530 7,342788-05 631550 to 631530 1,975478-06 631550 to 20040 9.72207E-06 631550 to 621540 4.00897E-06 631550 to 10010 8.39165E-06 631550 to 631560 2.57630E+08 651550 to 621550 6.4/3/92-06 651550 to 10020 2.05572-06 631550 to 621530 6,805 WE-07 631550 to 10050 6.8514E-07
631550 to 611550 1,5434E-10
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631550 to 611530 7,7469E-06
631550 to 611530 7,7469E-06
631550 to 611530 1,7269E-06 641550 tot-cap 1.72582±04 922340 to 922330 6,86982±08 922340 fission 4,66762±00 4.68763E+00 1.22751E+01 922340 ru-sigf 922340 to 922320 9,96065E-05 92240 to 92250 1.917546-02 92240 to 92241 3.118106-00 3,11810E+00 1,96425E+02 92340 tot-cap 1,96425E402 92250 to 922540 3,12804E-02 92250 fission 3,66846E402 92250 ru-slof 8.86095-02 92250 to 92230 3.0055-05 92250 to 92250 8,77665E+01 92250 to 92251 8.866/1E-02 92250 tot-cap 4.536/8E+02 92250 to 92250 3.49968E-02 922360 fission 2,00610E+00 922360 ru-sigf 5.5100/E+00

922560 to 922540 4.66385E-04 92250 to 922570 7.200875+01 92250 to 922561 3.411185+00 92250 tot-cap 7.405025+01 92280 to 92250 6.988945-02 1.00705E+00 922380 fission 922380 ru-sigf 2.8372E+00 92290 to 92360 4,51706E-04 92290 to 92290 8.80319240 92290 tot-cap 9.8839240 92290 to 92240 1.59392-02 92290 fission 5.4123240 952570 ru-sigf 1.6305/E+01 952570 to 95250 6.09581E-05 952370 to 952580 3.06479E+02 952570 to 952571 7,99538E-01 952570 tot-cap 3.11901E+02 9/280 to 9/2570 2.56115E-08 9/280 to 9/23/0 2.5615E-05
9/280 fission 2.30/78E-01
9/280 to 9/25/0 1.4335E-05
9/280 to 9/25/0 2.6670E-02
9/280 to 9/25/0 2.6670E-02
9/280 to 9/25/0 1.35/4/E-02
9/25/0 to 9/25/0 1.35/4/E-02
9/25/0 fission 8.3133/E-02
9/25/0 ru-sigf 2.30/0E-03 94250 THEIRT 0.3100ENE 94250 to 94250 2.3006E-05 94250 to 94250 2.2857E-08 94250 to 94260 4.6500E+02 9/250 to 9/250 9/250 to 1/250 9/270 to 9/250 9/270 tission 9/270 nursigf 1,907/6E-01 9/270 to 9/250 6,22/32E-05 9/24/00 to 9/24/10 1,2394/1E+08 942400 tot-cap 1.245505-03 942400 tot-cap 1.245505-03 942410 to 942400 8.007315-02 942410 ru-sigf 2.657405-03 942410 to 942590 1.351835-04 942410 to 942420 2.92612E+02 942410 tot-cap 1.19151E+05 942420 to 942410 2.6000E-02 \$220 finsion 4.69.52:40 \$220 finsion 1.474:16:01 \$220 to \$200 3.16:05:-04 \$220 to \$200 3.370:600 3.4183/E+02 1.27/05E+01 4.1134/E+01 1.01153E+03 1.03/3/E+03 942420 tot-cap 952410 fission 952410 ru-sigf 952410 to 952420 952410 tot-cap 3.625315+00 952/30 fission 95330 nu-sigf 1.2975E01 95330 to 95344 4.2974E02 95330 tot-cap 4.3334E02 95340 to 96330 6.3489E-05 962440 fission 1.600525+01 962/40 nu-sigf 5.362E+01

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962440 to 962420 6.23160E-05
                                             962440 to 962450 1,46362E+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 sub-pool) Othe reaction 621470 to 621471 was not used, because 621471 is not in library., (in sub-pool) Othe fission product transitions for 92340 were not used. Library fissile ruclides are
       922330 92250 942410 922380 942390
One substitute ructide in block 8 data. or, update with new fission yield data.

Othe reaction 922%0 to 922%1 was not used, because 922%1 is not in library., (in subr pool)

Othe reaction 92250 to 92251 was not used, because 92251 is not in library., (in subr pool)

Othe fission product transitions for 92250 were not used. Library fissile ruclides are
       922330 922550 942410 922580 942590
One substitute ruckide 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 922370 were not used. Library fissile ruckides are
       922330 92250 942410 922580 942590
One substitute nuclide in block 8 data. or, under with new fission yield data.

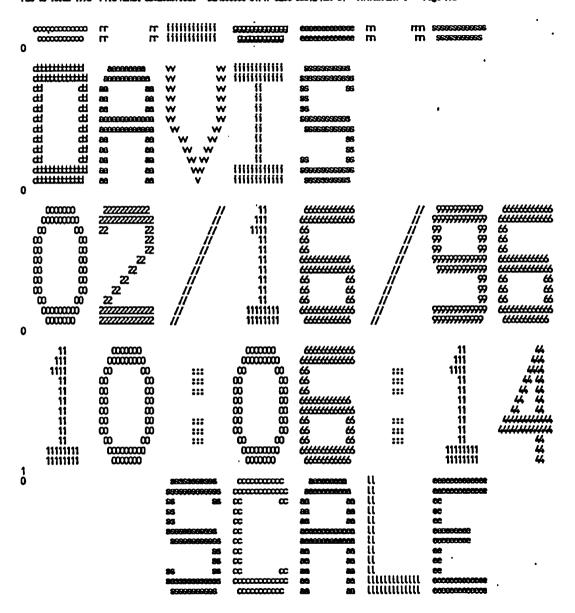
Othe reaction 932370 to 932371 was not used, because 932371 is not in library. (in subr pool)

Othe fission product transitions for 942300 were not used. Library fissile nuclides are
       922330 92250 942410 922580 942390
One substitute ructicle in block 8 data, or, update with new fission yield data.
Othe reaction 94230 to 94230 was not used, because 94230 is not in library. (in subr pool)
 Other fission product transitions for 943400 ware not used. Library fissile ruclides are
       922330 92250 942410 922580 942390
 One substitute runticle in block 8 chts. or, update with new fission yield chts.
Othe fission product transitions for $42,00 were not used. Library fissile nuclides are $2230 $2250 $4240 $2280 $4250
One substitute ructide in block 8 data. or, unders with new fission yield data.

Othe fission product transitions for 953410 were not used. Library fissile ructides are
       922330 922550 942410 922580 942590
One substitute nuclide in block 8 data. or, update with new fission yield data.
Othe fission product transitions for 952430 were not used. Ultrary fissile nuclides are
92230 92250 92260 92280 92280
 One substitute ruclide in block 8 data. or, update with new fission yield data.
 Othe fission product transitions for 96340 were not used. Library fissile nuclides are
       922330 92250 942410 922580 942590
 Ouse substitute ructide in block 8 data. or, underswith new fission yield data. Othe reaction 962440 to 962441 was not used, because 962441 is not in library., (in sub-pool)
                                                                  case completed, date, 2/16/1996
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program verification information should be a scale system: scale version: 4.2 should be a sca
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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 and time densities of nth library interval
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```
first library updated was...
          pess 1
          pass 0
          "scale-system control module ses2 library"
          used a time-department reaction spectrum, for each of the above passes pass 0 applies start-up fuel densities
             pass napplies mid time densities of nth library interval
          first library updated was...
                    prelim lur origens binary working library--id = 1143 made from modified card-image origens libraries of scale 4.2
                 data from the light element, actinide, and fission product libraries
                   decay data, including game and total energy, are from endi/o-vi
                 neutron flux spectrum factors and cross sections were produced from
                 the "preses?" case undating 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 mester photon data base,
                         produced to include bremsstrahlung from up2 metrix
                   see information above this box (if present) for later updates
Ō
                    .other identification and sizes of library.
ō
                     data set name: ft33f001
Ò
                  2/16/1996
                               date library was produced
                                total runber of nuclides in library
Ò
                        1697
                               number of light-element nuclides
                        689
                         129
                               number of actinide nuclides
                               number of fission product nuclides
                               ruster of nursero off-diagonal matrix elements
0
                       7955
     see2h: bebook wilcox 15x15, 3.00x1X, 20px/kmtu burn high temp
                                                                                                   light elements
                                                                                                                                 1
                                                                                                                           PEGE
                                              ructide concentrations, grass
O
                                              basis -simple reactor assembly
               initial 1E-18 d
               .00E+00 .00E+00
   total
     sas2h: beboook willook 15x15, 3.00x1X, 20pxd/kttu burn high temp
                                                                                                         actinides
                                                                                                                           page 2
                                              ructide concentrations, grams
                                              basis mainule reactor assembly
              initial 1E-18 d
             1.11E+02 1.11E+02
             1.39E+04 1.39E+04
             6.40E+01 6.40E+01
             4.50E+05
                       4.50E+05
             4.66 4.666
    see2h: beboock willook 15k/5, 3.00xtX, 20sxt/stu burn high temp
                                                                                                                           page 3
         powers 7.2mm, burnups 1160 and, flugs 1.69E+13n/onts 2-sec
                                             basis =
    (note, k-infinities, clad and suderator absorptions are correct, only, if correctly seighted cross sections are applied.)
initial 40.0 d 80.0 d 120.0 d 160.0 d 160.0 d
Õ
     productions 3.289198+04 3.2006078+04 3.325278+04 3.376198+04 3.3761998+04
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absorptions 2.444205E+04
                                                                                                   2.567749E+04
                                                                 2.53319E+04
                                                                                                                                   2.5995850404
                                                                                                                                                                     2.629677E+04
                                                                                                                                                                                                      2.63(B(DE+04
                                1.3333XE+00
                                                                 1.20000000
                                                                                                   1.2950192+00
                                                                                                                                    1.290B02E+00
                                                                                                                                                                     1.2846352+00
                                                                                                                                                                                                       1.28/337E+00
 k infinity
                                                                                                                                                                          160.0 d
                                     initial
                                                                        40,0 d
                                                                                                         b 0.08
                                                                                                                                         120.0 d
                                                                                                                                                                                                            160.0 d
  actinide
  absorptions 2,444205E+04 2,466935E+04 2,465105E+04 2,517635E+04 2,540572E+04 2,540652E+04
 non-actinide
 abs. fracs.
                                   .00000E+00 2.613515E-02 2.90704E-02 3.152382E-02 3.38466E-02 3.40722E-02
ses2h: bebook vilook 15x15, 3.00x12, 20pd/vitu burn high temp
pour= 7.25ms, burn.p= 1160.md, flux=1.69E+13r/cm*2-sec
                                                                                                                                                                                                                         actinides
                                                                                                                                                                                                                                                                page
                                                                                        ruci ide concentrations, gran atons
                                                                                        basis = simple reactor assembly
                    therage 40.0 d 80.0 d 120.0 d 160.0 d 160.0 d .00E+00 1.37E-06 5.40E-06 1.23E-05 2.22E-05 2.22E-05
he 4
                     .OCE+00 3.3XE-21 1.00E-20 1.7XE-20 2.67E-20 2.67E-20
 th225
 th227
                     .OCE+00 6.58E-18 4.57E-17 1.38E-16 2.97E-16 2.97E-16
                   .00E+00 1.09E-12 4.34E-12 9.84E-12 1.78E-11 1.78E-11
 th228
                     .00E+00 5.13E-14 2.07E-13 4.70E-13 8.44E-13 8.44E-13
  th229
                     .00E+00 1,45E-07 2,85E-07 4,21E-07 5,53E-07 5,53E-07
  th230
 th231
                     .OCE+00 3.61E-10 4.77E-10 5.78E-10 6.80E-10 6.78E-10
                     .00E+00 1.32E-09 3.51E-09 6.5/E-09 1.0/E-08 1.0/E-08
  th252
                     ,000+00 1,07E-15 2,82E-15 5,21E-15 8,23E-15 6,18E-15
  th233
                     .00E+00 1.91E-08 2.51E-08 2.70E-08 2.70E-08 2.70E-08 0.00E+00 7.59E-09 1.81E-08 3.14E-08 4.71E-08 4.71E-08
  th234
 pe231
 00232
                     .00E+00 5.80E-12 1.30E-11 2.30E-11 3.50E-11 3.54E-11
                    .00E+00 5.9EE-11 2.4/EE-10 4.9EE-10 7.8/EE-10 7.8/EE-10 0.0E+00 6.4/EE-13 8.4/EE-13 9.10E-13 9.30E-13 9.30E-13
 paZ33
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                     .00E+00 2.91E-13 3.92E-13 4.37E-13 4.64E-13 4.63E-13
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                     ,00E+00 1,47E-16 3,22E-16 5,05E-16 7,01E-16 7,01E-16
                     .00E+00 2.09E-09 4.18E-09 6.52E-09 9.19E-09 9.19E-09
                     .00E+00 2.0EE-07 4.0EE-07 5.9XE-07 7.7XE-07 7.7XE-07
                                                                                                                                4.58E-01
                                        4.7E-01 4.67E-01 4.62E-01
                                                                                                          4.50E-01
                  4.7EE-01
  5.63E+01 5.49E+01 5.36E+01 5.36E+01
                  5.92E+01
                                         5,77E+01
                 2.7E-01 5.4/E-01 8.07E-01 1.05E-00 1.31E-00 1.31E-00
                     .00E+00 1.80E+03 2.07E+03 2.31E+03 2.53E+03 2.53E+03
  1238
                 1,89E+03 1,89E+03 1,89E+03 1,89E+03 1,89E+03 1,89E+03
                    .00E+00 4.74E-04 4.70E-04 4.67E-04 4.66E-04 .00E+00 .00E+00 1.14E-38 8.78E-37 1.92E-35
  (239)
                                                                                                                                 3.5/E-04
  ŒÓ.
                                         .00E+00 1.14E-38 8.79E-37 1.92E-35 1.92E-35
  1241
                     .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 1.30E+10 1.3
.00E+00 9.07E-11 2.21E-10 3.6/E-10 5.20E-10 5.16E-10
                     ,OCE+00 3.83E-10 1.98E-09 5.00E-09 9.58E-09 9.58E-09
                     .00E+00 5.39E-08
                                                               1.32E-02 2.19E-02 3.14E-02 3.14E-02
                     .00E+00 6.47E-06 1.57E-05 2.60E-05 3.77E-05 3.77E-05
                     .000+00 6.8/E-02 6.7/E-02 6.7/E-02 6.7/E-02
                    _00E+00 _00E+00 9.72E-41 7.50E-39 1.8/E-37 1.8/E-37
                     .00E+00 1.13E-06 1.11E-06 1.10E-06 1.09E-06 9.82E-07
                     .00E+00
                                         .00±400
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                                                                                        .00E+00
                                                                                                             .00E+00
                                                                                                                                   .00±00
                     .00E+00 5.02E-10 2.62E-07 6.57E-07 1.22E-08
                                                                                                                                 1.2E-08
                     .00E+00 2.8EE-10 9.8EE-10 1.8EE-09 2.8EE-09 2.8EE-09
露
                     .00E+00 3.19E-05
                                                               1.7E-04 4.3/E-04 8.3/E-04 8.3/E-04
                     .00E+00 7.09E-01 1.42E+00 2.09E+00 2.69E+00 2.69E+00
 D240
                     ,00E+00 1.05E-02 4.05E-02 8.AE-02 1.ATE-01 1.ATE-01
 p.841
                      .00E+00 4.33E-04 3.18E-03 9.97E-03 2.20E-02 2.20E-02
                      ,000+00 1,976-06 2,8/E-05 1,3/E-04 3,9/E-04 3,9/E-04
  nØ2
                      JOEHOO ZAZE-10 3A7E-09 1.63E-08 4.79E-08 4.65E-08
                      .00E+00 3.31E-31 5.64E-28 4.38E-26 9.57E-25 9.57E-25
 D.8%
                      .00E+00 2.51E-37 4.23E-34 3.28E-32 7.14E-31 7.07E-31
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pø6
              .00±00 2.10E-40 6.0BE-37 6.00E-35 1.53E-33 1.53E-33
              .00=400 8.52=-18 1.22E=16 5.69E=16 1.62E=15 1.69E=15 .00E=40 3.69E=15 5.22E=14 2.44E=13 7.16E=13 7.19E=13
     an239
     200
    sec2n: behook wilcox 15x15, 3.00x1X, 20g-dintu burn high temp
powers 7.25ms, burnups 11x0und, filure 1.692-13ryon*2-sec
                                                                                                          actinides
                                                                                                                             0808
0
                                             ructide concentrations, gram atoms
                                             basis = single reactor assembly
                                           120.0 d 160.0 d 160.0 d
                        40.0d 80.0d
              charge
              .00E+00 5.91E-07 8.50E-06 3.97E-05 1.18E-04 1.18E-04
     an@41
              .00E+00 1.12E-07 3.03E-08 2.0/E-07 7.73E-07 7.73E-07
     an242m
     80042
80043
              .00E+00 7.01E-10
                                  1.00E-08 4.69E-08 1.37E-07 1.36E-07
              .00E+00 6.6EE-07
                                  1.90E-07 1.3/E-06 5.31E-06 5.31E-06
     an 874cm
              .00<del>±0</del>0
                                   .00E+00
                        .00E+00
                                             .00E+00
                                                        .00E+00
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    86244
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              .00E+00 2.18E-12 6.14E-11 4.33E-10 1.70E-09 1.69E-09
              .00E+00 2.30E-35 3.87E-32 2.93E-30 6.30E-29 6.30E-29
              .00E+00
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                        .00E+00
                                  1.51E-39 1.50E-37 3.83E-36 3.83E-36
     CR241
              ,00E+00 3,37E-21
                                 3.3E-19 4.6E-18 2.9E-17 2.9E-17
                                  1.31E-07 9.05E-07 3.49E-06 3.49E-06
     cn2/2
              .00E+00 4.75E-09
     an2/3
              .00E+00 3.13E-12 1.71E-10 1.75E-09 8.97E-09 8.97E-09
     C#844
              .00E+00 2.A3E-11 1.3/E-09 1.A5E-08 7.6/E-08 7.6/E-08
     cr2/5
              .00E+00 2.50E-14 2.75E-12 4.31E-11 3.00E-10 3.00E-10
              .00±00 4.53±-17 9.92±-15 2.32±-13 2.19±-12 2.19±-12 .00±00 1.33±-20 5.86±-18 2.09±-16 2.49±-15 2.49±-15
     cm246
     CR247
     a948
              .00E+00 1.73E-23
                                  1.49E-20 7.66E-19 1.25E-17
                                                                  1.25E-17
              .00=00 1.0E-28 8.8E-26 4.5E-24 7.37E-23 6.67E-23
     ar249
              .00E+00 8.14E-34
                                  1.30E-30 1.05E-28 2.27E-27 2.27E-27
    œ20
     a251
              .OCHOD 2.0XE-41 3.47E-38 2.63E-36 5.66E-35 3.87E-35
            1,92+03 1,92+03 1,92+03 1,92+03 1,94+03 1,94+03
   totals
                       1.71E+13 1.70E+13 1.69E+13 1.60E+13 1.60E+02
     flux
                          20 entries.
         1q array has
         3q array has
                           1 entries.
        30 array has
                            1 entries.
        3d array has
                            1 ertries.
         4g array has
                           1 entries.
       54g array has
                          12 entries.
Ilibrary information...
          cross-section data taken from position number 2 of library on unit 33.
          DESS 0
         "scale-system control exclute ses2 library"
used a time-dependent neutron spectrum, for each of the above passes
pass 0 applies start-up fuel densities
            page in applies mid time densities of nth library interval
          first library undated was...
          pags 1
          pass 0
          "scale-system control module am2 library"
          used a time-department routron spectrum, for each of the above passes
            pas 0 applies start-up fuel derailties
            pass napplies mid time densities of nth library interval
          first library updated was...
                       prelim her origons binary working library-id = 11/3
                    made from modified card-image origen-s Libraries of scale 4.2
                 data from the light elevent, actinide, and fission product libraries
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decay data, including game and total energy, are from endi/o-vi-

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neutron flux spectrum factors and cross sections were produced from
                the "presse2" 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 breasstrahlung from up2 matrix
                   see information above this box (if present) for later updates
0
                     other identification and sizes of library.
                     data set rame: ft33f001
۵
۵
                  2/16/1996 date Library was produced
                               total number of nuclides in library
                       1697
                        t89
                               number of light-element nuclides
                        129
                               runber of actinide ruclides
                               number of fission product nuclides
                       735
                               number of narzero off-diagonal matrix elements
     saszh: babcock villox 15x15, 3.00x14, 203x1/atu burn high temp
power= 7.25ms, burnup= 2520.msd, flur=1.662+13n/at=2-sac
                                                                                                                         2000
     (note, k-infinities, clad and moderator absorptions are correct, only, if correctly seighted cross sections are applied.)
0
                                     200.0 d
                                                   20.0 d
                                                                  220.0 d
                                                                                 320.0 d
                                                                                                 320.0 d
                     initial
     productions
                   3.AZ7559E+04
                                 3.450199E+04
                                                 3,4690k0E+04
                                                                3.48/91/E+04
                                                                               3.497630E+04
                                                                                              3.477669E+04
                                  2.729749E+04
                                                 2,758252=104
                                                                2,7852152+04
                                                                               2.8107932+04
                                                                                               2.811999E+04
     absorptions
                   2,700098E+04
                                  1.2639115+00
                                                 1.257777E+00
                                                                1.251220E+00
                                                                                1,24350=100
                                                                                               1.243837E+00
     k infinity
                   1.269×20E+00
                                                   240.0 d
                                                                   280.0 d
                                                                                  320.0 d
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     actinide
     ebsorptions 2.607897E+04 2.652097E+04 2.65397E+04 2.673765E+04 2.692676E+04 2.69267E+04
     non-actinide
     ets. fracs. 3.59/5/7E-02 3.57/52/E-02 3.7/57/7E-02 4.00/k/6E-02 4.20/2/6E-02 4.24/25/FE-02
     see2h: bebook wilcox 15x15, 3.00x2X, 20xxd/stu burn high temp
power= 7.25ms, burnups 2520.msd, fluxs 1.6x5-15n/orf-2-sec
                                                                                                       actinidas
                                                                                                                         page
                                                                                                                               7
                                            ruclide concentrations, gran atoms
                                            basis = single reactor assembly
            there 200.0 d 240.0 d 280.0 d 320.0 d 320.0 d 2.22E-05 3.60E-05 5.44E-05 7.89E-05 1.11E-04 1.11E-04
     he 4
            2.67E-20 3.89E-20 5.16E-20 6.63E-20 8.34E-20 8.33E-20
     th227
            2.97E-16 5.37E-16 8.77E-16 1.32E-15 1.89E-15 1.89E-15
            1,78E-11 2,88E-11 4,27E-11 5,98E-11 8,14E-11 8,14E-11
            8.4E-13 1.3E-12 1.9E-12 2.7E-12 3.6E-12 3.6E-12
     th223
     th230
            5.52E-07 6.7XE-07 8.02E-07 9.21E-07 1.0XE-06 1.0XE-06
            6.7E-10 8.0E-10 9.0/E-10 1.00E-09 1.07E-09 1.07E-09
     바쯔1
            1,0/E-08 1,50E-08 2,0/E-08 2,6/E-08 3,3/E-08 3,3/E-08
     th232
             6.1E-15 1.ZE-14 1.6E-14 2.1E-14 2.7E-14 1.5E-14
     th233
     th234
            2.76E-08 2.76E-08 2.76E-08 2.76E-08 2.76E-08 2.76E-08
     pe231
             4.7E-08 6,57E-08 8.6E-08 1.10E-07 1.3EE-07
            3.5/E-11 5.0/E-11.6.6/E-11 8.43E-11 1.0/E-10 1.0/E-10 7.8/E-10 1.1/E-09 1.4/E-09 1.8/E-09 2.3/E-09 2.3/E-09
     D0Z33
     paZXan 9,302-13 9,302-13 9,302-13 9,302-13 9,302-13 9,302-13
     ps234
            4.6E-13 4.8E-13 5.1E-13 5.8E-13 5.6E-13 5.6E-13
                        00+300. 00+300. 00+300. 00+300.
                                                               -00E+00
              00<del>+2</del>00,
             2.59E-17 3.74E-17 5.00E-17 6.43E-17 8.09E-17 8.07E-17
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1231 7.01E-16 9.83E-16 1.25E-15 1.56E-15 1.91E-15 1.91E-15
                      UZQ 9.15E-09 1.2E-08 1.60E-08 2.02E-08 2.5ZE-08 2.5ZE-08
                      123 7.7E-07 9.5E-07 1.7E-06 1.3E-06 1.AE-06 1.AE-06 1.AE-06 1.AE-06 1.AE-01 4.5E-01 4.5E-01 4.AE-01 4.
                      UZS 5.35E+01 5.25E+01 5.10E+01 4.90E+01 4.85E+01 4.85E+01
                      1.31E+00 1.55E+00 1.78E+00 2.00E+00 2.22E+00 2.22E+00
                    (27) 2.55E-03 2.87E-03 3.07E-03 3.30E-03 3.50E-03 3.50E-03 1.87E-03 1.88E-03 1.88E-0
                      UZSP 3.5/E-04 4.8/E-04 4.7/E-04 4.7/E-04 4.7/E-04 2.7/E-04
                      UNO 1.92E-35 2.19E-34 1.60E-33 8.50E-33 3.57E-32 3.57E-32
            1241 .00E+00 .
            P236m 5,18E-10 7,48E-10 9,48E-10 1,18E-09 1,39E-09 1,37E-09 P236 9,58E-09 1,63E-08 2,51E-08 3,60E-08 4,92E-08 4,92E-08 4,92E-08
                1727 3.14E-02 4.21E-02 5.35E-02 6.57E-02 7.85E-02 -7.85E-02
           n239 3.7E-05 5.0E-05 6.44E-05 7.8E-05 9.4E-05 9.3TE-05 n239 6.7E-02 6.9E-02 6.9E-02 6.9E-02 6.8E-02 6.
              TEXO 9.82E-07 1.17E-06 1.16E-06 1.19E-06 1.19E-06 9.3/E-07
              1231 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=00 .00=
                                                                2.81E-09 3.92E-09 5.02E-09 6.10E-09 7.12E-09 7.12E-09 8.31E-04 1.39E-03 2.11E-03 3.00E-03 4.02E-03 4.02E-03 2.65E-00 3.26E-00 3.81E-00 4.31E-00 4.77E-00 4.77E-00
              0.840
                                                                     1.41E-01 2.00E-01 2.70E-01 3.57E-01 4.40E-01 4.40E-01
                                                                     2.20E-02 3.85E-02 6.13E-02 9.03E-02 1.26E-01 1.26E-01
                                                                  3.92-04 8.862-04 1.702-03 2.902-03 4.662-03 4.662-03 4.662-03 4.662-03 1.102-07 2.132-07 3.662-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.802-07 5.80
              p.8% 9.57E-25 1.03E-23 7.9EE-23 4.2EE-22 1.76E-21 1.76E-21 p.8% 7.07E-31 8.01E-30 5.83E-29 3.03E-28 1.30E-27 1.27E-27
              p.0% 1.53E-33 1.9'E-32 1.5'E-31 8.53E-31 3.77E-30 3.77E-30
                  ar29 1.65E-15 3.95E-15 7.51E-15 1.20E-14 2.00E-14 1.99E-14
                    sn240 7,15E-13 1.70E-12 3,23E-12 5,53E-12 8,74E-12 8,71E-12
           sech: becook wilcox 15x15, 3.00x2X, 20pd/mu burn high temp
power= 7.2mx, burnup= 2520.md, flue=1.6/E+Br/cm*2-sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    actinides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ructide concentrations, gram atoms
                                                                                                                                                                                                                                                                                                                          basis = single reactor assembly
       charge 200.0 d 240.0 d 250.0 d 320.0 d
         m966 6.3E-20 7.4E-26 5.3E-27 2.7E-26 1.1E-25 1.1E-25 m666 3.8E-36 4.7E-35 3.7E-36 2.1E-33 9.4E-33 9.4E-33 9.4E-33 9.4E-33 9.4E-33 9.4E-33 9.4E-35 2.1E-15 2.1E-15 2.1E-15
            0892 3.49E-05 9.65E-05 2.17E-05 4.26E-05 7.56E-05 7.56E-05
            0x943 8.97E-09 3.20E-08 8.74E-08 2.00E-07 4.00E-07 4.00E-07
                                                                     7,67E-08 2,87E-07 8,21E-07 1,90E-06 4,13E-06 4,13E-06
            ox944
            cπ9/δ
                                                                     3.00E-10 1.42E-09 4.89E-09 1.36E-08 3.29E-08 3.29E-08
                                                                   2.19E-12 1.29E-11 5.14E-11 1.66E-10 4.66E-10 4.66E-10 2.49E-15 1.89E-14 9.19E-14 3.59E-13 1.12E-12 1.12E-12
            යාහර
            CE247
            cr2/8
                                                                     1.2E-17 1.17E-16 7.0E-16 3.19E-15 1.16E-14 1.16E-14
                                                                   6.67E-23 7.20E-22 4.30E-21 1.97E-20 7.17E-20 5.60E-20
                                                                     2.ZTE-27 2.65E-26 1.94E-25 1.02E-24 4.25E-24 4.25E-24
                                                                3.87E-35 6.50E-34 4.77E-33 2.48E-32 1.00E-31 4.85E-32
            co (251
                                                                   1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-03 1.92-0
totals
   flux
```

INFOR MINISTER

```
20 entries.
         1q array hos
         3q array has
                             1 entries.
         3g array has
                              entries.
                              entries.
         3g array has
                             1 entries.
         4ci armay has
        5/ci 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 ses2 library*
          used a time-department relation spectrum, for each of the above passes
            pass 0 applies start-up fuel christities
pass n applies mid time christies of noh library interval
          first library updated was...
          pass 1
          pass 0 ·
          *scale-system control module ses2 library*
          used a time-dependent neutron spectrum, for each of the above passes
            pass 0 applies start-up fuel duralities
             page in applies mid time densities of nth library interval
           first library updated uns...
                        prelim by origens binary working library-id = 1143
                     made from modified card-image origin-s Libraries of scale 4.2
                  data from the light element, actinide, and fission product libraries
                    decay data, including genna and total energy, are from entit/b-vi
                  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 enti/b-v
                          photon Libraries use an 18-energy-group structure
the photon data are from the meater photon data base,
                          produced to include brenestrahlung from us2 metrix
                    see information above this box (if present) for later updates
0
                      other identification and sizes of library.
D
                       data set rare: ft33f001
                               date library was produced total number of nuclides in Library
                    2/16/1996
                         1697
                                 number of light-element nuclides
                          689
                          129
                                 number of actinide nuclides
                                 number of fission product nuclides
                         785
                                 number of narreero off-diagonal metrix elements
0
                                                                                                                                      9
      see2h: beboook wilcox 15x15, 3.00x2X, 20p.cl/mou burn high temp
          power 7.2mm, burnups 3/80 and, flux 1.625-13n/ort*2-sec
                                               besis =
      (note, k-infinities, clad and substator absorptions are correct, only, if correctly seighted cross sections are applied.)
initial 360.0 d 400.0 d 480.0 d 480.0 d 480.0 d
      productions 3.535425E+04 3.545952E+04 3.55633E+04 3.55650E+04 3.57076/E+04 3.570785E+04
```

IKFORMATION UNL.

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abscriptions 2.863199E+04 2.887509E+04 2.911599E+04
                                                                                                                                                                         2.9844ZZE+04 2.956090E+04
                                                                                                                                                                                                                                                                2.957839E+04
                                                                                                                                                                            1.214721E+00
                                                                                                                                                                                                                      1.207921E+00
                                                                                                                                                                                                                                                                1.207227E+00
   k infinity
                                           1.23/08/E+00
                                                                                      1.2280335+00
                                                                                                                                 1.22144 E+00
                                                                                                                                                                                                                             480.0 d
                                                                                                                                                                                                                                                                      480.0 d
                                                 initial
                                                                                            360.0 d
                                                                                                                                       400.0 d
                                                                                                                                                                                  440.0 d
    actinide
                                         2.742413E+04 2.760865E+04 2.776300E+04 2.774630E+04 2.807895E+04 2.807919E+04
    abscriptions
  non-actinide
                                         4.21656E-02 4.36589E-02 4.57757E-02 4.763854E-02 4.945773E-02 5.000957E-02
   abs. fracs.
  sasah: bebook villook 15x15, 3.00x1X, 20p.d/mu burn high temp
poer= 7.25m/, burnup= 3x80.md, filu=1.62±13r/on*2-sec
                                                                                                                                                                                                                                                                                       actinides
                                                                                                                                                                                                                                                                                                                                          PROP
                                                                                                                  nuclide concentrations, gran atoms
                                                                                                                  basis = single reactor assembly
 there 360.0 d 400.0 d 420.0 d 480.0 d 480.0 d
he 4 1.11E-04 1.5/E-04 2.11E-04 2.85E-04 3.80E-04 3.80E-04
th26 8.33E-20 1.07E-19 1.33E-19 1.60E-19 1.93E-19 1.93E-19
                       1,89E-15 2,59E-15 3,44E-15 4,44E-15 5,60E-15 5,61E-15
                       8.1/E-11 1.09E-10 1.40E-10 1.79E-10 2.2/E-10 2.2/E-10
    th228
    th229 3,61E-12 4,67E-12 5,90E-12 7,33E-12 8,90E-12 8,90E-12
    th230 1,0/E-06 1,1/E-06 1,2/E-06 1,3/E-06 1,4/E-06
                                                                                                                                                                         1.ASE-06
                                                     1,22E-09 1,31E-09 1,35E-09 1,45E-09 1,46E-09
    thZ31
                       1.09E-09
                       3.33E-08 4.0EE-08 4.89E-08 5.77E-08 6.77E-08 6.77E-08
    th232
                       1.53E-14 3.44E-14 4.12E-14 4.89E-14 5.69E-14 2.39E-14
    th233
    th234
                       2,7E-08 2.7E-08 2.7E-08 2.7E-08 2.7E-08 2.7E-08
                       1.35E-07 1.63E-07 1.97E-07 2.25E-07 2.58E-07 2.58E-07
   pa231
                       1.03E-10 1.23E-10 1.51E-10 1.75E-10 2.01E-10 1.99E-10
                       2.31E-09 2.76E-09 3.21E-09 3.74E-09 4.26E-09 4.26E-09
    mZ33
    DEZSON 9,39E-13 9,39E-13 9,37E-13 9,37E-13 9,37E-13 9,39E-13
  pa24 5.60E-13 5.97E-13 6.30E-13 6.60E-13 6.97E-13 6.84E-13 pa25 .00E+00 .00E+0
      UZ30 8.07E-17 1.0/E-16 1.29E-16
                                                                                                               1,5Œ-16
                                                                                                                                            1.87E-16 1.87E-16
                       1.91E-15 2.42E-15 2.90E-15 3.44E-15
      LZ31
                                                                                                                                             4.DE-15 4.DE-15
                                                                                                               4.5Œ-08 5.AŒ-08 5.AŒ-08
      432
                       2.52E-08 3.10E-08 3.78E-08
     野野
                      1.47E-06 1.63E-06 1.77E-06 1.94E-06 2.03E-06 2.03E-06 4.44E-01 4.36E-01 4.34E-01 4.24E-01 4.24E-01 4.24E-01
      235
                       4.89E+01 4.74E+01 4.63E+01
                                                                                                               4.52E+01 4.41E+01 4.41E+01
      2.2E+00 2.4/E+00 2.6/E+00 2.8/E+00 3.0/E+00 3.0/E+00
                                                                                                               4.19E-05 4.39E-05 4.37E-03
                       3.50E-03 3.80E-03 4.00E-03
                       1,855-03 1,855-03 1,855-03 1,855-03 1,855-03 1,855-03
    1299 2.76E-04 4.97E-04 4.90E-04 4.85E-04 4.85E-04 2.16E-04 1.26E-30 2.87E-30 2.87E-3
                                                                                  .00E+00
1.00E-09
      UB41
                        ,00E+00
                                                         .00E+00
                                                                                                                    .00±00
                                                                                                                                                 :00+EDD.
                                                                                                                                                                             .00±00
   m25 6.18E-10 8.11E-10
                                                                                                                                             1.5Æ-09
                                                                                                                                                                         1.5/E-09
                                                                                                                1.ZE-09
                                                                                                               2.278-09 2.538-09
                                                                                                                                                                         2.52E-09
   ro25m 1.37E-09 1.72E-09
                                                                                  1.99E-09
1.32 4.92-06 6.52-08 8.50-08 1.02-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1.32-07 1
   1129 6.8EE-02 7.0EE-02 7.07E-02 7.0EE-02 7.0EE-02 7.0EE-02
  m2XOm 3.05E-34 1.05E-33 3.ATE-33 9.AFE-33 2.ACE-32 2.ACE-32
   11240 9.34E-07 1.22E-06 1.21E-06 1.21E-06 1.21E-06 8.88E-07
                            .00<del>+</del>00
                                                        .00+00
                                                                                     -00E+00
                                                                                                                   .00E+00
                                                                                                                                               _00E+00
                                                                                                                                                                              .00±00
                       6.ZE-08 8.ZE-08 1.0Œ-07
                                                                                                                 1.32E-07
                                                                                                                                                                          1.6X-07
                                                                                                                                             1.625-07
    237
                       7.12-09 8.376-09 9.536-09
                                                                                                                1,06E-08
                                                                                                                                            1.17E-0B
                                                                                                                                                                         1.17E-08
                                                                                                               8.60E-03 1.05E-02 1.05E-02
                       4.0E-03 5.37E-03 6.8E-03
4.77E-00 5.ZE-00 5.6E-00
                                                                                                               6.05E+00 6.42E+00 6.42E+00
                        4.40E-01 5.27E-01 6.18E-01
                                                                                                              7.11E-01 8.0/E-01 8.0/E-01
    0,840
                        1,2E-01 1,6E-01 2,0E-01 2,5E-01 3,0E-01 3,0E-01
                        4.6E-05 6.9E-03 9.82E-03 1.3/E-02 1.76E-02 1.76E-02
    DØ3
                       5.5E-07 8.97E-07
                                                                                  1,2/E-06 1,79E-06 2,30E-06 2,16E-06
                        1.7E-21 6.3E-21 1.9E-20 5.5E-20 1.AE-19 1.AE-19
    D84
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1.27E-27 4.5E-27 1.A3E-26 3.9E-26 1.01E-25 9.73E-26

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p.066 3.77E-30 1.3EE-29 4.4EE-29 1.2EE-28 3.34E-28 3.3EE-28 arc29 1.9EE-14 3.4EE-14 4.4EE-14 6.01E-14 7.9TE-14 7.7CE-14
         6020 8.71E-12 1.3/E-11 1.9/E-11 2.5/E-11 3.4/E-11 3.4/E-11
         seech: behook villook 15x15, 3.00x2X, 20ud/mu hum high temp
power 7.2ms, humps 3x80.msd, flux 1.625+13n/cm*2-sec
                                                                                                                                                                                                 actinides
                                                                                                                                                                                                                                   page 11
O
                                                                                   ructide concentrations, gran atoms
                                                                                   basis = single reactor assembly
                        darge 360.0 d 400.0 d 440.0 d 480.0 d 480.0 d 1.37e-03 2.03e-03 2.87e-03 3.83e-03 5.12e-03 5.12e-03
          808/20 1,58E-05 2,55E-05 3,89E-05 5,8/E-05 7,8/E-05 7,8/E-05
          an2/2
                        1,55E-06 2,31E-06 3,25E-06 4,42E-06 5,81E-06 5,70E-06
          878/3 1.35E-04 2.31E-04 3.70E-04 5.62E-04 8.20E-04 8.20E-04
          800Ven
                        .00E+00
                                           .00E+00
                                                                .00E+00
                                                                                  .00E+00
                                                                                                      .00+300,
                                                                                                                       .0Œ+00
         80944
80945
                       4,33E-08 7.79E-08
                                                              1,25E-07 1,89E-07 2,79E-07 2,67E-07
                        1.16E-25 4.20E-25
                                                              1.31E-24 3.57E-24 8.90E-24 8.90E-24
          80946
                        9AE-33 3AE-32 1.12E-31 3.2E-31 8.3/E-31 8.3/E-31
          cn241
                        2.15E-15 4.40E-15 8.00E-15 1.37E-14 2.20E-14 2.20E-14
         cn242
                        7.50E-05 1,2/E-04 1,9/E-04 2,8/E-04 3,9/E-04 3,9/E-04 4,0/E-07 7,6/E-07 1,3/E-06 2,1/E-06 3,2/E-06 3,2/E-06
                        4.13E-06 8.00E-06 1.43E-05 2.43E-05 3.93E-05 3.93E-05 3.24E-07 4.44E-07 4.4
          cn944
         cn2/5
                       3.29E-08 7.17E-08
                                                              2.56E-09 5.26E-09 1.01E-08 1.01E-08
                        4.6E-10 1.1E-09
         cn247
                        1.12-12 3.16-12 7.65-12 1.76-11 3.75-11 3.75-11
         m2/8
                        1.16E-14 3.74E-14 1.05E-13 2.63E-13 6.06E-13 6.06E-13
         CH249
                        5.83E-20 2.37E-19 6.63E-19 1.66E-18 3.83E-18 2.84E-18
                        4.2E-24 1.5E-23 4.8E-23 1.3E-22 3.HE-22 3.HE-22
          cn250
                        4.85E-32 3.74E-31 1.17E-30 3.26E-30 8.24E-30 2.62E-30
          ගන1
                        1.92+03 1.92+03 1.92+03 1.92+03 1.92+03 1.92+03
      totals
                                           162-13 162-13 162-13 16E-02
          flux
                                                20 entries.
                 1g array has
                30 array has
                                                  1 entries.
                 3d array has
                                                   1 extries.
                30 array has
                                                   1 entries.
                 4q armay has
                                                   1 entries.
0 5/q armsy has
11 ibrary information...
                                                 12 entries.
                   cross-section data taken from position number 4 of library on unit 33.
                   D898
                    scale-system control accide ses2 library*
                  used a time-department resultion spectrum, for each of the above passes pass 0 applies start-up fuel densities
                       pass napplies and time densities of nth Library intervel
                   first library updated was...
                   DB96
                    *scale-system control module sas2 library*
                   used a time-dependent reutron spectrum, for each of the above passes
                       pass 0 applies start-up fuel densities
                       races narrolles mid time densities of non library interval
                    first library updated was...
                                           prelin lur origens binery working library-id = 1143
                                     made from modified card-image origins Literaries of scale 4.2
                                data from the light element, actinide, and fission product libraries decay data, including game and total energy, are from entitle-vi
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IKFOR MALLOW SILES

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neutron flux spectrum factors and cross sections were produced from
               the 'presse2" 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 bremstrahlurg from us2 metrix
                  see information above this box (if present) for later updates
                   .other identification and sizes of library.
                    data set rame: ft33f001
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                 2/16/1996 date library was produced
                             total number of nuclides in library
number of light-element nuclides
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                      1697
                      689
                       129
                             runber of actinide ruclides
                             number of fission product nuclides
                             number of numbers off-diagonal matrix elements
                     7955
n
    sas2h: bebook wilcox 15x15, 3.00x1X, 20x4/atu burn high tamp
                                                                                                                 DBGB
        power= 7.2mm, burrup= 4640 and, flue= 1.60E+13n/ont=2-sec
                                         basis =
    (note, k-infinities, clad and moderator absorptions are correct, only, if correctly weighted cross sections are applied.)
                    initial
                                  520.0 d
                                                 560.0 d
                                                               9000 q
                                                                            640.0 d
                                                                                           640.1 d
                                                            3,61112504 3,61296904
                 3.5970EE+04 3.60819E+04
                                              3.607921E+04
                                                                                        3.6130(8E+0)
    productions
                 2.93967E+04
                                3.013748E+04
                                              3.0341385+04
                                                            3.053502E+04
                                                                           3.071900E+04
                                                                                         3.074160E+04
    absorptions
                                                                                         1.1752966+00
    k infinity
                  1.201445=+00
                                1.1935875+00
                                              1.189107E+00
                                                             1.162516E+00
                                                                           1.176135E+00
                    initial
                                  520.0 d
                                                560,0 d
                                                               600.0 d
                                                                            640.0 d
                                                                                           640.1 d
    actinide
    strongtions 2.84444E+04 2.859275E+04 2.875273E+04 2.896541E+04 2.896521E+04 2.89652E+04
    non-actinide
    de. frace. 4.99460E-02 5.12509E-02 5.301865E-02 5.47039E-02 5.64029E-02 5.77200E-02
    see 2n: behood wilcox 15x15, 3.00x1X, 20put/mu burn high temp
power 7.25m, burn.p= 4640.md, flure 1.600+13n/mm*2-sec
                                                                                                 actinides
                                                                                                                 page 13
0
                                          ructide concentrations, gram atoms
                                         basis = single reactor assembly
            charge 520.0 d 560.0 d
                                        600.0 d 60.0 d 60.1 d
           3.80E-04 5.02E-04 6.56E-04 8.48E-04 1.09E-05 1.00E-05
           9,74E-18 1.47E-17 1.97E-17 2.70E-17 3.60E-17 3.60E-17
    pp50%
    ±207
           2.4E-14 3.30E-14 4.37E-14 5.67E-14 7.24E-14 7.24E-14
           3,0E-11 4,0E-11 5,ZE-11 6,7E-11 8,5E-11 8,5E-11
     #207
           1,9E-18 2,4CE-18 2,9CE-18 3,6TE-18 4,37E-18 4,37E-18
    £210
           2.80E-15 3.5XE-15
                               4.AZ-15 5.AZ-15 6.5E-15 6.5E-15
            6,9E-18 8,6E-18 1,07E-17 1,29E-17 1,5/E-17 1,5/E-17
     #211
            1.43E-13 1.77E-13 2.16E-13 2.66E-13 3.19E-13 3.19E-13
           2.92-19 3.472-19 3.90E-19 4.52E-19 5.00E-19 4.97E-19
           1.9E-19 2.3E-19 2.8E-19 3.3E-19 3.8E-19 3.8E-19
    th227
           5.61E-15 6.97E-15 8.47E-15 1.02E-14 1.21E-14
                                                           1.21E-14
           2.2/E-10 2.7/E-10 3.4/E-10 4.1/E-10 5.0/E-10 5.0/E-10
    th228
    th229
           8.9E-12 1.0E-11 1.30E-11 1.5/E-11 1.82E-11 1.82E-11
    th230
           1.65E-06 1.55E-06 1.66E-06 1.75E-06 1.81E-06 1.81E-06
           1.4E-09 1.6E-09 1.6E-09
                                        1.75E-07 1.80E-07 1.80E-07
    th231
    th232
           6.72E-08 7.72E-08 8.7XE-08 9.9YE-08 1.1YE-07 1.1YE-07
           237E-14 6.67E-14 7.57E-14 8.54E-14 9.57E-14 3.00E-14
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th254 2.7E-08 2.7E-08 2.7E-08 2.7E-08 2.7E-08 2.7E-08 2.7E-08 pg231 2.5E-07 2.9E-07 3.3E-07 3.7E-07 4.10E-07 4.10E-07
            DEZIZ 1,99E-10 2,33E-10 2,63E-10 2,94E-10 3,25E-10 3,22E-10
            paZ33 4,26E-09 4,80E-09 5,37E-09 5,96E-09 6,56E-09 6,56E-09
            paZVm 9.34E-13 9.34E-13 9.34E-13 9.34E-13 9.34E-13 9.34E-13
          PAZY 6.8E-13 7.AE-13 7.7E-13 8.18E-13 8.5E-13 8.3E-13
          pa25 .00E+00 .
                   UZ1 4.07E-15 4.90E-15 5.80E-15 6.79E-15 7.76E-15 7.77E-15
        LES 4,07E-15 4,9E-15 5,8E-15 6,7E-15 7,7E-15 7,7E-15 LES 5,8E-08 6,7E-15 7,7E-15 1,9E-17 1,9E-
1.253 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 1.25403 
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| 1.5E-07 | 1.5E-07 | 1.7E-01 | 1.9E-01 | 2.0E-01 | 2.0E-01 |
| 1.5E-08 | 1.5E-06 | 2.7E-02 | 2.3E-06 | 2.5E-06 |
| 1.5E-08 | 2.7E-02 | 7.2E-02 | 7.2E-02 | 7.2E-02 |
| 1.5E-07 | 7.2E-02 | 7.2E-02 | 7.2E-02 | 7.2E-02 |
| 1.5E-07 | 1.5E-05 | 1.2E-31 | 2.6E-31 | 5.1E-31 | 5.1E-31 |
| 1.5E-07 | 1.9E-07 | 2.3E-08 | 2.7E-08 | 2.7E-08 | 2.7E-07 |
| 1.5E-07 | 1.9E-07 | 2.3E-07 | 2.7E-08 | 2.7E-08 | 2.7E-08 |
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          p.233 1.06-02 1.26-02 1.53-02 1.66-02 2.10-02 2.10-02 p.239 6.42-00 6.75-00 7.13-00 7.42-00 7.74-00 7.74-00
            HAVO 8.0/E-01 9.07E-01 1.00E-00 1.10E-00 1.20E-00 1.20E-00
      sesh: becook silcox 15x15, 3.00x2X, 20x4/wu burn high temporers 7.25m/, burnups 4640.md, films 1.600+13n/or 2-sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        actinides
                                                                                                                                                                                                                                                                                                                                                                  ructide concentrations, gran atoms
      hasis = sirgle reactor, assembly
theree 520.0 d 560.0 d 600.0 d 640.0 d 640.1 d
p.241 3.092-01 3.622-01 4.192-01 4.822-01 5.482-01 5.482-01
    1,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,000-01 3,0
    mb/s 3,4C=11 4,5E=13 1,5E=13 1
          ang/4 2.67E-07 3.98E-07 5.47E-07 7.32E-07 9.58E-07 9.18E-07 ang/5 8.98E-24 2.12E-23 4.67E-25 9.68E-25 1.89E-22 1.89E-22
            m86 8.3/E-31 1.99E-30 4,49E-30 9.5/E-30 1.90E-29 1.90E-29
            CIRCH 2.20E-14 3.46E-14 5.15E-14 7.35E-14 1.02E-13 1.02E-13
        GB62 3.96E-06 5.46E-06 7.19E-06 9.29E-06 1.17E-08 1.77E-08 0.29E-06 4.90E-06 7.00E-06 9.77E-08 1.32E-06 1.32E-06
          CHECK 3.92E-05 6.02E-05 9.02E-05 1.31E-04 1.85E-04 1.85E-04
            002/5 4.6/E-07 7.8/E-07 1.2/E-06 1.9/E-06 2.9/E-06 2.9/E-06
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1,016-08 1,846-08 3,206-08 5,336-08 8,596-08 8,596-08 3,736-11 7,476-11 1,416-10 2,526-10 4,346-10 4,346-10
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      cn248
               6.0E-13 1.32E-12 2.7E-12 5.2E-12 9.7E-12 9.7E-12
                                       1.76E-17 3.AZE-17 6.33E-17 4.25E-17
      CH249
               2.8/E-18 8.6/E-18
               3.4/E-22 8.20E-22
                                        1.82E-21 3.87E-21 7.57E-21 7.57E-21
      cn250
               2.62E-30 1.97E-29 4.34E-29 9.09E-29 1.81E-28 3.94E-29
     ගනි1
    totals 1.93E+03 1.93E+03 1.93E+03 1.93E+03 1.93E+03 1.93E+03
                            1.60=+13 1.60=+13 1.60=+13 1.61=+13 1.61=-02
      flux
          1q array has
3q array has
                               20 entries.
                                 1 entries.
          30 array has
                                 1 entries.
                                 1 entries.
          40 array has
                                 1 entries.
          54q array has
                               12 entries.
 1library information...
            cross-section data taken from position number 5 of library on unit 33.
            DB98
            Dass O
             "scale-system control module ses2 library"
           used a time-depondent neutron spectrum, for each of the above passes pass 0 applies start-up fiel densities pass n applies mid time densities of nth library interval.
            first library undeted was ...
            DEMOS 1
            pass 0
**scale-system control module ses2 library*
           Lists a time-depositor restron spectrum, for each of the above passes pass 0 applies start-up fuel densities pass n applies mid time densities of rith library interval.
             first library updated was...
                            prelim lur origen-s binary working library-id = 1143
                        media from modified card-image origins libraries of scale 4.2
                    data from the light element, actinide, and fission product libraries datay data, including games and total energy, are from entity-vi
                    neutron flux spectrum factors and cross sections were produced from
                   the "presse?" case unditing 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 breasetrablung from up2 astrix
                       see information above this box (if present) for later updates
                         .other identification and sizes of library.
Ō
                         data set rame: ft33f001
                                     date library was produced
Ō
                      2/16/1996
                                    total number of nuclides in library
number of light-element nuclides
                            1697
                                     number of actinide ructides
                             879
                                     number of fission product nuclides
```

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785 number of nonzero off-diagonal matrix elements
                                                                                                             page 15
seeth: beboock wilcox 15x15, 3.00x1X, 20px/wtu burn high temp
   power 7.2ms, burnup 5000 and, flue 1.606+13ryant 2-sec
                                     basis =
(note, k-infinities, clad and anderstor absorptions are correct, only, if correctly seighted cross sections are applied.)
initial #80.1 d 780.1 d 760.1 d 800.1 d 800.1 d
                          3.68/378=+04
                                         3.6508/E+04 3.6547/8E+04
                                                                      3.633399E+04
                                                                                    3.633/89E+04
productions 3.652766E+04
                                                        3.14911Œ+04
                                                                      3.1648XE+04
                                                                                    3.167582E+04
absorptions 3,099263E+04
                           3.115259E+04
                                          3.1326135+04
                           1.166637E+00
                                          1.160400E+00
                                                        1.15420E+00
                                                                      1.14805/E+00
                                                                                    1.14708YEHOO
k infinity
             1.172139E+00
                             680.1 d
                                                          760.1 d
                                                                        800.1 d
                                                                                      800.1 d
               initial
                                            720.1 d
absorptions 2,922105=04 2,933935=04 2,945092=04 2,95485=04 2,965185E+04 2,965185E+04
non-actinide
ets. frecs. 5.716181E-02 5.820584E-02 5.985065E-02 6.148909E-02 6.309545E-02 6.389511E-02
ses2h: bebook wilcox 15x15, 3.00x2X, 20x1d/mu burn high temp
powers 7.25m/, burn.ps 5800.md, filus 1.600+13n/cm*2-sec
                                                                                            actinides
                                                                                                             page 16
                                     rucide concentrations, gran atoms
                                     basis = single reactor assembly
        there 680.1 d 720.1 d 760.1 d 800.1 d 800.1 d
he 4 1.0E-03 1.37E-03 1.77E-03 2.51E-03 2.51E-03 2.61E-03 phase 3.43E-17 4.77E-17 6.21E-17 7.57E-17 1.00E-16 1.00E-16
±207
       7.2E-14 9.09E-14 1.13E-13 1.39E-13 1.67E-13 1.67E-13
       8.51E-11 1.07E-10 1.32E-10 1.63E-10 1.99E-10 1.99E-10
4209
       4.37E-18 5.23E-18 6.24E-18 7.39E-18 8.69E-18 8.70E-18
       6.58E-15 7.90E-15 9.39E-15 1.11E-14 1.30E-14 1.30E-14
±210
3211
       1.54E-17 1.83E-17 2.13E-17 2.45E-17 2.83E-17 2.83E-17
       3.192-13 3.622-13 4.532-13 5.392-13 6.272-13 6.272-13
       4.97E-19 5.6E-19 6.30E-19 6.94E-19 7.61E-19 7.40E-19
       3.86E-19 4.60E-19 5.3/E-19 6.19E-19 7.0/E-19 7.00E-19
th226
       1.21E-14 1.42E-14 1.5E-14 1.91E-14 2.19E-14 2.19E-14
th227
       5.01E-10 5.97E-10 7.11E-10 8.39E-10 9.87E-10 9.87E-10
th228
th229
       1.82-11 2.15-11 2.45-11 2.85-11 3.35-11 3.35-11
       1,81E-05 1,83E-05 1,97E-05 2,07E-05 2,11E-05 2,11E-05
th230
       1.80E-09 1.94E-09 2.01E-09
                                   2.00E-09 2.1/E-09 2.10E-09
th231
th232
       1.11E-07
                 1.23:-07
                          1.34E-07
                                    1.49E-07 1.63E-07
                                                       1.63E-07
       3.05E-14 1.09E-13 1.20E-13
                                    132-13 149-13 349-14
th233
       2.77E-08 2.77E-08 2.77E-08
                                   2.77E-08 2.76E-08 2.76E-08
pa231
                                   5.39E-07 5.8/E-07 5.8/E-07
       4.10E-07 4.5ZE-07 4.9SE-07
       3.22E-10 3.65E-10 4.01E-10
                                    4.37E-10 4.79E-10
DB233
       6.5Œ-09 7.18E-09 7.82E-09
                                   8.ATE-09 9.14E-09
                                                       9.14E-09
                                    93/E-13 93/E-13
peZS/n 9.3/E-13 9.30E-13 9.30E-13
                                                       9.3Æ-13
       8.32E-13 9.11E-13 9.56E-13 1.00E-12 1.00E-12 1.00E-12
peZ34
paZ55
        .00E+00
                  .DE+00
                            .00±00
                                     .00±00.
                                              .00E+00
       3.75-16 4.45-16 5.15E-16 5.95E-16 6.85E-16 6.81E-16
 UZ30
                          1.03E-14
                                             1.30E-14
 ب
       7.74E-15 9.19E-15
                                    1.20E-14
                                                       1.39E-14
                                    1.5E-07
                                             1.80E-07
                                                       1.80E-07
       1.0/E-07 1.20E-07
                          1.39E-07
                                                       3.10E-06
                                    2,99E-06 3.10E-06
       2.6E-06 2.7SE-06 2.87E-06
       4.07E-01 4.03E-01 3.99E-01 3.99E-01
       4.00E+01 3.90E+01 3.81E+01 3.71E+01 3.62E+01
                                                       3.62E+01
 逐
       3.77E+00 3.9XE+00 4.10E+00
                                    4,27E+00
                                              4.42E+00
                                                       4,42E+00
 L237
       5.19E-03 5.39E-03
                          5.5Æ-03
                                    5.7ZE-03 5.89E-03
                                    1.87E+03 1.87E+03
                                                       1.87E+03
       1,8E+03 1,87E+03 1,87E+03
 4238
                          5.11E-04 5.12E-04 5.12E-04
       1.69E-04 5.11E-04
 239
       6.0/E-29 1.15E-28 2.10E-28 3.72E-28 6.39E-28 6.39E-28
 LPKO
         .00=00
                            .00E+00
                                     .00+00
                                              .00<del>+</del>00
                                                        .00E+00
                  .00<del>+</del>200,
 LEX1
       2.9E-09 3,4E-09 3.8E-09
                                    4.34E-09 4.57E-09
                                                       4.87E-09
m25
102568 3.93E-09 4.52E-09 4.91E-09 5.30E-09 5.70E-09 5.57E-09
riggs 2.70E-07 3.15E-07 3.6/E-07 4.17E-07 4.7/E-07 4.7/E-07
```

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

12 entries.

5kg array has

1library information...

pass 1
pass 0
Scale-system control module ses2 library
Used a time-dependent nautron spectrum, for each of the above passes

```
pass 0 applies start-up fuel densitties
            pass nepolies mid time densities of nth library interval
          first library undated was...
          DB66 1
          DB96 0
          *scale-system control module sas2 library*
         used a time-dependent mautron spectrum, for each of the above passes
           pass 0 applies start-up fuel densitties
            pass in applies mid time densities of nth library interval
          first library updated was...
                      prelim lur origen-s binary working library--id = 11/3
                   made from modified card-image origen-s Libraries of scale 4.2
                data from the light element, actinide, and fission product libraries
                  decay dista, including game and total energy, are from endifly-vi
                neutron flux spectrum factors and cross sections were produced from
               the "presss2" case updating all nuclides on the scale "purput" Library
                             fission product yields are from endf/b-v
                        photon libraries use an 18-energy-group structure
                        the thotan data are from the master photon data base,
                        produced to include bremestrehlung from up2 metrix
                  see information above this box (if present) for later updates
Õ
                    other identification and sizes of Library.
Ō
                    data set name: ft53f001
                 2/16/1996
                             date library was produced
0
Ó
                      1697
                              total number of nuclides in library
                       689
                              number of light-element nuclides
                       129
                              number of actinide nuclides
                             number of fission product nuclides
                       879
                              ruster of rustero off-discoral satrix elements
    sm2h: bebook wilcox 15x15, 3.00x2X, 20px/hatu burn high temp
                                                                                                                     page 18
        power 7.2m, burnup 6980 and, flue 1.616+13n/ont 2-sec
                                          besis =
    (note, k-infinities, clad and and and anternations are correct, only, if correctly weighted cross sections are applied.)
                    initial
                                   840.1 d
                                                 820.1 d
                                                                90.1 d
                                                                               960.1 d
                                                                                              960.1 d
                 3.64854/E+04
                                3.6468/8E+04
                                               3.644<del>3335+</del>04
                                                              3.641576E+04
                                                                             3.637889E+04
                                                                                           3.638007E+04
    productions
     absorptions 3.184782E+04
                                3,197600E+04
                                               3.212/635+04
                                                                                           3.233690404
                                                              3.226626E+04
                                                                             3.2401352+04
                 1.145618E+00
                                1.140495E+00
                                               1.1345195+00
                                                              1.128502E+00
                                                                             1.1227575+00
                                                                                            1.121676E+00
    k infinity
                    initial
                                   8.0.1 d
                                                 880.1 d
                                                                 920.1 d
                                                                               960.1 d
                                                                                              960.1 d
    actinide
    stamptions 2.980/53E+04 2.99082E+04 2.99917E+04 3.00789E+04 3.01499E+04 3.019064E+04
    non-actinide
    stas. fracs. 6.400120E-02 6.482118E-02 6.639304E-02 6.79478E-02 6.94839E-02 7.039404E-02
    sas2h; beboook wilcox 15x15, 3.00x1X, 20pxd/mtu burn high temp
                                                                                                    actinides
                                                                                                                     page 19
    power= 7.2mi, burtup= 6960.md, flur= 1.616+13r/ort*2-sec
                                          ructide concentrations, gran atoms
0
                                          basis = single reactor assembly
    charge 840.1 d 850.1 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
```

th227

th228

5.4E-07 6.15E-07

p.E41 8.20E-01 8.87E-01 9.57E-01

1,09E-01

1.50E-05 3.1E-17 5.3E-17 8.6E-17 1.3E-16 2.1E-16 2.1E-16 2.16E-23 3.80E-23 6.20E-23 9.90E-23 1.50E-22 1.46E-22

8.35E-02 9.58E-02

1.02E-05 1.32E-05

```
pt206 1,00E-16 1,25E-16 1,55E-16 1,50E-16 2,31E-16 2,31E-16 pt207 1,67E-13 2,01E-13 2,37E-13 2,82E-13 3,30E-13 3,30E-13
                                                                                 1.99E-10 2.40E-10 2.89E-10 3.49E-10 4.10E-10 4.10E-10
               #209 8.70E-18 1.02E-17 1.18E-17 1.37E-17 1.50E-17 1.59E-17
                                                                                 1.30E-14 1.51E-14 1.70E-14 2.00E-14 2.23E-14 2.23E-14
                                                                           2.8E-17 3.2E-17 3.6E-17 4.1E-17 4.6E-17 4.6E-17
                                                                             6.27E-13 7.31E-13 8.47E-13 9.76E-13 1.12E-12 1.12E-12
                                                                                 7.40E-19 8.30E-19 9.01E-19 9.73E-19 1.03E-18 1.00E-18
                                                                               7.0E-19 8.1SE-19 9.27E-19 1.0E-18 1.1E-18 1.1E-18 2.1E-14 2.5E-14 2.8E-14 3.17E-14 3.5E-14 3.5E-14
                                                                         9.8E-10 1.7E-09 1.3E-09 1.5E-09 1.7E-09 1.7E-09 3.3E-11 3.8E-11 4.AE-11 5.0E-11 5.7E-11 5.7E-11
      #230 2.1E-06 2.1E-06 2.2E-06 2.3E-06 2.3E-06 2.3E-06 2.3E-07 2.3E-08 2.7E-08 2
        th2% 2.76E-08 2.76E-0
            pa25/n 9.32=-13 9.32=-13 9.33=-13 9.33=-13 9.33=-13 9.30=-13 pa25/ 1.00=-12 1.11=-12 1.16=-12 1.21=-12 1.26=-12 1.26=-12 1.15=-12
            p25 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+0
                                                                    3.1E-05 3.2E-05 3.3E-05 3.4E-05 3.5E-05 3.5E-0
    1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-03 1.56-0
725 4.76-07 5.56-07 6.76-07 5.46-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.56-07 7.
                                                                                                                                                                                                                                                                      6.B7E-07 7.63E-07 8.A3E-07 8.A3E-07
                                                                                 2.2/E-08 2.4/E-08 2.5/E-08 2.7/E-08 2.9/E-08 2.9/E-08
                                                                             3.62E-02 4.09E-02 4.59E-02 5.12E-02 5.69E-02 5.69E-02
          DLESP 8.80E+00 9.04E+00 9.26E+00 9.47E+00 9.66E+00 9.66E+00
                                                                           1.60E+00 1.71E+00 1.81E+00 1.91E+00 2.01E+00 2.01E+00
      ses2h: bebook wilcox 15x15, 3.00x13, 20pd/ntu burn high temp
power= 7.2mx, burn.p= 6960.md, flux=1.616+15n/cm*2-sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     actinides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      page 20
                                                                                                                                                                                                                                                                                                                                                                           ructide concentrations, gram atoms
                                                                                        basis = single reactor assembly
charge 840.1 d 890.1 d 990.1 d 990.1 d 990.1 d
8.20E-01 8.87E-01 9.57E-01 1.03E-00 1.11E-00 1.11E-00
                                                                                                                                                                                                                                                                                                                                                              1.ZE-01 1.39E-01 1.39E-01
1.70E-05 1.98E-05 1.69E-05
```

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p.2% 8.6CE-26 1.ASE-25 2.ACE-25 3.8XE-25 6.1CE-25 6.0SE-25
     an/239
            3.5E-13 4.3E-13 4.9E-13 5.5E-13 6.17E-13 5.8E-13
     anox0 1.60E-10 1.89E-10 2.14E-10 2.40E-10 2.67E-10 2.64E-10
     æ1241
            2.2E-02 2.5E-02 2.9E-02 3.2E-02 3.6E-02 3.6E-02
    ant/2m 4,69E-04 5.4GE-04 6.3GE-04 7.2TE-04 8.18E-04 8.19E-04 ant/2 2,48E-05 2.9TE-05 3.2SE-05 3.7GE-05 4.12E-05 3.9GE-05
     en9/3
            6.99E-03 8.44E-03 1.01E-02 1.21E-02 1.42E-02 1.42E-02
     an2Y4m
             .00E+00
                       -00E+00
                                  .00E+00
                                            _00±+00
                                                       .00E+00
                                                                 .00E+00
            2.31E-06 2.99E-06 3.60E-06
                                           4.29E-06
                                                      5_07E-06
                                                                4.7E-06
     an0/5
            1.9E-21 3.27E-21 5.31E-21 8.40E-21
                                                      1,30E-20 1,30E-20
            2.192-28 3.622-28 5.992-28 9.662-28
3.192-13 4.002-13 4.992-13 6.122-13
2.562-03 3.012-03 3.502-03 4.042-03
     කාරිර
                                                      1.52E-27 1.52E-27
     σ241
                                                      7.40E-13
                                                                7,40E-13
     cn242
                                                      4.6Œ-03
                                                                4.62E-03
    cm2/3
                                 5.55E-05
            3.66E-05 4.5/E-05
                                           6.7Œ-05
                                                      8.01E-05 8.01E-05
    CH244
            5.9E-04 7.6E-04 9.7E-04
                                           1_22E-03
                                                      1.51E-03
                                                                1.51E-03
             1.16E-05 1.57E-05 2.0E-05
     cn2/5
                                           2.7Æ-05
                                                      3.50E-05 3.50E-05
     a246
                                           1-20E-06
                                                      1.62-06 1.62-06
             4.38E-07 6.2/E-07
                                 8.7<del>Z-</del>07
    cn247
             2.83E-07 4.29E-07
                                 6.25E-09
                                           9.01E-09
                                                      1.2E-08 1.2E-08
                                                                4.5Œ-10
     cn248
            8.15E-11 1.30E-10
                                 2.02E-10
                                           3_0Æ-10
                                                      4.5Æ-10
            3.32E-16 8.88E-16
                                                      3.14E-15
     CD249
                                 1.38E-15
                                           2.1Œ-15
                                                                1.73E-15
            8.72E-20 1.39E-19 2.29E-19 3.69E-19 5.77E-19 5.77E-19 2.99E-28 3.31E-27 5.44E-27 8.79E-27 1.37E-26 1.40E-27
    cn250
    ගන1
             1.92E+03 1.92E+03 1.92E+03 1.92E+03 1.92E+03 1.92E+03
   totals
                       1.60E+13 1.61E+13 1.61E+13 1.61E+13 1.61E-02
    flux
         1q array has
                          20 entries.
        30 array has
                           1 entries.
        3g array has
                           1 entries.
         3g array has
                           1 entries.
         40 array has
                           1 entries.
        5/q array has
                          12 entries.
Ilibrary information...
```

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

```
pass 1
pass 0
"scale-system control accide ses2 library"
used a time-dependent neutron spectrum, for each of the above passes
pass 0 applies start-up fuel densities
pass n applies sid time densities of nth library interval
first library updated was...
pass 0
"scale-system control accide ses2 library"
used a time-dependent neutron spectrum, for each of the above passes
pass 0 applies start-up fuel densities
pass n applies start-up fuel densities
pass n applies mid time densities of nth library interval
first library updated was...
```

prelim har origens binary sorking library-id = 1143 ande from audified card-image origens libraries of scale 4.2 data from the light element, actinide, and fission product libraries data, including game and total energy, are from emblybyi

nutron flux spectrum factors and cross sections were produced from the "presse2" case updating all nuclides on the scale "burrup" Library

flasion product yields are from endf/b-v

```
choton Libraries use an 18-energy-group structure
                    the photon data are from the master photon data base,
                    produced to include breasstrehlung from un2 metrix
              see information above this box (if present) for later undates
                other identification and sizes of library.
                data set name: ft33f001
             2/16/1996
                         date library was produced
                         total number of nuclides in library
                   1697
                          number of light-element nuclides
                   689
                   129
                          runter of actinide ruclides
                          number of fission product nuclides
                   879
                          number of namero off-diagonal matrix elements
                  725
                                                                                                                  page 21
see2h: beboook wilcox 15x15, 3.00x1X, 20gxd/mu burn high terp
    power= 7.2mx, burnup= 8120 and, flue= 1.62+13n/ort*2-sec
(note, k-infinities, clad and moderator absorptions are correct, only, if correctly weighted cross sections are applied.) initial 1000.1 d 1000.1 d 1000.1 d 1120.1 d 1120.2 d
productions 3.6/9630E+04 3.645476E+04
                                            3.641009E+04 3.65602BE+04
                                                                         3.63058/E+04
                                                                                       3.630727E+04
absorptions 3.254830E+04
                            3.254978E+04
                                                          3.290054E+04
                                                                                        3.30546/E+04
                                           3.277802E+04
                                                                         3.30176/E+04
                                                                                        1.098/025+00
k infinity
              1.121288:+00
                             1.116537E+00
                                            1.110808=+00
                                                           1.105157E+00
                                                                         1.0995892+00
                                                                                         1120.2 d
                initial
                              1000.1 d
                                              100.1 d
                                                                           1120.1 d
                                                            1080.1 d
actinide
sborptions 3.025247E+04 3.05227E+04 3.052994E+04 3.04046E+04 3.05200E+04 3.052078E+04
non-actinide
ebs. fracs. 7.053602E-02 7.116461E-02 7.26730EE-02 7.41654E-02 7.56440E-02 7.66570E-02
see2h: bebook wilcox 15x15, 3.00x00, 20pd/mu burn high temp
power= 7.25ms, burnup= 8120.md, flux=1.62±15n/cm*2-sec
                                                                                                 actinides
                                                                                                                   pages 22
                                       ructide concentrations, gram atoms
                                       basis = single reactor exembly
         charge 1000.1 d 1040.1 d 1080.1 d 1120.1 d 1120.2 d
       5.AZE-03 6.3XE-03 7.AZE-03 8.64E-03 1.00E-02 1.00E-02
       2.3 E-16 2.7 E-16 3.3 E-16 3.9 E-16 4.6 E-16 4.6 TE-16
ф207
       3.30E-13 3.8/E-13 4.4/E-13 5.1/E-13 5.8/E-13 5.8/E-13
       4.10E-10 4.8/E-10 5.6/E-10 6.65E-10 7.7/E-10 7.7/E-10
       1.5%-17 1.81E-17 2.08E-17 2.37E-17 2.6%-17 2.71E-17
                           2.92-14 3.32-14 3.72-14 3.72-14
5.71-17 6.31-17 6.92-17 6.92-17
       2.29E-14 2.60E-14
4.61E-17 5.15E-17
dt211
±212
        1.12E-12 1.20E-12 1.40E-12 1.60E-12 1.87E-12 1.87E-12
H214
        1.02E-18 1.12E-18 1.20E-18 1.20E-18 1.30E-18 1.32E-18
       2.43E-20 2.74E-20 3.07E-20 3.42E-20 3.79E-20 3.80E-20
       2.1E-14 2.3E-14 2.6E-14 2.6E-14 3.17E-14 3.17E-14
re224
       9.2E-12 1.0E-11
                            1,20E-11 1,37E-11 1,5/E-11 1,5/E-11
ra225
        1.72-15 1.9E-15
                            2.25-15 2.57E-15 2.92E-15 2.91E-15
       3.29E-11 3.53E-11
                           3.7Æ-11
m226
                                     4.02E-11 4.2EE-11
re228
       9.78E-18 1.09E-17
                            1.2E-17 1.3E-17 1.AE-17 1.AE-17
th226
        1.18E-18 1.3/E-18
                            1.50E-18 1.67E-18 1.85E-18 1.85E-18
th227
       3.55E-14 3.95E-14 4.35E-14 4.85E-14 5.31E-14 5.31E-14
       1.76E-09 2.01E-09 2.52E-09 2.53E-09 2.53E-09 2.53E-09 5.78E-11 6.59E-11 7.50E-11 8.51E-11 9.63E-11 9.63E-11
th228
       2.3/E-06 2.4/E-06 2.4/E-06 2.5/E-06 2.5/E-06
th230
       2.37E-09 2.51E-09 2.50E-09 2.61E-09 2.60E-09 2.57E-09
th231
       2.25E-07 2.35E-07 2.56E-07 2.75E-07 2.90E-07 2.90E-07
       3.63E-14 2.21E-13 2.36E-13 2.53E-13 2.69E-13 3.61E-14
```

ar04 4.76E-05 5.99E-05 6.97E-05 8.00E-05 9.24E-05 8.58E-05 ar045 1.30E-20 1.98E-20 2.97E-20 4.34E-20 6.30E-20 6.30E-20 1.52E-27 2.35E-27 3.58E-27 5.36E-27 7.90E-27 7.80E-27 7.ACE-13 8.97E-13 1.07E-12 1.29E-12 1.A7E-12 1.A7E-12

0183 8.01E-05 9.48E-05 1.11E-04 1.29E-04 1.49E-04 1.49E-04 0184 1.5 E-03 1.85E-03 2.25E-03 2.77E-03 3.25E-03 3.25E-03 0186 3.50E-05 4.47E-05 5.66E-05 7.00E-05 8.69E-05 8.69E-05

4.62-03 5.25-03 5.916-03 6.62E-03 7.37E-03 7.37E-03

CR241

cr242

```
th254 2.76E-08 2.76E-08 2.77E-08 2.77E-08 2.77E-08 2.77E-08 2.77E-07 9.27E-07 9.27E-
DEZIZ 6.30E-10 6.59E-10 7.37E-10 7.82E-10 8.27E-10 8.09E-10
PAZSS 1.15E-08 1.27E-08 1.34E-08 1.42E-08 1.49E-08 1.49E-08
 DEZYA 9.30E-13 9.32E-13 9.32E-13 9.32E-13 9.31E-13 9.28E-13
                 1.18E-12 1.33E-12 1.38E-12 1.44E-12 1.50E-12 1.33E-12
 ps234
 pa235
                      .00<del>+</del>00
                                               .00<del>E+</del>00
                                                                         .00E+00
                                                                                                   .00E+00
                                                                                                                              _00E+00
                                                                                                                                                        .00±00
                   1.14E-15 1.30E-15 1.63E-15 1.79E-15 1.79E-15
 1251 2.21E-14 2.52E-14 2.80E-14 3.10E-14 3.42E-14 3.30E-14 1.52E-07 3.22E-07 3.50E-07 3.50E-07 4.37E-07 4.37E-07
  選
                 3.52E-05 3.67E-05 3.70E-05 3.77E-05 3.87E-05 3.87E-05
   1234
                 3.79E-01 3.79E-01 3.67E-01 3.69E-01 3.59E-01 3.59E-01
 3.200-01 3.200-01 3.120-01 3.000-01 2.970-01 2.970-01 5.010-00 5.140-00 5.270-00 5.400-00 5.530-00 5.530-00
  UEST 6.52E-03 6.7E-03 6.80E-03 7.00E-03 7.14E-03 7.11E-03
 1,278-03 1,278-03 1,278-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,268-03 1,2
  UNO 4.32-27 6.61E-27 9.94E-27 1.A7E-26 2.14E-26 2.14E-26
                                                                                                                              .00E+00
  UB41
                      .00E+00
                                              .0Œ+00
                                                                         .00<del>+</del>300.
                                                                                                   -00E+00
                                                                                                                                                        .00E+00
m25 7.30E-07 7.99E-07 8.7E-07 9.4SE-07 1.02E-08 1.02E-08 p256 7.4E-07 8.2EE-07 8.7EE-07 9.2E-07 9.7EE-07 9.4EE-07
THE 7.53E-07 8.36E-07 9.26E-07 1.02E-06 1.12E-06 1.12E-06
17237 3.61E-01 3.81E-01 4.03E-01 4.24E-01 4.44E-01 4.44E-01
TE28 4.55E-04 4.9XE-04 5.21E-04 5.50E-04 5.7XE-04 5.7XE-04
 1129 75'E-02 7.6E-02 7.6E-02 7.6E-02 7.7E-02 7.6E-02
TD201 3.65-29 5.66-29 8.48-29 1.28-28 1.63-28 1.63-28
TESO 7.51E-07 1.WE-06 1.WE-06 1.ASE-06 1.ASE-06 7.0SE-07
ses2h: bebook villook 15x15, 3.00x2X, 20x2d/mu burn high temp
power 7.25m/, burn.ps 8120.md, flue 1.625+15n/cm*2-sec
                                                                                                                                                                                                                                                         actinides
                                                                                                                                                                                                                                                                                                                    23
                                                                                                                                                                                                                                                                                                       DOGE
                                                                                                   ruci ide concentrations, gram atoms
                                                                                                   basis = single reactor assembly
                      charge 1000.1 d 1040.1 d 1080.1 d 1120.1 d 1120.2 d
00+300. 00+300. 00+300. 00+300. 00+300. 00+300. [1/8zm
nP6 8,43E-07 9,30E-07 1,02E-06 1,11E-06 1,21E-06 1,21E-06
                   2,92-08 3,12-08 3,33-08 3,52-08 3,73-08 3,73-08 5,62-02 6,92-02 6,92-02 7,62-02 8,34-02 8,34-02
                    9,60E+00 9,85E+00 1,00E+01 1,02E+01 1,04E+01 1,04E+01
                    2.01E+00 2.11E+00 2.22E+00 2.31E+00 2.41E+00 2.41E+00
                    1.11E+00 1.17E+00 1.25E+00 1.33E+00 1.40E+00 1.40E+00
                    1.30E-01 1.50E-01 1.70E-01 1.90E-01 2.00E-01 2.00E-01
                   1.6E-05 2.1E-05 2.4E-05 2.6E-05 2.9E-05 2.5E-05 2.1E-16 3.2E-16 4.9E-16 7.3E-16 1.0E-15 1.0E-15 1.4E-22 2.3E-22 3.5E-22 5.3E-22 7.7E-22 7.2E-22
 £23
 286
                   6.02-25 9.42-25 1.42-24 2.152-24 3.142-24 3.152-24
                    5.8E-13 6.9E-13 7.6E-13 8.4Z-13 9.19E-13 8.6E-13
                   2.6/E-10 3.02E-10 3.53E-10 3.69E-10 3.99E-10 3.99E-10
#1041 3.63E-02 4.01E-02 4.41E-02 4.82E-02 5.22E-02 5.22E-02 mn042m 8.18E-04 9.20E-04 1.00E-03 1.14E-03 1.26E-03 1.26E-03
 #19/2 3.9/E-05 4.5/E-05 5.0/E-05 5.5/E-05 6.0/E-05 5.7/E-05
 ##83 1.AZ-02 1.6E-02 1.9E-02 2.2ZE-02 2.5SE-02 2.5SE-02
                                                                           00+200, 00+300, 00+300, 00+300,
 812V/m
                    .00<del>+0</del>0
                                              .00<del>E+</del>00
```

```
1.62E-06 2.17E-06 2.86E-06 3.77E-06 4.82E-06 4.82E-06 1.20E-08 1.77E-08 2.46E-08 3.33E-08 4.49E-08 4.49E-08
           cn247
           යාවැනි
                           4.56E-10 6.70E-10 9.67E-10 1.37E-07 1.99E-07 1.99E-09
                           1.75-15 4.65-15 6.76-15 9.67-15 1.36-14 6.75-15
           cm249
           c#250
                           5.72E-19 8.83E-19 1.34E-18 1.97E-18 2.92E-18 2.92E-18
                         1.40E-27 2.13E-26 3.22E-26 4.81E-26 7.00E-26 4.90E-27 1.92E-03 1.9
           ar251
        totals
                                                   1.67=30.1 E1=30.1 E1=30.1 E1=30.1 E1=30.1
           flux
                    iq array has
                                                         20 entries.
                   3cj array has
                                                             1 entries.
                    3ci array has
                                                             1 entries.
                    30 array has
                                                             1 entries.
                    4cj array has
                                                             1 entries.
0 5/g erray has
1 library information...
                                                          12 entries.
                      cross-section data taken from position number 1 of library on unit 15.
                       pass 8
                       222
                       scale system control module ses2 library*
                      used a time-dependent reutron spectrum, for each of the above passes
pass 0 applies start-up fuel densities
                           cass n applies mid time densities of nth library interval
                       first library undated was...
                      Dees 1
                       DB98 0
                       scale-system control andide see2 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 lur grigers birary torking Library -id = 11/3
                                              made from modified card-image origin-s Libraries of scale 4.2
                                      data from the light element, actinide, and fission product libraries docay data, including game and total energy, are from end/o-vi
                                      neutron flux spectrum factors and cross sections were produced from
                                    the "presss?" case uptiting all nuclides on the scale "turnup" 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 bransstrahlung from un2 matrix
                                           see information above this box (if present) for later updates
                                              other identification and sizes of library.
                                               data set rame: ft15f001
                                         2/16/1996 date library was produced
                                                                     total number of nuclides in library
Ô
                                                     1697
                                                                     number of light-element nuclides
```

runter of actimide ruckides

0 0 0 879 number of fission product nuclides

Ψ¥

7.1E-03 7.30E-03 7.AE-03 7.57E-03 7.70E-03

```
0
                            number of nanzero off-diagonal matrix elements
                                                                                                              page 24
    saszn: beboook wilcox 15x15, 3.00x4%, 20pxc/mtu burn high temp
        power= 7.2mi, burtup= 9280 and, flux= 1.68E+13r/ort*2-sec
                                        tesis =
    (note, k-infinities, clad and moderator absorptions are correct, only, if correctly weighted cross sections are applied.)
initial 1160.2 d 1200.2 d 1200.2 d 1200.2 d
    productions 3.639873E+04
                              3.63392E+04 3.627805E+04 3.621389E+04 3.64679E+04
                3.312836E+04
                               3,3207Z9E+04
                                            3.33180E+04 3.342576E+04 3.353825E+04
    absorptions
                 1.098718E+00
                               1.074307E+00
                                             1.08881/E+00
                                                           1.083413E+00 1.078099E+00
    k infinity
                                1160.2 d
                                              1200.2 d
                                                            1240.2 d
                                                                          1280.2 d
                   initial
    act inide
    absorptions 3.050557E+04 3.064127E+04 3.069584E+04 3.074624E+04 3.079265E+04
    non-actinida
     ebs. fracs. 7.681547E-02 7.72740E-02 7.872462E-02 8.016334E-02 8.1590B9E-02
    sas2h: baboook wilcox 15x15, 3.00x1X, 20gxd/mu burn high temp
                                                                                              actinides
                                                                                                              page 25
    power= 7.25m, burnup= 9280 and, flux= 1.65+13ryout=2-sec
                                        ructide concentrations, gram atoms
                                        basis = single reactor assembly
            charge 1160.2 d 1200.2 d 1260.2 d
    he 4 1,00E-02 1,15E-02 1,31E-02 1,49E-02 1,69E-02
    tt206 4.67E-16 5.48E-16 6.40E-16 7.44E-16 8.60E-16
          5.8E-13 6.6E-13 7.5E-13 8.4E-13 9.5E-13
           7,74E-10 8,97E-10 1,03E-09 1,19E-09 1,34E-09
           2.7'E-17 3.0'E-17 3.4E-17 3.6E-17 4.32E-17
           3.7%-14 4.19E-14 4.67E-14 5.20E-14 5.77E-14
           6.94-17 7.62-17 8.32-17 9.09-17 9.84-17
    d211
           1.87E-12 2.10E-12 2.39E-12 2.59E-12 2.99E-12
           1.32-18 1.45-18 1.5E-18 1.6E-18 1.7E-18
    世214
           3.80E-20 4.23E-20 4.68E-20 5.14E-20 5.64E-20
    ra222
           3.17E-14 3.47E-14 3.80E-14 4.13E-14 4.49E-14
    m225
           1.54E-11 1.75E-11 1.94E-11 2.17E-11 2.42E-11
    ra224
    ra225
           2.91E-15 3.23E-15 3.71E-15 4.17E-15 4.67E-15
           4,20E-11 4.5/E-11 4.80E-11 5.07E-11 5.3/E-11
           1.47E-17 1.61E-17 1.70E-17 1.91E-17 2.00E-17 1.65E-18 2.00E-18 2.20E-18 2.51E-18 2.75E-18
    ra228
    th226
           5.31E-14 5.81E-14 6.34E-14 6.90E-14 7.40E-14
    th227
           2,9E-09 3.29E-09 3.69E-09 4.12E-09 4.59E-09
    tt-228
    th229
           9.6E-11 1.0E-10 1.ZE-10 1.3E-10 1.5E-10
    th230
           2.54E-05 2.60E-05 2.6/E-05 2.6/E-05 2.7/E-05
    th231
           2.5%-09 2.7%E-09 2.78E-09 2.83E-09 2.87E-09
           2.90E-07 3.09E-07 3.29E-07 3.44E-07 3.63E-07
    th232
           3.61E-14 2.83E-13 3.07E-13 3.25E-13 3.44E-13
    th233
           2.75E-08 2.75E-08 2.75E-08 2.75E-08
    th234
    pa231
           9,80E-07 1.03E-06 1.09E-06 1.14E-06 1.19E-06
    p<del>2</del>22
           8.0E-10 8.8E-10 9.2E-10 9.7E-10 1.0E-09
    pa233
           1,49E-08 1.57E-08 1.64E-08 1.77E-08 1.80E-08
    paZ3/m 9,29E-13 9,31E-13 9,31E-13 9,30E-13 9,30E-13
           1,35E-12 1,57E-12 1,65E-12 1,65E-12 1,75E-12
    pa234
             .OE+00 .OE+00
                               .00<del>+</del>300.
                                        -00±+00
                                                 .00E+00
           1.7E-15 2.0E-15 2.2E-15 2.4E-15 2.67E-15
     UZ30
           3.3%-14 3.8%-14 4.20E-14 4.60E-14 5.0%-14
     Œ1
           4.37E-07 4.81E-07 5.27E-07 5.77E-07 6.29E-07
     UZS2
     遬
           3,87E-06 3,97E-06 4,07E-06 4,17E-06 4,18E-06
           3.5%-01 3.5%-01 3.5%-01 3.4%-01 3.4%-01
           2.97E+01 2.89E+01 2.82E+01 2.79E+01 2.68E+01
           5.53E+00 5.65E+00 5.76E+00 5.89E+00 5.99E+00
```

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UZB 1,855+03 1,855+03 1,855+03 1,855+03 1,855+03
               7,90E-05 5.40E-04 5.41E-04 5.42E-04 5.44E-04
    L240
               2.14E-26 3.0E-26 4.37E-26 6.15E-26
                                                                                     8.4Æ-25
                                                   ,00E+00
    LB41
                  .00<del>+0</del>00
                                  .00E+00
                                                                    .00<del>+3</del>00.
                                                                                        .000
   rp235
              1,02E-08 1.10E-08 1.19E-08 1.27E-08
                                                                                     1.36E-08
                                                                   1.15E-08
  10236m 9.42E-09 1.0/E-08 1.10E-08
                                                                                     1,20E-08
  1.12E-06 1.22E-06 1.33E-06 1.43E-06
                                                                                     1.57E-05
               4,46E-01 4,67E-01 4,89E-01 5,11E-01
                                                                                    5.3XE-01
  rp238
               5.70E-04 6.12E-04 6.42E-04 6.73E-04 7.04E-04
  rp239
              7.65E-02 7.80E-02 7.83E-02 7.83E-02 7.85E-02
  m2/0m 1,85E-28 2.63E-28 3.73E-28 5.23E-28 7.25E-28
  m240 7.05E-07 1.49E-06 1.50E-06 1.51E-06 1.52E-06
  sas2h: haboook wilcox 15x15, 3.00x10, 20pulatu burn high temp
power 7.2mx, burnup 9280.md, films 1.635+13n/cm*2-sec
                                                                                                                                                                        actinides
                                                                                                                                                                                                       page
                                                                     ructide concentrations, gran atoms
                 basis = single reactor assembly charge 1160.2 d 1200.2 d 1260.2 d 1280.2 d
  rp241
                  ,00E+00 .00E+00 .00E+00
                                                                      .00±00, 00±00,
  1,21E-06 1,33E-06 1,43E-06 1,54E-06
                                                                                     1.6Œ-05
               3.73E-08 3.97E-08 4.21E-08 4.45E-08
                                                                                     4.69E-08
               8.3/E-02 9.10E-02 9.91E-02 1.07E-01 1.16E-01
               1.0%E+01 1.05E+01 1.07E+01 1.09E+01 1.09E+01
   D240
               2,41E+00 2,51E+00 2,61E+00 2,71E+00 2,80E+00
   p.241
                1,40E+00 1.46E+00 1.53E+00 1.61E+00 1.68E+00
               2.02-01 2.26-01 2.46-01 2.76-01 2.52-05 3.26-05 3.56-05 3.62-05 1.07-15 1.54-15 2.16-15 3.03-15
  p.Ø2
   123
   p.0%
               7.21E-22 1.12E-21 1.59E-21 2.29E-21 3.10E-21
   286
               3.15-24 4.5E-24 6.5E-24 9.3E-24 1.3CE-23
   an239
               8.63E-13 1.01E-12 1.10E-12 1.18E-12
                                                                                     1.27E-12
   an240
               3.92E-10 4.39E-10 4.79E-10 5.12E-10
                                                                                     5.5 E-10
   an241
               5.2E-02 5.69E-02 6.14E-02 6.61E-02
                                                                                    7.0E-02
   an242m 1,24E-08 1,37E-08 1,51E-08 1,65E-08 1,77E-08
   an942
               5.7/E-05 6.51E-05 7.0/E-05 7.5/E-05 8.1/E-05
   8983 2.59E-02 2.90E-02 3.29E-02 3.70E-02 4.19E-02
   #n244m
                 .00E+00
                                   .00<del>+</del>200.
                                                    .00÷300.
                                                                     .00E+00
                                                                                       .00E+00
               8.5E-06 1.0E-06 1.2E-05 1.3E-05 6.3E-20 9.0E-20 1.2E-19 1.7E-19
   an844
                                                                                     1.53E-05
   an9/5
                                                                                    2.4/E-19
   ක්වර
               7.89E-27 1.19E-26 1.6/E-26 2.33E-26 3.29E-26
   cn241
               1.47E-12 1.72E-12 1.9EE-12 2.26E-12
                                                                                     2.57E-12
  cn242
               7.37E-03 8.15E-03 8.9EE-03 9.8/E-03
                                                                                     1.07E-02
  œ23
                1.4E-04 1.7E-04 1.9E-04 2.2E-04 2.4E-04
               3,25E-05 3,86E-05 4,55E-05 5,33E-05 6,20E-05
  cn244
               8.65E-05 1.07E-04 1.30E-04 1.56E-04 1.67E-04 4.82E-05 6.16E-05 7.80E-05 9.77E-05 1.27E-05
  an2/5
  cn246
               4.49E-08 5.97E-08 7.8/E-08 1.02E-07 1.3/E-07
  cπ247
  cn248
               1.9E-09 2.67E-09 3.65E-09 4.99E-09 6.62E-09
  cn249
               6.79E-15 1.91E-14 2.63E-14 3.50E-14 4.77E-14
  cn250
               2.92E-18 4.29E-18 6.00E-18 8.5/E-18
                                                                                    1.19E-17
  ගනි1
                4,90E-27 1,00E-25 1,47E-25 2,00E-25 2,97E-25
  H2X9
               1,62E-11 2,33E-11 3,23E-11 4,57E-11 6,23E-11
               4.5%-15 8.2%-15 1.176-14 1.0%-14 2.2%-14 3.7%-20 1.1%-19 1.6%-19 2.3%-19 3.2%-19 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-08 1.9%-
  H250
  H251
totals
                                 1.62+13 1.62+13 1.62+13 1.62+13
.results on logical unit no. 71, position 1, for the step 4, subcase 9. (run position 1, case position 1) title: sas2h: belook wilcox 15x15, 3.00x1X, 20gx/miu burn high tesp
   see2h: bebook willook 15x15, 3,00x1X, 20xx/kmu burn high temp
                                                                                                                                                              light elements
                                                                                                                                                                                                       DEGE
```

```
cheay, following reactor irradiation identified by: powers 7.25ms, burnups 9280.md, flux 1.656+13r/orf*2-sec
                                          nuclide concentrations, grans
            basis =single reactor assembly initial 304.4 d 608.8 d 913.1 d 1217.5 d 1521.9 d 1826.3 d
                              .00E+00
                                        .00+00 .00+00 .00+00 .00+00
  total
             .00+300. 00+300.
seeth: betweek wilcox 15x15, 3.00x0X, 20pd/mtu burn high tesp light elements decay, following reactor irradiation identified by: powers 7.25xx, burnups 9280.md, flux=1.600+15x/cm*2-sec
                                                                                                                  page 28
                                            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
            .00E+00 .00E+00 .00E+00
  totals
                                        .00E+00 .00E+00 .00E+00 .00E+00
                                                                                            Light elements
                                                                                                                  page 29
    see2h: beboook willook 15x15, 3,00x12, 20pud/bitu burn high tesp
decay, following reactor irradiation identified by: powers 7.25ms, burnups 9280.md, flux= 1.656+15ryon**2-sec
                                            element thermal power, watts
            basis esirgia reactor assembly initial 304.4 d 608.8 d 913.1 d 1217.5 d 1521.9 d 1826.3 d
            00+300. 00+300. 00+300. 00+300. 00+300. 00+300. 00+300.
  totals
                                                                                                                  page 30
                                                                                           light elements
    see2h: beboook wilcox 15x15, 3.00x1X, 20pxd/mtu burn high temp
decay, following reactor irradiation identified by: power 7.25m, burnup 9290.md, flur=1.556-13r/mm*2-sec
                                            nuclide gama power, wetts
            initial 304.4 d 608.8 d 913.1 d 1217.5 d 1521.9 d 1826.3 d
             00+300. 00+300. 00+300. 00+300. 00+300. 00+300.
  total
                                                                                                                  page 31
    ses2h; beboook willook 15k15, 3,00kt%, 20akd/tetu burn high teep
                                                                                                 actinides
decay, following reactor irradiation identified by: powers 7.2mm, burnups 9200.md. fluor 1.650-15n/cat 2-sec
                                         ruclide concentrations, gram atoms
                                       basis = single reactor essenbly
913.1 d 1217.5 d 1521.9 d 1826.3 d
            initial 30% Ad 608.8 d
          1.65E-02 2.66E-02 3.05E-02 3.26E-02 3.48E-02 3.65E-02 3.85E-02
           2.7E-06 3.5ZE-06 4.3/E-06 5.19E-06 5.9GE-06 6.7GE-06 7.6/E-06
           3.6E-07 5.10E-07 6.5E-07 8.0E-07 9.5E-07 1.10E-06 1.2E-06
           1.19E-05 1.22E-05 1.24E-05 1.26E-05
                                                 1.28E-06 1.30E-06 1.33E-06
                              1.16E-05
           6.28E-07 9.24E-07 1.16E-06 4.18E-06 4.34E-06 4.51E-06
                                        1.3E-06
                                                 1.51E-06 1.63E-06 1.73E-06
                                        4,67E-06 4,8/E-06 5,00E-06 5,17E-06
    3.44E-01 3.45E-01
                              3.4E-01
                                       3.47E-01
                                                 3.47E-01 3.48E-01
                                                                    3.49E-01
           2.6E+01 2.6E+01
                             2.68E+01 2.68E+01 2.68E+01 2.69E+01 2.68E+01
           5.99E+00 5.99E+00 5.99E+00 5.99E+00 5.99E+00 5.99E+00
           1.89E+03 1.89E+03
                              1.8X+03
                                        1.8E+03
                                                  1.8E+05 1.8E+05 1.8E+05
    1.57E-06
                    1.57E-06
                              1.57E-06
                                        1.57E-06
                                                  1.57E-06 1.57E-06 1.57E-06
                                        5.A2E-01
                             5.41E-01
                                                  5.AZE-01 5.AZE-01
                                                                    5.AE-01
           5,33E-01
                     5.ATE-01
                                                  1.25-01
           1.1Æ-01
                     1.2E-01
                              1.25E-01
                                        1.2E-01
                                                           1.2/E-01
                                                                     1,25E-01
           1,09001 1,10001 1,10001 1,10001 1,10001 1,10001 1,10001
           2,80E+00 2,80E+00 2,80E+00 2,80E+00 2,80E+00 2,80E+00
    p.241
           1,655+00 1,616+00
                              1.55E+00
                                        1.49E+00
                                                  1,435-00 1,375-00 1,325-00
                                                  2.99E-01 2.99E-01
    p2/2
           2.93E-01 2.93E-01
                              2.93E-01 2.93E-01
                                                                    2.93E-01
                              2.00E-01
                                        2.61E-01
                                                  3.20E-01 3.79E-01
                                                                     4,29E-01
           7,05E-02 1,37E-01
    an 242m
           1.78E-03 1.78E-03
                              1.77E-05
                                        1.7Œ-03
                                                  1.79E-03 1.79E-03 1.74E-03
           4.19-02 4.19-02
    an943
                              4.19E-02
                                        4.19E-02
                                                  4.15E-02 4.15E-02 4.15E-02
           1.07E-02 2.97E-03 8.16E-04 2.27E-04
                                                 6.53E-05 2.12E-05 9.12E-06
           2,45E-04 2.43E-04
                              2.38E-04
                                        2.33E-04 2.20E-04 2.20E-04
    CR2/3
           6.20E-03 6.02E-03 5.65E-03
                                                 5.A.R-03 5.30E-03 5.13E-03
    GE 244
                                                  1.87E-04 1.87E-04 1.87E-04
                                        1.87E-04
    0085
           1,87E-04 1,87E-04
                              1.87E-04
           1,22E-05 1.22E-05 1.22E-05
                                        1.2ZE-05
                                                  1.22E-05
                                                           1.22E-05 1.22E-05
    යාපුදර
           1.91E+03 1.91E+03 1.91E+03 1.91E+03 1.91E+03 1.91E+03 1.91E+03
  total
                                                                                                                  page 32
                                                                                                 actinides
    ses2n: beboock wilcox 15x15, 3.00x2X, 20pc/mtu burn high temp
```

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decay, following reactor irradiation identified by: power= 7.2mm, burnup= 9250.md, flux=1.65±13n/ont=2-sec
                                                                                                                                                                                                                    element concentrations, gran atoms
                                                                   basis = single reactor assubly initial 304.4 d 608.8 d 913.1 d 1217.5 d 1521.9 d 1826.3 d
                                                              1.6F-02 2.6E-02 3.0E-02 3.2E-02 3.6E-02 3.6E-02 3.6E-02
                                                            3.11E-06 4.07E-06 5.04E-06 6.00E-06 6.97E-06 7.94E-06 8.97E-06
                                                               1.21E-06 1.23E-06 1.26E-06 1.28E-06 1.30E-06 1.33E-06 1.34E-06
                                                              1,85E+03 1,85E+03 1,85E+03 1,85E+03 1,85E+03 1,85E+03 1,85E+03
                                                              6.19-01 5.49-01 5.48-01 5.48-01 5.48-01 5.48-01
                                                                                                                                                                                                                                                                                                                                                                5.AE-01
                                                               1.58E+01 1.58E+01 1.58E+01 1.57E+01 1.57E+01 1.58E+01
                                                                                                                                                                                                                                                                                                                                                                 1.55E+01
                                                     1.14E-01 1.80E-01 2.44E-01 3.02E-01 3.62E-01 4.18E-01 4.72E-01 1.74E-02 9.43E-03 7.02E-03 6.31E-03 5.77E-03 5.72E-03 5.50E-03 1.91E-03 1.9
                           cm
               totals
 ses2n: bebook wilcox 15x15, 3.00x1x, 20pd/mu burn high temp actinides decay, following reactor irradiation identified by: power= 7.25m, burnup= 9280.md, fluc= 1.635+13n/on**2-sec nuclide concentrations, grams
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DROE
                                                                                                                                                                                                                          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 1.05E-01 1.21E-01 1.31E-01 1.39E-01 1.47E-01 1.55E-01
                                                          2.8E-07 7.0/E-07 1.43E-06 2.4/E-06 3.80E-06 5.5/E-06 7.50E-06
                                                          1.0E-06 2.0E-06 3.2E-06 4.2E-06 5.6E-06 6.7E-06 7.7E-06 6.2E-06 8.1E-06 9.9E-06 1.1E-08 1.3E-08 1.5E-08 1.7E-08
                                                       8.48-05 1.18-04 1.58-04 1.88-04 2.78-04 2.58-04 2.98-04 6.48-05 6.48-05 6.48-05 6.48-05 6.48-05
                         th232
                                                            2.7E-04 2.8E-04 2.8E-04 2.9E-04 2.9E-04 3.0E-04 3.0E-04
                         ppZ33
                                                           4.1XE-05 4.3XE-05 4.3XE-05 4.3XE-05 4.3XE-05 4.3XE-05
                                                              1.4E-04 2.14E-04 2.70E-04 3.14E-04 3.50E-04 3.78E-04 4.01E-04
                                                            9.75E-04 1,01E-03 1,05E-03 1,05E-03 1.13E-03 1.17E-03 1.20E-03
                           国际国际国际
                                                            8.05E+01 8.07E+01 8.09E+01 8.11E+01 8.13E+01 8.15E+01 8.17E+01
                                                           6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300 6.300
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                                                           3.7E-04 3.7E-04 3.7E-04 3.7E-04 3.7E-04 3.7E-04
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                                                            3.9E-04 3.22E-04 2.6E-04 2.16E-04 1.77E-04 1.45E-04 1.19E-04
                                                             2.77E+01 2.92E+01 2.92E+01 2.92E+01 2.92E+01 2.92E+01 2.62E+03 2.6
                                                                                                                                                                                                                                                                                                                                                              2.63E+03
                                                            6.72±02 6.72±02 6.72±02 6.72±02 6.72±02 6.72±02 6.72±02 4.02±02 3.89±02 3.72±02 3.50±02 3.42±02 3.31±02 3.10±02
                                                            7.0E+01 7.0E+01 7.0E+01 7.0E+01 7.0E+01 7.0E+01 7.0E+01
                          an241
                                                              1.71E+01 3.30E+01 4.83E+01 6.29E+01 7.70E+01 9.05E+01
                                                                                                                                                                                                                                                                                                                                                                 1.03=+02
                       anovan 4.32-01 4.30-01 4.20-01 4.27-01 4.27-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01 4.28-01
                                                             1.01E+01 1.01E+01 1.01E+01 1.01E+01 1.01E+01
                         an8/3
                                                             2.60E+00 7.18E-01 1.97E-01 5.49E-02 1.58E-02 5.14E-03
                        an2/2
                                                              6.0E-02 5.9E-02 5.7E-02 5.6E-02 5.5E-02 5.6E-02 5.4E-02
                         œ23
                         an244
                                                               1,51E+00 1,47E+00 1,42E+00 1,39E+00
                                                                                                                                                                                                                                                               1,3/e+00 1,25e+00 1,25e+00
                                                                                                                                                                                                                                                                4.5E-02 4.5E-02 4.5E-02
                         cn245
                                                              4.57E-02 4.58E-02 4.58E-02 4.58E-02
                                                             3.00E-03 3.00E-03 3.00E-03 3.00E-03 3.00E-03 3.00E-03
                                                           3.2E-05 3.2E-05 3.2E-05 3.2E-05 3.2E-05 3.2E-05 3.2E-05
                        cr247
                                                            1.6/E-05 1.6/E-05 1.6/E-05 1.6/E-05 1.6/E-05 1.6/E-05 1.6/E-05
                                                              4.5/6405 4.5/6405 4.5/6405 4.5/6405 4.5/6405 4.5/6405
                  total
    sech: bebook vilcox 15x15, 3.00x2X, 20pe/seu burn high temp actinides decay, following reactor irrediation identified by: power= 7,25m, burnup= 9250.md, flux=1.635-13r/on**2-sec
                                                                                                                                                                                                                           elevent concentrations, grams
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basis wingle reactor assembly

decay, following reactor irradiation identified by: power* 7.2mm, burnup: 9280.md, fluor 1.65+Gn/on*2-sec rublide genma power, setts

basis =single reactor assembly initial 304.4 d 608.8 d 913.1 d 1217.5 d 1521.9 d 1826.3 d

see2h: beboook wilcox 15x15, 3.00x1X, 20px/Antu burn high temp

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tizos 6.18E-06 1.21E-05 1.91E-05 2.62E-06 3.3EE-06 3.9EE-06 4.5/E-05 pt212 7.42E-07 1.4/EE-06 2.29E-06 3.19E-06 3.9EE-06 4.7/EE-06 5.4/EE-06
                                                                                                                                                                                                1.6E-06 2.29E-06 2.89E-06 3.49E-06 3.96E-06
                                                                     5.38E-07 1.09E-06
                          m220 3.12E-09 6.12E-09 9.63E-09
                                                                                                                                                                                                                                                             1.33E-08 1.66E-08 2.00E-08 2.30E-08
                                                                     5.15E-08 1.01E-07 1.55E-07 2.15E-07 2.77E-07 3.30E-07 3.75E-07
                                                                     1.79E-08 3.53E-08 5.54E-08 7.63E-08 9.64E-08 1.19E-07 1.32E-07
                           th228
                                                                        6.47E-05 2.50E-06 2.50E-06 2.50E-06 2.50E-06 2.50E-06
                           th231
                                                                      8.5CE-06 8.5CE-06 8.5CE-06 8.5CE-06 8.5CE-06 8.5CE-06 8.5CE-06
                           th234
                                                                                                                                                                                                1,20E-04 1,20E-04 1,20E-04 1,20E-04
                          pe233 1.15E-04 1.20E-04 1.20E-
                                                                      9.50E-06 2.25E-06 2.25E-06 2.25E-06 2.25E-06 2.25E-06
                                                                        4.15E-08 6.03E-08 7.66E-08 8,92E-08 9,93E-08 1,07E-07 1,14E-07
                                                                   4.7E-06 4.7E-06 4.8E-06 4.8E-06 4.8E-06 4.8E-06 4.8E-06 1.3E-06 1.3E-06 1.3E-06 1.3E-06 1.3E-07 9.2E-07 9.2E-0
                              LE36
                              <u>1237</u>
                                                                     1.192-06 1.192-06 1.192-06 1.192-06 1.192-06 1.192-06 1.192-06 1.892-07 1.092-07 6.422-08 3.772-08 2.212-08 1.302-08 7.692-07
                              UZ38
                        與極極極對國際
                                                                        1,85E-05 1,89E-05
                                                                                                                                                                                                1,89E-05 1,89E-05 1,89E-05 1,89E-05 1,89E-05
                                                                     1.67=40 7.78=46 7.78=46 7.78=46 7.68=46 7.68=46 7.68=46 4.74=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=48 2.18=4
                                                                     4.74E+03 2.19E+03
2.83E+06 2.32E+06
                                                                                                                                                                                              2.19E-03 2.19E-03
1.90E-06 1.56E-06
                                                                                                                                                                                                                                                                                                                         1.29E-06 1.09E-06 8.58E-07
                                                                     5.34e-05 5.70e-05 5.70e-05 5.70e-05 5.70e-05 5.60e-05 5.60e-05 7.70e-04 7.80e-04 7.80e-04 7.80e-04 7.80e-04 7.80e-04 7.80e-05 1.40e-05 1.4
                           0.840
                                                                     4.34E-04 4.17E-04 4.07E-04 3.85E-04 3.77E-04 3.55E-04 3.44E-04 2.44E-06 2.44E-06 2.44E-06 2.44E-06 2.44E-06 2.44E-02 5.24E-06 0.00E-02
                           p.841
                          p.842
an241
                        mr8/2m 1.6/E-04 1.6/E
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sec2n: beloock villook 15x15, 3.00x2X, 20ped/mu burn high teap fission products decay, following reactor irradiation identified by: power* 7.2mx, burnup* 9200.md, fluw*1.660+13n/or**2-sec publick concentrations, graps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 page 39
                                                     tc 99 2.30±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 2.31±02 
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                                                               rh102
                                                                                                                                                                       2.17E-04 1.7EE-04 1.46E-04 1.19E-04 9.79E-05 8.02E-05 6.57E-05
                                                                                                                                                                   13/EHO2 14/EHO2 14/EHO2 14/EHO2
13/EHO2 13/EHO2 13/EHO2 13/EHO2
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1,39E+02 1,39E+02
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1.3E-02
                                                            ru104
                                                                                                                                                                   4.10E+01 4.10E+01 4.10E+01 4.10E+01 4.10E+01 4.10E+01 4.10E+01 1.01E+02 1.0
                                                               pd104
                                                               2005
14105
11106
                                                                                                                                                                   3.37E-01 1.97E-01 1.0E-01 6.14E-00 3.48E-00 1.97E-03 3.2E-05 1.77E-05 1.00E-05 5.66E-05 3.2E-05 1.8E-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1.12=+00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1.0 E-06
                                                                                                                                                                   4.57E-01 6.03E-01
5.12E-01 5.12E-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7.59E+01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                6.80E+01
                                                            pc105
pc107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7.33E+01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7.74E+01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7.83E+01
                                                                                                                                                                                                                                                                                                                                                                                                                                                         5.12E-01 5.12E-01 5.12E-01 5.12E-01 1.8/E-05 2.09E-05 2.59E-05 3.00E-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5.12=+01
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2.09E-05 2.50E-05 3.00E-05 3.46E-05

山8 3,250 3,250 3,250 3,260 3,260 3,260 3,260 ag108a 4.21E-05 4.17E-05 4.17E-05 4.16E-05 4.14E-05 4.12E-05 4.10E-05 ca108 4.3/E-05 4.3/E-05 4.3/E-05 4.3/E-05 4.3/E-05 4.3/E-05 4.3/E-05

ag107

7.30E-06 1.18E-05

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ag109 2.18E+01 2.19E+01 2.19E+
                                                                      ad10a 1.04E-01 4.46E-02 1.92E-02 8.23E-03 3.54E-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.52E-08 6.53E-04
                                                          COLO 5.65-00 5.75-00 5.75-00 5.75-00 5.75-00 5.75-00 5.75-00 5.75-00 5.75-00 5.75-00 5.75-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5.05-00 5
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                                                          ### 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.05-00 1.
                                                                                                                                                                                    1.5E-02 3.0E-03 6.0E-04 1.1E-04 2.2E-03 4.AE-03 8.7E-07 1.2E-00 1.2E-0
                                                                              an123
                                                                                  sb125
                                                                              tel25
                                                                          sn124
                                                                              te124
                                                                              $625 1.85E-00 1.50E-00 1.22E-00 9.86E-01 7.96E-01 6.45E-01 5.22E-01
                                                              te125 8.02E-01 1.14E-00 1.42E-00 1.62E-00 1.67E-00 2.02E-00 2.15E-00 te12m 2.33E-02 2.13E-02 1.73E-02 1.40E-02 1.33E-02 9.14E-03 7.47E-03 sn126 4.89E-00 4.80E-00 4.8
ses2h: bebook viloox 15x15, 3.00x2X, 20pd/bitu burn high temp fission products decay, following reactor irradiation identified by: poser= 7.25xx, burnup= 9280.md, flux= 1.66+15n/or=2-sec nuclide constructions, grans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CROB
                                                          n.e.lide constructors grant basis wintle reactor assembly initial 30% A d 608.8 d 913.1 d 1217.5 d 1221.9 d 1223.3 d 1221.5 d 122
                                                                                                                                                                                1.18:40 1.28:40 1.28:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:40 1.08:4
                                                                                  te130
                                                                          xe130
                                                                              xe131
                                                                              xe132
                                                                          ba132
                                                                              CS 133
                                                                      XeT3, 4_27E402 4_27E4
                                                                          ba134
                                                                                                                                                                                                       8,918-00 1,408-01 1,788-01 2,088-01 2,308-01 2,408-01 2,598-01 1,778-02 1,778-02 1,778-02 1,778-02 1,778-02 1,778-02 1,778-02
                                                                          C3135
                                                                                                                                                                                                       3.8E-02 3.8E-02 3.8E-02 3.8E-02 3.8E-02 3.8E-02 3.8E-02
                                                                  26135 5.6E+02 ```

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bat37 1,43e-01 2,05e-01 2,74e-01 3,37e-01 3,99e-01 4,60e-01 5,20e-01 bat37a 5,31e-05 5,18e-05 5,08e-05 4,99e-05 4,89e-05 4,80e-05 4,71e-05
 3.65E+02 3.65E+02 3.65E+02 3.65E+02 3.65E+02 3.65E+02
 ba138
 la138
 2.18E-03 2.18E-03 2.18E-03 2.18E-03
 2.18E-03 2.18E-03
 2.18E-03
 (a)39 3.47E+02 3.47E+02 3.47E+02 3.47E+02 3.47E+02
 3.47E+02
 DISTAL DISTAL DISTAL DISTAL DISTAL DISTAL DISTAL DISTAL
 3.0E402 3.676402 3.67
 141
141
141
141
141
 m1/3
 ndV5
 1,47E-04 1,46E-04
7,77E-06 4,18E-06
1,87E-02 1,87E-02
1,27E-03 1,11E-03
 pn145
sn145
 7.90E-05 1.19E-04 1.39E-04 1.49E-04 9.31E-05 5.00E-05 2.69E-05 1.49E-05
 1.4E-04
 7,3E-05 1,6E-05 1,5E-05 1,4E-05 1,7E-05 1,4E-05 1,5E-05 1,5E-05 1,5E-05 1,5E-02 1,5E-02 1,5E-02 1,5E-02 1,5E-02 1,5E-02 1,5E-03 1,5E-0
 2.25E-06
 rd146
 1.87E+02
 pn146
sn146
 1.00E-03
 2.2XE-03
 11147
21147
 1.59E+01
 3.00E+01 4.20E+01 5.1/E+01 5.50E+01 6.51E+01 6.99E+01 1.00E+02 1.00E+02 1.00E+02 1.00E+02 1.00E+02 1.00E+02
 7.38E+01
 641
 1.03E+02
 2.8501 2.8501 2.8501 2.8501
1.1700 1.4500 1.4500 1.4500
 2.85±01 2.85±01
1.42±00 1.42±00
 2.89E+01
1.42E+00
 an/48
 sm149
 rd150
sn(150
 4.85E+01 4.85E+01
 4.85E+01 4.85E+01
 4.85E+01
 4_85E+01
 4.EE+01
 8.0'E+01 8.0'E+01 8.0'E+01 8.0'E+01 8.0'E+01 8.0'E+01
 6.15E+00 6.16E+00 6.12E+00 6.0EE+00
 6.0/E+00 6.01E+00 5.97E+00
 sm151
 1,55E-02 5,51E-02 9,46E-02 1,3/E-01
 1.75E-01 2.11E-01
 a/51
 2.50E-01
 3.74E+01
 $\frac{\pmatrix}{2}$ 3.7\tilde{\pmatrix}\tilde
sech: belook wilcox 15x15, 3.00x13, 20pe/web burn high terp fission products decay, following reactor irrediation identified by: power 7.25ms, burnup 9280.md, flux 1.635-15n/cat*2-sec nuclide concentrations, grass
 besis single rector assembly initial 304.4 d 608.8 d 913.1 d 1217.5 d 1521.9 d 1826.3 d euis3 2.68:401 2.70:401 2.70:401 2.70:401 2.70:401 2.70:401 2.70:401

 call
 2.7E+01
 2.7E+01

 9,000-00 9,320-00 9,320-00 9,320-00 9,320-00 9,320-00 9,320-00 9,320-00 9,320-00 9,320-00 9,320-00 9,320-00 9,320-00 9,320-00 9,320-00 9,320-00 9,320-00 3,200-00 3,200-00 3,200-00 3,200-00 3,200-00 3,200-00 3,200-00 3,200-00 3,2
 0157
0158
 tb159
 4/8
6/8
 8.12E-02 8.24E-02 8.24E-02 8.24E-02 8.24E-02
 8.24E-02
 5.62E-02 5.62E-02 5.62E-02
 5.62E-02 5.62E-02
 5.62E-02
 3.KE-02 3.KE-02 3.KE-02 3.KE-02 3.KE-02
 1.0E-02 1.0E-02 1.0E-02 1.0E-02 1.0E-02 1.0E-02
 1.00E-02
 holds 9.44E-03 9.50E-03 9.50E-03 9.50E-03 9.50E-03 9.50E-03 9.50E-03 9.50E-03 holden 2.38E-05 er165 1.52-08 1.52-08 1.52-03
 1.55E-03
 7.2E-07 7.A'E-07 7.A'E-07 7.A'E-07 7.A'E-07 7.A'E-07
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er170 7.89E-07 7.79E-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
ses2h: bebook vilook 15x15, 3.00x1X, 20p.d/mu burn high temp fission products decay, following reactor irradiation identified by: powers 7.25m, burnups 9280.md, fluxs 1.635+13n/cm*2-sec
 page 42
 element redicectivity, curies
 basis resingle reactor assently initial 304.4 d 608.8 d 903.1 d 1217.5 d 521.9 d 1826.3 d 1.316.02 1.256.02 1.266.02 1.146.02 1.066.02 9.916.01 8.266.07 8.266.07 8.266.07 8.266.07 8.266.07 8.266.07 8.266.07
 be
 3.3E-05 3.3E-05 3.3E-05 3.3E-05 3.3E-05 3.3E-05
 2.20±05 1.92±01 1.92±01 1.92±01 1.92±01 1.92±01 1.92±01 1.92±01 1.92±01 1.92±01 1.92±01 1.92±01 1.92±03 2.11±05 2.00±05 1.93±03
 1.25E-06 2.66E-08 6.26E-06 6.21E-06 6.21E-06 6.21E-06 1.90E-06 2.56E-06 2.21E-06 2.10E-06 2.11E-06 2.07E-06 2.03E-06 2.20E-06 2.11E-06 2.07E-06 2.03E-06
 3.50E-01
 2.03E+06 1.26E+04 4.59E+02 1.73E+01 9.76E-01 3.77E-01
 2.99E+05 2.6/E+04 1.01E+03 3.76E+01
 1.4E+00 1.31E-01 9.0E-02
 2,06:05 3,95:00 3,95:00 3,95:00 3,95:00 3,95:00 3,95:00
 8.6E+05 6.47E+04 3.59E+04 2.09E+04 1.19E+04 6.54E+05 3.71E+08
 1.11EHOS 6.47EHOK 3.59EHOK 2.00EHOK 1.19EHOK 6.54EHOS 3.77EHOS
 8.8F=04 2.6E=02 2.6E=02 2.6E=02 2.6E=02 2.6E=02 1.2E=05 2.1E=05 3.1E=05 1.7E=01 7.3E=05 3.1E=05
 1.75E+04 6.65E+00 5.81E+00 5.57E+00 5.35E+00 5.13E+00 4.92E+00
 2.79E+05 3.09E+01 8.11E+00 3.09E+00 1.79E+00 1.39E+00 1.22E+00
 7.37405 1.58403 1.27403 1.03403 8.38402 6.76402 5.47402 1.66403 1.26403 4.30402 2.66402 2.06402 1.66402 1.36402
 2.37E-05 8.82E-03 8.82E-03 8.82E-03 8.82E-03 8.82E-03
 1.58606 4.58606 4.44606 4.00606 3.65606 3.40606 3.18606
1.58606 2.78606 2.78606 2.68606 2.68606 2.58606 2.58606
1.58606 1.38605 6.28606 2.58606 1.48606 6.74603 3.28608
 1.335-05 1.335-05 6.305-04
 3.00E+04 1,43E+04 6,83E+03 3,24E+08
 2.90E+05 4.A3E+04 3.59E+04
 2.85E+04 2.29E+04
 1.83E+04
 1.472+04
 8,12E+04 1,62E+02 1,61E+02
 1.600+02
 1.59E+02 1.58E+02 1.57E+02
 2,45E+05 2,24E+05 2,04E+05
 2.6E+04 3.2E+03 2.9E+03
 2.68E+03
 1.8XE-01 7.66E-02 3.20E-02 1.3XE-02
 1.14E+0B 1.05E+00 4.40E-01
 1,59E-02 8,59E-04 4,6/E-05 2,51E-06
 3.82E+02 5.4/E+00 2.9/E-01
 4.2XE+00 4.27E+05 4.27E+05 4.27E+05 4.24E+05 4.24E+05 4.24E+05
 1.67E-03 5.51E-04 4.07E-04 3.07E-04 2.27E-04 1.67E-04 1.22E-04
 3.ASE+07 6.17E+05 3.57E+05 2.ASE+05 1.8SE+05 1.5XE+05 1.5YE+05
 totals
ses2n: bebook villox 15x15, 3.00x2X, 20pd/mbu burn high terp
decay, following reactor irrediction identified by: powers 7.25ms, burnups 9250.md, flux 1.655-13n/out 2-sec
 page 43
 elevent themsel power, watts
 basis wingle reactor assembly initial 304.4 d 608.8 d 913.1 d 1217.5 d 1521.9 d 1826.3 d 4.43E-03 4.23E-08 4.03E-08 3.85E-08 3.67E-08 3.50E-08 3.34E-03
 9.77E-09 9.76E-09 9.76E-09 9.76E-09 9.76E-09 9.76E-09
 3.98E-03 6.03E-05 6.03E-05 6.03E-05 6.03E-05 6.03E-05
 1,48+04 3,76+00 3,52+00 3,33+00 3,16+00 2,97+00 2,8/6+00
 2,76E+04 3.63E+01 2.57E+01 2.53E+01 2.40E+01 2.36E+01
 4.05E+04 1.49E+02 1.29E+02
 1.20E+02 1.17E+02 1.15E+02
 1.12E+02
 2.31E-00 8.5/E-02 3.21E-05 1.57E-04
 2.03E+04 6.2/E+01
 4.37E-05
 4.16E-04 1,26E-02 4.86E-00 1.80E-01 6.66E-03 2.60E-04
 2.46E-05
 2.34E+04 1.9EE-05 1.9EE-05 1.9EE-05 1.9EE-05 1.9EE-05 1.9EE-05
 4.60E+03 8.A3E+00 2.16E+00
 1.21E+00 6.86E-01 3.87E-01
 2.20E-01
 5.07E+03 6.07E+02 3.WE+02 1.99E+02 1.11E+02 6.27E+01 3.50E+01
 2.9E+02 1.45E-06 1.45E-06 1.45E-06 1.45E-06 1.45E-06
 4.89E-02 3.56E-00 1.53E-00 6.57E-01 2.82E-01 1.21E-01 5.21E-02
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2.07E+02 8.85E-03 6.33E-03 6.06E-03 5.81E-03 5.56E-03 5.34E-03
 3.71E+03 8.18E-02 1.71E-02 4.17E-03 1.48E-03 8.70E-04 7.11E-04
 1.36E+04 5.02E+00 4.09E+00 3.26E+00 2.66E+00 2.16E+00
 1.73=+00
 1.57E+04 1.19E+00 3.74E-01 2.29E-01 1.74E-01 1.39E-01 1.12E-01
 1.5E-04 1.5E-03 3.6E-03 4.1E-05 1.2E-02 1.2E-02 1.2E-02 1.0E-02 1.0E-0
 2.36E+02 1.78E+01
 1,650 1,550 1,650 1,550 1,350 1,250
 3.47E-00 9.22E-04 3.86E-04 1.6E-04 6.76E-05 2.8EE-05 1.17E-05 2.2EE-00 4.77E-02 2.58E-03 1.39E-04 7.53E-06 4.07E-07 2.20E-08
 1.82-02 4.142-07 4.142-07 4.142-07 4.142-07 4.142-07 4.142-07 5.542-08 8.742-08 6.542-08 4.642-08 3.142-08 2.542-08 1.842-08 4.302-05 2.432-03 1.332-03 8.672-02 6.192-02 4.812-02 4.012-02
 totals
ses2h: bebook wilcox 15x15, 3.00x1X, 20pd/wtu burn high temp fission products docay, following reactor irradiation identified by: power= 7.25m, burnup= 9280.md, flue=1.66±13n/cm*2-sec nuclide genma power, watts
 DECE:
 basis reingle reactor assembly initial 304.4 d 608.8 d 913.1 d 1217.5 d 1521.9 d 1826.3 d
 br 85 3.49E-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 2.00E-04 2.00E-04
 y 91 5.30E+00 1.4SE-01 3.94E+03 1.04E+04 2.94E+04 7.8SE-08 2.14E+04 1.05E+04 2.94E+04 4.14E+04 5.41E+04 6.59E+04 7.7SE-04 8.8SE-04 9.8SE-04 1.18E+04 2.18E+04 2.18E+0
 r 95 1,426-05 5,576-01 1,926-00 7,576-02 2,726-05 1,066-04 3,776-06 rb 95 1,526-05 1,196-02 4,546-00 1,696-01 6,276-05 2,326-04 8,646-06
 smlt3n 5.82=04 2.83=04 1.38=04 6.71=05 3.27=05 1.59=05 7.74=06 sml2lm 1.71=05 1.70=06 1.68=05
 telZs 5.35E-06 9.24E-05 1.58E-05 2.72E-06 4.66E-07 8.00E-08 1.37E-08 sb124 1.00E+00 3.19E-02 9.47E-04 2.89E-05 8.59E-07 2.57E-08 7.79E-10 sb125 4.98E+00 4.00E+00 3.28E+00 2.69E+00 2.19E+00 1.76E+00 1.47E+00
 telZss 8.8x=-02 8.0x=-02 6.57x=-02 5.3x=-02 4.30x=-02 3.4x=-02 2.8x=-02 sn126 1.07x=-04 1.07x=-04 1.07x=-04 1.07x=-04 1.07x=-04 1.07x=-04 1.07x=-04 1.07x=-04 1.07x=-04 3.17x=-04 3.17x=-0
 $125 1.25 05 1
 CSTS4 2.49E+02 1.89E+02, 1.42E+02 1.07E+02 8.11E+01 6.19E+01
 4.63E+01
 9.71E+01 9.5ZE+01 9.3/E+01 9.1/E+01 8.97E+01 1.0ZE-06 2.21E-07 4.70E-08 1.0ZE-08 2.2ZE-09
 ba137m 1.01E+02 9.90E+01
 2.19E-05 4.79E-06
 ce144
 3.07E+01 1.47E+01 6.99E+00 3.3/E+00 1.59E+00 7.59E-01 3.62E-01
 pri44 4.6E+01 2.2E+01 1.0E+01 5.0E+02 2.4E+02 1.15E+03 5.50E+01 pri44n 2.8E+01 1.3E+01 6.4E+02 3.07E+02 1.47E+02 6.9E+03 3.3E+03
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Feb 16 10:06 1996 File Name: 83020.cf.out #BA000000-01717-0200-00012 REV 01 ATTACHENT 1 - Page 805
 m45 2.11E-06 3.17E-06 3.67E-06 3.8EE-06 3.9EE-06 3.9EE-06 3.8EE-06 3.8EE-06 3.9EE-06 3.69E-03 3.33E-03 3.00E-03 2.70E-03 2.43E-03 2.19E-03 1.97E-03
 1.3%-03 1.1%-03 9.2%-04 7.3%-04 5.9%-04 4.7%-04 3.8%-04
 1.30E-07 1.28E-07 1.26E-07
 1.26E-07 1.22E-07 1.20E-07 1.16E-07
 13E-05 13E-05 13E-05 13E-05 13E-05 13E-05 13E-05
 0.152 3.2E-02 3.0E-02 2.9E-02 2.8E-02 2.7E-02 2.6E-02 2.6E-02
 1,61E-03 6.71E-04 2.80E-04
 1.17E-04 4.89E-05 2.04E-05 8.52E-06
 1,20E+01 1,12E+01 1,05E+01 9,80E+00
 1,472+01 1,372+01 1,282+01
 a.154
 5.9E-01 5.22E-01 4.61E-01 4.00E-01 3.61E-01 3.19E-01 2.80E-01
 thiso 7.30E-01 3.9XE-02 2.13E-03 1.15E-04 6.2ZE-06 3.3XE-07 1.8ZE-08
 holden 4.12E-07 4.12E-07 4.12E-07 4.12E-07 4.11E-07 4.11E-07
 total 2.13=405 6.01=402 3.25=402 2.57=402 1.76=402 1.53=402
ses2h: bebook villook 15x15, 3.00x2X, 20pul/hitu burn high texp fission products decay, following reactor irradiation identified by: power= 7.25xxx, burnup= 9280 und, flux= 1.63E+13r/cat=2-sec
 page: 45
 elevent game 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
 7.7E+03 3.2E+02 3.10E+02 2.9E+02 2.7E+02 2.6E+02 2.50E+02 1.4E+04 1.4E+03 3.2E+04 2.16E+04 2.0E+04 2.0E+04 8.1E+03 5.3E+01 1.9E+00 7.3E+02 2.7E+03 1.0E+04 3.7E+06
 1.75=104 1.19E+02 4.56E+00 1.69E-01 6.28E-03 2.34E-04 9.83E-06
 1.2E+04 2.4E-08 2.4E-08 2.4E-08 2.4E-08 2.4E-08
 1.55E+03 7.75E+01 4.35E+01 2.45E+01 1.45E+01 7.98E+00 4.53E+00
 1.30E-02 3.4/E-00 1.48E-00 6.3/E-01 2.73E-01 1.17E-01 5.0/E-02
 9.99E+01 1,20E-04 3.48E-05 2.39E-05 2.24E-05 2.19E-05 2.00E-05
 2,40=405 1,44E-05 4,64E-04 2,30E-04 1,64E-04 1,41E-04 1,31E-04
 9.3/E+03 4.0/E+00 3.2/E+00 2.6/E+00 2.19E+00 1.7/E+00 1.4/E+00
 9,32=03 1,30E-01 7.14E-02 5.40E-02 4.31E-02 3.48E-02 2.82E-02
 2.3E+04, 1.2E+06 1.2E+06 1.2E+06 1.2E+06 1.2E+06 1.2E+06 1.2E+06 1.2E+06 1.2E+06 1.2E+01 4.6E+01
 7.30Ex03 9.90Ex01 9.71Ex01 9.52Ex01 9.34Ex01 9.16Ex01 8.99Ex01
 3.37E-03 1.49E-01 6.99E-00 3.34E-00 1.59E-00 7.59E-01 3.62E-01
 3.19E+03 2.2/E+01 1.07E+01 5.10E+00 2.43E+00 1.16E+00 5.5/E-01
 5.12E-02 5.92E-01 7.47E-03 3.46E-03 3.03E-03 2.67E-03 2.36E-03
 4.6E-101 6.47E-105 4.10E-105 2.82E-105 2.13E-105 1.70E-105 1.55E-105
 1.61E-02 1.43E-01 1.33E-01 1.24E-01 1.16E-01 1.03E-01 1.01E-01
 1,05-00 6.7E-04 2,80E-04 1,17E-04 4,85E-05 2,0/E-05 8,5/E-06
 1.52E-00 3.94E-02 2.13E-05 1.15E-04 6.22E-06 3.34E-07 1.82E-08
 7.42E-04 4.12E-07 4.12E-07 4.1E-07 4.1E-07 4.1E-07
 2.13E+05 6.01E+02 3.25E+02 2.52E+02 2.07E+02 1.76E+02 1.53E+02
 totals
 page 46
 thoton spectrum as a function of time for light elements, clading and structural meterials
 ass2h; bebook wilcox 15x15, 3.00x1X, 20gxd/intu burn high temp
 power 7,25 ms, burnup 9250 msd, flue 1.632-13 ms2-sec spectrum of photon release rates, photons/sec
 basis = single reactor assembly
 tim efter discharge
initial 304.4 d 608.8 d 913.1 d 1217.5 d 1521.9 d 1626.3 d
 (MEV)
 .00+00
 .00E+00
 .ODE+00 .ODE+00
 1.00E-02 .00E+00
 .Œ+00
 .00E+00
 3.00E-02
 .OE+00
 .Œ+00
 .00E+00
 .OCHOO
 _00E+00
 .00E+00
 .00+300.
 .00E+00
 .00E+00
 5.50E-02
 -00E+00
 .OE+00
 .COE+CO
 .00+00
 .00÷00
 .COE+CO
 .OE+00
 .00E+00
 .00E+00
 .Œ+CO
 CO+EXOL.
 8.50E-02
 .COE+CO
 1.20E-01
 .00E+00
 .00+00
 .00E+00
 -00E+00
 .00+200.
 .00E+00
 .00E+00
 .00±+00
 .00E+00
 .OE+00
 1.70E-01
 .00E+00
 .00E+00
 -00E+00
 .OE+00
 .00E+00
 .00E+00
 -00E+00
 .00E+00
 .00±100
 3.00E-01
 .CD+CD
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 6.50E-01
```

```
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
 2.00E+00
 .00E+00
 .00E+00
 .CCE+CO
 .00E+00
 .00+00
 .00E+00
 .00±00
 2.40E+00
 .00E+00
 .00E+00
 .00E+00
 .OE+00
 .DE+00
 _00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .OE+O
 ,00E+00
 2.80E+00
 .00+300,
 .CCE+CC)
 3.25E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 3.75E+00
 .COE+CO
 .00+300,
 .00E+00
 .00E+00
 .00+00
 -00E+00
 .00E+00
 4.25E+00
 .00E+00
 .00+00
 .00E+00
 .00+00
 .00E+00
 4.75E+00
 .00E+00
 .00E+00
 .00±00
 .CCE+CO
 .00E+00
 .00E+00
 .00E+00
 5.50E+00
 :00+00
 .00E+00
 .COE+CO
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 total
 .00±400.
 .00±+00
 .COE+CO
 .00E+00
 .00±+00
 .00±100.
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .OE+00
 .00E+00
 .00E+00
 .00E+00
 MEV/SEC
 spectrum of energy release rates, mev/watt-sec
basis = single reactor assembly
 time after discharge
initial 304.4 d 608.8 d 913.1 d 1217.5 d 1521.9 d 1826.3 d
.00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00
 eneen
 (nev)
 1.00E-02
 .00E+00
 3.00E-02
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .0E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 5.50E-02
 .00E+00
 .00+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
 1.70E-01
 .00E+00
 .00E+00
 .OCE+00
 .OE+00
 .00E+00
 .CCE+CO
 .OE+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00±00
 3.00E-01
 .00E+00
 .00±00
 .00E+00
 .00E+00
 .00E+00
 .00+00
 .00E+00
 6.50E-01
 .00±+00
.00±+00
 1.13E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 00+30
00+30
 .00±00
.00±00
 .0E+00
 00÷00
00÷00
 .COE+CO
 1.535+00
 .00E+00
 2.00E+00
 .00E+00
 .00E+00
 .00E+00
 .0E+00
 .00E+00
 .00E+00
 .00E+00
 2.40E+00
 .0E+00
 .00E+00
 .OE+00
 .00±400
 2.80E+00
 .00E+00
 .00±00
 .00E+00
 .0E+00
.0E+00
 3.25E+00
 .00±+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00±00
.00±00
 .0E+00
.0E+00
 3.75E+00
 .00E+00
 .00E+00
 .00E+00
 .00±00
 4.72.40
4.72.40
 .COE+CO
 .00E+00
 .OOE+00
 .CCE+CO
 .00E+00
 .00E+00
 .00-100
 .00E+00
 .COE+CO
 .CCE+CO
 .00E+00
 .00E+00
 .00+00
 .00E+00
 .OE+00
 .00+00
 .00E+00
 5.50E+00
 .00+00
 total
 .00E+00
 .ODE+00
 .OE+00
 .OE+00
 .00E+00
 .00E+00
 .00±+00
 .00E+00
 .OE+00
 .00E+00
 -00E+00
 .00±400
 .00+00
 .00E+00
CERTAIN MARKETS
 photon spectrum as a function of time for fission products
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see2h: behook wilcox 15x15, 3.00x1X, 20px/latu hum high temp power= 7.25 m, burnp= 9280.md, filue=1.63±15 nt=2-sec spectrum of photon release rates, photons/sec basis = single reactor asserbly

| esteen)  |                       |          | tin      | e after d | ischange        |                      |                       |
|----------|-----------------------|----------|----------|-----------|-----------------|----------------------|-----------------------|
| (mev)    | initial               | 304.4 d  | 608.8 d  | 913.1 d   | 1217.5 d        | 1521.9 d             | 1826.3 d              |
| 1.00E-02 | 4.ZZE+17              | 6.4E+15  | 3.5Æ+15  | 2.14E+15  | 1.43E+15        | 1.05+15              | 8.42E+14              |
| 3.00E-02 | 1.87E+17              | 2.77E+15 | 1.52E+15 | 9.21E+14  | 6. KE+14        | 4.5 <del>C+</del> 14 | 3. <del>65E+</del> 14 |
| 5.50E-02 | 9.88E+16              | 1.515+15 |          |           | 3.25E+14        | 2.39E+14             | 1.91E+14              |
| 8.50E-02 | 6.8X+16               | 9.5/E+14 | 5.17E+14 | 3.05E+14  | 1.95E+14        | 1.39E+14             | 1.03E+14              |
| 1.20E-01 | 5.53E+16              | 1.20E+15 | 6.29E+14 | 3.51E+14  | 2.13E+14        | 1.42E+14             | 1.05E+14              |
| 1.70E-01 | 9.03E+16              | 6.2KE+14 | 3.3E+14  | 1.95E+14  | 1.25+14         | &Æ#B                 | ል. <b>ፖር</b> ተፔ       |
| 3.00E-01 | 1.91E+17              | 7.19E+14 | 3.89E+14 | 2.25E+14  | 1.41E+14        | 9.75E+13             |                       |
| 6.50E-01 | 3.90E+17              | 5.53E+15 | 2,945    |           |                 | 1.55E+15             | 1.39E+15              |
| 1.13E+00 | 1.2 <del>/E+</del> 17 | 1.80E+14 | 1.20E+14 | 8.60E+13  | 6.61E+13        | 5.37E+13             | 4.55E+13              |
| 1.5E+00  | 6.53E+16              | 6.0E+13  | 3.6E+13  | 2.30E+13  | 1.53E+13        | 1.07E+13             | 7.78E+12              |
| 2.00E+00 | 1.92E+16              | 4.69E+13 | 2.27E+13 | 1.115+13  | 5.4 <b>%+12</b> | 2.60E+12             | 1.33E+12              |
| 2.40E+00 | 1.53E+16              | 2.8/E+12 | 1.57E+12 | 8.7E+11   | 4.87E+11        | 2.72E+11             | 1.53E+11              |
| 2.80E+00 | 4.53E+15              | 4.44E+11 | 2.49E+11 | 1.40E+11  | 7.8XE+10        | 4.41E+10             | 2.49E+10              |

DBOR 47

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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+08 3.22E+08 1.82E+08
 4.25E+00 1.59E+15 9.80E-06 1.00E-05 1.02E-05 1.04E-05 1.05E-05 1.05E-05
 4,75E+00 4.67E+14 4.9XE-06 5.0XE-06 5.1XE-06 5.2XE-06 5.2XE-06
 5.50E+00 3.59E+14 3.65E-06 3.74E-06 3.81E-06 3.87E-06 3.92E-06 3.92E-06
 total 1.74E+18 2.01E+16 1.09E+16 7.04E+15 5.00E+15 3.86E+15 3.20E+15
 mex/sec 7.22+17 4.776+15 2.556+15 1.856+15 1.486+15 1.256+15 1.056+15
 spectrum of energy release rates, may/heatt-sec
basis = single reactor assembly
 time after discharge (xEV) initial 304.4 d 608.8 d 913.1 d 1217.5 d 1521.9 d 1826.3 d 1.005-02 5.825-08 8.905-06 4.885-06 2.965-06 1.975-06 1.465-06 1.165-06
 3.00E-02 7.75E-08 1.15E+07 6.30E+06 3.81E+06 2.54E+06 1.89E+06 1.52E+06
 5.502-02 7.502-08 1,522-07 6.312-06 3.702-06 2.502-06 1.502-06 1.502-06 8.502-02 8.002-08 1.122-07 6.072-06 3.572-06 2.252-06 1.502-06 1.702-06 1.702-07 5.812-06 3.502-06 2.352-06 2.352-06 1.702-06
 1.70E-01 2.12E-02 1.46E-07 7.86E-05 4.60E-05 2.90E-05 2.00E+05 1.50E+05
 3.00E-01 7.91E-09 2.98E-07 1.61E-07 9.32E-06 5.85E-06 4.09E-06 3.07E-06
 6.50E-01 3.50E+10 4.50E+08 2.66E+08 2.06E+08 1.60E+08 1.40E+08 1.20E+08 1.00E+07 1.0
 1.13E+00 1.92E+10 2.77E+07 1.82E+07 1.33E+07 1.03E+07 1.59E+00 1.42E+10 1.31E+07 7.89E+06 4.99E+06 3.33E+08
 2.32E+05 1.69E+05
 2.000-00 5.310-00 1.200-07 6.200-06 3.000-06 1.400-06 7.300-06 3.600-06 2.400-00 5.200-09 9.300-05 5.210-05 2.800-05 1.610-05 9.000-06 5.000-06 3.000-06 1.700-06 9.600-06 9.600-06 3.000-06 1.700-06 9.600-06
 3,27E+05 1.8/E+05
 3.25E+00 1.51E+09 3.17E+04 1.80E+04 1.02E+04 5.78E+08
 3.7500 8.2708 1.6100 9.4600 5.1600 2.9600 1.6500 9.460
4.2500 9.2608 5.75-12 5.86-12 6.06-12 6.10-12 6.17-12 6.26-12
 4.7E+00 3.0E+08 3.2E+12 3.3E+12 3.7E+12 3.4E+12 3.4E+12 3.4E+12 5.50E+00 2.7E+08 2.7E+12 2.8E+12 2.8E+12 2.8E+12 2.8E+12 2.8E+12 2.8E+12 3.0E+12
 total 9.95E+10 6.5EE+08 3.55E+08 2.60E+08 2.05E+08 1.65E+08 1.46E+08
 GURNA MERTES 1.1/EHOS 7.65EHOZ 4.13EHOZ 3.02EHOZ 2.39EHOZ 1.97EHOZ 1.49EHOZ
 principal photon sources in group 1, photors/sec
mean energy = .0100 mey, nuclides exceeding 1.0E-15 of total group release rate (1.0EE+15) 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 1.386-13 1.316-13 1.26-13 1.176-13 1.116-13 1.486-13 9.986-12
 9.355+13 9.165+13 8.975+13 8.785+13 8.615+13 8.445+13 8.275+13 4.665+14 4.505+14 4.755+14 4.255+14 4.155+14 4.055+14
 3,42+15 1,85+15 1,07E+15 6,05E+14 3,43E+14 1,97E+14 1,10E+14
 4.65+12 3.77E+12 3.05E+12 2.47E+12 2.00E+12 1.63E+12 1.3TE+12
 出る
 8.74E+13 6.60E+13 4.99E+13 3.77E+13 2.89E+13 2.19E+13 1.63E+13
 cs137
 1.0E+14 1.0E+14 1.0E+14 1.0E+14 9.8E+13 9.6E+13 9.6E+13
 5,076+12 4,856+12 4,776+12 4,776+12 4,656+12 4,526+12 4,446+12 5,256+14 2,516+14 1,206+14 5,706+13 2,726+13 1,306+13 6,186+12 6,966+15 3,326+15 1,566+15 7,556+14 3,606+14 1,776+14 8,166+13
 be 137m
 m47 6.25+13 5.145+13 4.125+13 3.316+13 2.666+13 2.136+13 1.716+13
 1,30E+13 1,21E+13 1,13E+13 1,05E+13 9,91E+12 9,27E+12 8,67E+12
 4.07E+12 3.60E+12 3.18E+12 2.81E+12 2.47E+12 2.20E+12 1.94E+12
 principal photon sources in group 2, photors/sec
men energy = .0300 mev. ruckless exceeding 1.05-03 of total group release rate (4.545-14) 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
 6 6 4.02+12 3.81+12 3.61+12 3.42+12 3.24+12 3.07+12 2.91+12 4.02+13 2.54+13 2.54+13 2.54+13 2.54+13 2.54+13 2.54+13 2.54+13 2.54+13 2.54+13 2.54+13 2.54+14 1.
 1. KE+15 6.20E+14 3.57E+14 2.00E+14 1.15E+14 6.50E+13 3.69E+13
 화조 3.55는13 2.85는13 2.34는13 1.85는13 1.55는13 1.24는13 1.00는13
 te12m 1.75+13 1.66+13 1.35+13 1.05+13 8.72+12 7.05+12 5.716+12
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C8134 3.265+13 2.465+13 1.865+13 1.415+13 1.065+13 8.035+12 6.075+12 C8137 2.965+13 2.905+13 2.855+13 2.785+13 2.865+13
 bals/m 8.60E+13 8.39E+13 8.29E+13 8.09E+13 7.92E+13 7.77E+13 7.62E+13
 CENA 1.22E+15 5.82E+14 2.78E+14 1.32E+14 6.31E+13 3.01E+13 1.44E+13
 priss 2316-15 1.106-15 5.226-14 2.506-14 1.196-14 5.666-13 2.716-13 priss 4.726-13 2.246-13 1.076-13 5.106-12 2.436-12 1.166-12 5.546-11
 mild 1.37c+13 1.13c+13 9.07c+12 7.27c+12 5.04c+12 1.67c+12 3.76c+12 9.07c+12 7.27c+12 5.04c+12 3.76c+12 3.76c+12 9.07c+12 2.37c+12 2.06c+12 1.09c+12 1.09c+12 principal photon sources in group 3, photons/sec mean energy = .0000 sev. nuclides exceeding 1.0c-05 of total group release rate (2.39c+14) at 1521.9 d
ruci ide
 time after discharge
 initial 304.4 d 608.8 d 913.1 d 1217.5 d 1521.9 d 1826.3 d lcr 85 2.46±12 2.33±12 2.21±12 2.10±12 1.99±12 1.89±12 1.78±12
 er 90 1.55±13 1.55±13 1.50±13 1.47±13 1.44±13 1.41±13 1.33±13 y 90 1.05±14 1.01±14 9.92±13 9.73±13 9.53±13 9.34±13 9.15±13 1.60±13 2.61±13 1.60±13 2.61±13 1.60±13 2.61±13
 1,55-13 1,05-13 8,26-12 6,26-12 4,75-12 3,57-12 2,66-12 1,76-13 1,66-13 1,66-13 1,65-13 1,56-13 1,56-13 1,56-13 1,56-13
 C3134
 1.776-14 8.426-13 4.026-13 1.916-13 9.136-12 4.326-12 2.036-12 1.626-15 7.716-14 3.636-14 1.736-14 8.376-13 3.926-13 1.926-13
 pm47 5.75±12 4.75±12 3.85±12 3.05±12 2.45±12 1.97±12 1.56±12 1.45±13 1.46±13 1.56±13 1.46±13 1.36±13 1.27±8 1.19±13 1.11±13
 eut55 1.19E+13 1.05E+13 9.28E+12 8.20E+12 7.25E+12 6.41E+12 5.66E+12
 principal photon sources in group 4, photons/sec man energy = .050 mev. ruclides exceeding 1.05-05 of total group release rate (1.395+14) at 1521.9 d
 time after discharge
 initial 304.4 d 608.8 d 973.1 d 1217.5 d 1521.9 d 1826.3 d
for 85 1.255+12 1.175+12 1.115+12 1.055+12 9.945+11 9.425+11 8.945+11
 ar 90 7,45E+12 7,25E+12 7,15E+12 7,00E+12 6,86E+12 6,7EE+12 6,58E+12
Y 90 (ASE+12 (ASE+12 (ASE+12 (ASE+12 ASE+12 ASE+12 ASE+12 ASE+13
 mild? 1.64-12 1.56-12 1.06-12 8.70-11 6.96-11 5.60-11 4./6-11 e.ds. 9.14-11 8.54-11 7.96-11 7.47-11 6.96-11 6.56-11 6.10-11
 1.80E+13 1.59E+13 1.41E+13 1.2E+13 1.10E+13 9.73E+12 8.60E+12
 principal photon sources in group 5, photons/sec
mean energy = .1200 may. 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 1217.9 d 1226.3 d
for 85 7.435-11 7.045-11 6.675-11 6.325-11 5.935-11 5.485-11 5.385-11
 8F 90 4.2Ke12 4.15e12 4.07e12 3.9Se12 3.9Ce12 3.8Ze12 3.7Ze12

9 9 4.2Ke13 4.15e13 4.0Ke13 3.9Ce13 3.8Ce13 3.8Ce13 3.7Ze13

m105 3.4Ke14 1.9Te14 1.0Ce14 6.1Se13 3.4Ke13 1.97e13 1.1Ze13

08134 4.0Ce12 3.0Ce12 2.3Ce12 1.7Ke12 1.3Ce12 1.0Ce12 7.5Ke11
 CSTS7 4.52+12 4.43+12 4.36+12 4.26+12 4.76+12 4.16+12 4.05+12 CST44 1.22+15 5.856+14 2.766+14 1.336+14 6.326+13 3.026+13 1.466+13
 pri(4 6.85±14 3.25±14 1.55±14 7.35±13 3.52±13 1.65±13 8.02±12 pri(47 5.16±11 4.26±11 3.46±11 2.76±11 2.21±11 1.76±11 1.42±11 8.05±13 3.10±13 2.86±13 2.71±13 2.53±13 2.37±13 2.21±13 2.07±13 8.05±13 1.05±13 9.10±12 8.04±12 7.11±12 6.26±12 5.55±12 4.91±12
 principal photon sources in group 6, photons/sec
mean energy = .1700 mev. nuclicies exceeding 1.05-03 of total group release rate (8.755-13) at 1521.9 d
 rucide time after discharge initial 304.4 d 608.8 d 913.1 d 1217.5 d 1521.9 d 1826.3 d kr 85 5.90±11 5.55±11 5.30±11 5.02±11 4.78±11 4.51±11 4.27±11
ructide
 sr 90 3.02+12 2.90E+12 2.90E+12 2.84E+12 2.78E+12 2.73E+12 2.67E+12
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```
y 90 4,42±13 4,25±13 4,17±13 4,05±13 4,00±13 3,92±13 3,84±13 1105 3,73±14 2,05±14 1,16±14 6,59±13 3,74±13 2,12±13 1,20±13
 #175 5.5%+12 4.5%+12 3.5%+12 2.6%+12 2.3%+12 1.6%+12 1.5%+12 cs134 3.6%+12 2.3%+12 1.7%+12 1.3%+12 9.9%+11 7.5%+11 5.6%+11
 CSIS7 3.19E+12 3.13E+12 3.07E+12 3.07E+12 2.99E+12 2.99E+12 2.99E+12 pr144 7.22E+14 3.46E+14 1.66E+14 7.81E+13 3.73E+13 1.78E+13 8.49E+12
 euist 7.2/E+11 6.7/E+11 6.35E+11 5.53E+11 5.53E+11 5.17E+11 4.8/E+11
 page 50
 principal photon sources in group 7, photons/sec
team energy = ,3000 mey. nuclides occording 1.0E-03 of total group release rate (9.79E-13) at 1521.9 d
relicia
 initial 304.4 d 608.8 d 913.1 d 1217.5 d 1521.9 d 1826.3 d kr 85 3.56411 3.38411 3.20411 3.08411 2.67411 2.78411 2.58411 sr 90 1.376412 1.36412 1.38412 1.28412 1.28412 1.28412 1.28412 1.28412 1.28412
 Y 90 4.97E-13 4.7ZE-13 4.6ZE-13 4.4ZE-13 4.4ZE-13 4.2ZE-13 4.2ZE-13 1.4ZE-13 4.5ZE-13 4.5ZE-13 1.4ZE-13 1.4ZE-1
 $15 2.05+12 1.65+12 1.35+12 1.05+12 8.75+11 7.07+11 5.72+11
 CSIS. 1.926-12 1.476-12 1.116-12 8.376-11 6.336-11 4.766-11 3.616-11 (CSIS) 1.626-12 1.526-12 1.526-12 1.526-12 1.526-12 1.526-12 1.476-12
 eurs 4.75+12 4.45+12 4.14E+12 3.87E+12 3.65E+12 3.39E+12 3.14E+12
 principal photon sources in group 8, photons/sec
mean energy = .6600 mev. nuclides exceeding 1.0E-08 of total group release rate (1.59E+15) at 1521.9 d
 time after discharge
 rucl ide
 y 90 2.07E+13 2.00E+13 1.90E+13 1.90E+13 1.80E+13 1.80E+1
 CSIX 2.ZFe15 1.ZEe15 1.3Ee15 9.8Ee14 7.ZEe14 5.Ee14 4.ZEe14 5.Ee14 9.ZEe14 9.ZEe14 8.PEe14 8.FEe14 8.FEe13 8.F
 principal photon sources in group 9, photons/sec man energy = 1.120 mev. ruckides exceeding 1.05-03 of total group release rate (5.375-13) at 1521.9 d
 ruclide initial 304.4 d 608.8 d 913.1 d 1217.5 d 1521.9 d 1826.3 d y 90 2.70E+12 2.60E+12 2.50E+12 2.50E+12 2.60E+12 2.50E+12 1.30E+13 7.30E+12 4.16E+12 1.30E+12 4.1
 aci 10a 5.33E+12 2.20E+12 9.84E+11 4.29E+11 1.82E+11 7.81E+10 3.39E+10
 CS134 2.7E+13 2.10E+13 1.5RE+13 1.2E+13 9.0E+12 6.8E+12 5.1E+12 1.7E+13 1.5E+13 7.9E+12 3.5E+13 1.5E+13 7.9E+12 3.5E+12 1.5E±12 8.6E±11 6.3E±10 6.9E±10 6.9E±10 6.3E±10 6.1E±10 5.6E±10 5.6E±10
 MS4 4.9E+13 4.5E+13 4.ZE+13 4.0E+13 3.7E+13 3.5E+13 3.ZE+13
 principal photon sources in group 10, photons/sec
mean energy = 1.5750 may. nuclicles exceeding 1.0E-03 of total group release rate (1.07E-13) at 1521.9 d
relicle
 y 90 3.45-11 3.35-11 3.26-11 3.16-11 3.05-12 3.05-12 3
 2.635.4 2.635-13 1.755-13 1.755-13 1.755-13 8.575-12 6.425-12 4.905-12 pr/44 4.595-13 2.125-13 1.025-13 4.975-12 2.375-12 1.025-13 2.555-10 2.565-1
 principal photon sources in group 11, photons/sec mean energy = 2,0000 key. nuclicles exceeding 1.0E-US of total group release rate (2.66E+12) at 1521.9 d
ruclide timitial 304.4 d 608.8 d 913.1 d 1217.5 d 1521.9 d 1826.3 d 990 2.075410 1.955410 1.955410 1.955410 1.875410 1.8755410
```

```
H105 7.55+12 4.35+12 2.47E+12 1.40E+12 7.54E+11 4.50E+11 2.55E+11
 pr144 8.91+13 4.24+13 2.02+13 9.64+12 4.60+12 2.19+12 1.05+12
 principal photon sources in group 12, photons/sec men energy = 2.4000 mev. nuclides exceeding 1.0E-08 of total group relesse rate (2.77E-11) at 1521.9 d
 time after discharge
 initial 304.4 d 608.8 d 973.1 d 1217.5 d 1521.9 d 1826.3 d
h106 4.43=+12 2.44=+12 1.33=+12 7.83=+11 4.44=+11 2.52=+11 1.43=+11
pri44 8.42=+11 4.00=+11 1.91=+11 9.11=+10 4.34=+10 2.07=+10 9.83=+09
 principal photon sources in grap 13, photons/sec grap relesse rate (4.41E+10) at 1521.9 d
 time after discharge
 hitial 304.4 d 608.8 d 913.1 d 1217.5 d 1521.9 d 1526.3 d
h106 7.47e+11 4.11e+11 2.33e+11 1.33e+11 7.49e+10 4.29e+10 2.41e+10
pr144 6.79e+10 3.22e+10 1.54e+10 7.33e+09 3.50e+09 1.67e+09 7.96e+08
 principal photon sources in group 14, photons/sec
mean energy = 3.2500 mev. nuclicles exceeding 1.0E-03 of total group release rate (7.30E-09) at 1521.9 d
 ruclide time after discharge initial 304.4 d 608.8 d 913.1 d 1217.5 d 1521.9 d 1826.3 d rh105 1.29E+11 7.07E+10 4.01E+10 2.27E+10 1.29E+10 7.30E+09 4.1/E+09
 men energy = 3.7500 mev. ruclides exceeding 1.0E-03 of total group release rate (3.22E-05) at 1521.9 d ruclides exceeding 1.0E-03 of total group release rate (3.22E-05) at 1521.9 d ruclides
nuclide
 initial 304.4 d 608.8 d 913.1 d 1217.5 d 1221.9 d 1226.3 d
rh106 5.67E+07 3.12E+07 1.77E+07 1.00E+07 5.47E+06 3.22E+06 1.82E+06
 principal photon sources in group 16, photons/sec
men energy = 4,2500 mev. nuclides exceeding 1,0E-03 of total group release rate (1,05E-05) at 1521.9 d
 time after discharge
 initial 304.4 d 608.8 d 913.1 d 1217.5 d 1521.9 d 1826.3 d
 CENS 8.67E-05 8.67E-05 8.67E-05 8.67E-05 8.67E-05 8.67E-05
 sml46 5.18E-08 5.35E-08 5.50E-08 5.63E-08 5.74E-08 5.87E-08 5.97E-08
 sul47 7.79E-07 1.09E-06 1.33E-06 1.57E-06 1.67E-06 1.77E-06 1.89E-06
 page 52
 principal photon sources in grap 17, photons/sec the energy = 4.7500 sev. nuclides exceeding 1.0E-03 of total grap release rate (5.28E-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
 CENIZ 4.35E-06 4.35E-
 BINAT 3.89E-07 5.40E-07 6.65E-07 7.59E-07 8.37E-07 9.00E-07 9.50E-07
 principal photon sources in group 18, photons/sec
green energy = 5,5000 mev. ruclides exceeding 1.0E-05 of total group release rate (3.92E-06) at 1521.9 d
 time after discharge
 initial 30% A d 608.8 d 913.1 d 1217.5 d 1521.9 d 1826.3 d ce1/2 3.25E-06 3
 ##46 1.99E-08 1.99E-08 2.00E-08 2.10E-08 2.14E-08 2.18E-08 2.22E-08
 $147 2.85E-07 4.01E-07 4.91E-07 5.65E-07 6.21E-07 6.67E-07 7.05E-07
 page 53
 photon spectrum as a function of time for heavy metals and their daughters
 see2h; bebook willook 15x15, 3,00x0X, 20pchitu burn high temp
 powers 7.25 m, burnups 920 and, flure 1.65+13 m2-sec
 actinide thoton release rates, thotors/sec
 basis = single reactor assenbly
 time after discharge
initial 304.4 d 608.8 d 913.1 d 1217.5 d 1521.9 d 1886.3 d
 1.00E-02 2.27E+17 2.10E+13 1.10E+13 8.56E+12 8.12E+12 8.2E+12 8.46E+12
 3.00E-02 1.43E+16 1.02E+11 1.46E+11 1.89E+11 2.29E+11 2.67E+11 3.04E+11
```

5.50E-02 1.50E+16 1.60E+12 2.43E+12 3.5EE+12 3.5EE+12 4.51E+12 5.4EE+12 8.50E+10 8.00E+10 8.0

```
1,200-01 9,336+16 1,126+11 1,106+11 1,006+11 1,006+11 1,006+11 1,706-01 2,976+15 3,546+09 2,716+09 2,476+09 2,366+09 2,3
 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 4,75E+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 4,16E+08
 1.55E+00 3.51E+07 2.05E+07 1.72E+07 1.71E+07 1.75E+07 1.85E+07 1.97E+07
 2,00E+00 2,22E+06 1,92E+06 1,94E+06 1,99E+06 2,05E+06 2,05E+06 2,09E+06
 2.40E+00 1.45E+07 6.30E+06 3.9E+06 3.2E+06 3.02E+06 2.8FE+06 2.7FE+06
 2.80E+00 1.95E+07 2.48E+07 3.54E+07 4.74E+07 5.92E+07 7.08E+07 8.08E+07
 3.7540 5.1646 2.2646 1.4246 1.17646 1.0646 1.0646 1.0646 3.7540 3.0646 1.3646 8.2546 6.80546 6.77646 5.9646 5.80546 4.2540 1.76646 7.57646 4.76546 3.9656 3.6656 3.47646 3.36646 4.76540 1.06646 4.36546 2.77646 2.26546 2.10646 2.06646 1.96546
 5.50E+00 9.10E+05 3.97E+05 2.51E+05 2.05E+05 1.90E+05 1.82E+05 1.76E+05
 total 5.00E+17 2.30E+13 1.39E+13 1.21E+13 1.24E+13 1.32E+13 1.42E+13
 mev/sec 4.09E+16 3.48E+11 2.87E+11 3.08E+11 3.37E+11 3.70E+11 4.14E+11
 actinide energy release rates, nev/lett-sec
 basis = single reactor assembly
 time after discharge (mev) initial 304.4 d 608.8 d 913.1 d 1217.5 d 1521.9 d 1826.3 d 1,008-02 3.138-08 2.908-04 1.528-04 1.188-04 1.128-05 1.138-04 1.178-05
 3,00E-02 5,9/EHO7 4,29EHO2 6,0/EHO2 7,78EHO2 9,45EHO2 1,10EHOB 1,2/EHOB
 5.50E-02 1.46E+08 1.28E+04 1.86E+04 2.39E+04 2.91E+04 3.42E+04 3.50E+04
 8.50E-02 1.00E+09 9.47E+02 9.47E+02 9.47E+02 9.47E+02 9.47E+02 9.47E+02 1.20E+03 1.76E+03 1.7
 1.70E-01 6.90E-07 8.31E-01 6.50E-01 5.70E-01 5.61E-01 5.50E-01 3.00E-01 2.00E-02 2.40E-03 2.37E-03 2.33E-03 2.31E-03 2.28E-03 2.25E-03 6.50E-01 2.32E-03 5.70E-01 4.41E-01 4.30E-01 4.50E-01 4.70E-01 5.00E-01
 1.5E+00 1.7E+08 6.9E+01 6.6E+01 6.5E+01 6.4E+01 6.4E+01 6.4E+01 1.5E+00 8.9E+00 4.4E+00 3.7E+00 3.7E+00 3.8E+00 4.0E+00 4.2E+00
 2.00E+00 6.11E-01 5.31E-01 5.40E-01 5.50E-01 5.59E-01 5.69E-01 5.76E-01
 2.4500 4.7500 2.0500 1.3500 1.0500 1.0500 9.5700 9.2500 2.6500 7.5500 9.5500 1.3700 1.6500 2.2600 2.7500 3.1000 3.2500 2.3500 1.0600 6.3500 5.2500 4.6500 4.6500 4.6500 4.6500 3.7500 1.5500 6.7600 4.7500 3.5500 3.2500 3.7500 1.5500 6.7600 4.7500 3.5500 3.2500 3.7500 3.7500 1.5500 6.7600 4.7500 3.5500 3.7500 3.
 3.75+00 1.55+00 6.76+01 4.27+01 3.55+01 3.36+01 3.10+01 3.00+01 4.25+00 1.02+00 4.44+01 2.80+01 2.31+01 2.15+01 2.04+01 1.97+01
 4.75E+00 6.59E-01 2.87E-01
 1,82E-01 1.50E-01 1.39E-01 1.32E-01
 1.20E-01
 5.50E+00 6.50E+01 3.01E+01 1.50E+01 1.57E+01 1.44E+01 1.39E+01 1.34E+01
 total 5.66609 4.76604 3.96604 4.17604 4.65604 5.18604 5.71604
 GENERAL MEETES 6.55E-02 5.53E-02 4.60E-02 4.65E-02 5.40E-02 6.02E-02 6.64E-02
 neutron source intensity as a function of time
 see2h: beboook willook 15k/5, 3.00x/X, 20gsc/hitu burn high temp
 alpha n neutron source, neutrons/sec/tasis
 basis = single reactor assembly
 initial 304Ad 608.8d 913.1d 1217.5d 1521.9d 1826.3d
tt210 2.26-15 3.18-15 4.36-15 5.98-15 8.09-15 1.08-14 1.46-14 1.46-14 1.20-15 5.616-13 8.116-13 1.116-12 1.58-12 2.076-12 2.78-12 3.66-12
bi211 8.15E-04 1.41E-03 1.92E-03 2.45E-03 2.92E-03 3.47E-03 3.92E-03
 3.7E-01 7.42-01 1.17E-00 1.61E-00 2.03E-00 2.43E-00 2.78E-00
bizis 9.65E-07 1.77E-07 1.96E-07 2.14E-07 2.32E-07 2.50E-07 2.70E-07
 3.35E-09 4.8/E-09 6.77E-09 9.00E-09 1.17E-08 1.47E-08 1.8/E-08
bi214
 4.AXE-07 7.8/E-07 1.11E-06 1.5/E-06 2.0XE-06 2.8/E-06 3.7/E-06
 3.22E-06 5.58E-06 7.6/E-06 9.6/E-06 1.17E-05 1.57E-05 1.57E-05
po211
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1,92±00 3,80±00 5,97±00 8,22±00 1,92±01 1,22±01 1,42±01 1,27±06 2,37±06 2,57±06 3,02±05 3,30±05 3,30±05 3,56±05

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INFORMATION ONLY

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po214 7,14E-05 4,31E-05 5,99E-05 8,01E-05 1,04E-04 1,31E-04 1,62E-04 po215 1,19E-05 1,99E-05 2,73E-05 3,44E-05 4,18E-05 4,90E-05 5,62E-05
 4.66E+00 6.42E+00 8.12E+00 9.69E+00
 1.11E+01
 1.51E+00
 2.9Œ+00
 p218 1.42E-05 2.00E-05 2.85E-05 3.81E-05 4.94E-05 6.24E-05 7.77E-05 at 217 8.25E-05 1.53E-05 1.60E-05 1.80E-05 1.96E-05 2.14E-05 2.31E-05 m218 3.40E-05 1.34E-09 5.25E-14 2.07E-18 8.12E-23 2.73E-27 .00E-00
 9.KE-04 1.5E-03 2.17E-03 2.7E-03 3.3E-03 3.9E-03 4.47E-03 1.2E-00 2.3E-03 3.6E-03 5.0E-03 6.4E-03 7.6E-03 8.8E-03 1.0E-05 1.5E-05 2.0E-05 2.7E-05 3.6E-05 4.5E-05 5.6E-05 6.0E-05 1.1E-05 1.2E-05 1.3E-05 1.4E-05 1.5E-05 1.6E-05
 m219
 m220
 m222
 fr221
 fr225
rs222
 3.77=10 5.92=10 8.21=10 1.02=09 1.22=09 1.47=09 1.62=09 2.62=05 1.02=09 4.02=14 1.60=18 6.22=-23 2.47=-27 .00=00
 re23 5.28-04 9.17E-04 1.26E-03 1.59E-03 1.99E-03 2.26E-03 2.59E-03
R225 5.26-04 9.1E-04 1.26-03 1.9E-03 1.9E-03 2.26-03 2.9E-03 R226 8.4E-01 1.6E-03 2.6E-03 3.9E-03 4.9E-03 5.AE-03 6.2E-03 8.7E-03 1.2E-03 1.9E-03 2.1E-03 2.4E-03 6.2E-03 8.0E-03 8.7E-03 9.9E-03 1.0E-03 1.1E-03 1.2E-03 8.2E-03 8.0E-03 8.7E-03 9.9E-03 1.0E-03 1.1E-03 1.2E-03 8.2E-03 8.2E-03 1.3E-03 1.4E-03 1.4E-03 1.4E-03 1.9E-03 1.9E-03 1.2E-03 8.2E-03 8.2E-03 8.2E-03 1.3E-03 1.4E-03 1.4E-03 1.4E-03 1.8E-13 1.4E-13 5.6E-13 2.2E-27 .00E-03 1.2E-03 1.2E
 6.0E-04 1,0E-05 1.5E-05 1.6E-05 2.4E-05 2.4E-05 2.4E-05 2.4E-05 7.0E-06 1.7.10E-01 1,0E-05 5.2E-00 3.8E-00 4.5Œ-05 5.2E-00 4.7E-06 5.0E-06 5.0E-06 6.0E-06 6.5E-06 7.0E-06 6.0E-06 7.0E-06 6.0E-07 7.8E-07 7.8E-07 3.7E-07 4.5Œ-07 5.4Œ-07 6.2E-07 7.0E-07 7.8E-07 8.0E-07 8.1E-05 8.3E-05 8.4E-05 8.6E-05 8.7E-05 1.8E-05 8.7E-05 1.8E-05 8.0E-05 8.7E-05 1.8E-05 8.0E-05 8.7E-05 1.8E-05 8.0E-05 8.7E-05 8.0E-05 8.0E-05 8.7E-05 1.8E-05 8.0E-05 8.7E-05 1.8E-05 8.0E-05 8.7E-05 8.0E-05 8.7E-05 8.0E-05 8.0E-05 8.7E-05 8.0E-05 8.0
 #28
#29
#20
#20
 विविद्वविद्वविद्व
 7.25E-08
 .00E+00
 .00±00.
 .00E+00
 .00+300.
 .00+00
 .00E+00
 2.456.0 3.656.00 4.556.00 5.356.00 5.966.00 6.466.00 6.056.00
4.966.00 5.166.00 5.356.00 5.956.00 5.966.00 6.466.00 6.056.00
4.966.00 5.166.00 5.356.00 5.956.00 5.766.00 5.966.00 6.056.00
2.526.00 2.526.00 2.536.00 2.546.00 2.546.00 2.556.00 2.556.00
5.056.00 5.056.00 5.056.00 5.056.00 5.056.00 5.056.00 3.556.01 3.556.01 3.556.01 3.556.01
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neutron source intensity as a function of time

see2h: bebook wilcox 15x75, 3.00x1X, 20px/httu burn high temp alpha-n neutron source, neutrons/sec/besis basis = simile reactor assembly

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

p.239 1.10E+05 1.11E+05 1.11E+05 1.11E+05 1.11E+05 1.11E+05 1.11E+05 1.05E+05 1.05E+05 1.05E+05 1.05E+05 1.05E+05 1.05E+05 1.05E+05 DEKI 5.50EHO2 5.34EHO2 5.13EHO2 4.73EHO2 4.73EHO2 4.54EHO2 4.37E+02 1.57±02 1.57±02 1.57±02 1.57±02 1.57±02 1.57±02 8.07±15 2.77±14 4.77±14 6.77±14 8.66±14 1.06±13 3.45±05 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00±00 .00 D282 D284 8829 1.57E+02 1,2E-13 .00E+000 an240 an241 .00E+00 5.0E+04 9.75E+04 1,43=+05 1,892+05 2.28E+05 2.67E+05 3.09E+05 eπΩ**i-2**m 1,45E+01 1,45E+01 1,45E+01 1,4/E+01 1.4E+01 1.A3E+01 1.A2E+01 **m03** 1.51E+03 1,51E+03 1.516-03 1.51E+03 1.51E+03 1.51E+0B 1.51E+03 1.152-04 1.862-07 2.972-10 4.782-13 7.772-16 1.242-18 1.972-21 1.052-07 2.852-06 7.942-06 2.212-06 6.572-06 2.072-06 8.852-08 æ841 3.38±403 3.32±403 3.22±403 3.18±403 3.12±403 3.00±403 3.00±403 DECE: 55

```
INFORMATION ONLY
```

```
 cm884
 1.3E+05
 1.2E+06
 1.2E+06
 1.1E+05
 1.1E+05
 1.1E+05
 1.0E+05

 cm885
 6.9E+00
 6.9E+00
 6.9E+00
 6.9E+00
 6.9E+00
 6.9E+00
 6.9E+00

 cm886
 7.1E+01
 7.7E+01
 7.7E+02
 4.7E+01
 7.7E+02
 4.7E+03
 4.7E+
```

## neutron source intensity as a function of time

see2n: beboook wilcox 15x15, 3.00x2X, 20p.d/mtu burn high temp spontaneous fission reutron source, reutrons/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

Ω

## 1230 | 1.5E-07 | 2.0E-07 | 2.AE-07 | 2.SE-07 | 3.AE-07 | 3.BE-07 | 4.3SE-07 | p231 | 9.BE-07 | 1.0E-06 
mar 56

```
- FED 4.00001 1.00001 4.70001 1.6001 1.6001 1.5001 1.6001
 5,85E-02 4,46E-02 3,76E-02 3,0E-02 2,43E-02 1,95E-02 1,57E-02
 1.05E-01 3.24E-03 9.91E-05 3.03E-06 9.27E-08 2.63E-07 8.67E-11
 5.85E-05 1.5/E-08 6.13E-13 2.12E-17 7.1/E-22 2.4/E-26 8.03E-31
 2.70E-07 1.21E-09 5.A2E-12 2.A2E-14 1.00E-16 4.85E-19
 total 7.00E+07 3.18E+07 2.09E+07 1.74E+07 1.62E+07 1.59E+07 1.50E+07
 total 8.13E+07 3.55E+07 2.25E+07 1.85E+07 1.72E+07 1.65E+07 1.65E+07
 page 57
 alche-n neutron source spectrum as a function of time
 (using reaction spectra for uranium dioxide)
0
 sesch: bebook wilcox 15x15, 3.00x1X, 20g-chatu burn high texp
 alpha-in reutron spectra, reutrors/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
 3 1.85E+00 - 3.00E+00 5.320E+06 1.81ZE+06 8.610E+05 6.20EE+05 5.717E+05 5.77SE+05 5.85E+05
 4 1.40E+00 - 1.85E+00 7.028E+05 2.721E+05 1.616E+05 1.42E+05 1.442E+05 1.49CE+05 1.53E+05
 5 9.00E-01 - 1,40E+00 2,409E+05 1,072E+05 7,590E+04 7,450E+04 7,47E+04 8,245E+04 8,545E+04
 64.00E-01 - 9.00E-01 3.56/E+04 2.21/E+04 1.91/E+04 2.05/E+04 2.37/E+04 2.46/E+04
 7 1.00E-01 - 4.00E-01 7.42ZE-03 3.85/E-03 3.55E-03 3.37E-03 3.47E-03 3.75E-03 3.75E-03 3.75E-03
 8 1.70E-02 - 1.00E-01
 00+300. 00+300. 00+300. 00+300. 00+300. 00+300.
 .00E+00 .00E+00 .00E+00
 93.0E-05 - 1.70E-02
 .000E+00
 .000E+000 .000E+000
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 .000E+00
 .000E+00 .000E+00
 10 5.50E-04 - 3.00E-03
 .000E+000
 11 1.00E-04 - 5.50E-04
12 3.00E-05 - 1.00E-04
 ,000E+00
 .000E+00
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 .000=000
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 .000E+00
 .00E+00
 .000E+00
 .000±000
 13 1.00E-05 - 3.00E-05
 .00E+00
 14 3.00E-06 - 1.00E-05
 .000E+00
 .000E+00 .000E+00
 .00E+00 .00E+00
 .000E+00
 .00E+00
 15 1.77E-06 - 3.09E-06
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 .000=000
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 .000E+00
 .00E+00 .00E+00
 16 1.30E-06 - 1.77E-06
 .00E+00
 .00E+00
 .000€+000
 .000E+00
 .000E+00
 .000E+000
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 .000E+00
 -000E+00
 17 1.13E-06 - 1.30E-06
 .000E+00
 .00=00
 .000=+00
 -000E+00
 .000E+00 .000E+00
 18 1.00E-06 - 1.13E-06
 _000E+00
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 .000±+000
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 .000E+00
 19 8.00E-07 - 1.00E-06
 .000E+00
 .000=000
 .000-000
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 20 4.00E-07 - 8.00E-07
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 21 3.25E-07 · 4.00E-07
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 22 2.25E-07 - 3.25E-07
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 25 1.00E-07 - 2.25E-07
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 24 5.00E-08 - 1.00E-07
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 25 3.00E-08 - 5.00E-08
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 26 1.00E-08 • 3.00E-08
 .000E+00
 .000±+000
 27 1.00E-11 - 1.00E-08 .000E+00 .000E+00
 00+300. 00+300. 00+300. 00+300. 00+300.
 1.127E+07 3.770E+06 1.72XE+06 1.189E+06 1.057E+06 1.05EE+06 1.078E+06
 page 58
 sportureous fission neutron source spectrum as a function of time
 sasah: beboook wilcox 15x15, 3.00x1X, 20px/www.burn high temp
0
 STATISTECE fission reutron spectra, reutrons/sec/basis
 basis = single reactor assembly
 Europeries, nev initial 304.4 d 608.8 d 913.1 d 1217.5 d 1521.9 d 1826.3 d
 1 643EHO - 2.00EHO1 1.333EHO6 6.018EHO6 3.92EHO6 3.284EHO6 3.043EHO6 2.913EHO6 2.817EHO6
 2 3.00±100 - 6.43±100 1.467±107 6.661±106 4.357±106 3.653±106 3.387±106 3.24/±106 3.155±106
 3 1.85E+00 - 3.00E+00 1.575E+07 7.218E+06 4.717E+06 3.951E+06 3.662E+06 3.507E+06 3.371E+06
 4 1./EHO - 1.65HO 9.090HO 4.131HO 2.715HO 2.775HO 2.11/EHO 2.025HO 1.585HO 5 9.00HO - 1.40HO 1.246HO 5.60SHO 3.715HO 3.121HO 2.595HO 2.773HO 2.685HO
```

```
6'4,000-01 = 9,000-01 1;550-07 6;2590-06 4;092-06 3;4270-06 3;1770-06 3;050-06 2;9420-06
7 1,00E-01 - 4,00E-01 2,725E+05 1,230E+05 8,702E+05 6,715E+05 6,222E+05 5,750E+05 5,760E+05
81.70E-02 - 1.00E-01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00
93.00E-0B - 1,70E-02 .000E+00
 .000E+00 .000E+00
 .000E+00 .000E+00
 -00E+00 -00E+00
10 5_50E-04 - 3_00E-03
 _000E+00
 .000E+00 .000E+00
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11 1.00E-04 - 5.50E-04
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 .000E+000
12 3.00E-05 - 1.00E-04
 .00E+00
 .000E+00 .000E+00
 .000=00 .000=00
.000=00 .000=00
 .000E+00 .000E+00
13 1.00E-05 - 3.00E-05
 .000E+00
 .00E+00 .00E+00
 .000E+00 .000E+00
14 3.05E-06 - 1.00E-05
 .000E+00
 .00E+00 .00E+00
 .00E+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
17 1.13E-06 - 1.30E-06
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 .00E+00 .00E+00
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 .000E+00 .000E+00
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 .000E+00
 .000±4000.
 .00E+00
18 1.00E-06 - 1.13E-06
19 8.00E-07 - 1.00E-06
 .000±000
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20 4.00E-07 - 8.00E-07
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21 3.25E-07 - 4,00E-07
22 2.25E-07 - 3.25E-07
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 :00+2000.
23 1.00E-07 - 2.25E-07
 .000-1000.
 .000E+00
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 .00E+00 .00E+00
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24 5.00E-08 - 1.00E-07
 _000E+00
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25 3.00E-08 - 5.00E-08
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 .000E+00
 .000E+00 .000E+00
 .000E+00 .000E+00
26 1.00E-08 • 3.00E-08
 00+200,
27 1.00E-11 - 1.00E-08
 00+000, 00+000, 00+000, 00+000, 00+000, 00+000, 00+000,
 7.0Xe+07 3.175E+07 2.075E+07 1.743E+07 1.616E+07 1.548E+07 1.496E+07
```

total (althern plus sport fission) reutron source spectrum as a function of time (using reaction spectra for unanium dioxide)

ses2h: bebook wilcox 15x15, 3,00x2x, 20gxd/atu burn high temp neutrun spectra, neutrons/sec/besis besis = simile neutron assembly

## burderies, nev 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 1.33SE+06 6.018E+05 3.52SE+05 3.63SE+05 2.913E+05 2.817E+05
 2 3.00=40 - 6.43=40 1.962=407 8.20/E+05 4.960=405 3.80/E+05 3.47/E+05 3.362=405 3.1.80E+05 - 3.00E+05 2.127E+07 9.030E+05 5.57/E+05 4.57/E+05 4.27/E+05 4.07/E+05 3.97SE+05
 4 1.40±00 - 1.85±00 9.785±06 4.405±06 2.875±06 2.421±06 2.258±06 2.174±06 2.111±06
 5 9.00E-01 • 1.40E+00 1.270E+07 5.770E+06 3.79E+06 3.193E+06 2.970E+06 2.855E+06 2.76CE+06
 6 4.00E-01 - 9.00E-01 1.357E+07 6.287E+06 4.117E+06 3.447E+06 3.200E+06 3.054E+06 2.956E+06
 7 1.00E-01 - 4,00E-01 2,732E-05 1,25/E-05 8,057E-05 6,74E-105 6,25E-105 5,79E-105 5,779E-105
 81.7E-02 - 1.00E-01 .00E-00 .0
10 5.50E-04 - 3.00E-08
 .000E+00
 .000±000
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 .000E+00 .000E+00
 .000E+00 .000E+00
11 1.00E-04 - 5.50E-04
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12 3.00E-05 - 1.00E-04
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 .000E+00
 .000E+00 .000E+00
 .000E+00 .000E+00
 .000=000.
 ,000E+00
 .00E+00 ,00E+00
 .00E+00 .00E+00
13 1.00E-05 - 3.00E-05
 .00E+00
 .00E+00
14 3.05E-06 - 1.00E-05
15 1.77E-06 - 3.05E-06
 .000E+000
 .000E+00
 .000=00
 .00E+00
 -000E+00
 -000E+00
 -000E+00
 .000E+00
 .00E+00
 .000=+000
 _000E+00
 CONTROL
 .000E+00
 .00E+00
16 1.30E-06 - 1.77E-06
17 1.0E-06 - 1.30E-06
 .000±400
 .000E+00
 .000±+00
 .00E+00
 .00E+00
 .000E+00
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 .000E+00 .000E+00
18 1.00E-06 - 1.13E-06
 .000E+00
19 8.00E-07 - 1.00E-06
 .000E+00
 _00E+00
 .000-1000
 .000E+00
 .00E+00 .00E+00
 .000E+00
 .00E+00
20 4.00E-07 - 8.00E-07
 .000=000.
 .00E+00
 .00E+00
 .00E+00 .00E+00
 _000E+00 _000E+00 _000E+00
21 3.25E-07 - 4.00E-07
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 -000E+00
 _000E+00
 .000E+00
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22 2.25c.07 - 3.25c.07
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 .000E+00
23 1.00E-07 - 2.25E-07
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 .000E+00
 .000E+00
 .00E+00
24 5.00E-0B - 1.00E-07
 .000=000
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 .000E+000
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 _000E+00
25 3.00E-08 - 5.00E-08
 .000E+00
 .000=000
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26 1.00E-08 - 3.00E-08
 -000E+00
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 .000E+00
 .000E+00
 .00E+00
 .000E+00
 .000E+00
27 1.00E-11 - 1.00E-08
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INFORMATION ONLY

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· 8.1912-07 3:5502-07 2:2502-07 1:6522-07 1:7252-07 1:6542-07 1:6042-07
 * game sources determined *
Ocase applies the following photon data base
 mester thotan Library
 in binery mode
 the sources include photons of nuclides for...
 light elements
 actinides
 fission products
 gamma source spectrum for gamma lines (sas2)
 1826.25 day time of the requested nuclides
Ō
 energy interval in may
 photons / second mev / second
Ó
 1.0000E-02 to
 5.0000E-02
 6.8561E+14
 2.05695+13
 1.5231E+13
 2.080E+14
 5.000E-02 to
 1.0000E-01
 2.4167E+13
 2.000E-01
 1.6111E+14
 1.0000E-01 to
 4.5083E+13
 1.1271E+13
 2,000E-01 to
 3.0000E-01
 3.000E-01 to
 4.0000E-01
 3.1358=+13
 1.0975E+13
 1.135E+14
 2.2631E+14
 4.000E-01 to
 6.000E-01
 1.016E+15
 7.1177=+14
 6.000E-01 to
 8.0000E-01
 8.0000E-01 to
 1.000E+00
 9.6947E+13
3.622E+13
 8.75X+13
 1.000E+00 to
 4.220/E+13
 1.3300E+00
 1,3300E+00 to
 1.6600E+00
 7.953/E+12
 1.1860E+13
 8.0133111
 1.((OE+O) to
 2.000E+00
 4.38KE111
 1. K-66-12
 2.579X+12
 2.000E+00 to
 2.500E+00
 3.000E+00
 3.0775E+10
 8.4631E+10
 2.5000E+00 to
 3,7983E+09
5,2253E+05
 1.329/E+10
 3.000E+00 to
 4.000E+00
 4.000E+00 to
 5.0000E+00
 2.3516E+06
 6.500E+00
 2.075/E+05
 1.2048E+06
 5.000E+00 to
 6.5000E+00 to
 8.000E+00
 4.106E+04
 2,97752+05
 7.83/E+04
 8.7749E+0B
 8.000E+00 to
 1.0000E+01
 2.5121E+15
 1.0519E+15
 totals
0
 total energy from ruci ides with spectrum data = 1.05192+15 total energy from ruci ides with no spectrum data = 6.44912+09
Ω
 .results on logical unit no. 71, position 2, for time step 6, subcase10. (run position 1, case position 2) title: sas2n: betook wilcox forts, 3.00±04, 20±0/stu burn high temp .tempirated logical unit no. 71 with zero flag record.
 * normal termination of execution *
 table of contents for material tables
 case or subcase printed
 3
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 33
Ordet
 27
 0
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 2
 1698
 690
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 Ō
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 57a array has
 3 extres.
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 1c array has
 20 attries.
 19 array has 10 entries.
19 8762
1116 47981
12 3363 nutata (library) storage size
 1103 65583
 60q array has
 1 entries.
 61q array has
 7 entries.
 & entries.
 65q array has
 73c array has
 4 entries.
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 74q array has
 75q array has
 4 entries.
 used 88136 in size 200000
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Otherm 4
5.091676E-01 3.60486E-01 2.731459E+00 1.000000E-31
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 8.64000E+04 1.00000E-20
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O case or subcase 1 sas2h: baboock willow 15x15, 3.00x1X, 20pic/hitu burn high temp
 560 array has
560 array has
 1 entries.
 1 entries.
 560 array has
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 56q array has
 1 anies.
 Sociates has
 1 entries.
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 57a array has
 4 entries.
 20 entries.
 1g array has
 10 array has 10 entries.
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116 57212
122 33665 nubits (library) storage size
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1105 72497
 500 array has
 5 entries.
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 73g array has
 4 entries.
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750 erray has
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| 0j <b>cpt</b>                                                                               | 12<br>5<br>0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 0                                                                                 | 0                                                                                                                                                                                                                                | 0                  | 0               | 0                      | 0 .                   | 0             | . 0         | 0        |  |  |
|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------------------|-----------------------|---------------|-------------|----------|--|--|
| Otherm 4<br>5.071676E-01 3.60486E-01 2.73165E+00 1.00000E-31<br>Onco 5                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                   |                                                                                                                                                                                                                                  |                    |                 |                        |                       |               |             |          |  |  |
| unan<br>Oson                                                                                | 7935 19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 20                                                                                | 6                                                                                                                                                                                                                                | 18                 | 1697            |                        |                       |               |             |          |  |  |
| QMI 1                                                                                       | 5 17<br>21                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 5<br>100                                                                          | 0                                                                                                                                                                                                                                | 9                  | 1 3             | 3<br>74                | 0                     | 0             | 0           | 0        |  |  |
| 0tcorst<br>8.6400                                                                           | XXXE+04 1.00XX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                   | .000.000±400 .000                                                                                                                                                                                                                | 200 <b>E+</b> 00 1 | .000000E-0B     |                        | -                     | •             | -           |          |  |  |
| Crezero                                                                                     | 12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 689                                                                               | 129                                                                                                                                                                                                                              | 879                |                 |                        |                       |               |             |          |  |  |
|                                                                                             | oo—oo .oo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Œ+00                                                                              | .00000E+00                                                                                                                                                                                                                       |                    |                 |                        |                       |               |             |          |  |  |
| O Linp                                                                                      | 9<br>o, fission and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | O<br>total m                                                                      |                                                                                                                                                                                                                                  | 26                 | 2<br>4.4180£+00 | 3000<br>1.9429E+02     | 1000<br>1.9871E+      | 1 <i>69</i> 7 | %           |          |  |  |
| U-Sexua                                                                                     | of interval flu<br>of fission and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | total #                                                                           | 1.7166 <del>2+</del> 13<br>ev/fission =                                                                                                                                                                                          |                    | 4.829XE+00      | 1.944 <del>E+</del> 02 | 1.9929EH              | 12            |             |          |  |  |
| n-gama                                                                                      | of interval flu<br>a, fission and<br>a interval flu                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | total m                                                                           | -1.70567E+13<br>re/fission =<br>1.69221E+13                                                                                                                                                                                      |                    | 4.9247E+00      | 1.9625+02              | 1.992000+             | 12            |             |          |  |  |
| n-game                                                                                      | of interval flu<br>a, fission and<br>or interval flu                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | total #                                                                           |                                                                                                                                                                                                                                  |                    | 5.02185+00      | 1.94776+02             | 1.9980E+              | 02            |             |          |  |  |
| n-genne                                                                                     | , fission and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | total m                                                                           | =v/fission =<br>1.67630E-02                                                                                                                                                                                                      |                    | 5.1227E+00      | 1,9491E+02             | 2.000 <del>/E</del> + | 02            |             |          |  |  |
|                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | O case or subcase 2 sas2h: bebook wilcox 15x15, 3,00x1X, 20p.d/mtu burn high temp |                                                                                                                                                                                                                                  |                    |                 |                        |                       |               |             |          |  |  |
|                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                   |                                                                                                                                                                                                                                  |                    |                 |                        |                       |               |             |          |  |  |
|                                                                                             | 33<br>0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 4                                                                                 | 2<br>0                                                                                                                                                                                                                           | 27<br>0            | 6<br>0          | 0<br>2                 | 0<br>-1               | 0<br>1698     | 0<br>690    | 0<br>130 |  |  |
|                                                                                             | 0<br>880                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                   |                                                                                                                                                                                                                                  |                    |                 | 0<br>2<br>2            |                       |               |             |          |  |  |
|                                                                                             | 0<br>880<br>15<br>55q array has                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 795<br>0<br>1                                                                     | 0<br>0<br>71<br>entries.                                                                                                                                                                                                         | 0                  | 0               | 0<br>2<br>2            | -1                    | 1698          | <i>6</i> 90 | 130      |  |  |
| 0                                                                                           | 0<br>820<br>10<br>549 array has<br>549 array has<br>549 array has                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 725<br>725<br>0<br>1                                                              | 0<br>0<br>71<br>entries.<br>entries.<br>entries.                                                                                                                                                                                 | 0                  | 0               | 2 2                    | -1                    | 1698          | <i>6</i> 90 | 130      |  |  |
| 0                                                                                           | 0<br>880<br>18<br>55q array has<br>55q array has<br>55q array has<br>55q array has                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 725<br>0<br>1<br>1                                                                | 0<br>0<br>71<br>entries.<br>entries.<br>entries.<br>entries.                                                                                                                                                                     | 0                  | 0               | 0<br>2<br>2            | -1                    | 1698          | <i>6</i> 90 | 130      |  |  |
| 0 0 0                                                                                       | O 850 123 SX4 array has                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 725<br>0<br>1<br>1<br>1                                                           | 0<br>0<br>71<br>entries.<br>entries.<br>entries.                                                                                                                                                                                 | 0                  | 0               | 0<br>2<br>2            | -1                    | 1698          | <i>6</i> 90 | 130      |  |  |
| 0 0 0 0 0 0 0                                                                               | O 880 September 18 | 0<br>725<br>0<br>1<br>1<br>1                                                      | 0<br>0<br>71<br>erries.<br>erries.<br>erries.<br>erries.<br>erries.<br>erries.                                                                                                                                                   | 0                  | 0               | Q<br>2<br>2            | -1                    | 1698          | <i>6</i> 90 | 130      |  |  |
| 000000000                                                                                   | O 880 Styles has had array has for a f | 725<br>0<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>20                                 | 0<br>0<br>7<br>etries.<br>etries.<br>etries.<br>etries.<br>etries.<br>etries.<br>etries.                                                                                                                                         | 0                  | 0               | Q<br>2<br>2            | -1                    | 1698          | <i>6</i> 90 | 130      |  |  |
| 0000000                                                                                     | O 880 Styles has had array has for a f | 725<br>0<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>20                                 | 0<br>0<br>77<br>etries.<br>etries.<br>etries.<br>etries.<br>etries.<br>etries.<br>etries.                                                                                                                                        | 0                  | 0               | Q<br>22<br>2           | -1                    | 1698          | <i>6</i> 90 | 130      |  |  |
| 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 6 880 880 880 880 880 880 880 880 880 88                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 725                                                                               | 0<br>0<br>7<br>etries.<br>etries.<br>etries.<br>etries.<br>etries.<br>etries.<br>etries.                                                                                                                                         | 5                  | 0               | Q<br>22<br>2           | -1                    | 1698          | <i>6</i> 90 | 130      |  |  |
| 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | O 880 SCO array has 10 array has 10 33734 SCO 37347 SEO array has 15 7347 SEO array has 15 800 array has 1500 arra | 755<br>0<br>1<br>1<br>1<br>1<br>1<br>20<br>10<br>ta (Libr                         | 0<br>0<br>77<br>entries.<br>entries.<br>entries.<br>entries.<br>entries.<br>entries.<br>entries.<br>entries.                                                                                                                     | 5                  | 0               | Q 22 2                 | -1                    | 1698          | <i>6</i> 90 | 130      |  |  |
| 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 6 880 SC array has 10 2572 16 57212 16 57212 17 574 array has 600 ar | 0<br>7825<br>0<br>1<br>1<br>1<br>1<br>20<br>10<br>ta (Libr                        | o 0 77 77 77 77 77 77 77 77 77 77 77 77 7                                                                                                                                                                                        | 5                  | 0               | Q 22 2                 | -1                    | 1698          | <i>6</i> 90 | 130      |  |  |
| 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 6 SEC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0<br>7925<br>0<br>1<br>1<br>1<br>1<br>1<br>20<br>10<br>ta (Litar                  | o 0 0 77 artries. ertries. | 5                  | 0               | 0 22 2                 | -1                    | 1698          | <i>6</i> 90 | 130      |  |  |
| 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                                       | O SSEV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0<br>7925<br>0<br>1<br>1<br>1<br>1<br>1<br>20<br>10<br>ta (Litar                  | ortries. ettries.          | 5                  | 0               | 0 22 2                 | -1                    | 1698          | <i>6</i> 90 | 130      |  |  |

| •                   |                    |                                           |             |                          |             |             |                       |                    |          |             |     |
|---------------------|--------------------|-------------------------------------------|-------------|--------------------------|-------------|-------------|-----------------------|--------------------|----------|-------------|-----|
| (tata)              | 7935               | 5                                         | 20          | 6                        | 18          | 1697        |                       |                    |          |             |     |
| Cum                 | ,,,,,              | 19                                        |             | •                        |             |             |                       |                    |          |             |     |
|                     | 5                  |                                           | . 5         | 0                        | Ó           | 1           | 3<br>74               | Ò                  | Õ        | 0           | 5   |
| <b>^</b>            | 21                 | 5                                         | 100         | 0                        | 4           | 3           | 74                    | 4                  | 1        | . 0         |     |
| Otcornet<br>8 A/M   | MC406. 1           |                                           | <u></u>     | 2.90000E+01              | mm-m        | 1.00000E-08 |                       |                    |          |             |     |
| Omero               | UUC-104            | 4                                         | L. TUL. 2   |                          |             | 1.0000      |                       |                    |          |             | •   |
|                     | 16                 | •                                         | <i>6</i> 89 | 129                      | 879         |             |                       |                    |          |             |     |
| Фон                 |                    | 3                                         |             |                          |             |             |                       |                    |          |             |     |
| <b>7,200</b>        | OOE+OO 1           |                                           | E-B         | 1.6942622+13             |             |             |                       |                    |          | •           |     |
| 0 linp              | 6                  | 9                                         | 0           | 51                       | 26          | 2           | 3000                  | 1000               | 1697     | 94          |     |
| n-cente             |                    | n and t                                   | •           | nev/fission =            |             | 5.2400€+00  | 1.9492E+02            |                    |          | ~           |     |
| start o             |                    |                                           |             | 1.65204                  |             |             |                       |                    |          |             |     |
|                     |                    |                                           |             | nev/fission =            | <u>.</u>    | 5.3397E+00  | 1.9305=+02            | 2.0059E            | +02      |             |     |
| start o             | finten             |                                           | ( =<br>     | 1.64592                  | E+13        | 5.44226+00  | 1.9518=+02            | 3 mcz.             | <b>~</b> |             |     |
| start o             | , TIBSIC           | മലവ<br>ചില്യ                              | COCOL II    | nev/fission =<br>1.64118 | :<br>¥-41₹  | 3.4422-W    | 1.93 (02-02           | 2,00 <del>52</del> | ·uz      |             |     |
|                     |                    |                                           |             | nev/fission =            |             | 5.5462E+00  | 1,9530:+02            | 2.006              | +02      |             |     |
| start o             |                    |                                           |             | 1.63775                  |             |             |                       |                    |          |             |     |
|                     |                    |                                           |             | re√fiss <u>ion =</u>     |             | 5.&t2±+00   | 1.9542=102            | 2.0107E            | +02      |             |     |
| start o             |                    | el flu                                    | ς =<br>α    | 1.6555                   |             | . m 44 m    | lane i bu ma bilah da | _                  |          |             |     |
| 0 case of<br>Ondeet | L annous           | *<br>************************************ | 5852        | II: DECOUNT MI           | tox bxb, s  | mun, age    | Kintu bum high t      | вф                 |          |             |     |
| u wat               | 33                 |                                           | 4           | 3                        | 27          | 6           | 0                     | 0                  | 0        | 0           | 0   |
|                     | 0                  |                                           | 0           | 0                        | 0           | 0           | 2<br>2                | -1                 | 1698     | <i>69</i> 0 | 130 |
|                     | 880                |                                           | 785         | _0                       | 5           | 99          | 2                     | 16                 | %        | 18          | 18  |
| 0 9                 | 18                 |                                           | 0           | 7                        |             |             |                       |                    |          |             |     |
| Ŧ :                 | %प्रकार<br>%प्रकार |                                           |             | atrics.                  |             |             |                       |                    |          |             |     |
|                     | Sci ani            |                                           |             | entries.                 |             |             |                       |                    |          |             |     |
| Ď į                 | 56g arri           |                                           |             | entries.                 |             |             |                       |                    |          |             |     |
| 0                   | Sóci arre          |                                           |             | entries.                 |             |             |                       |                    |          |             |     |
|                     | og arre            |                                           |             | ertries.                 |             |             |                       |                    |          |             |     |
| 0                   | Sóg arre           |                                           |             | entries.                 |             |             |                       |                    |          |             |     |
|                     | 2/d aus<br>2/d aus |                                           |             | entries.                 |             |             |                       |                    |          |             |     |
| ŏ                   | 1g arr             |                                           |             | entries.                 |             |             |                       |                    |          |             |     |
| 0                   | 1q arm             | y has                                     | 10          | entries.                 |             |             |                       |                    |          |             |     |
| (90                 |                    |                                           |             |                          |             |             |                       |                    |          |             |     |
| 111                 | 6 57212            |                                           | . /18-      | rary) storage            |             |             |                       |                    |          |             |     |
| i4                  | 3373/              |                                           | . (1144     | my) surage               | 3 3125      |             |                       |                    | •        |             |     |
|                     | 5 72497            |                                           |             |                          |             |             |                       |                    |          |             |     |
| O :                 | <b>5</b> वेप बता   | ay has                                    |             | etries.                  |             |             |                       |                    |          |             |     |
|                     | coq arra           |                                           |             | entries.                 |             |             |                       |                    |          |             | •   |
|                     | 660i≡m<br>0 6358   |                                           | 1           | atrie.                   |             |             |                       |                    |          |             |     |
| USO                 | 1 200              | 742 in :                                  | ei ze       | 200000                   |             |             |                       |                    |          |             |     |
| 0jqx                | - /                | 12                                        | -100        |                          |             |             |                       |                    |          |             |     |
| • •                 | 5                  | -                                         | 0           | 0                        | 0           | 0           | 0                     | 0                  | 0        | 0           | 0   |
|                     | 0                  |                                           | 0           |                          |             |             |                       |                    |          |             |     |
| Otherna<br>5 0046   | TKE, M 2           | 4<br>1 60//0                              | æ_M '       | 784.07E.M                | 1.00000E-31 |             |                       |                    |          |             |     |
| Chan                | WOC-UI -           | 5                                         | E-01 4      | 213 HUNCIU               | 1.000002-31 |             |                       |                    |          |             |     |
| <del></del>         | 7955               | _                                         | 20          | 6                        | 18          | 1697        |                       |                    |          |             |     |
| Omn                 |                    | 19                                        |             | -                        | -           |             | _                     | _                  |          | _           | _   |
|                     | 5<br>21            |                                           | 5           | Õ                        | 0           |             | 3<br>74               | Q<br>Z             | 0        | 0           | 5   |
|                     | <b>2</b> 1         |                                           | 100         | 0                        | •           | 3           | 14                    | •                  | 1        | U           |     |
|                     |                    |                                           |             |                          |             |             |                       |                    |          |             |     |

|                |                          | 0192E+02               | 2.60000E+01              | .00000E+00  | 1.00000E-08             |                         |            |      |                   |           |
|----------------|--------------------------|------------------------|--------------------------|-------------|-------------------------|-------------------------|------------|------|-------------------|-----------|
| Citzero        | 16 3                     | 689                    | 129                      | 879         |                         |                         |            |      |                   |           |
|                | DE+00 2.319              | 99 <del>88E+</del> 435 | 1. <i>6427</i> 59E+13    |             |                         |                         |            |      |                   |           |
| 0 lirp         | 6                        | 0                      | 51                       | 26          | 2                       | 3000                    | 1000       | 1697 | 94                |           |
|                |                          |                        | mev/fission =<br>1.61872 |             | 5.7 <del>555E+</del> 00 | 1.9541E+02              | 2.0150+02  |      |                   |           |
| n-genne,       | fission a                | nd total               | men/fission =            | •           | 5.8326+00               | 1,95525+02              | 2.01365+02 |      |                   |           |
| n-geme,        |                          | nd total               | mev/fission =<br>1.61526 |             | 5.9553€+00              | 1,956E+02               | 2.0157E+02 |      |                   |           |
| n-genma,       |                          | nd total               | mev/fission =<br>1.61473 | · _         | 6.0555E+00              | 1.957 <del>/E+</del> 02 | 2,01785+02 |      |                   |           |
| n-game,        |                          | nd total               | mev/fission =<br>1.61492 | 1           | 6.14TBE+00              | 1.958/E+02              | 2.01985+02 |      |                   |           |
| Case or        | s.bcase                  | 4 906                  |                          |             | .00.10%, 209.cl         | fatu burn high to       | τ <b>p</b> |      |                   | •         |
| Ondset         | 33                       | 4                      | 4                        | 27          | 6                       | ٥                       | 0          | ٥    | 0                 | 0         |
|                | 0<br>880                 | 0                      | 0                        | 0<br>5      | 0<br>99                 | 2 2                     | -1<br>16   | 1698 | <i>6</i> 90<br>18 | 130<br>18 |
|                | 18                       | . 7355<br>0            | ที                       | 7           | 777                     | 2                       | ED.        | 70   | 10                | ю         |
|                | óq array h               |                        | எப்புக்.                 |             |                         |                         |            |      |                   |           |
|                | óq array h<br>óq array h |                        | ientries.<br>Ientries.   |             |                         |                         |            |      |                   |           |
| 0 5            | cc array h               |                        | entries.                 |             |                         |                         |            |      |                   |           |
|                | od array h               |                        | etries.                  |             |                         |                         |            |      |                   |           |
|                | çd armay h               |                        | lentries.<br>Lentries.   |             | •                       |                         |            |      |                   |           |
|                | cc array h               |                        | etries.                  |             |                         | •                       |            |      |                   |           |
| 0 5            | id array h               | ES 4                   | entries.                 |             |                         |                         |            |      |                   |           |
|                | 1q array h<br>1q array h |                        | ) entries.<br>) entries. |             |                         |                         |            |      |                   |           |
| ິ ເໝ           |                          |                        | . G KI 105.              |             |                         |                         |            |      |                   |           |
| L116           | 57212                    |                        | • .                      | _           |                         |                         |            |      |                   |           |
| 12             | 33734                    | ctata (lik             | onery) storage           | e size      |                         |                         |            |      |                   |           |
|                | र्वेस                    | •                      |                          |             |                         |                         |            |      |                   |           |
| 0 5            | gd alley p               |                        | entries.                 |             |                         |                         |            |      |                   |           |
|                | Oci array h              |                        | entries.                 |             |                         |                         |            |      |                   |           |
|                | Écqerneyh<br>06567       | BS .                   | ientries.                |             |                         |                         |            |      |                   |           |
| LIBEC          | 96742                    |                        | 200000                   |             |                         |                         |            |      |                   |           |
| 0j <b>q</b> pt | _ 12                     |                        | •                        | 0           | ٥                       | 0                       | 0          | 0    | 0                 | 0         |
|                | 5<br>0                   | 0                      |                          | U           | U                       | U                       | U          | U    | U                 | U         |
|                | KE-01 3.60               | W89E-01                | 2.7314592+00             | 1,00000Œ-31 |                         |                         |            |      |                   |           |
| Onon           | 795<br>795               | 20                     | 6                        | 18          | 1697                    |                         |            |      |                   |           |
| Cmm            | 19                       | )                      | _                        |             |                         |                         |            |      |                   | _         |
|                | 5                        | .5                     |                          | ò           | 1                       | _3                      | ò          | Ō    | 0                 | 5         |
| Otcorst        | 21 5                     | 100                    | 0                        | 4           | 3                       | 74                      | 4          | 1    | 0                 |           |
|                |                          |                        | 2.90000E+01              | .00000E+00  | 1.0000E-0B              |                         |            |      |                   |           |
| Ongero         | 4                        | 689                    | 433                      | <b>67</b> 0 |                         |                         |            |      |                   |           |
| Ором           | 16 3                     | , <del></del>          | 129                      | 879         |                         |                         | _          |      |                   |           |
| •              | _                        |                        |                          |             |                         |                         | •          |      |                   |           |

| 7.2////E+03 3.47///E+03 1.616/631E+13<br>0 lipp 9                                   |                     |                         |                    |                   |            | •          |           |
|-------------------------------------------------------------------------------------|---------------------|-------------------------|--------------------|-------------------|------------|------------|-----------|
| 6 0 51 n-gamm, fission and total may/fission =                                      | 26                  | 6.1975E+00              | 3000<br>1.9583€+02 | 1000<br>2.0203E+0 | 1697<br>12 | . <b>%</b> |           |
| n-game, fission and total may/fission =                                             |                     | 6.2898E+00              | 1.99936+02         | 2.0222=+0         | 12         |            |           |
| start of interval flux = 1,60510E+13 regame, fission and total may/fission =        |                     | 6.3902E+00              | 1.9602E+02         | 2.02416+0         | 12.        | •          |           |
| start of interval flux = 1,605/05+13 regame, fission and total new/fission =        |                     | 6.4905E+00 ·            | 1.9612=102         | 2.02616+0         | 2          | •          |           |
| start of interval flux = 1,60502E+13 rrgame, fission and total may/fission =        |                     | 6.590 <del>5E+</del> 00 | 1.96216+02         | 2.0280E+0         | <b>12</b>  |            |           |
| start of interval flux = 1,60574E-02<br>0 case or subcase 5 sas2h: bubcock willow 1 | 5x15, 3             | .00xX, 20gxd/mb         | ıbum high temp     | 1                 |            |            |           |
| Ordset 33 4 5                                                                       | 27                  | 6                       | 0                  | 0                 | 0          | 0          | ٥         |
| 0 0 0<br>880 7925 0                                                                 | 0                   | 0<br>99                 | 2 2                | •1<br>16          | 1698<br>96 | 690<br>18  | 130<br>18 |
| 18 0 71                                                                             | •                   | **                      | 2                  | N.                | ж          | N.         | R)        |
| 0 56q arrey has 1 entries.<br>0 56q arrey has 1 entries.                            |                     |                         |                    |                   |            |            |           |
| 0 560 array has 1 entries.<br>0 560 array has 1 entries.                            |                     |                         |                    |                   |            |            |           |
| 0 560 array has 1 entries.                                                          |                     |                         |                    |                   |            |            |           |
| 0 560 array has 1 entries.<br>0 560 array has 1 entries.                            |                     |                         |                    |                   |            |            |           |
| 0 Séquertey has 1 entries.<br>0 57q array has 4 entries.                            |                     |                         |                    |                   |            |            |           |
| O lojamey has 20 entries.                                                           |                     |                         |                    |                   |            |            |           |
| 0 1q arms/ has 10 entries.                                                          |                     |                         |                    |                   |            |            |           |
| 1116 57212                                                                          |                     |                         |                    |                   |            |            |           |
| 132 3363 rudata (library) storage size 144 33734                                    |                     |                         |                    |                   |            |            |           |
| 1103 <i>17341</i> 7<br>0 58q array has 5 entries.                                   |                     |                         |                    |                   |            |            |           |
| 0 600 erray has 5 entries.                                                          |                     |                         |                    |                   |            |            |           |
| 0 65587 tentries.                                                                   |                     |                         |                    |                   |            |            |           |
| used 96742 in size 200000                                                           |                     |                         |                    |                   |            |            |           |
| 5 0 0                                                                               | 0                   | 0                       | 0                  | 0                 | 0          | 0          | 0         |
| 0 0<br>Otherm 4                                                                     |                     |                         |                    |                   |            |            |           |
| 5.071676E-01 3.60489E-01 2.731457E+00 1.0000                                        | OCE-31              |                         |                    |                   |            |            |           |
| 0na 5<br>7735 20 6                                                                  | 18                  | 1697                    |                    |                   |            |            |           |
| Ожи 19<br>5 5 0                                                                     | 0                   | 1                       | 7                  | 0                 | 0          | 0          | 5         |
| _ 21 <u>100</u> 0                                                                   | 4                   | ż                       | 3<br>74            | 4                 | ĭ          | ŏ          | •         |
| 0tcorst 5<br>8.6/000E+04 6.40054E+02 2.90000E+01 .0000<br>0mzero 4                  | 00 <del>=1</del> 00 | 1.00000E-08             |                    |                   |            |            |           |
| 16 689 129                                                                          | 829                 |                         |                    |                   |            |            |           |
| 7.25002E+00 4.63977E+03 1.604761E+13<br>0 Lim 9                                     |                     |                         |                    |                   |            |            |           |
| 6 0 51                                                                              | 26                  | 2                       | 3000               | 1000              | 1697       | ø,         |           |
| n-game, fission and total sev/fission = start of interval flux = 1.597785+13        |                     | 6.6274E+00              | 1.96200+02         | 2.0255=+0         | 12         |            |           |

| n-genme,         | fission a             | nd total   | mev/fission =             | . 47              | 6.714E+00               | 1.9629E+02              | 2.0300 | E+02         |             |     |
|------------------|-----------------------|------------|---------------------------|-------------------|-------------------------|-------------------------|--------|--------------|-------------|-----|
| n-genne,         | interval<br>fission a | and total  | 1.59963E<br>mev/fission = |                   | 6.812 <del>/E+</del> 00 | 1.9637E+02              | 2.0319 | E+02         |             |     |
|                  | interval<br>fission a |            | 1.60171E<br>mev/fission = | +13               | 6.910/E+00              | 1.9645-02               | 2.0337 | E+02         |             |     |
|                  | intervel<br>fission a |            | 1.60417E<br>mey/fission = | +13               | 7.0076E+00              | 1.96545+02              | 2.086  | E+02         |             |     |
| start of         | interval<br>subcase   | flux =     | 1.60697E                  |                   |                         | intu burn high te       |        |              |             |     |
| Ondet            | 3                     |            | UI: 000000 FIT            | w. w., ,          | many many               |                         | P      |              |             |     |
| 4 LDCC           | 33 ~                  | <b>,</b> 4 | . 6                       | 27                | .6                      | 0                       | 0      | 0            | 0           | 0   |
|                  | õ                     | õ          |                           | ้อ                | ŏ                       | ž                       | -1     | 1698         | <i>69</i> 0 | 130 |
|                  | 880                   | সঙ্ক       |                           | Š                 | , ,                     | ž                       | 16     | 96           | 18          | 18  |
|                  | 18                    |            |                           | •                 | "                       | •                       |        | ,,,          |             | ~   |
| 0 5              |                       | -          |                           |                   |                         |                         |        |              |             |     |
| = =              | cq array              |            | atrice.                   |                   |                         |                         |        |              |             |     |
|                  | cd array i            |            | entries.                  |                   |                         |                         |        |              |             |     |
| 0 5              | óq annay h            | 186        | ientries.                 |                   |                         |                         |        |              |             |     |
| 0 5              | óq array h            | 266        | 1 entries.                |                   |                         |                         |        |              |             |     |
|                  | ćq array i            |            | 1 entries.                |                   |                         |                         |        |              |             |     |
| Ó 5              | 60 array l            | 186        | 1 entries.                |                   |                         |                         |        |              |             |     |
|                  | 60 array I            |            | 1 entries.                |                   |                         |                         |        |              |             |     |
|                  |                       |            |                           |                   |                         |                         |        |              |             |     |
|                  | cd array              |            | ी क्रांस है.              |                   |                         |                         |        |              |             |     |
|                  | (d attay              |            | entries.                  |                   |                         |                         |        |              |             |     |
|                  | la array !            |            | gentries.                 |                   |                         |                         |        |              |             |     |
| 0                | 1g array t            | 196 7      | 0 entries.                |                   |                         |                         |        |              |             |     |
| 190              | 93972                 |            |                           |                   |                         |                         |        |              |             |     |
| 1116             | 57212                 |            |                           |                   |                         |                         |        |              |             |     |
| 132              | 33463 m               | rista (18  | brary) storage            | size              |                         |                         |        |              |             |     |
| 14               | 33734                 |            | 2017 tou 180              | 0122              |                         |                         |        |              |             |     |
|                  |                       |            |                           |                   |                         |                         |        |              |             |     |
|                  | _ <i>7247</i> 7       |            |                           |                   |                         |                         |        |              |             |     |
| 0 5              | 8q array h            | X265       | ontries.                  |                   |                         |                         |        |              |             |     |
| 0 6              | Ocianney h            | 186 Š      | 5 entries.                |                   |                         |                         |        |              |             |     |
|                  | 60 BITEY              |            | i entries.                |                   |                         |                         |        |              |             |     |
|                  | 6587                  | _          |                           |                   |                         |                         |        |              |             |     |
| Used             |                       | in size    | 20000                     |                   |                         |                         |        |              |             |     |
|                  |                       |            | <i>_</i>                  |                   |                         |                         |        |              |             |     |
| 0jqxt            | _ 12                  |            |                           | _                 | _                       | •                       | _      | _            |             | _   |
|                  | 5                     | 0          |                           | 0                 | 0                       | 0                       | 0      | 0            | 0           | 0   |
|                  | 0                     | 0          |                           |                   |                         |                         |        |              |             |     |
| Otherm           | 4                     | <b>,</b>   |                           |                   |                         |                         |        |              |             |     |
|                  | EE-01 3.40            | X489E-01   | 2.7314592+00 1            | .00000TE-31       |                         |                         |        |              |             |     |
| Onza             |                       |            |                           |                   |                         |                         |        |              |             |     |
| ~ <del>~</del> . | 7735 1                | 20         | 6                         | 18                | 1697                    |                         |        |              |             |     |
| ۸                | 755                   |            | U                         | ю                 | NOT (                   |                         |        |              |             |     |
| Chatt            |                       |            |                           |                   |                         | -                       | ^      | •            |             | •   |
|                  | 5                     | . 5        | 0                         | Ó                 | <u>1</u>                | 3<br>74                 | Ò      | 0            | 0           | 5   |
|                  | 21                    | 100        | 0                         | 4                 | 3                       | 74                      | 4      | 1            | 0           |     |
| Otcomst          | 5                     |            |                           |                   |                         |                         |        |              |             |     |
| 8.66000          | 0E+0% 8.00            | 10961E+02  | 2.800000E+01              | .000 <del>1</del> | 1.00000E-0B             |                         |        |              |             |     |
| Onzero           |                       |            |                           |                   |                         |                         |        |              |             |     |
|                  | 16                    | 689        | 129                       | 879               |                         |                         |        |              |             |     |
| A                |                       |            | 165                       | a,                |                         |                         |        |              |             |     |
| Фан              |                       |            | 4 /077745.07              |                   |                         |                         |        |              |             |     |
| <u></u>          | ひん ひんり                | MOT-10     | 1.6025516+13              |                   |                         |                         |        |              |             |     |
| 0 linp           | 9                     | •          |                           |                   |                         |                         |        |              |             |     |
|                  | 6                     | 0          | 51                        | 26                | 2                       | 3000                    | 1000   | 1697         | %           |     |
| h-game.          | fission a             | rd total   | mev/fission =             |                   | 7.0520E+00              | 1.963=+02               | 2.0556 | E+02         |             | •   |
| start of         | interval              | flux =     | 1.60012                   | +13               |                         |                         |        | <del>-</del> |             |     |
|                  |                       |            | mev/fission =             |                   | 7.1140E+00              | 1.96616+02              | 2.0872 | E4D          |             |     |
|                  |                       |            |                           | 477               |                         | ************            |        |              |             |     |
|                  | interval              |            | 1.60313E                  | •                 | 7 2402.00               | 1.0000-00               | 2 (    | r.m          |             |     |
|                  |                       |            | mev/fission =             |                   | 7.2102E+00              | 1.96692+02              | 2.0590 | CTUZ         |             |     |
|                  | interval              |            | 1,609216                  | +15               |                         |                         |        |              |             |     |
| h-gamb.          | fission a             | nd total   | mev/fission =             |                   | 7.3057E+00              | 1,9677 <del>E</del> +02 | 2.0407 | E+02         |             |     |
|                  |                       |            |                           |                   |                         |                         |        |              |             |     |

| n-genin<br>start (      | of interval fluor, fission and of interval flu                                      | total mev/fi<br>x;≖                                                                    | 1.61319E-02                                   | -            | .4007E+00              | 1.969/2+02        | 2.0424          | +02             |                | •              |  |
|-------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------|--------------|------------------------|-------------------|-----------------|-----------------|----------------|----------------|--|
| 0 case (<br>Ondset      | orsubcase 7<br>33                                                                   | ses2h: bet                                                                             | COCK HICCOX                                   | Ex15, 3.00   | nt, 2094/m             | n pruu hidy paub  |                 |                 | •              |                |  |
| -                       | · 33 0<br>0<br>880<br>18                                                            | 4<br>0<br>795<br>0                                                                     | 7<br>0<br>0<br>71                             | 27<br>0<br>5 | 6<br>0<br>99           | 0<br>2<br>2       | 0<br>-1<br>16   | 0<br>1698<br>96 | 0<br>690<br>18 | 0<br>130<br>18 |  |
| 13                      | 16 57212<br>2 33663 ruda<br>4 33734                                                 | 1 entri<br>1 entri<br>1 entri<br>1 entri<br>1 entri<br>1 entri<br>20 entri<br>10 entri | 65.<br>65.<br>65.<br>65.<br>65.<br>65.<br>65. |              |                        |                   |                 |                 |                |                |  |
| 0                       | 05 <i>12491</i> 530, array has 600, array has 660, array has 660, 63587 ed 96742 in | 5 entri<br>5 entri<br>1 entri                                                          | es.<br>es.                                    |              |                        |                   |                 |                 |                |                |  |
| 0jqpt                   | 5<br>0                                                                              | 0                                                                                      | 0                                             | 0            | 0                      | 0                 | 0               | 0               | 0              | 0              |  |
| Otherm<br>5.091<br>Onon | 676E-01 3.6044                                                                      | -                                                                                      | <i>59</i> 2+00 1.000                          | XXXE-31      |                        |                   |                 |                 |                |                |  |
| Omm                     | 7935<br>19                                                                          | 20                                                                                     | 6                                             | 18           | 1697                   |                   |                 |                 |                |                |  |
|                         | 5<br>21                                                                             | 5<br>100                                                                               | 0                                             | 0<br>4       | 1 3                    | 3<br>74           | 0               | 0<br>1          | 0              | 5              |  |
| 0tccrst<br>8.640        | :<br>1000E+04 9.60134                                                               | Æ-02 2.900                                                                             | .00E+01 .000                                  | ))))         | 0000E-08               |                   |                 |                 |                |                |  |
| Oppus<br>Oppus<br>Oppus | 16 3                                                                                | <i>6</i> 59                                                                            | 129                                           | 879          |                        |                   |                 |                 |                |                |  |
| 7.250                   | 001E+00 6.9999.<br>9                                                                | <del>(E+</del> 03 1.606                                                                | <del>586+</del> 13                            |              |                        |                   |                 |                 |                |                |  |
|                         | 6<br>a, fission and                                                                 |                                                                                        | 51<br>ission =                                | 26<br>7      | .4172€+00              | 3000<br>1.963E+02 | 1000<br>2.0425E | 1697<br>:+02    | %              |                |  |
| n-genti                 | of intervel flu<br>ra, fission and                                                  | total mey/fi                                                                           | 1,60782E+13<br>asion =                        | 7.           | 4945E+00               | 1.9691E+02        | 2.040           | +02             |                |                |  |
| L-Gam                   | of intervel flu<br>a, fission and                                                   | total mev/fi                                                                           | 1.61169E+13<br>ission =                       | 7.           | .585FE+00              | 1.96985+02        | 2.04575         | +02             |                |                |  |
| start                   | of interval flu<br>ma, fission and                                                  | K =                                                                                    | 1,6004+13                                     | 7            | £825E+00               | 1.9705E+02        | 2.0473          | +02             |                | •              |  |
| start<br>Irgsiii        | of intervel flu<br>a, fission and<br>of intervel flu                                | s; =<br>total mev/fi                                                                   | 1,619535+13                                   | 7            | .77 <del>55E+</del> 00 | 1.97122+02        | 2.0/905         | +02             | •              |                |  |
|                         | or arposes (                                                                        | and : (Sees                                                                            | zock wilaz                                    | 15x15, 3.00  | 10%, 20g/cl/til        | tubum high temp   | 1               |                 |                |                |  |

|                     | 15<br>0<br>890<br>18                                                              | 4<br>0<br>785<br>0                                            | 1<br>0<br>0<br>7)                  | 27<br>0<br>5 | 6<br>0<br>99             | 0<br>2<br>2        | 0<br>-1<br>16   | 0<br>1698<br>% | 0<br><i>69</i> 0<br>· 18 | 0<br>130<br>18 |
|---------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------|--------------|--------------------------|--------------------|-----------------|----------------|--------------------------|----------------|
| 0000                | 56q array has<br>56q array has<br>56q array has<br>56q array has<br>56q array has | 1 entries<br>1 entries<br>1 entries<br>1 entries<br>1 entries | 3.<br>3.<br>3.                     | •            |                          |                    |                 |                |                          |                |
| 0000                | 56q array has<br>56q array has<br>56q array has                                   | 1 ertries<br>1 ertries<br>1 ertries<br>4 ertries              | i.<br>i.                           |              |                          |                    |                 |                |                          |                |
| 0                   | 57q armay has<br>1q armay has<br>1q armay has<br>190 92270<br>1116 55405          | 20 entries<br>10 entries                                      | 3 <b>.</b>                         |              |                          |                    |                 |                |                          |                |
|                     | 132 33663 nuclatu<br>144 33734<br>1103 70769                                      | a (library) si                                                |                                    |              |                          |                    |                 |                |                          |                |
| 0                   | 52d array has<br>60d array has<br>66d array has<br>140 61865                      | 4 entries<br>4 entries<br>1 entries                           | 3.                                 |              |                          |                    |                 |                |                          |                |
| 0jqpt               | used 94591 in s<br>12<br>5<br>0                                                   | 0                                                             | 0                                  | 0            | 0                        | 0                  | 0               | 0              | 0                        | 0              |
| Other               |                                                                                   | 0<br><del></del>                                              | 1.0000                             | 0e-31        |                          |                    |                 |                |                          |                |
| Onen                | 79 <del>3</del> 5                                                                 | 20                                                            | 6                                  | 18           | 1697                     |                    |                 |                |                          |                |
| Cam                 | 4                                                                                 | 4                                                             | <u>o</u>                           | ó            | 1                        | 1<br>74            | 0               | 0              | 0                        | 5              |
| 0tcom<br>8.6        | 21<br>st 5<br>40000€+04 1.120175                                                  | 100<br>≅+03 2.80000                                           | 0<br>00000. 10+30                  | 4<br>00+00 1 | 3<br>1.00000E-08         | 74                 | •               | 1              | V                        |                |
| Creen               | 16                                                                                | <i>6</i> 99                                                   | 129                                | 879          |                          |                    |                 |                |                          |                |
| Фан<br>7.2<br>0 liq | 3<br>5000000 8.15994                                                              | E+03 1.61619                                                  | <b>2</b> +13                       |              |                          |                    |                 |                |                          |                |
| n-ger               | 6<br>wa, fission and t                                                            | 0<br>total may/fig                                            |                                    | 26           | 7.78750+00               | 3000<br>1.9711E+02 | 1000<br>2.0%/0E | 1697<br>+02    | 94                       |                |
| U-31                | t of interval flums, fission and t                                                | total nev/fis                                                 | .61945E+13<br>sion =<br>.67877E+17 |              | 7.850/E+00               | 1.9718=+02         | 2.0504E         | +02            |                          |                |
| n-ga                | t of interval flume, fission and t                                                | total may/fig                                                 | ,62397E+13<br>sion =<br>.63000E+17 |              | 7.9532=+00               | 1.9725E+02         | 2.0520E         | +02            |                          |                |
| n-ga                | t of intervel flu<br>me, fission and t<br>t of intervel flu                       | total nev/fis                                                 | .6285E+13<br>sion =<br>.63285E+13  |              | 8.04516+00               | 1.97325+02         | 2.0536          | +02            |                          |                |
|                     | or subcese 9<br>56q array has                                                     | ses2h: bebo<br>20 entrie                                      | ock wilcox 15                      | x15, 3.      | ,00.d% <b>,</b> 20g.ci/m | u burn high tenp   | •               |                |                          | •              |
| Ŏ                   | 560 array has<br>560 array has                                                    | 1 entrie                                                      | B.                                 |              |                          |                    |                 |                |                          |                |
| Ö                   | 560 array has<br>560 array has                                                    | 1 entrie                                                      | 3.                                 |              |                          |                    |                 |                |                          | •              |
| Ŏ                   | 560 array has<br>560 array has                                                    | i entrie                                                      | В.                                 |              |                          |                    |                 |                |                          |                |
| ŏ                   | 500 array has                                                                     | 1 entrie                                                      |                                    |              |                          |                    |                 |                |                          |                |

```
500 array has
570 array has
 1 entries.
 4 entries.
 20 entries.
 1q array has
 1q array has
 10 entries.
 1116 55001
132 33663 nudsta (library) storage size
144 33734
1103 74213
 60q array has
60q array has
61q array has
 6 entries.
 1 etries.
 7 entries.
 65q array has
81q array has
 வளர்க.
 4 entries.
 820 array has
 6 entries.
 83q array has
1140 80695
 19 entries.
 98881 in size 200000
 used
0jqpt
 12
Otherm
 5.134401E-01 4.56328/E-01 3.548801E+00 1.00000E-31
Onen
 18
 1697
Quan
 0
 0
 0
 21
 100
Otocret
 8.66000E+04 1.00000E-19 2.90000E+01
 .00000E+00 1.00000E-05
Omero
0pm
7.2000E+00 9.27994E+03 1.6265E+13
0 lip
 94
 1697
0 case or subcase 10 see2h; bebook wilcox 15x15, 3.00x24, 20gx;/www.burn.high temp 0 55q array has 20 entries.
 18418
 1000
 500 array has
 1 entries.
O Sóg array has 20 entries.
Oregasted paramatită, skipcellut, skipaniposta
 page 9, ever halts after page 8
 information on the origen-s library produced
 dataset raie: ft33f001
 logical unit runber: 33
 number of records: 68
0.....
0 helt festure invokes stop 0
```

## scale4.2 bulletin board

welcome to the configuration controlled version of scale4.2. any problems should be reported to key 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 nitaul", 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-y.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

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, endódec and xsectpho. endódec 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, mass, 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 heating? 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 nitable output in any previous scale-4.2 calculations for dancoff factors =-1.

(mrr 93-070)

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, 3.0X/20 Decay

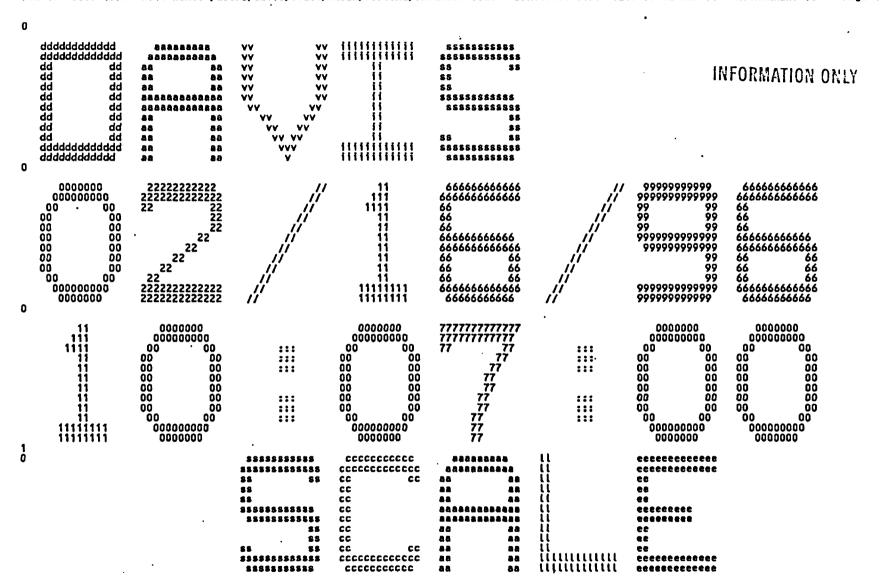
```
3$$ 21 0 1 e
 3$$ 21 0 1 a33 -88
 35$$ 0 t
 / 54$$ a8 1 e
 56$$ 0 7 a5 1 a13 -1 a15 3 0 4 e
 56$$ 0 7 a13 -1 a15 3 0 4 e 5t
 INFORMATION ONLY
 Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay
per B&W assembly, 0.409 mthm for grams
60** 0 1 90 365.25 730.5 1826.25 3652.5
 61** f1-20
 65$$ a4 1 2z 1 2z 1 5z 1 2z 1
 a25 1 2z 1 2z 1 5z 1 2z 1
a46 1 2z 1 2z 1 5z 1 2z 1 e
 65$$ 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
 7 65$$ a4 1 2z 1 2z 1 5z 1 2z 1
7 a25 1 2z 1 2z 1 5z 1 2z 1
7 a46 1 2z 1 2z 1 5z 1 2z 1
65$$ a25 1 5z 0 a46 1 5z 0 e
 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
 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
 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
 56$$ 0 -10 a10 1 e t
 56$$ f0 t
 module origens is finished. completion code
 O. cpu time used
 5.00 (seconds).
 111111111111
 CCCCCCCCCC
 9999999999

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 1111111111111
 ALBERTHESSES
000000000000
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 ee
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 ΠŊ
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 00
 LLLLLLLLLLLL
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 9999999

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 LLLLLLLLLLL
 2222222222
 00
 9999999
 22222222
 nn
 nn
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 rr
 gg
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 66
 nn
 nn nn
 82
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 00
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 LL
 gg
 ee
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 rr
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 nn
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 99
 nnn sssssssssss
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 rr
 FF
 999999999999
 ecceeccece.
 nn
 00000000000

 $888888888
 LL
 rr
 9999999999
 nn
 nn
```



```


 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

 * input echo * (with break between col. 1-72 and 73-80)
 note: only comments are permitted after column 72.
comment or title and
 ..73-80.
0$$ a8 26 a11 71 e
 bau 15x15, 3.0%/20 Decay
3$$ 21 0 1 e
' 3$$ 21 0 1 a33 -88
1 54$$ a8 1 e
7 56$$ 0 7 a5 1 a13 -1 a15 3 0 4 e 5t

56$$ 0 7 a5 1 a13 -1 a15 3 0 4 e 5t

Part B B&W 15x15, 3.00wt%, 20gud/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
7 56$$ 0 -6 a10 1 a t
56$$ 0 10 a10 7 a14 5 a17 4 e 57** 10 a 5t
60** 15 20 30 50 100 150 200 250 300 400
61** f1-20
```

Ò

155 1 1t

35\$\$ 0 t

```
' 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
 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
 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
 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
 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
 56$$ 0 -10 a10 1 e t
 56$$ f0 t
Owhen job "fails", make sure no fido input.....is out here!
 O$ array
 12 entries read
 1$ array
n
 1 entries read
n
 1t
 dbl. prec. machine word applied has, at least, a 16 significant figure accuracy. short-lived split test fraction, qxn = 9.118E-04
 half-norm of matrix used, axn = 7.0000E+00
 4-place-accuracy-retention ratio, ratio4 = 6.4516E-13
 3$$ 21 0 1 a33 -88
3$ array 33 entries read
 2t
1library information...
 cross-section data taken from position number 1 of library on unit 21.
 Dass
 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
 INFORMATION ONLY
 see information above this box (if present) for later updates

 .other identification and sizes of library.
 data set name: /neutronics/scale/datalib/origen/binrylib/pr
20/1995 date library was produced
 4/20/1995
 total number of nuclides in library
number of light-element nuclides
 1697
 689
 number of actinide nuclides
number of fission product nuclides
 129
 7935
 number of nonzero off-diagonal matrix elements

Oobtaining data from position no.
 1 on unit no. 71
 Part B B&W 15x15, 3.00mt%, 20gmd/mtu decay
 actinides
 page
 nuclide concentrations, grams
 basis =per BEW assembly, 0.409 mthm for grams
1.0 d 90.0 d 365.3 d 730.5 d 1826.3 d
 charge discharge
 .0 d
 6.78E-02 8.33E-02 1.10E-01 1.26E-01 1.56E-01 2.09E-01 5.54E-24 6.41E-24 8.49E-24 1.24E-23 3.54E-23 1.29E-22
 6.76E-02
 6.76E-02
 6.76E-02
 t1206
 5.52E-24
 5.52E-24
 5.52E-24
 5.00E-15
2.28E-12
 2.68E-15
 2.68E-15
 2.69E-15
 7.05E-15
 t1207
 2.68E-15
 3.19E-15
 1.31E-14
 2.29E-14
 1.05E-12
 t1208
 1.05E-12
 1.05E-12
 1.07E-12
 1.32E-12
 3.72E-12
 7.68E-12
 1.13E-11
 4.05E-19
 5.97E-19
 t1209
 2.14E-18
 2.14E-18
 2.14E-18
 2.13E-18
 4.40E-19
 4.50E-19
 8.79E-19
 1.77E-13
 1.77E-13
 1.77E-13
 1.78E-13
 2.43E-13
 5.26E-13
 1.08E-12
 4.78E-12
 pb206
 2.81E-11
 1.97E-10
 1.97E-10
 pb207
 1.97E-10
 1.98E-10
 2.53E-10
 4.88E-10
 9.40E-10
 3.23E-09
 1.01E-08
 2.83E-07
 7.58E-06
 2.83E-07
 2.84E-07
 8.23E-07
 1.81E-06
 pb208
 2.83E-07
 3.79E-07
 2.38E-05
 9.02E-15
 9.02E-15
 8.59E-15
 1.71E-15
 pb209
 9.02E-15
 1.86E-15
 1.90E-15
 2.52E-15
 3.71E-15
 1.21E-11
 1.38E-11
 pb210
 1.21E-11
 1.21E-11
 1.21E-11
 1.83E-11
 2.68E-11
 7.64E-11
 2.79E-10
 1.77E-13
 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
 7.81E-10
 pb212
 6.21E-10
 6.21E-10
 6.21E-10
 6.20E-10
 1.35E-09
 2.20E-09
 4.55E-09
 6.68E-09
 3.64E-16
 8.25E-16
 1.98E-15
 pb214
 3.64E-16
 3.64E-16
 3.64E-16
 4.08E-16
 5.64E-16
 5.12E-15
 bi208
 _00E+00
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 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
 bi209
 b1210m
 .00E+00
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 .00E+00
 .00E+00
 b1210
 7.33E-15
 7.33E-15
 7.33E-15
 7.34E-15
 8.50E-15
 1.13E-14
 1.65E-14
 4.70E-14
 1.23E-15
 2.29E-15
 1.23E-15
 1.23E-15
 1.23E-15
 1.46E-15
 3.23E-15
 6.01E-15
 1.05E-14
 61211
 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
 bi212
 2.15E-15
2.70E-16
 b1213
 2.15E-15
 2.15E-15
 2.14E-15
 4.43E-16
 4.07E-16
 4.52E-16
 6.01E-16
 8.84E-16
 2.70E-16
 2.71E-16
 2.70E-16
 3.03E-16
 4.19E-16
 6.13E-16
 1.47E-15
 3.81E-15
 b1214
 3.71E-13
 1.10E-12
 po210
 1.29E-13
 1.29E-13
 1.29E-13
 1.30E-13
 1.62E-13
 2.47E-13
 4.74E-12
 po211m
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 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
 po211
 3.09E-21
3.23E-24
 3.16E-21
3.22E-24
 6.74E-21
6.12E-25
 1.10E-20
 3.33E-20
1.33E-24
 3.09E-21
 3.09E-21
3.23E-24
 3.89E-21
 2.27E-20
 po212
 9.03E-25
 po213
 3.23E-24
 6.66E-25
 6.80E-25
 8.94E-23
1.74E-20
 5.76E-23
 8.94E-23
 8.94E-23
 8.77E-23
 4.42E-23
 8.43E-23
 2.02E-22
 3.24E-20
 po215
 1.74E-20
 1.74E-20
 1.74E-20
 2.06E-20
 4.57E-20
 8.49E-20
 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
 6.65E-17
 po218
 4.29E-17
 4.29E-17
 4.29E-17
 4.29E-17
 4.80E-17
 9.73E-17
 2.33E-16
 6.04E-16
 2.58E-20
 2.58E-20
1.13E-20
 2.58E-20
 2.58E-20
 5.33E-21
 4.90E-21
 5:44E-21
 7.23E-21
 1.06E-20
 at217
 3.03E-31
 .00E+00
 1.13E-20
 1.13E-20
 1.10E-20
 5.64E-22
 5.86E-26
 .00E+00
 rn218
 1.92E-16
 rn219
 3.94E-17
 3.94E-17
 3.94E-17
 3.95E-17
 4.68E-17
 7.34E-17
 1.04E-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
```

```
Feb 16 10:07 1996 File Name: /users/dayis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 8
 7.77E-14 8.69E-14 1.20E-13 1.76E-13 4.21E-13 1.09E-12 2.39E-16 4.94E-17 4.54E-17 5.05E-17 6.70E-17 9.86E-17
 7.77E-14
2.39E-16
 7.77E-14
 rn222
 fr221
 2.39E-16
 2.39E-16
 6.70E-17 9.86E-17
 fr223
ra222
 1.99E-16
 1.99E-16
 1.99E-16
 1.99E-16
 2.34E-16
 3.40E-16
 8.92E-16
 6.24E-19
 6.48E-23
 3.35E-28
 .00E+00
 1.25E-17
 1.25E-17
 1.21E-17
 1.25E-17
 4.89E-11 8.54E-11
3.97E-08 5.83E-08
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6.55E-08 1.70E-07
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4.32E-11
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 _00E+00
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 th230
 6.24E-04 6.24E-04
6.62E-07 6.62E-07
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 6.25E-04
3.57E-07
 th231
 6.62E-07
 2
 Part B B&W 15x15, 3.00mtX, 20gmd/mtu decay
 actinides
 page
 nuclide concentrations, grams
 basis *per B&W assembly, 0.409 mthm for grams 1.0 d 90.0 d 365.3 d 730.5 d 1826.3 d
 730.5 d 1826.3 d 3652.5 d
 charge discharge
8.41E-05 8.41E-05
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pa233
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u235
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u237
u238
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np236
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 np238
np239
np240m
np240
np241
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8.67E-06
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2.81E+01
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 6.72E+02
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 6.72E+02 6.72E+02
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 4.05E+02 4.05E+02 4.05E+02 4.05E+02 4.00E+02
7.08E+01 7.08E+01 7.08E+01 7.08E+01
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 3.67E+02
 3.18E+02
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7.08E+01 7.08E+01

bu242

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7.59E-19 1.56E-19
3.21E-21 3.08E-21
3.03E-10 7.49E-11
1.32E-07 9.53E-08
1.71E+01 1.71E+01
4.32E-01 4.32E-01
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1.26E-21 1.25E-21
.00E+00 .00E+00
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 .00E+00
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 pu245
 7.59E-19
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am239
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3.03E-10
1.32E-07
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 3.03E-10
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2.18E+01
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an242m
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1.97E-02
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 INFORMATION ONLY
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 am245
 am246
 Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay
 actinides
 3
 page
 nuclide concentrations, grams
 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams
.0 d 1.0 d 90.0 d 365.3 d 730.5 d 1826.3 d 3652.5 d
2.60E+00 2.60E+00 1.78E+00 5.54E-01 1.18E-01 2.21E-03 1.07E-03
6.03E-02 6.03E-02 5.99E-02 5.88E-02 5.74E-02 5.34E-02 4.73E-02
1.51E+00 1.52E+00 1.50E+00 1.46E+00 1.41E+00 1.25E+00 1.03E+00
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3.00E-03 3.00E-03 3.00E-03 3.00E-03 3.00E-03 3.00E-03 3.24E-05 3.24E-05 3.24E-05 3.24E-05 3.24E-05 1.64E-06 1
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6.03E-02 6.03E-02
 1.07E-03
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 cm243
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 -6.03E-02

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1.52E+00

4.58E-02

3.00E-03

3.00E-03

3.24E-05

1.64E-06

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 4.58E-02 4.58E-02

3.00E-03 2.99E-03

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1.64E-06 1.64E-06

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cm249
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 4.54E+05 4.54E+05
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 Part B B&W 15x15, 3.00mtX, 20gmd/mtu decay
 page
 nuclide concentrations, grams
 basis =per B&W assembly, 0.409 mthm for grams
.0 d 1.0 d 90.0 d 365.3 d 730.5 d 1826.3 d
1.36E-02 1.36E-02 1.28E-02 1.21E-02 1.03E-02
 charge discharge
1.36E-02 1.36E-02
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 9.49E-06
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4.08E-06
5.12E-05
3.00E-14
6.66E-14
2.91E-14
7.45E-09
1.19E-06
7.11E-06
7.92E-05
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3.69E-05
2.46E-12
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br 79m
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se 81m
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 9.94E-14
 9.94E-14
1.50E-12
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kr 81m
 9.94E-14
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1.10E-09
 .00E+00
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zn 82
ga 82
 1.10E-09
 1.10E-09
 .00E+00
 .00E+00
 .00E+00
 fission products
Part B B&W .15x15, 3.00wt%, 20gwd/mtu decay
 page
 6
 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams
1.0 d 90.0 d 365.3 d 730.5 d 1826.3 d
 730.5 d 1826.3 d 3652.5 d
 charge discharge
1.92E-07 1.92E-07
 .0 d
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9.54E+00
2.48E-04
.00E+00
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 3.96E-04
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 9.40E-07
br 82m
 1.22E-01
5.12E-14
6.88E-11
3.59E-08
 1.22E-01
5.12E-14
kr 82
 1.22E-01
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6.88E-11
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zn 83
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 6.88E-11
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ga 83
 3.59E-08
1.47E-06
 3.59E-08
1.47E-06
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ge 83
 .00E+00
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 1.53E-03
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br 83
 1.53E-03
 1.35E+01
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| ge 844 46.36<br>884 46.36<br>884 46.36<br>884 884 885<br>885 885 885 885 885 885 885 885 885 885                                                         | E-05 6.23E-05 6.23E-06<br>E-04 6.36E-04 6.36E-0<br>E-06 3.22E-06 3.22E-06<br>E-01 3.28E+01 3.28E+0<br>E-13 3.15E-13 3.15E-1<br>E-10 5.49E-10 5.49E-1<br>E-08 9.72E-08 9.72E-06<br>E-06 4.92E-06 4.92E-06<br>E-05 6.48E-05 6.48E-05<br>E+00 6.65E+00 6.65E+0                                                                                                                                       | 00E+00                                                                                                                                                                                                                                                                                                                                                     | .00E+00 .00E+0 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .202+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .49E+00 .00E+00 | INFORMATION ONLY |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| ge 88 9.21                                                                                                                                               | E-08 5.51E-08 5.51E-08<br>E-13 9.21E-13 9.21E-13                                                                                                                                                                                                                                                                                                                                                  | .00E+00 .00E+00                                                                                                                                                                                                                                                                                                                                            | .00E+00 .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | .00E+00                                                                                                                                                                                                                                                                                                                                                                                 | . •              |
| se 88 1.82                                                                                                                                               | E-10 9.66E-10 9.66E-10<br>E-07 1.82E-07 1.82E-0                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                            | .00E+00 .00E+00<br>.00E+00 .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | .00E+00                                                                                                                                                                                                                                                                                                                                                                                 | •                |
| 1 Part B B&W 1                                                                                                                                           | 5x15, 3.00wt%, 20gwd/mt                                                                                                                                                                                                                                                                                                                                                                           | decay                                                                                                                                                                                                                                                                                                                                                      | *****                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | fission products                                                                                                                                                                                                                                                                                                                                                                        | page 7           |
| 0                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                   | nuclide concentra                                                                                                                                                                                                                                                                                                                                          | seembly, 0.409 mthm<br>365.3 d 730.5 d                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | for grams                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 62 E J                                                                                                                                                                                                                                                                                                                                                                                  |                  |
| br 88 9.59 kr 88 1.11 rb 88 1.04 as 89 1.60 as 89 1.77 br 89 2.61 rb 89 2.61 rb 89 1.35 sr 89 6.62 y 89 1.35 y 89m 2.28 as 90 1.18 ac 90 4.12 br 90 4.79 | rge discharge .0 d E-06 9.89E-06 9.89E-06 E-02 1.11E-02 1.11E-02 E-03 1.19E-03 1.19E-03 E+02 1.04E+02 1.04E+02 E-11 1.60E-11 1.60E-1 E-08 1.77E-08 1.77E-08 E-06 1.84E-06 1.84E-06 E-04 2.61E-04 2.61E-04 E-03 1.35E-03 1.35E-03 E+00 6.62E+00 6.62E+00 E+02 1.33E+02 1.33E+02 E-09 2.28E-09 2.28E-09 E-07 4.43E-07 4.43E-07 E-07 4.43E-07 4.43E-07 E-05 4.79E-05 4.79E-06 E-04 1.12E-04 1.12E-04 | .00E+00 .00E+00<br>3.77E-05 .00E+00<br>3.77E-06 .00E+00<br>2.1.04E+02 1.04E+02<br>.00E+00 .00E+00<br>.00E+00 .00E+00<br>.00E+00 .00E+00<br>.00E+00 .00E+00<br>.00E+00 .00E+00<br>.00E+00 .00E+00<br>2.23E-09 6.59E-10<br>.00E+00 .00E+00<br>.00E+00 .00E+00<br>.00E+00 .00E+00<br>.00E+00 .00E+00<br>.00E+00 .00E+00<br>.00E+00 .00E+00<br>.00E+00 .00E+00 | 365.3 d 730.5 d                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | .00E+00<br>.00E+00<br>1.04E+02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                           | 52.5 d<br>.00E+00<br>.00E+00<br>.00E+00<br>.04E+02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.18E-21<br>.39E+02<br>.04E-31<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                            | · .              |

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1.63E+02
4.28E-02
 1.62E+02 1.59E+02 1.55E+02
4.20E-02 4.12E-02 4.02E-02
 1.44E+02
3.74E-02
sr 90
 1.63E+02
4.30E-02
 1.63E+02
4.30E-02
 1.63E+02
4.30E-02
 3.30E-02
 y 90
y 90m
zr 90
 .00E+00
8.72E+00
 .00E+00
 3.65E-08
 1.98E-10
 .00E+00
 .00E+00
1.56E+01
 .00E+00
 3.65E-08
 3.65E-08
 3.65E-08
7.74E+00
.00E+00
2.67E-10
4.62E-08
8.82E-06
1.07E-04
6.74E-02
1.01E+01
 7.74E+00
.00E+00
2.67E-10
 1.17E+01
 2.66E+01
 4.32E+01
 7.75E+00
 INFORMATION ONLY
 7.74E+00
 8.72E+00
.00E+00
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3.51E+00
1.76E+02
2.67E-10
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1.07E-04
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br 91
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kr 91
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1.78E-03
.00E+00
1.79E+02
2.66E-10
 1.07E-04
6.74E-02
1.01E+01
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1.18E-02
1.01E+01
 .00E+00
 .00E+00
 rb 91
 1.64E-18
.00E+00
1.79E+02
 1.01E+01

3.40E-03

1.69E+02

2.67E-10

1.39E-11

1.39E-11

1.39E-11

1.39E-11

1.39E-11

1.39E-11

1.39E-06

1.03E-06

2.06E-02

2.71E-02

2.71E-02

2.71E-02

2.71E-02

2.71E-02

2.71E-02

2.71E-02

1.89E+02

3.28E-08

3.28E-08

3.28E-08

6.10E-14

6.53E-10

6.53E-10

6.53E-10

6.53E-10

6.53E-10

7.80E-06

7.80E-06

1.07E-03

1.07E-03

5.92E-02

1.39E+02

1.39E+02

8.41E-06
 4.09E-09
 3.40E-03
1.69E+02
2.67E-10
 6.50E-04
1.69E+02
2.67E-10
 .00E+00
1.79E+02
 y 91m
 zr 91
 2.65E-10
 2.64E-10
nb 91
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.00E+00
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1.89E+02
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 4.84E-09
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6.53E-10
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.00E+00
 3.28E-08
nb 92
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kr 93
rb 93
sr 93
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1.87E-08
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1.87E-08
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 .00E+00
 .00E+00
 rb 94
 1.93E-06 1.93E-06 1.93E-06
 fission products
Part B B&W 15x15, 3.00mt%, 20gmd/mtu decay
 Dage
 nuclide concentrations, grams
basis =per 8&V assembly, 0.409 mthm for grams
1.0 d 90.0 d 365.3 d 730.5 d 1826.3 d
.00E+00 .00E+00 .00E+00 .00E+00
 1.0 d
.00E+00
 charge
1.81E-04
 discharge
1.81E-04
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ar 94
 .00E+00
2.23E+02
1.25E-04
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.00E+00
5.87E+00
5.85E+00
3.83E+03
 1.81E-04
2.93E-03
2.23E+02
1.25E-04
3.29E-10
2.38E-13
6.61E-09
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5.48E-05
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3.29E-10
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nb 94
nb 94m
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 .00E+00
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 rb 95
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1.55E+01
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1.72E-03
1.55E+01
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 .00E+00
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 1.04E-16
 4.84E-08
2.66E-11
 8.53E+00
1.01E-02
 8.53E+00
1.01E-02
 1.25E-16
nb 95
 8.53E+00
 6.88E-20
 1.01E-02
 2.13E+02
.00E+00
.00E+00
.00E+00
 2.00E+02
4.47E-14
4.35E-10
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| 6.56E+00<br>2.02E-12<br>4.20E-09<br>3.46E-09<br>7.71E-06<br>1.66E-01<br>1.19E-02<br>1.56E-02<br>1.17E-10<br>2.21E-06<br>8.98E-05<br>8.43E-06<br>7.03E+02<br>2.31E-06<br>7.03E+02<br>3.65E-08<br>4.36E-12<br>3.65E-08<br>4.36E-04<br>2.82E-05<br>2.01E-04<br>2.82E-05<br>2.01E-04<br>2.82E-05<br>2.01E-04<br>2.82E-05<br>2.01E-04<br>2.82E-05<br>2.01E-04<br>2.82E-05<br>2.82E-05<br>2.82E-05<br>2.82E-05<br>2.82E-05<br>2.82E-05<br>2.82E-05<br>2.82E-05<br>2.82E-05<br>2.82E-05<br>2.82E-05<br>2.82E-05<br>2.82E-05<br>2.82E-05<br>2.82E-05<br>2.82E-05<br>2.82E-05<br>2.82E-05<br>2.82E-05<br>2.82E-05<br>2.82E-05<br>2.82E-05<br>2.82E-05 | 6.56E+00<br>2.02E-12<br>4.20E-09<br>3.46E-07<br>7.71E-06<br>1.66E-01<br>1.19E-02<br>1.56E-04<br>2.17E-12<br>2.21E-07<br>1.82E-10<br>2.21E-07<br>1.98E-05<br>8.43E-06<br>7.05E-05<br>2.33E-05<br>2.33E-05<br>2.35E-05<br>2.36E-06<br>2.36E-06<br>2.30E+02<br>6.10E-02<br>9.13E-02 | 6.56E+00<br>2.02E-12<br>4.20E-09<br>3.46E-07<br>77.71E-06<br>1.66E-01<br>1.19E-02<br>1.56E-04<br>2.17E-12<br>2.82E-10<br>2.21E-07<br>8.98E-05<br>8.43E-06<br>7.05E-06<br>8.98E-05<br>8.43E-04<br>7.05E-06<br>2.35E-08<br>6.09E-06<br>2.82E-05<br>2.01E-04<br>2.30E+02<br>6.10E-02<br>9.13E-03 | 6.56E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>6.21E-02<br>4.44E-03<br>5.81E-02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 6.56E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 6.56E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 6.56E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 4.56E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | IN     | FORMATI | ON ONLY |  |
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| 0 | Part B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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| page    | 9       |  |
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                                                          | 730.5 d<br>.00E+00                                                                                                                                                                                                                                                                                               | 1826.3 d<br>.00E+00                                                                                                                                                                                                                                                                                                          | 3652.5 d<br>.00E+00                                                                                                                                                                                                                                                                                               |        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|   | nb100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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|   | nb100m<br>mo100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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|   | tc100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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|   | ru100<br>rb101                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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                                                                                                   | .00E+00                                                                                                                                                                                                                                                                                                              | .00E+00                                                                                                                                                                                                                                                                                                                      | .00E+00                                                                                                                                                                                                                                                                                                                                 | .00E+00                                                                                                                                                                                                                                                                                                          | .00E+00                                                                                                                                                                                                                                                                                                                      | .00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                |        |         |         |  |
|   | tc101                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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                                                                                                   | .00E+00                                                                                                                                                                                                                                                                                                              | .00E+00                                                                                                                                                                                                                                                                                                                      | .00E+00                                                                                                                                                                                                                                                                                                                                 | .00E+00                                                                                                                                                                                                                                                                                                          | .00E+00                                                                                                                                                                                                                                                                                                                      | .00E+00                                                                                                                                                                                                                                                                                                           |        |         |         |  |
|   | ru101<br>sr102                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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                                                                                                   | 2.18E+02<br>.00E+00                                                                                                                                                                                                                                                                                                  | 2.18E+02<br>.00E+00                                                                                                                                                                                                                                                                                                          | 2.18E+02<br>.00E+00                                                                                                                                                                                                                                                                                                                     | 2.18E+02<br>.00E+00                                                                                                                                                                                                                                                                                              | 2.18E+02<br>.00E+00                                                                                                                                                                                                                                                                                                          | 2.18E+02<br>.00E+00                                                                                                                                                                                                                                                                                               |        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|   | y102                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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                                                                                                   | .00E+00                                                                                                                                                                                                                                                                                                              | .00E+00                                                                                                                                                                                                                                                                                                                      | .00E+00                                                                                                                                                                                                                                                                       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|         |         |  |
|   | zr102<br>nb102                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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                                                                                                   | .00E+00                                                                                                                                                                                                                                                                                                              | .00E+00                                                                                                                                                                                                                                                                                                                      | .00E+00                                                                                                                                                                                                                                                                       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|         |         |  |
|   | zr102<br>nb102<br>mo102                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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                                                                                                   | .00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                   | .00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                           | .00E+00<br>.00E+00                                                                                                                                                                                                                                                            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|         |         |  |
|   | zr102<br>nb102<br>mo102<br>tc102<br>tc102m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3.41E-06<br>3.10E-06<br>1.91E-03<br>1.49E-05<br>7.52E-07                                                                                                                                                                                                                         | 7.27E-08<br>3.41E-06<br>3.10E-06<br>1.91E-03<br>1.49E-05<br>7.52E-07                                                                                                                       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|   | zr102<br>nb102<br>mo102                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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                                                                                                   | .00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                        | .00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                | .00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                 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 cay nuclide concentrations, grams basis =per B&W assembly, 0.409 mthm for grams 1.0 d 90.0 d 365.3 d 730.5 d 1826.3 d 3652.5 d .00E+00 10
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 6.63E-04
 3.15E-08
 1.26E-15
 5.93E-28
 2.68E-03
 2.68E-03
cd115m
 2.68E-03
 4.58E-01
3.07E-10
 4.59E-01
4.25E-12
 4.59E-01
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5.84E-22
 4.59E-01
2.75E-34
 4.53E-01
 4.53E-01
 4.53E-01
2.49E-04
 4.54E-01
 1.99E-04
 in115m 2.49E-04
 2.49E-04
 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams
1.0 d 90.0 d 365.3 d 730.5 d 1826.3 d
5.55E-02 4.57E-02 4.57E-02 4.57E-02
.00E+00 .00E+00 .00E+00 .00E+00 .00E+00
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.77E-01 4.77E-01 4.77E-01 4.77E-01
.00E+00 .00E+00 .00E+00 .00E+00 .00E+00
.00E+00 .00E+00 .00E+00 .0
 fission products
 12
Part B B&W 15x15, 3.00mt%, 20gud/mtu decay
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 3652.5 d
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 charge discharge
4.55E-02 4.55E-02
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 4.55E-02
 4.57E-02
sn115
 4.55E-02
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 2.84E-14
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ru116
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 .00E+00
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pd116
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 1.90E-09
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 .00E+00
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 .00E+00
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 .DOE+00
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cd117m
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1.19E+00
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ru118
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 rh119
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ag119
cd119
cd119m
in119
in119m
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.00E+00
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rh120
pd120
ag120
cd120
 .00E+00
 .00E+00
 in120
 in120m
 sn120
rh121
 fission products
 page 13
 | Charge | discharge | .0 | d | .00E+00 | .00E
 1.31E+00 1.31E+00 .00E+00 .00E
 .00E+00
4.68E-02
.00E+00
 .00E+00
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te127m
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sb130m 3.82E-04 3.82E-04
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 1.38E+02
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 xe131m 2.55E-02 2.55E-02
 2.55E-02
 .00E+00
 fission products
 page
 15
 Part B B&W 15x15, 3.00mtX, 20gmd/mtu decay
 nuclide concentrations, grams
basis *per 8&W assembly, 0.409 mthm for grams
1.0 d 90.0 d 365.3 d 730.5 d 1826.3 d 3652.5 d
 charge discharge
4.27E-12 4.27E-12
 305.3 d
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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 21
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 ba136m
 4.08E-09
 Part B B&W 15x15, 3.00wtX, 20gwd/mtu decay
 fission products
 page
 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams
1.0 d 90.0 d 365.3 d 730.5 d 1826.3 d 3652.5 d
 charge discharge
9.38E-09 9.38E-09
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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01
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 17
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pm148
 3.75E-01 8.42E-02 8.29E-04
pm148m 3.81E-01 3.81E-01 3.81E-01
 fission products
 page
 18
Part B B&W 15x15, 3.00mt%, 20gmd/mtu decay
 nuclide concentrations, grams
basis =per BEW assembly, 0.409 mthm for grams
1.0 d 90.0 d 365.3 d 730.5 d 1826.3 d
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|---|-----------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|---------------------|----------------------|---------------------------|----------------------|--------------------------------|---------------------|----------|------|----------|
| 1 | pm154m                                  | 4.02E-06                                     | 4.02E-06                                     | 4.02E-06                                     | .00E+00             | .00E+00              | .00E+00                   | .00E+00              | .00E+00                        | .00E+00             |          |      |          |
|   | Part B                                  | B&W 15x15,                                   | 3.00wt%,                                     | 20gwd/mtu                                    |                     | •                    |                           |                      |                                | fission products    | page     | 19   |          |
| 0 |                                         |                                              |                                              |                                              | nuclide             | concentra            | itions, gra<br>sembly, 0. | MS<br>LOO mebm 4     |                                |                     |          |      |          |
|   |                                         | 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            |          | -    |          |
|   | 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            | rones AT | 101  | ONLY     |
|   | ad154<br>la155                          | 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            | INFORMAT | 1011 | <b>U</b> |
|   | 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<br>.00E+00  |          |      |          |
|   | pr155<br>nd155                          | 1.98E-09<br>5.96E-07                         | 1.98E-09<br>5.96E-07                         | 1.98E-09                                     | .00E+00             | .00E+00              | .00E+00                   | .00E+00              | .00+300.                       | .00E+00 .           |          |      |          |
|   | pm155                                   | 3.63E-06                                     | 3.63E-06                                     | 5.96E-07<br>3.63E-06                         | .00E+00             | _00E+00              | .00E+00                   | .00E+00              | .00E+00                        | .00E+00             |          |      |          |
|   | em155                                   | 1.23E-04                                     | 1.23E-04                                     | 1.23E-04                                     | 4.63E-24            | .00E+00<br>3.01E+00  | .00E+00                   | .00E+00              | .00E+00<br>.00E+00<br>1.49E+00 | .00E+00             |          |      |          |
|   | eu155                                   | 3.12E+00                                     | 3.12E+00                                     | 3.12E+00                                     | 3.12E+00            | 3.01E+00             | 2.69E+00                  | 2.3ZE+00             | 1.49E+00                       | 7.10E-01            |          |      |          |
|   | eu155<br>gd155m<br>gd155                | .00E+00                                      | .00E+00                                      | 00E+00                                       | .00E+00             | .00E+00              | .00E+00                   | .00E+00              | .00E+00                        | .00E+00             |          |      |          |
|   | ga122                                   | 3.34E-UZ                                     | 1.54E-UZ                                     | 3.34E-UZ                                     | 5.46E-02<br>.00E+00 | 1.65E-01<br>.00E+00  | 4.83E-01<br>.00E+00       | 8.54E-01<br>.00E+00  | 1.69E+00<br>.00E+00            | 2.47E+00<br>.00E+00 |          |      |          |
|   | ce156<br>pr156                          | 0.50F-11                                     | 0.50F-11                                     | 0.50F-11                                     | .00E+00             | .00E+00              | .00E+00                   | .00E+00              | .00E+00                        | .00E+00             |          |      |          |
|   | nd156                                   | 5.34E-02<br>1.51E-12<br>9.59E-11<br>2.27E-07 | 5.34E-02<br>1.51E-12<br>9.59E-11<br>2.27E-07 | 2.27E-07                                     | .00E+00             | .00E+00              | .00E+00                   | .00E+00              | .00E+00                        | .00E+00             |          |      |          |
|   | pm156                                   | 4.95E-0/                                     | 4.YDE-U/                                     | 6.Y3E-U/                                     | .00E+00             | .00E+00              | .00E+00                   | .00E+00              | .00E+00                        | .00E+00             |          |      |          |
|   | sm156                                   | 1.97E-03<br>3.13E-01                         | 1.97E-03<br>3.13E-01                         | 1.97E-03<br>3.13E-01                         | 3.36E-04            | .00E+00<br>5.19E-03  | .00E+00                   | .00E+00              | .00+00                         | .00E+00             |          |      |          |
|   | eu156                                   | 3.13E-U1                                     | 3.13E-U1                                     | 3.13E-U1                                     | 3.01E-01            | 9.31E+00             | 1.81E-08<br>9.32E+00      | 1.04E-15<br>9.32E+00 | .00E+00<br>9.32E+00            | .00E+00<br>9.32E+00 |          |      |          |
|   | gd156<br>ce157                          | 9.00E+00<br>2.60E-14                         | 9.00E+00<br>2.60E-14                         | 9.00E+00<br>2.60E-14                         | 9.01E+00<br>.00E+00 | .00E+00              | .00E+00                   | .00E+00              | .002+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             |          |      |          |
|   | pr157<br>nd157                          | 1.46E-11<br>7.14E-09                         | 7.14E-09                                     | 1.46E-11<br>7.14E-09                         | .00E+00             | .00E+00              | .00E+00                   | .00E+00              | .00E+00                        | .00E+00             |          |      |          |
|   | pm157<br>sm157                          | 1.02E-06<br>1.74E-05                         | 1.02E-06<br>1.74E-05                         | 1.02E-06<br>1.74E-05                         | .00E+00             | .00E+00              | -00E+00                   | .00E+00              | .00E+00                        | .00E+00             |          |      |          |
|   | 8M13/                                   | 1./4E-U5                                     | 1./4E-U5                                     | 1./4E-U5                                     | .00E+00<br>7.80E-04 | .00E+00              | .00E+00                   | .00E+00              | .00E+00                        | .00E+00<br>.00E+00  |          |      |          |
|   | eu157<br>gd157                          | 2.31E-03<br>2.88E-02                         | 2.31E-03<br>2.88E-02                         | 2.31E-03<br>2.88E-02<br>3.40E-13             | 3.03E-02            | 3.11E-02             | 3.11E-02                  | 3.11E-02             | 3.11E-02                       | 3.11E-02            |          |      |          |
|   | pr 158                                  | 3.40E-13                                     | 3.40E-13                                     | 3.40E-13                                     | .00E+00             | .00E+00              | .00E+00                   | .QOE+QO              | .00E+00                        | .00E+00 .           |          | _    |          |
|   | nd158                                   | 3.40E-13<br>1.29E-09                         | 3.40E-13<br>1.29E-09                         |                                              | .00E+00             | .00E+00              | .00E+00                   | .00E+00              | .00E+00                        | .00E+00             | •        |      |          |
|   | pa 158                                  | 1.68F-08                                     | 1.68E-08                                     | 1.68E-08                                     | .00E+00             | .00E+00              | .00E+00                   | .00E+00              | .00E+00                        | .00E+00             |          |      |          |
|   | sm158                                   | 6.11E-06<br>5.75E-05                         | 6.11E-06<br>5.75E-05                         | 6.11E-U6                                     | -00E+00<br>2.32E-14 | .00E+00              | .00E+00<br>00E+00         | .00E+00              | .00E+00                        | .00E+00<br>.00E+00  |          |      |          |
|   | eu158<br>gd158                          | 3.25E+00                                     | 3.25F+00                                     | 3.75E-05                                     | 3.25E+00            | .00E+00<br>3.25E+00  | 3.25E+00                  | 3.25E+00             | 3.25E+00                       | 3.25E+00            |          |      |          |
|   | pr159                                   | 1.49E-14<br>2.75E-11<br>2.99E-09             | 3.25E+00<br>1.49E-14                         | 1.49E-14                                     | .00E+00             | .00E+00              | .00E+00                   | .00E+00              | .00E+00                        | .00E+00             |          |      |          |
|   | pr 159<br>nd 159                        | 2.75E-11                                     | 2.75E-11<br>2.99E-09                         | 2.75E-11                                     | .00E+00             | .00E+00              | .00E+00                   | .00E+00              | -00E+00                        | 00E+00              |          |      |          |
|   | pm159<br>sm159                          | 2.99E-09                                     | 2.99E-09                                     | 2.99E-09                                     | .00E+00             | .00E+00              | .00E+00                   | .00E+00              | .00E+00                        | .00E+00             |          |      |          |
|   | sm159<br>eu159                          | 1.21E-06<br>1.14E-05                         | 1.21E-06<br>1.14E-05                         | 1.14E-05                                     | .00E+00             | .00E+00              | .00E+00                   | .00E+00              | .00E+00<br>.00E+00             | .00E+00<br>.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<br>1.99E-12                         | 5.03E-01            | 5.03E-01             | 5.03E-01                  | 5.03E-01             | 5.03E-01                       | 5.03E-01            |          |      |          |
|   | nd160                                   | 5.02E-01<br>1.99E-12                         | 5.02E-01<br>1.99E-12                         | 1.99E-12                                     | .00E+00             | .00E+00              | .00E+00                   | .00E+00              | .00E+00                        | .00E+00             |          |      |          |
|   | pm:160                                  | 8.10E-11                                     | 8.10E-11                                     | X 10F+11                                     | .00E+00             | .00E+00              | .00E+00                   | .00E+00              | .00E+00                        | .00E+00             |          |      |          |
|   | sm160                                   | 1.60E-07                                     | 1.60E-07                                     | 1.60E-U/                                     | .00E+00             | .00E+00              | .00E+00                   | .00E+00              | .00E+00                        | .00E+00<br>.00E+00  |          |      |          |
|   | eu160<br>gd160                          | 1.87E-07<br>2.25E-01                         | 1.87E-07<br>2.25E-01                         | 2-25F-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                                    | R G1E-NI                                     | 8.83E-03            | 2.25E-01<br>3.76E-03 | 2.69E-04                  | 8.10E-06             | 2.22E-10                       | 5.53E-18            |          |      |          |
|   | dv160                                   | 3.04E-02                                     | 3.04E-02                                     | 3.04E-02<br>3.04E-14<br>9.99E-12<br>2.24E-09 | 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              | .005+00                        | .00E+00             |          |      |          |
|   | pm161                                   | 9.99E-12<br>2.24E-09                         | 9.99E-12<br>2.24E-09                         | 9.99E-12                                     | .00E+00             | .002400              | .00E+00                   | .00E+00              | .00E+00<br>.00E+00             | .00E+00<br>.00E+00  |          | •    |          |
|   | sm161<br>eu161                          | 6.86E-08                                     | 6.86E-08                                     | 6.86E-08                                     | .00E+00             | .00E+00<br>.00E+00   | .00E+00                   | .00E+00              | .00E+DO                        | _00E+00             |          |      |          |
|   | gd161                                   | 5.03E-07                                     | 6.86E-08<br>5.03E-07                         | 5.03E-07                                     | .00E+00             | .00E+00              | .00E+00                   | .00E+00              | .00E+00                        | .00E+00             |          |      | •        |
| _ | gd161<br>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             |          |      |          |
| 1 |                                         |                                              |                                              |                                              |                     |                      |                           |                      |                                |                     |          |      |          |

fission products

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

```
nuclide concentrations, grams basis *per BZW assembly, 0.409 mthm for grams
 charge discharge
8.12E-02 8.12E-02
2.17E-13 2.17E-13
 .0 d
8.12E-02
 1.0 d 90.0 d 365.3 d 730.5 d 1826.3 d
8.13E-02 8.26E-02 8.26E-02 8.26E-02 8.26E-02
 8.26E-02
dy161
 8.26E-02
.00E+00
.00E+00
.00E+00
.00E+00
.00E+00
5.62E-02
.00E+00
.00E+00
.00E+00
.00E+00
.00E+00
 2.17E-13
3.58E-10
 2.17E-13
3.58E-10
6.73E-08
4.94E-07
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
pm162
 .00E+00
.00E+00
.00E+00
.00E+00
.00E+00
.00E+00
.00E+00
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.00E+00
.00E+00
.00E+00
.00E+00
 .00E+00
.00E+00
 .00E+00
sm162
 3.58E-10
 .00E+00
 6.73E-08
4.94E-07
 6.73E-08
4.94E-07
 .00E+00
 .00E+00
 .00E+00
eu162
 .00E+00
 .00E+00
ad162
 .00E+00
 4.65E-07
1.49E-07
5.62E-02
6.78E-12
6.20E-10
3.23E-08
4.70E-07
3.66E-02
4.86E-13
1.47E-11
1.35E-07
2.63E-08
1.00E-02
7.20E-15
1.41E-12
9.57E-10
6.35E-09
2.11E-08
 4.65E-07
1.49E-07
 .00E+00
8.55E-11
 .00E+00
 .00E+00
 .00E+00
tb162
 4.65E-07
 1.49E-07
5.62E-02
 .00E+00
 .00E+00
tb162m
 5.62E-02
.00E+00
.00E+00
.00E+00
.00E+00
.00E+00
3.66E-02
 5.62E-02
.00E+00
dy162
sm163
 5.62E-02
 5.62E-02
 5.62E-02
 INFORMATION ONLY
 .00E+00
 6.78E-12
 6.78E-12
 .00E+00
 6.20E-10
3.23E-08
4.70E-07
.00E+00
3.66E-02
4.86E-13
 .00E+00
.00E+00
.00E+00
.00E+00
3.66E-02
 .00E+00
eu163
gd163
 6.20E-10
3.23E-08
 .00E+0D
 .00E+00
 .00E+00
 .00E+00
 4.70E-07
tb163
tb163m
 .00E+00
 3.66E-02
4.86E-13
 3.66E-02
 3.66E-02
dy163
sm164
 .00E+00
 .00E+00
 .00E+00
.00E+00
.00E+00
1.00E-02
.00E+00
.00E+00
.00E+00
.00E+00
.00E+00
9.50E-03
2.82E-14
 1.47E-11
1.35E-07
2.63E-08
1.00E-02
7.20E-15
1.41E-12
 .00E+00
.00E+00
.00E+00
1.00E-02
.00E+00
 .00E+00
1.38E-27
2.21E-28
1.00E-02
 1.47E-11
1.35E-07
 .00E+00
 .00E+00
eu164
 .00E+00
gd164
tb164
 .00E+00
1.00E+00
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.00E+00
.00E+00
.00E+00
.00E+00
9.50E-03
 2.63E-08
1.00E-02
 .00E+00
1.00E-02
 .00E+00
 1.00E-02
.00E+00
dy164
 .00E+00
sm165
 .00E+00
 7.20E-15
 .00E+00
.00E+00
 1.41E-12
 .00E+00
 .00E+00
eu165
 9.57E-10
6.35E-09
3.09E-06
2.11E-08
 .00E+00
.00E+00
2.50E-09
.00E+00
9.50E-03
 .00E+00
 .00E+00
 9.57E-10
gd165
tb165
 6.35E-09
 .00E+00
.00E+00
9.50E-03
dy165
dy165m
ho165
 3.09E-06
 .00E+00
 .00E+00
 .00E+00
9.50E-03
 2.11E-08
 .00E+00
9.50E-03
 2.11E-08

9.49E-03

2.61E-06

6.02E-06

6.02E-06

6.02E-06

2.38E-05

1.54E-03

1.54E-03

2.44E-05

6.33E-16

2.01E-05

2.01E-05

2.01E-05
 9.49E-03
 2.13E-06
3.59E-06
2.38E-05
1.54E-03
2.44E-05
 .00E+00
 .00E+00
 .00E+00
 .00E+00
dy166
ho166
 2.61E-06
 6.02E-06
2.38E-05
1.54E-03
2.44E-05
 1.38E-14
2.38E-05
 .00E+00
2.38E-05
1.55E-03
2.44E-05
 .00E+00
2.38E-05
 .00E+00
2.37E-05
 .00E+00
 2.37E-05
ho166m
 1.55E-03
2.44E-05
 1.55E-03
2.44E-05
 1.55E-03
 1.55E-03
 2.44E-05
er167
 2.44E-05
.00E+00
 2.44E-05
.00E+00
.00E+00
.00E+00
7.41E-07
7.89E-07
2.73E-18
.00E+00
4.62E-09
 .00E+00
 .00E+00
er167m
 6.33E-16
 .00E+00
 2.01E-05
.00E+00
1.14E-08
7.30E-07
 2.01E-05
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.00E+00
 2.01E-05
 2.01E-05
 2.01E-05
 2.01E-05
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1.23E-08
7.29E-07
 .00E+00
1.23E-08
7.29E-07
 .00E+00
1.61E-11
7.41E-07
 .00E+00
2.47E-20
7.41E-07
 .00E+00
4.97E-32
7.41E-07
yb168
ér169
 7.41E-07
.00E+00
tm169
 7.41E-07

.00E+00

7.89E-07

1.36E-10

.00E+00

4.49E-09

.00E+00

4.76E-07

.00E+00
 .00E+00
7.89E-07
9.71E-10
 .00E+00
7.89E-07
 .00E+00
7.89E-07
5.98E-10
 .00E+00
7.89E-07
yb169
 -00E+00
 7.89E-07
5.15E-14
 7.89E-07
er170
tm170
 9.71E-10
 9.66E-10
 1.89E-11
 .00E+00
3.65E-09
5.73E-10
6.82E-07
 .00E+00
3.65E-09
5.73E-10
 .00E+00
3.65E-09
5.73E-10
 .00E+00
3.66E-09
6.27E-11
6.82E-07
 .00E+00
4.62E-09
 .00E+00
4.02E-09
 .00E+00
4.60E-09
tm170m
yb170
 .00E+00
6.24E-07
4.27E-07
 .00E+00
 .00E+00
 .00E+00
er171
 1.12E-07
9.39E-07
 1.85E-08
1.03E-06
 3.31E-07
tm171
 6.82E-07
 6.82E-07
 3.69E-07
2.37E-09
 3.69E-07
 7.20E-07
yb171
 3.69E-07
 3.70E-07
 2.37E-09
3.20E-09
 2.37E-09
 1.54E-22
 .00E+00
 .00E+00
 .00E+00
 1.69E-09
er172
 3.20E-09
6.67E-07
 3.20E-09
 3.06E-09
 8.23E-19
 .00E+00
 .00E+00
 .00E+00
 .00E+00
tm172
 6.73E-07
 6.68E-07
 6.73E-07
 6.73E-07
 6.73E-07
 6.73E-07
yb172
 6.67E-07
 6.67E-07
 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
 actinides
 21
Part B B&W 15x15, 3.00mtX, 20gmd/mtu decay
 nuclide concentrations, grams
 initial 15.0 yr 20.0 yr 30.0 yr 50.0 yr 100.0 yr 150.0 yr 200.0 yr 250.0 yr 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 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 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 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
 250.0 yr 300.0 yr 400.0 yr
 5.04E-19
t1206
 4.73E-13
t1207
t1208
 7.70E-13
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| Feb | 16 10:07                 | 7 1996 Fil                      | e Name: /l           | users/davis                      | s/scale/sas                                             | 2h/UCFTIME                      | /s3020ucfo                         | .out BBA                                                                       | 1000000-017                                                          | 17-0200-00                                             | 012 REV 01           | ATTACHMENT           | II - Page : | 27 |
|-----|--------------------------|---------------------------------|----------------------|----------------------------------|---------------------------------------------------------|---------------------------------|------------------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------|----------------------|----------------------|-------------|----|
| •   | pa234<br>pa235           | 9.67E-11<br>.00E+00             | 9.67E-11<br>.00E+00  | .00E+00                          | 9.67E-11<br>.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<br>.00E+00<br>2.03E-04     | .00E+00<br>.00E+00<br>1.24E-04                                                 | .00E+00                                                              | .00E+00                                                | .00E+00<br>.00E+00   | .00E+00<br>.00E+00   |             |    |
|     | u231<br>u232             | .00E+00<br>4.60E-04             | .00E+00<br>4.62E-04  | 4.47E-04                         | 4.07E-04                                                | 3.34E-04<br>3.16E-03            | 2.03E-04                           | 1.24E-04                                                                       | 7.54E-05                                                             | 4.59E-05                                               | 2.79E-05             | 1.04E-05             | •           |    |
|     | u233<br>u234             | 1.40E-03<br>8.28E+01            | 1.60E-03<br>8.39E+01 | 1.81E-03<br>8.49E+01             | 2.25E-03<br>8.68E+01                                    | 3.16E-03<br>9.03E+01            | 5.76E-03<br>9.69E+01               | 8.82E-03<br>1.01E+02                                                           | 1.23E-02<br>1.04E+02                                                 | 1.62E-02<br>1.06E+02                                   | 2.04E-02<br>1.08E+02 | 2.99E-02<br>1.09E+02 |             |    |
|     | u235                     | 6.30E+03                        | 6.30E+03             | 6.30E+03                         | K.30F+03                                                | 6.30E+03                        | ん てりにょりて                           | A 31E±N3                                                                       | ∠ 31F±N3                                                             | 6.32E+03                                               | 6.32E+03             | 6.33E+03             |             |    |
|     | u236<br>u237             | 1.41E+03<br>7.57E-06            | 1.41E+03<br>5.94E-06 | 1.41E+03<br>4.67E-06             | 1.42E+03<br>2.88F-06                                    | 1.42E+03<br>1.10E-06            | 1.42E+03<br>9.79E-08               | 1.42E+03<br>8.74E-09                                                           | 1.43E+03<br>7.83E-10                                                 | 1.43E+03<br>7.20E-11                                   | 1.43E+03<br>8.48E-12 | 1.44E+03<br>2.28E-12 |             |    |
|     | u238                     | 4.42E+05                        | 4.4ZE+05             | 4.42E+05                         | 1.42E+03<br>2.88E-06<br>4.42E+05<br>.00E+00             | 4.42E+05<br>.00E+00             | 4.42E+05                           | 4.42E+05                                                                       | 7.83E-10<br>4.42E+05                                                 | 4.42E+05<br>.00E+00                                    | 4.42E+05             | 4.42E+05             |             |    |
|     | u239<br>u240             | .00E+00<br>6.17E-22             | .00E+00<br>9.15E-22  | .00E+00<br>1.21E-21              | 1.81E-21                                                | 3.00E-21                        | .00E+00<br>5.99E-21                | 1.42E+03<br>8.74E-09<br>4.42E+05<br>.00E+00<br>8.97E-21                        | .00E+00<br>1.20E-20                                                  | 1.49E-20                                               | .00E+00<br>1.79E-20  | .00E+00<br>2.39E-20  |             |    |
|     | u241                     | .00E+00                         | .00E+00              | .00E+00                          | _00F+00                                                 | -00F+00                         | ·UUETUU                            | .00E+00                                                                        | 1.20E-20<br>.00E+00                                                  | nns∡nn                                                 | .00E+00              | .00E+00              |             |    |
|     | np235<br>np236m          | 5.36E-09<br>.00E+00             | 2.20E-10<br>.00E+00  | 9.00E-12<br>.00E+00              | 1.51E-14<br>.00E+00<br>3.71E-04                         | 4.24E-20<br>.00E+00             | 5.62E-34<br>.00E+00                | .00E+00                                                                        | .00E+00                                                              | .00E+00                                                | .00E+00<br>.00E+00   | .00E+00<br>.00E+00   |             |    |
|     | np236<br>np237           | .00E+00<br>3.71E-04<br>1.30E+02 | 3.71E-04<br>1.31E+02 | .00E+00<br>3.71E-04<br>1.33E+02  | 3.71E-04<br>1.38E+02                                    | 3.71E-04<br>1.49E+02            | 3.70E-04<br>1.78E+02               | .00E+00<br>.00E+00<br>3.70E-04<br>2.06E+02<br>3.76E-08<br>8.56E-06<br>7.65E-23 | 3.70E-04<br>2.32E+02                                                 | .00E+00<br>.00E+00<br>3.70E-04<br>2.56E+02<br>2.30E-08 | 3.70E-04<br>2.78E+02 | 3.70E-04<br>3.17E+02 |             |    |
|     | np238                    | 7.48E-08                        | 7.30E-08             | 7.12E-08                         | 6.78E-UK                                                | 6.14E-08                        | 4.51E-U5                           | 3.76E-08                                                                       | 2.94E-08                                                             | 2.30E-08                                               | 1.80E-08             | 1.10E-08             |             |    |
|     | np238<br>np239<br>np240m | 8.67E-06<br>5.27E-24            | 8.67E-06<br>7.81E-24 | 8.66E-06<br>1.04E-23             | 8.65E-06<br>1.54E-23                                    | 8.64E-06                        | 8.60E-06<br>5.11E-23               | 8.56E-06                                                                       | 8.52E-06                                                             | 8.48E-06<br>1.27E-22                                   | 8.44E-06<br>1.53E-22 | 8.36E-06<br>2.04E-22 |             |    |
|     | np240                    | 5.42E-26                        | 8.04E-26             | 1.07E-25                         | 1 50F-25                                                | 2.56E-23<br>2.64E-25            | 5.26E-25                           | 1.0/5-23                                                                       | 1.036-24                                                             | 1.31E-24                                               | 1.57E-24             | 2.10E-24             |             |    |
|     | np241<br>pu236           | .00E+00                         | .00E+00<br>1.09E-05  | .00E+00<br>3.30E-06              | .00E+00<br>3.03E-07<br>.00E+00<br>2.41E+01              | .00E+00<br>3.37E-09             | .00E+00<br>8.32E-10                | .00E+00<br>8.31E-10                                                            | .00E+00<br>8.31E-10                                                  | .00E+00<br>8.31E-10                                    | .00E+00<br>8.30E-10  | 00E+00<br>8.30E-10   |             |    |
|     | pu237                    | 3.60E-05<br>5.08E-30            | 3.32E-42             | .00E+00                          | .00E+00                                                 | .00E+00<br>2.06E+01<br>2.63E+03 | .00E+00                            | .00E+00<br>9.40E+00                                                            | .00E+00                                                              | .00E+00<br>4.31E+00                                    | .00E+00              | .00E+00              |             |    |
|     | pu238<br>pu239           | 2.81E+01<br>2.63E+03            | 2.71E+01<br>2.63E+03 | 2.60E+01<br>2.63E+03             | 2.41E+01<br>2.63E+03                                    | 2.06E+01<br>2.63E+03            | 1.39E+01<br>2.62E+03               | 9.40E+00<br>2.62E+03                                                           | 6.36E+00<br>2.62E+03                                                 | 4.51E+00<br>2.61E+03                                   | 2.92E+00<br>2.61E+03 | 1.35E+00<br>2.60E+03 |             |    |
|     | pu240                    | 6.72E+02                        | 6.72E+02             | 2.63E+03<br>6.71E+02             | 6.71E+02                                                | 0./UE+UZ                        | 6.66E+02                           | 2.62E+03<br>6.63E+02                                                           | 2.62E+03<br>6.59E+02                                                 | 2.61E+03<br>6.56E+02                                   | 6.52E+02             | 6.46E+02             |             |    |
|     | pu241<br>pu242           | 2.50E+02<br>7.08E+01            | 1.96E+02<br>7.08E+01 | 1.54E+02<br>7.08E+01             | 9.50E+01<br>7.08E+01                                    | 3.62E+01<br>7.08E+01            | 3.23E+00<br>7.08E+01               | 2.88E-01<br>7.08E+01<br>1.13E-15<br>4.54E-10<br>.00E+00<br>1.24E-21            | 2.58E-02<br>7.08E+01                                                 | 2.37E-03<br>7.08E+01                                   | 2.80E-04<br>7.08E+01 | 7.54E-05<br>7.08E+01 |             |    |
|     | Du243                    | 1.13E-15                        | 1.13E-15             | 1.13E-15                         | 7.08E+01<br>1.13E-15<br>9.17E-11<br>.00E+00<br>1.25E-21 | 1.13E-15<br>1.52E-10            | 1.13E-15<br>3.03E-10               | 1.13E-15                                                                       | 1.13E-15<br>6.05E-10                                                 | 1.13E-15<br>7.56E-10                                   | 1.13E-15<br>9.07E-10 | 1.13E-15<br>1.21E-09 |             |    |
|     | pu244<br>pu245           | 3.12E-11<br>.00E+00             | 4.63E-11<br>.00E+00  | 6.15E-11<br>.00E+00              | .00E+00                                                 | .00E+00                         | .00E+00                            | .00E+00                                                                        | .00E+00                                                              | .00E+00<br>1.24E-21                                    | .00E+00              | .00E+00              |             |    |
|     | pu245<br>pu246<br>am239  | 1.25E-21<br>.00E+00             | 1.25E-21<br>.00E+00  | 1.25E-21<br>.00E+00              | 1.25E-21<br>.00E+00                                     | .00E+00<br>1.25E-21<br>.00E+00  | 1.24E-21<br>.00E+00                | 1.24E-21<br>.00E+00                                                            | 1.24E-21<br>.00E+00                                                  | 1.24E-21<br>.00E+00                                    | 1.23E-21<br>.00E+00  | 1.23E-21<br>.00E+00  |             |    |
|     | am240                    | _00E+00                         | .00E+00              | .00F+00                          | .00F+00                                                 | UUETUU                          | .00F+00                            | ひしたすりり                                                                         | ひいをすびひ                                                               | .00E+00                                                | .00E+00              | .00E+00              |             |    |
|     | am241<br>am242m          | 1.71E+02<br>4.11E-01            | 2.23E+02<br>4.01E-01 | 2.63E+02<br>3.91E-01<br>5.05E-06 | 3.17E+02<br>3.73E-01                                    | 3.65E+02<br>3.38E-01            | 3.68E+02<br>2.64E-01<br>3.41E-06   | 3.42E+02<br>2.07E-01<br>2.67E-06<br>9.94E+00                                   | 3.16E+02<br>1.62E-01                                                 | .00E+00<br>2.92E+02<br>1.26E-01                        | 2.69E+02<br>9.88E-02 | 2.30E+02<br>6.05E-02 |             |    |
|     | am242                    | 5.30E-06<br>1.01E+01            | 5.18E-06             | 5.05E-06                         | 4.81E-06<br>1.01E+01                                    | 6.36E-06                        | 3.41E-06                           | 2.67E-06                                                                       | 2.08E-06                                                             | 1.63E-U6                                               | 1.28E-06             | 7.80E-07             |             | •  |
|     | am243<br>am244m          | 1.01E+01<br>.00E+00             | 1.01E+01<br>.00E+00  | 1.01E+01<br>.00E+00              | 1.01E+01                                                | 1.00E+01<br>.00E+00             | 9.99E+00<br>.00E+00                | .00E+00                                                                        | _002700                                                              | 9.85E+00<br>.00E+00                                    | 9.80E+00<br>.00E+00  | 9.71E+00<br>.00E+00  |             |    |
|     | am244                    | .00E+00                         | .00E+00              | .00E+00                          | .00E+00                                                 | .00E+00<br>3.94E-34             | .00E+00                            | .00E+00                                                                        | .00E+00                                                              | .00E+00                                                | .00E+00              | .00E+00<br>.00E+00   |             |    |
|     | am245<br>am246           | 2.19E-20<br>3.12E-24            | 4.18E-22<br>3.12E-24 | 8.01E-24<br>3.12E-24             | 2.94E-27<br>3.12E-24                                    | 3.12E-24                        | .00E+00<br>3.11E-24                | 3.10E-24                                                                       | .00E+00<br>3.10E-24                                                  | 3.09E-24                                               | .00E+00<br>3.08E-24  | 3.07E-24             |             |    |
| •   | cm241                    | 3.38E-43                        | .00E+00              | .00E+0D                          | .00E+00                                                 | .00E+00                         | .00E+00                            | .00E+00                                                                        | .00E+00                                                              | .00E+00                                                | .00E+00              | .00E+00              |             |    |
| 1   | Part B                   | B&W 15x15,                      | 3.00mt%,             | 20gwd/mtu                        | decay                                                   | concentra                       | tions are                          | <b></b>                                                                        |                                                                      |                                                        | actinides            | page                 | 23          |    |
| U   |                          |                                 |                      |                                  | basis =                                                 | per BAW as                      | itions, gra<br>sembly, 0.          | 409 mthm f                                                                     | or grams                                                             |                                                        |                      |                      |             |    |
|     | am242                    | initial                         | 15.0 yr<br>1.05E-03  | 20.0 yr<br>1.02E-03              | 30.0 yr                                                 | 50.0 yr                         | sembly, 0.<br>100.0 yr<br>6.88E-04 | 150.0 yr                                                                       | 200.0 yr                                                             | 250.0 yr<br>3.29E-04                                   | 300.0 yr<br>2.57E-04 | 400.0 yr<br>1.57E-04 |             |    |
|     | cm242<br>cm243           | 1.07E-03<br>4.73E-02            | 4.18E-02             | 3.71E-02                         | 2.91E-02                                                | 1.79F-02                        | 5.29E-03<br>3.29E-02               | 1.57E-03                                                                       | 4.65E-04                                                             | 1.38E-04                                               | 4.08E-05             | 3.59E-06             |             |    |
|     | cm244<br>cm245           | 1.03E+00<br>4.58E-02            | 8.54E-01<br>4.58E-02 | 7.05E-01<br>4.58E-02             | 4.81E-01<br>4.57E-02                                    | 2.24E-01<br>4.56E-02            | 3.29E-02<br>4.55E-02               | 4.85E-03<br>4.53E-02                                                           | 4.21E-04<br>4.65E-04<br>7.15E-04<br>4.51E-02<br>2.91E-03<br>3.24E-05 | 1.05E-04<br>4.49E-02                                   | 1.55E-05<br>4.47E-02 | 3.37E-07<br>4.44E-02 |             |    |
|     | cm246                    | 2.99E-03                        | 2.99E-03<br>3.24E-05 | 2.99E-03<br>3.24E-05             | 2.98E-03<br>3.24E-05                                    | 2.98E-03<br>3.24E-05            | 2.95E-03                           | 2.93E-03                                                                       | 2.91E-03                                                             | 2.89E-03<br>3.24E-05                                   | 2.87E-03             | 2.83E-03             |             |    |
|     | cm247<br>cm248           | 3.24E-05<br>1.64E-06            | 3.24E-05<br>1.64E-06 | 3.24E-05<br>1.64E-06             | 3.24E-05<br>1.64E-06                                    | 1.64E-06                        | 1.045-00                           | 1.64E-06                                                                       | 1.045-00                                                             | 1.64E-06                                               | 3.24E-05<br>1.64E-06 | 3.24E-05<br>1.64E-06 |             |    |
|     | cm249                    | .00E+00                         | .00E+00<br>2.98E-15  | .00E+00<br>2.98E-15              | .00E+00                                                 | .00E+00<br>2.97E-15             | .00E+00<br>2.97E-15                | .00E+00<br>2.96E-15                                                            | .00E+00<br>2.95E-15                                                  | .00E+00<br>2.95E-15                                    | .00E+00<br>2.94E-15  | .00E+00<br>2.93E-15  |             |    |
|     | cm250<br>cm251           | 2.98E-15<br>.00E+00             | .00E+00              | .00E+00                          | 2.97E-15<br>.00E+00                                     | .00E+00                         | .00E+00                            | .00E+00                                                                        | .00E+00                                                              | .00E+00                                                | .00E+00              | .00E+00              |             |    |
|     | CM23 I                   | .002+00                         | .002+00              | .002400                          | .002400                                                 | .002400                         | .002700                            | .002400                                                                        | .002700                                                              | .002400                                                | .002+00              | .002+00              |             |    |

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1.02E-09 7.85E-10
8.46E-10 8.43E-10
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9.71E-14 5.14E-16 1.05E-21

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1.49E-05 7.49E-05 7.49E-05 7.49E-05 7.49E-05
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2.07E-09 2.07E-09 2.07E-09 2.07E-09
0.00E+00 0.00E+00 0.00E+00 0.00E+00
 fission products
 page
 Part B B&W 15x15, 3.00mt%, 20gmd/mtu decay
 Dasis = per 8&W ass

30.0 yr 50.0 yr

2.51E-03 8.17E-04

7.49E-05 7.49E-05

2.88E-06 2.88E-06

5.54E-06 5.54E-06

3.69E-05 3.69E-05

7.44E-06 7.42E-06

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.00E+00 .00E+00

1.75E-07 1.75E-07

.00E+00 .00E+00

2.32E-08 2.32E-08

2.07E-09 2.07E-09

.00E+00 .00E+00

7.63E-08 7.63E-08

2.03E-06 .00E+00

2.79E-09 2.79E-09

.00E+00 .00E+00

 20.0 yr
4.41E-03
7.49E-05
2.88E-06
5.54E-06
3.69E-05
7.45E-06
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1.75E-07
 250.0 yr 300.0 yr 400.0 yr
1.07E-08 6.43E-10 2.32E-12
7.49E-05 7.49E-05 7.49E-05
 initial 15.0 yr
7.74E-03 5.84E-03
 7.49E-05
 7.49E-05
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5.54E-06
3.69E-05
7.45E-06
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7.46E-06

1.00E+00

1.75E-09

1.00E+00

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.00E+00
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cu 66
zn 66
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1.75E-07
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 | NUCLIDE CONCENTRATIONS, grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sasis = per B&W assembly, 0.409 mthm for grams | Sas
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 Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay
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 20.0 Yr
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Feb 16 10:07 1996 File Name: /users/dayis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 31
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 Part B B&W 15x15. 3.00mt%, 20gmd/mtu decay
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| Feb | 16 10:0                                                                               | 7 1996 Fil                                                                                                                                                                                                                                 | e Name: /                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | users/davi                                                                                                 | s/scale/sas                                                                                                                                                                                                                                                                                                                                             | 2h/UCFTIME                                                                                                                                                                                                                                                                                                                                                    | /s3020ucfo                                                                                        | .out BBA                                                                               | .000000-017                                                                                                 | 17-0200-00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 012 REV 01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ATTACHMENT                                                                                                                                                                                                                                                                                                                                                                 | 11 - | Page 32 |
|-----|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|
| •   | nb 93m<br>br 94<br>kr 94<br>rb 94                                                     | 5.83E-04<br>.00E+00<br>.00E+00                                                                                                                                                                                                             | 7.53E-04<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 8.91E-04<br>.00E+00<br>.00E+00                                                                             | 1.09E-03<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                          | 1.31E-03<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                | 1.45E-03<br>.00E+00<br>.00E+00                                                                    | 1.46E-03<br>.00E+00<br>.00E+00                                                         | 1.46E-03<br>.00E+00<br>.00E+00                                                                              | 1.46E-03<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.46E-03<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1.46E-03<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                  |      |         |
| 1   | Part B                                                                                | B&W 15x15,                                                                                                                                                                                                                                 | 3.00mt%,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 20gwd/mtu                                                                                                  | decay<br>nuclide                                                                                                                                                                                                                                                                                                                                        | : concentra                                                                                                                                                                                                                                                                                                                                                   | itions. gra                                                                                       | ms                                                                                     |                                                                                                             | fission                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | products                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | page                                                                                                                                                                                                                                                                                                                                                                       | 28   |         |
| _   |                                                                                       |                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                            | basis =                                                                                                                                                                                                                                                                                                                                                 | per B&W as                                                                                                                                                                                                                                                                                                                                                    | sembly, 0.                                                                                        | 409 mthm f                                                                             | or grams                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                            |      |         |
|     | Part 99444m 99444m 995555m 10077777777777777777777777777777777777                     | initial<br>.00E+00<br>.00E+00<br>2.23E+02<br>1.25E-04<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>1.04E-16<br>1.25E-16<br>6.88E-20<br>2.24E+02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.32E+02<br>.00E+00<br>.00E+00 | 15.0 yr. 00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | nuclide basis = 30.0 yr .00E+00 | CONCENTRA PET BAU 48 50.0E+00 .00E+00 | .00E+00<br>.00E+00<br>.00E+00                                                                     | ## 150.00 + 000                                                                        | 7 9 7 8 7 8 200.0 Yr                                                                                        | fission 250.0 yr .00E+00 .00E+ | 300.0 + 00<br>.00E+002<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000<br>.00E+000 | 400.0 yr .00E+00 .00E+00 2.23E-04 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 2.24E+02 .00E+00 | 28   | •,      |
|     | mo 98<br>tc 98<br>rb 99                                                               | 2.33E+02<br>1.37E-03<br>.00E+00                                                                                                                                                                                                            | 1.37E-03<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1.37E-03<br>.00E+00                                                                                        | 2.33E+02<br>1.37E-03<br>.00E+00                                                                                                                                                                                                                                                                                                                         | 2.33E+02<br>1.37E-03<br>.00E+00                                                                                                                                                                                                                                                                                                                               | 2.33E+02<br>1.37E-03<br>.00E+00                                                                   | 2.33E+02<br>1.37E-03<br>.00E+00                                                        | 2.33E+02<br>1.37E-03<br>.00E+00<br>.00E+00                                                                  | 2.33E+02<br>1.37E-03<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2.33E+02<br>1.37E-03<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2.33E+02<br>1.37E-03<br>.00E+00                                                                                                                                                                                                                                                                                                                                            |      |         |
|     | sr 99<br>y 99<br>zr 99<br>nb 99<br>mo 99<br>tc 99<br>tc 99<br>ru 99<br>rbi00<br>sr100 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.31E+02<br>.00E+00<br>1.67E-02<br>.00E+00                                                                                                                                          | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.31E+02<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                   | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.31E+02<br>.00E+00<br>3.19E-02<br>.00E+00                                                                                                                                                                                                                                                       | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>4.70E-02<br>.00E+00<br>.00E+00                                                                                                                                                                                                                             | .UUE+U0<br>.DOE+00<br>.OOE+00<br>.OOE+00<br>.OOE+00<br>2.30E+02<br>.OOE+00<br>8.48E-02<br>.OOE+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.30E+02<br>1.23E-01<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+02<br>.00E+02<br>.00E+03<br>1.61E-01<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.30E+02<br>.00E+00<br>1.98E-01<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.30E+02<br>.00E+02<br>.00E+00<br>2.36E-01<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.30E+02<br>.00E+00<br>3.12E-01<br>.00E+00                                                                                                                                                                                                                                                                          |      |         |

fission products

page 30

| y100                                     | .00E+00                                   | .00E+00             | .00E+00             | .00E+00                        | .00E+00             | .00E+00             | .00E+00·                                  | .00E+00              | .00E+00                                    | .00E+00             | .00E+00             |    |
|------------------------------------------|-------------------------------------------|---------------------|---------------------|--------------------------------|---------------------|---------------------|-------------------------------------------|----------------------|--------------------------------------------|---------------------|---------------------|----|
| Part B                                   | B&W 15x15,                                | 3.00mt%,            | 20gud/mtu           | decay                          |                     |                     |                                           |                      | fission                                    | products            | page                | 29 |
|                                          |                                           |                     |                     | nuclide                        | concentra           | tions, gra          | IRS<br>400 mthm f                         | OC GCAMS             |                                            |                     |                     |    |
|                                          | initial                                   | 15.0 YF             | 20.0 yr             | 30.0 yr                        | 50.0 yr             | 100.0 yr            | 409 mthm f<br>150.0 yr                    | 200.0 yr             | 250.0 yr                                   | 300.0 yr            | 400.0 yr            |    |
| zr100                                    | initial                                   | 15.0 yr<br>.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<br>2.63E+02 | .00E+00<br>2.63E+02 | .00E+00                        | .00E+00<br>2.63E+02 | .00E+00<br>2.63E+02 | .00E+00<br>2.63E+02                       | .00E+00<br>2.63E+02  | .00E+00                                    | .00E+00<br>2.63E+02 | .00E+00<br>2.63E+02 |    |
| no100<br>tc100                           | .00E+00<br>2.63E+02<br>.00E+00            | .00E+00             | .00E+00             | .00E+00<br>2.63E+02<br>.00E+00 | .00E+00             | .00E+00             | .00F+00                                   | .00E+00              | 2.63E+02<br>.00E+00<br>1.89E+01<br>.00E+00 | .00E+00             | .00E+00             |    |
| ru100                                    | 1.896+01                                  | 1.89E+01            | 1.89E+01            | 1.89E+01                       | 1.89E+01            | 1.89E+01            | .00E+00<br>1.89E+01                       | 1.89E+01             | 1.89E+01                                   | 1.89E+01            | 1.89E+01            |    |
| rb101                                    | .00E+00<br>.00E+00<br>.00E+00             | .00E+00             | .00E+00             | .00E+00                        | .00E+00             | .00E+00             | .00E+00                                   | .00E+00              | .00E+00                                    | .00E+00             | .00E+00             |    |
| er181                                    | .00E+00                                   | .00E+00             | .00E+00             | .00E+00                        | .00E+00             | .DOE+00             | .00E+00                                   | .00E+00              | .UUE+UU                                    | .00E+00             | .00E+00             |    |
| y101<br>zr101                            | .00E+00                                   | .00E+00             | .00E+00             | .00E+00                        | .00E+00             | .00E+00             | -00E+00                                   | .00E+00              | .00E+00<br>.00E+00                         | .00E+00             | .00E+00             |    |
| 10172                                    | .UUE+UU                                   | .00E+00             | .00E+00             | .00E+00                        | .00E+00             | .00E+00             | .005+00                                   | .00E+00              | 005400                                     | .00E+00<br>.00E+00  | .00E+00<br>.00E+00  |    |
| nb101<br>no101                           | .00E+00                                   | .00E+00             | .00E+00             | .00E+00                        | .00E+00             | .00E+00             | .00E+00<br>.00E+00<br>.00E+00             | .00E+00              | .00E+00                                    | .00E+00             | .00E+00             |    |
| tc101                                    | .00E+00<br>.00E+00<br>2.18E+02            | .00E+00             | .00F+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+0Z             | 2.18E+02                                   | 2.18E+02            | 2.18E+02            |    |
| Br102                                    | .00E+00<br>.00E+00                        | .00E+00             | .00E+00             | .00E+00                        | .00E+00             | .00E+00             | .00E+00                                   | .00E+00              | .00E+00                                    | .00E+00             | .00E+00             |    |
| y102<br>r102                             | .00E+00                                   | .00E+00             | .00E+00             | -00E+00                        | .00E+00             | .00E+00             | .00E+00                                   | .00E+00              | .00E+00                                    | .00E+00             | .00E+00<br>.00E+00  |    |
| 16102                                    | .00E+00<br>.00E+00                        | .00E+00             | .00E+00             | .00E+00                        | .00E+00             | .00E+00             | .00E+00                                   | .00E+00              | .00E+00                                    | .00E+00<br>.00E+00  | .00E+00             |    |
| no102                                    | .00E+00                                   | .00E+00             | .00E+00             | .005+00                        | .00E+00             | .00E+00             | -00E+00                                   | .00F+00              | .00E+00                                    | .00E+00             | .00E+00             |    |
| tc102                                    | .00E+00                                   | .00E+00             | .00E+00             | .00E+00<br>.00E+00<br>.00E+00  | .00E+00             | .00E+00             | .00E+00<br>.00E+00<br>.00E+00             | .00E+00              | .00E+00                                    | .00E+Q0             | .00E+00             |    |
| tc102m                                   | .00E+00<br>2.10E+02                       | .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            | 2.106+02                       | 2.10E+02            | 2.10E+02            | 2.10E+02<br>5.83E-20<br>.00E+00           | 2.10E+02<br>3.76E-25 | .00E+00<br>2.10E+02<br>2.43E-30            | 2.10E+02            | 2.10E+02            |    |
| rh102                                    | 1.99E-05                                  | 6.02E-06            |                     | 1.67E-07                       | 1.40E-09<br>.00E+00 | 9.04E-15<br>.00E+00 | 3.83E-20                                  | .00E+00              | .00E+00                                    | 1.56E-35<br>.00E+00 | .00E+00<br>.00E+00  |    |
| 20102                                    | .005400                                   | .00E+00             | .00E+00             | .00E+00                        | .00E+00             | .00E+00             | 005+00                                    | .00E+00              | .00+300.                                   | .00E+00             | .00E+00             |    |
| pd102<br>sr103<br>y103<br>kr103<br>hb103 | .00E+00<br>.00E+00<br>.00E+00             | .00E+00             | .00E+00             | -00E+00                        | .00E+00             | .00E+00             | .00E+00<br>.00E+00<br>.00E+00             | .00E+00              | .00E+00                                    | .00E+00             | .00E+00             |    |
| r103                                     | nneann                                    | .00E+00             | .00E+00             | .00E+00                        | .00E+00             | .00E+00             | .00E+00                                   | .00E+00              | .00E+00                                    | .00E+00             | .00E+00             |    |
| nb103                                    | .00E+00<br>.00E+00<br>.00E+00<br>9.22E-28 | .00E+00             | .00E+00             | .00E+00                        | .00E+00             | .00£+00             | .00E+00                                   | .00E+00              | .00E+00                                    | .00E+00             | .00E+00             |    |
| no 103                                   | .00E+00                                   | .00E+00             | .00E+00             | .00E+00                        | .00E+00             | .00E+00             | .00E+00<br>.00E+00<br>.00E+00<br>1.44E+02 | .00E+00              | .00E+00                                    | .00E+00             | .00E+00             |    |
| c103<br>u103                             | .UUE+UU                                   | .00E+00<br>9.09E-42 | .00E+00             | .00E+00<br>.00E+00<br>1.44E+02 | .00E+00             | .00E+00             | 006400                                    | 005400               | .00E+00                                    | .00E+00             | .00E+00             |    |
| h103                                     | 1.44E+02                                  | 1.44E+02            | 1.44E+02            | 1.44E+02                       | .00E+00<br>1.44E+02 | 1.44E+02            | 1.44E+02                                  | .00E+00<br>1.44E+02  | 1.44E+02                                   | 1.44E+02            | 1.44E+02            |    |
| rh 103m                                  | Y. 13E-31                                 | .00E+00             | .00E+00             | .005+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<br>Er104                            | .00E+D0                                   | .00E+00             | .00E+00             | .00E+00                        | .00E+00             | .00E+00             | .00E+00<br>.00E+00<br>.00E+00             | .00E+00              | .00E+00                                    | .00E+00             | .00E+00             |    |
| 15104<br>15104                           | .00E+00                                   | .00E+00             | .00E+00             | .00E+00<br>.00E+00<br>.00E+00  | .00E+00             | .00E+00             | .00E+00                                   | .00E+00              | .00E+00                                    | .00E+00             | .00E+00<br>.00E+00  |    |
| no104                                    | .00E+00                                   | .00E+00             | .00E+00             | .00E+00                        | .00E+00             | .00E+00             | -00E+00                                   | .00E+00              | .00E+00<br>.00E+00                         | .00E+00             | .00E+00             |    |
| tc104                                    | .00E+00<br>1.39E+02<br>.00E+00<br>.00E+00 | .002+00             | .00E+00             | .00E+00                        | .00E+00             | .00E+00             | .005+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<br>.00E+00                        | 1.39E+02            | 1.39E+02            |    |
| h104                                     | .00E+00                                   | .00E+00             | _00E+00             | .00E+00                        | .00E+00             | .00E+00             | 1.39E+02<br>.00E+00<br>.00E+00            | .00E+00              | .00E+00                                    | .00E+00             | .00E+00             |    |
| h104m                                    | .00E+00                                   | .00E+00             | .00E+00             | .00E+00<br>4.10E+01            | .00E+00             | .00E+00<br>4.10E+01 | .002+00                                   | .00E+00<br>4.10E+01  | .00E+00<br>4.10E+01                        | .00E+00<br>4.10E+01 | .00E+00<br>4.10E+01 |    |
| od104<br>y105                            | 4.10E+01<br>.00E+00                       | 4.10E+01<br>.00E+00 | 4.10E+01<br>.00E+00 | .00E+00                        | 4.10E+01<br>.00E+00 | .00E+00             | 4.10E+01<br>.00E+00                       | .00E+00              | .00E+00                                    | .00E+00             | .00E+00             |    |
| 20105                                    | .00E+00                                   | .00E+00             | .00E+00             | _00E+00                        | .00E+00             | .00E+00             | -00E+00                                   | .00E+00              | .00E+00                                    | .00E+00             | .00E+00             |    |
| zr105<br>16105                           | .00E+00<br>.00E+00                        | .00E+00             | .00E+00             | _00F+00                        | .00E+00             | .00E+00             | .00E+00                                   | .00E+00              | .00E+00                                    | .00E+00             | .00E+00             |    |
| no105                                    | .00E+00                                   | .00E+00             | .00E+00             | .00E+00<br>.00E+00             | .00E+00             | .00E+00             | .00E+00<br>.00E+00                        | .00E+00              | .00E+00<br>.00E+00                         | -00E+00             | .00E+00             |    |
| tc105<br>ru105                           | .00E+00<br>.00E+00                        | .00E+00             | .00E+00             | .00E+00                        | .00E+00             | .00E+00             | .00E+00                                   | .00E+00              | .00E+00                                    | .00E+00             | .00E+00             |    |
| ru105<br>rh105                           | .00E+00                                   | .00E+00             | .00E+00             | .00E+00                        | .00E+00             | .00E+00             | .00E+00                                   | .00E+00              | .00E+00                                    | .00E+00<br>.00E+00  | .00E+00<br>.00E+00  |    |
| rn 105<br>rh 105m                        | .00E+00                                   | .00E+00             | .00E+00             | .00E+00                        | .00E+00             | .00E+00             | .00E+00                                   | .00E+00              | .00E+00                                    | .00E+00             | .00E+00             |    |
|                                          | 1.01E+02                                  | 1.01E+02            |                     |                                |                     |                     |                                           |                      |                                            |                     |                     |    |

Part B B&W 15x15, 3.00mt%, 20gmd/mtu decay

Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 34

|   | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |                      |                      |                      | -,                   | ,                    | ,                      |                      |                       |                      |                      | ·                    |    |
|---|-----------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|------------------------|----------------------|-----------------------|----------------------|----------------------|----------------------|----|
| 0 |                                         |                      |                      |                      | nucl ide             | concentra            | tions, gra             | 和S                   | ·                     |                      |                      |                      |    |
|   |                                         | initial              | 15.0 yr              | 20.0 yr              | 50.0 yr              | per saw as           | sembly, 0.<br>100.0 yr | 409 MEDM 1           | 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+ÒO              | .00E+00              |    |
|   | zr106                                   | .00E+00              | .006+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<br>tc106                          | .00E+00<br>.00E+00   | .00E+00              | .00E+00              | .00E+00              | .00E+00              | .00E+00<br>.00E+00     | .00E+00              | .00E+00               | .00E+00              | .00E+00<br>.00E+00   | .00E+00<br>.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              | .DOE+00              | .00E+00                | .00E+00              | .00E+00               | .00E+00              | DOE+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<br>zr107                           | .00E+00              | .00E+00              | .00E+00              | .00E+00<br>.00E+00   | .00E+00<br>.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<br>.00E+00   |    |
|   | rh107                                   | .00E+00<br>5.12E+01  | .00E+00<br>5.12E+01  | .00E+00<br>5.12E+01  | .00E+00<br>5.12E+01  | .00E+00<br>5.12E+01  | .00E+00<br>5.12E+01    | .00E+00<br>5.12E+01  | .00E+00<br>5.12E+01   | .00E+00<br>5.12E+01  | .00E+00<br>5.12E+01  | 5.12E+01             |    |
|   | pd107<br>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<br>.00E+00   | .00E+00              | .00E+00              | .00E+00<br>.00E+00   | .00E+00<br>.00E+00   | .00E+00                | .00E+00              | .00E+00               | .00E+00              | .00E+00<br>.00E+00   | .00E+00<br>.00E+00   |    |
|   | tc108<br>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              | .00+400              | .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<br>1.47E-14 |    |
|   | ag108<br>ag108æ                         | 1.23E-13<br>3.99E-05 | 1.20E-13<br>3.88E-05 | 1.17E-13<br>3.78E-05 | 1.10E-13<br>3.58E-05 | 9.90E-14<br>3.21E-05 | 7.53E-14<br>2.44E-05   | 5.73E-14<br>1.86E-05 | 4.36E-14<br>1.41E-05  | 3.32E-14<br>1.08E-05 | 2.53E-14<br>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              | .DDE+00              | .00E+00              | .00E+00                | .00E+00              | .00E+00               | .00E+00              | .00E+80              | .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<br>.00E+00   |    |
|   | tc109<br>ru109                          | .00E+00<br>.00E+00   | .00E+00              | .00E+00              | .00E+00<br>.00E+00   | .00E+00<br>.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<br>2.19E+01  | .00E+00<br>2.19E+01    | .00E+00<br>2.19E+01  | .00E+00<br>2.19E+01   | .00E+00<br>2.19E+01  | .00E+00<br>2.19E+01  | .00E+00<br>2.19E+01  |    |
|   | ag109<br>ag109m                         | 2.19E+01<br>1.37E-16 | 2.19E+01<br>8.87E-18 | 2.19E+01<br>5.74E-19 | 2.19E+01<br>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+0D              | .00E+00              | .00E+00              |    |
|   | nb110                                   | .00E+00              | .00+400              | .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<br>.00E+00   | .00E+00              | .00E+00                | .00E+00              | .00E+00               | .00E+00              | .00E+00              | .00E+00<br>.00E+00   |    |
|   | ru110<br>rh110                          | .00E+00<br>.00E+00   | .00E+00              | .00E+00              | .00E+00              | .00E+00              | .00E+00                | .00E+00              | .005+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<br>6.44E-15 | 1.56E-31             | -00E+00                | .00E+00              | .00E+00               | .005+00              | .00E+00              | .00E+00              |    |
| 1 | ag 1 1 0m                               | 4.11E-06             | 2.59E-08             | 1.63E-10             | 0.446-12             | 1.01E-23             | -00E+00                | .00E+00              | .00E+00               | .00E+00              | .00E+00              | .00E+00              | •  |
| • | Part R                                  | B&W 15x15,           | 3.00mt%.             | 20gyd/mtu            | decay                |                      |                        |                      | •                     | fission              | products             | page                 | 31 |
| 0 |                                         |                      |                      |                      | nuclide              | concentra            | tions, gra             | MS.                  | -                     | •                    | •                    | , •                  |    |
|   |                                         | 1-1-2-1              | 16 0                 | 20.0                 | _basis_=             | ber B#M ##           | sembly, 0.             | 409 mthm 1           | for grams<br>200.0 yr | 350 0                | 300 0 44-            | 400 0 ···            |    |
|   |                                         | initial              | 15.0 yr              | 20.0 yr              | 20.0 AL              | שע ט.טכ              | iuu.u yr               | 130.0 YF             | ZUU.U YF              | 230.0 yr             | 300.0 yr             | 400.0 yr             |    |

| feb | ****<br>16 10:07                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ' 1996 Fil                                                                   | e Name: /                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | users/davis                                                    | .,<br>/scale/sas                                                                                                                                                                                                                                          | 2h/UCFTIME                                                                                                                                                                                                                  | /*3020ucfo                                                                  | .out BBA                                                                                                                                                                                                                                                                                                                               | .000000-017                                                                                                 | '17-0200-00                                                       | 012 REV 01                                                                                                    | ATTACHMENT                                                      | II - Page | 35 |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------|----|
|     | cd110                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 5.76E+00<br>.00E+00<br>.00E+00                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                | 5.76E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                            | 5.76E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                              |                                                                             |                                                                                                                                                                                                                                                                                                                                        | 5.76E+00<br>.00E+00<br>.00E+00                                                                              | 5.76E+00<br>.00E+00<br>.00E+00                                    |                                                                                                               | 5.76E+00<br>.00E+00<br>.00E+00                                  |           |    |
|     | mo111<br>tc111<br>ru111<br>rh111<br>pd111<br>pd111m<br>ag111<br>ag111m<br>cd111                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                     | 5.76E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                            | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                       | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                              | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                         | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                               | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                              | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00               | 5.76E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00              | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00             |           |    |
|     | cd111<br>cd111m<br>nb112<br>mo112<br>tc112                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | .00E+00<br>5.04E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00              | 5.04E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 5.04E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00           | 5.04E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                           | 5.04E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                             | 5.04E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                        | 5.76E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                    | .005+00                                                                                                     | 5.04E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00              | 5.04E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                     | 5.04E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00            |           |    |
|     | cd111m<br>nb112<br>rb112<br>rc112<br>rc112<br>rc112<br>cd112<br>mc112<br>mc113<br>mc113<br>mc113<br>mc113<br>mc113<br>mc114<br>rb114<br>rb114<br>rb114<br>rb114<br>rc114<br>rc114<br>rc114<br>rc114<br>rc114<br>rc114<br>rc114<br>rc114<br>rc114<br>rc114<br>rc114<br>rc114<br>rc114<br>rc114<br>rc114<br>rc114<br>rc114<br>rc115<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116<br>rc116 | .00E+00<br>.00E+00<br>.00E+00<br>2.64E+00                                    | .00E+00<br>.00E+00<br>.00E+00<br>2.64E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .00E+00<br>.00E+00<br>.00E+00<br>2.64E+00<br>.00E+00           | .00E+00<br>.00E+00<br>.00E+00<br>2.64E+00                                                                                                                                                                                                                 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                         | .00E+00<br>.00E+00<br>.00E+00<br>2.64E+00<br>.00E+00                        | .00E+00<br>.00E+00<br>.00E+00<br>2.64E+00                                                                                                                                                                                                                                                                                              | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                   | .00E+00<br>.00E+00<br>.00E+00<br>2.64E+00<br>.00E+00              | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                     | .00E+00<br>.00E+00<br>.00E+00<br>2.64E+00<br>.00E+00<br>.00E+00 |           |    |
|     | ru113<br>rh113<br>pd113<br>ag113<br>ag113m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                          | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                       | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                  | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                    | .00E+00<br>.00E+00                                                          | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                               | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>4.58E-02<br>1.51E-06<br>3.00E-02          | .00E+00<br>.00E+00<br>.00E+00                                     | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>4.58E-02<br>1.10E-08<br>3.00E-00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>4.58E-02 |           |    |
|     | cd113m<br>in113<br>in113m<br>mo114<br>tc114                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | .00E+00<br>.00E+00<br>4.57E-02<br>1.72E-02<br>1.29E-02<br>.00E+00<br>.00E+00 | 1.34E-02<br>1.66E-02<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | .00E+00<br>4.57E-02<br>1.05E-02<br>1.95E-02<br>.00E+00         | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>4.58E-02<br>2.40E-03<br>2.76E-02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>4.58E-02<br>2.06E-04<br>2.98E-02<br>.00E+00<br>.00E+00           | 1.76E-05<br>3.00E-02<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                             | 1.51E-06<br>3.00E-02<br>.00E+00<br>.00E+00                                                                  | .00E+00<br>4.58E-02<br>1.29E-07<br>3.00E-02<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00                                                                                            | 8.09E-11<br>3.00E-02<br>.00E+00<br>.00E+00<br>.00E+00           |           |    |
|     | rh114<br>pd114<br>ag114<br>cd114<br>in114<br>in114m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | .00E+00<br>.00E+00<br>.00E+00<br>2.93E+00<br>9.42E-33<br>5.86E-28            | .00E+00<br>.00E+00<br>.00E+00<br>2.93E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00            | .00E+00<br>.00E+00<br>.00E+00<br>2.93E+00                                                                                                                                                                                                                 | .00E+00<br>.00E+00<br>.00E+00<br>2.93E+00                                                                                                                                                                                   | .00E+00<br>.00E+00<br>.00E+00<br>2.93E+00<br>.00E+00<br>.00E+00<br>7.51E-05 | .00E+00<br>.00E+00<br>.00E+00<br>2.93E+00                                                                                                                                                                                                                                                                                              | 3.00E-02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>2.93E+00<br>.00E+00              | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>7.51E-05                                    | .00E+00<br>.00E+00<br>.00E+00<br>2.93E+00<br>.00E+00            |           |    |
| •   | ### ##################################                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 7.51E-05<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                         | 7.51E-05<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 7.51E-05<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00           | UUETUU                                                                                                                                                                                                                                                    | .00E+00                                                                                                                                                                                                                     | 7.51E-05<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                        | 7.51E-05<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                              | 7.51E-05<br>.00E+00<br>.00E+00<br>.00E+00                                                                   | 7.51E-05<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00              | 7.51E-05<br>.00E+00<br>.00E+00<br>.00E+00                                                                     | 7.51E-05<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00            | •         |    |
|     | ag115<br>ag115m<br>cd115<br>cd115m<br>in115<br>in115m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .00E+00<br>.00E+00<br>.00E+00<br>5.93E-28<br>4.59E-01<br>2.75E-34            | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>4.59E-01           | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.4.59E-01                                                                                                                                                                    | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>4.59E-01                                                                                                                                                  | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>4.59E-01<br>.00E+00             | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>4.59E-01<br>.00E+00            | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>4.59E-01              | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00               | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>4.59E-01<br>.00E+00 |           |    |
| . 1 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 20gwd/mtu                                                      | decay                                                                                                                                                                                                                                                     | concentra                                                                                                                                                                                                                   | tione are                                                                   |                                                                                                                                                                                                                                                                                                                                        |                                                                                                             |                                                                   | products                                                                                                      | page                                                            | 32        |    |
|     | sn115<br>tc116<br>ru116                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | initial<br>4.57E-02<br>.00E+00<br>.00E+00                                    | 15.0 yr<br>4.57E-02<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 20.0 yr<br>4.57E-02<br>.00E+00<br>.00E+00                      | 30.0 yr<br>4.57E-02<br>.00E+00<br>.00E+00                                                                                                                                                                                                                 | 50.0 yr<br>4.57E-02<br>.00E+00<br>.00E+00                                                                                                                                                                                   | 100.0 yr<br>100.0 yr<br>4.57E-02<br>.00E+00<br>.00E+00                      | 150.0 yr<br>4.57E-02<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                             | 200.0 yr<br>4.57E-02<br>.00E+00<br>.00E+00                                                                  | 250.0 yr<br>4.57E-02<br>.00E+00<br>.00E+00                        | 300.0 yr<br>4.57E-02<br>.00E+00<br>.00E+00                                                                    | 400.0 yr<br>4.57E-02<br>.00E+00<br>.00E+00                      |           |    |

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|-----------|----|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     | rh116<br>pd116<br>ag116<br>ag116m                   | .00E+00<br>.00E+00<br>.00E+00                        | .00E+00<br>.00E+00                                   | .00E+00<br>.00E+00<br>.00E+00                        | .00E+00<br>.00E+00<br>.00E+00                        | .00E+00<br>.00E+00<br>.00E+00                        |           |    |
| tc118 .00E+00  |     |                                                     | .00E+00<br>.00E+00<br>4.77E-01<br>.00E+00            | .00E+00<br>.00E+00<br>4.77E-01<br>.00E+00            |                                                      | .005700                                              | .00E+00<br>.00E+00                                   | · DOE TOO                                            | . OUE TOO                                            | .00E+00<br>4.77E-01<br>.00E+00                       | .00E+00<br>.00E+00<br>4.77E-01<br>.00E+00            | .00E+00<br>.00E+00                                   | .00E+00<br>.00E+00<br>4.77E-01<br>.00E+00<br>.00E+00 |           |    |
| tc118 .00E+00  |     | rh117<br>pd117<br>ag117<br>ag117m<br>cd117          | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00             |                                                      |                                                      | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00             | .00E+00                                              | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00             | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00             | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00             | .00E+00<br>.00E+00<br>.00E+00                        | 005+00                                               | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00             | ·         |    |
| Cd119m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     | in117m<br>sn117<br>sn117m                           | .00E+00<br>.00E+00<br>1.19E+00<br>.00E+00            | .00E+00<br>.00E+00<br>1.19E+00<br>.00E+00            | .00E+00<br>.00E+00<br>1.19E+00<br>.00E+00            | .00E+00<br>.00E+00<br>1.19E+00<br>.00E+00            | 1.19E+00<br>.00E+00                                  | .00E+00<br>.00E+00<br>1.19E+00<br>.00E+00            | .00E+00<br>.00E+00<br>1.19E+00<br>.00E+00            | .00E+00<br>1.19E+00<br>.00E+00                       | .00E+00<br>.00E+00<br>1.19E+00<br>.00E+00            | .00E+00<br>.00E+00<br>1.19E+00<br>.00E+00            | .00E+00<br>.00E+00<br>1.19E+00<br>.00E+00<br>.00E+00 |           |    |
| Cd119m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     | rull8<br>rh118<br>pd118<br>ag118<br>ag118m<br>cd118 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00             | .00E+00                                              | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00             |           |    |
| Cd119m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | -   | in118<br>in118m<br>sn118<br>ru119<br>rh119          | .00E+00<br>.00E+00<br>9.73E-01<br>.00E+00            | .00E+00                                              | .DDE+DD                                              | .00E+00<br>.00E+00<br>9.73E-01<br>.00E+00            | .00E+00<br>.00E+00<br>9.73E-01<br>.00E+00            | .00E+00<br>.00E+00<br>9.73E-01<br>.00E+00            | .00E+00<br>.00E+00<br>9.73E-01<br>.00E+00            | .00E+00<br>.00E+00<br>9.73E-01<br>.00E+00            | .00E+00<br>.00E+00<br>9.73E-01<br>.00E+00            |                                                      | .00E+00<br>.00E+00<br>9.73E-01<br>.00E+00<br>.00E+00 |           |    |
| rh121 .00E+00  |     | ag119<br>cd119<br>cd119m<br>in119<br>in119m         | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00             |                                                      |                                                      | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00             | .00E+00                                              | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00             | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00             | .00E+00<br>.00E+00<br>.00E+00                        | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00             | .00E+00<br>.00E+00                                   | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00             |           |    |
| rh121 .00E+00  |     | *n119<br>*n119m<br>ru120<br>rh120<br>pd120          | 1.03E+00<br>4.06E-07<br>.00E+00<br>.00E+00           | 1.03E+00<br>5.40E-09<br>.00E+00<br>.00E+00           | 1.03E+00<br>7.18E-11<br>.00E+00<br>.00E+00           | 1.03E+00<br>1.27E-14<br>.00E+00<br>.00E+00           | .005400                                              | 1.03E+00<br>6.89E-41<br>.00E+00<br>.00E+00           | 1.03E+00<br>.00E+00<br>.00E+00<br>.00E+00            | .00E+00                                              | .03E+00<br>.00E+00<br>.00E+00<br>.00E+00             | .00E+00<br>.00E+00                                   | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00             |           |    |
| Part B B&W 15x15, 3.00mt%, 20gmd/mtu decay fission products page 33                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     | 10120m<br>80120                                     | .00E+00<br>.00E+00<br>.00E+00<br>1.01E+00<br>.00E+00 | .00E+00<br>.00E+00                                   | .00E+00<br>.00E+00<br>.00E+00<br>1.01E+00            |           |    |
| initial 15.0 yr 20.0 yr 30.0 yr 50.0 yr 100.0 yr 200.0 yr 250.0 yr 300.0 yr 400.0 yr pd121 .00E+00 .00 |     | Part B                                              |                                                      |                                                      |                                                      | decay                                                | concentra                                            | tions, gra                                           | MS<br>400 mthm 4                                     | or grams                                             |                                                      |                                                      | page                                                 | 33        |    |
| In121m .00E+00 br>an121 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |     | pd121<br>ag121<br>cd121<br>in121<br>in121m          | initial<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00  | 15.0 yr<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00  | 20.0 yr<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00  | 30.0 yr<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00  | 50.0 yr<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00  | 100.0 yr<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 150.0 yr<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 200.0 yr<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 250.0 yr<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 300.0 yr<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00                        |           |    |

|     |                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      | •                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                      |                      | •                                                        |                                                                     |                                                                                                                                                                                                               | •                                           |              |
|-----|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------|----------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|--------------|
| Feb | 16 10:07                                                                                                            | ' 1996 Fil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | e Name: /            | users/davis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | /scale/sas                                                                                                                         | 2h/UCFTIME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | /s3020ucfo           | out BBA              | .000000-017                                              | 17-0200-00                                                          | 012 REV 01                                                                                                                                                                                                    | ATTACHMENT                                  | 11 - Page 37 |
|     |                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | •                    | 8.37E-03 1.04E+00 .00E+00 |                                                                                                                                    | 5.73E-030 1.04E+00 .00E+00 .00 |                      |                      |                                                          |                                                                     |                                                                                                                                                                                                               |                                             |              |
|     | sn121m                                                                                                              | 9.49E-03<br>1.04E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 8.91E-03             | 8.37E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 7.38E-03                                                                                                                           | 5.73E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 3.05E-03             | 1.63E-03             | 8.66E-04                                                 | 4.61E-04<br>1.05E+00                                                | 2.46E-04<br>1.05E+00                                                                                                                                                                                          | 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                                                 | .00E+00                                                             | 1.052+00                                                                                                                                                                                                      | 1.05E+00<br>.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+0D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | .00E+00              | .00E+00              | .00E+00                                                  | .00E+00                                                             | .00E+00                                                                                                                                                                                                       | .00E+00                                     |              |
|     | sn121m<br>sb121<br>rh122<br>pd122<br>sg122<br>cd122<br>in122m<br>sn122<br>sb122<br>sb122<br>rb122<br>rb123<br>pd123 | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .00E+00              | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -00E+00                                                                                                                            | -00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | .00E+00              | .00E+00              | .00E+00                                                  | .00E+00                                                             | .00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                 | .00E+00<br>.00E+00                          |              |
|     | in122m                                                                                                              | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .00E+00              | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | .00E+00                                                                                                                            | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | .00E+00              | .00E+00              | .00E+00                                                  | .00E+00                                                             | .00E+00                                                                                                                                                                                                       | DUETUU                                      |              |
|     | 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                                    |              |
|     | sb122m                                                                                                              | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .00E+00              | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | .00E+00                                                                                                                            | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | .00E+0B              | .00E+00              | .00E+00                                                  | .00E+00                                                             | .00E+00                                                                                                                                                                                                       | 1.31E+00<br>.00E+00<br>.00E+00<br>4.68E-02  |              |
|     | 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                                                 | 1.31E+00<br>.00E+00<br>.00E+00<br>4.68E-02<br>.00E+00               | 1.31E+00<br>.00E+00<br>.00E+00<br>4.68E-02<br>.00E+00                                                                                                                                                         | 4.68E-02                                    |              |
|     | rh123<br>nd123                                                                                                      | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .00E+00              | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | .00E+00                                                                                                                            | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | .00E+00              | .00E+00              | .00E+00                                                  | .00E+00                                                             | -00E+00                                                                                                                                                                                                       | .00E+00<br>.00E+00                          |              |
|     | ag 123<br>cd 123                                                                                                    | .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<br>.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                                     | •            |
|     | sn123                                                                                                               | 4.84E-11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2.68E-15             | 1.48E-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 4.55E-28                                                                                                                           | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | .00E+00              | .00E+00              | .QQE+00                                                  | .00E+00                                                             | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                      | .00E+00<br>.00E+00                          |              |
|     | sn123m                                                                                                              | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .00E+00              | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | .00E+00                                                                                                                            | 1 23E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | .00E+00              | .00E+00              | .00E+00                                                  | .00E+00                                                             | .UUE+UU<br>1.23F+00                                                                                                                                                                                           | .UUE+UU<br>1.23F+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                                                 | .00E+00<br>1.23E+00<br>3.68E-04                                     | 1.23E+00<br>3.68E-04                                                                                                                                                                                          | .00E+00<br>1.23E+00<br>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<br>.00E+00                          |              |
|     | 10123<br>10123<br>10123<br>10123<br>10123<br>10123<br>10123<br>10124<br>10124<br>10124                              | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .00E+00              | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | .00E+00                                                                                                                            | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | .00E+00              | .00E+00              | .00E+00                                                  | .00E+00<br>.00E+00<br>.00E+00                                       | .00E+00                                                                                                                                                                                                       | .00E+00                                     |              |
|     | cd124                                                                                                               | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .00E+00              | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | .00E+00                                                                                                                            | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | .DOE+00              | .00E+00              | .00E+00                                                  | .00E+00                                                             | -00E+00                                                                                                                                                                                                       | .00E+00<br>.00E+00                          |              |
|     | in124                                                                                                               | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00              | .00E+00<br>2_20E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2.20F+00                                                                                                                           | .00E+00<br>2.20F+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | .00E+00<br>2.20E+00  | 2-20F+00             | 2.20E+00                                                 | .00E+00<br>2.20E+00                                                 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>2.20E+00                         |              |
|     | sn124<br>sb124<br>sb124m<br>te124<br>pd125<br>ag125<br>cd125                                                        | 2.97E-21                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2.19E-30             | 1.61E-39                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | .00E+00                                                                                                                            | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | .00E+00              | .00E+00              | .00E+00                                                  | .00E+00<br>.00E+00<br>3.98E-02                                      | .00E+00                                                                                                                                                                                                       | .00E+00<br>.00E+00                          |              |
|     | 8b124m                                                                                                              | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -00E+00              | _DOE+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | .00E+00                                                                                                                            | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | .00E+00              | .00E+00              | .00E+00<br>3.98F-02                                      | .00E+00<br>3.98F-02                                                 | .00E+00<br>3.98F-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                                     |              |
|     | ag 125                                                                                                              | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .00E+00              | .005+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | .00E+00                                                                                                                            | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | .00E+00              | .00E+00              | .00E+00                                                  | .00E+00                                                             | .00E+00                                                                                                                                                                                                       | .00E+00<br>.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                                      |              |
|     | in125<br>in125m<br>sn125<br>sn125m<br>sb125                                                                         | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .00E+00              | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | .00E+00                                                                                                                            | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | .00E+00              | .00E+00              | -00E+00                                                  | .00E+00<br>.00E+00<br>.00E+00<br>5.00E-28<br>2.68E+00<br>7.10E-30   | .00E+00                                                                                                                                                                                                       | .00E+00<br>.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<br>.00E+00                          |              |
|     | te125<br>te125m                                                                                                     | 2.53E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2.64E+00             | 2.67E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2.68E+00                                                                                                                           | 2.68E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2.68E+00<br>2.47E-13 | 2.68E+00<br>7.57E-10 | 2.68E+00                                                 | 2.68E+00<br>7 10F-30                                                | 2.68E+UU<br>2.15E-35                                                                                                                                                                                          | 2.68E+00                                    |              |
|     | pd126                                                                                                               | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .00E+00              | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | .00E+00                                                                                                                            | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | .00E+00              | .00E+00              | .00E+00                                                  | .00E+00                                                             | .00E+00                                                                                                                                                                                                       | .00E+00<br>.00E+00                          |              |
|     | ag 126<br>cd 126                                                                                                    | .00E+00<br>.00E+00<br>.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                                                             | . DOF+DO                                                                                                                                                                                                      | .00E+00<br>.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                                                                                                                                                                                                      | .00E+00<br>4.87E+00                         |              |
| 1   | Part B                                                                                                              | B&W 15x15,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 3.00ut%.             | 20aud/ntu                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | decay<br>nuclide<br>basis =<br>30.0 yr<br>2.32E-07<br>1.76E-09<br>7.94E-02<br>1.22E-09<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                      |                      |                                                          | fission                                                             | products                                                                                                                                                                                                      | page                                        | 34           |
| 0   |                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | nuclide                                                                                                                            | concentra                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | tions, gra           | RS                   |                                                          |                                                                     |                                                                                                                                                                                                               |                                             |              |
|     |                                                                                                                     | 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<br>sb126m<br>te126                                                                                            | Initial<br>2.32E-07<br>1.76E-09<br>7.87E-02<br>1.22E-09<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                               | 2.32E-07             | 20.0 yr<br>2.32E-07<br>1.76E-09<br>7.91E-02<br>1.22E-09<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                             | 2.32E-07                                                                                                                           | 2.32E-07                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2.32E-07             | 2.32E-07             | 200.0 yr<br>2.32E-07<br>1.76E-09<br>8.51E-02<br>1.22E-09 | 250.0 yr<br>2.32E-07<br>1.76E-09<br>8.68E-02<br>1.22E-09<br>.00E+00 | 300.0 yr<br>2.32E-07<br>1.76E-09<br>8.85E-02<br>1.22E-09<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                          | 400.0 yr<br>2.32E-07                        |              |
|     | SD126M<br>ta126                                                                                                     | 1./6E-09<br>7.87F-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1./6E-U9<br>7.89F-02 | 7.91F-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 7.94E-02                                                                                                                           | 8.01E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 8.18E-07             | 1.70E-U9<br>8.35E-02 | 8.51E-02                                                 | 8.68E-02                                                            | 8.85E-02                                                                                                                                                                                                      | 1.76E-09<br>9.19E-02<br>1.22E-09<br>.00E+00 |              |
|     | xe126<br>ag127                                                                                                      | 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .DDE+00              | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | .00E+00                                                                                                                            | -00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | .00E+00              | .00E+00              | .UUE+00                                                  | .00E+00                                                             | .UUE+00                                                                                                                                                                                                       | .00E+00                                     |              |
|     | cd127<br>in127                                                                                                      | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .00E+00              | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | .00E+00                                                                                                                            | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | .00E+00              | .00E+00              | .00E+00                                                  | .00E+00                                                             | .00E+00                                                                                                                                                                                                       | :UUE+UU                                     | •            |
|     | in127m<br>sn127                                                                                                     | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .00E+00              | .00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | .00E+00                                                                                                                            | -00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | .00E+00              | .00E+00              | .00E+00<br>.00E+00<br>.00E+00                            | .00E+00<br>.00E+00<br>.00E+00                                       | -00E+00                                                                                                                                                                                                       | .00E+00<br>.00E+00                          |              |
| •   | 8N12/                                                                                                               | .002400                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .UUE+UU              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | .002400                                                                                                                            | .002700                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | .002+00              | .002700              | .005700                                                  | -005400                                                             | .005400                                                                                                                                                                                                       | .005700                                     |              |

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                                                                                               | .000000-017                                                                                                                                                                             | 17-0200-00                                                                                                    | 012 REV 01                                                                                                                                                                                                                                                                                                        | ATTACHMENT                                                                                                                                                                                                                                                                                                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.00E+00<br>.00E+00<br>7.16E-24<br>2.04E-21<br>1.12E+01<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00<br>5.85E-34<br>1.67E-31<br>1.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.43E+01<br>.00E+00<br>3.97E-01<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 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| Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay  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  in132 .00E+00  sn132 .00E+00  sb132 .00E+00  sb132m .00E+00  te132 .00E+00  i132 .00E+00 .00E+ | 1   | cd131<br>in131<br>sn131<br>sb131<br>te131<br>te131m<br>i131<br>xe131                                                                                                            | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                         | 1.16E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1.16E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                     | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                         | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                           | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                           | 1.16E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                              | 1.16E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.38E+02<br>.00E+00                                                                                        | .00E+00<br>1.38E+02                                                                                           | 1.16E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                        | 1.16E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>1.38E+02<br>.00E+00                                                                                                                                                                                                                                                                                                                               |      |        |    |
| Dasis = per BEW 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   |     | Part B                                                                                                                                                                          | B&W 15x15,                                                                                                                                                                                                                             | 3.00ut%,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 20gud/mtu                                                                                                                                                                                                                                                                                                                      | ماما امرنت                                                                                                                                                             | concentra                                                                                                                                                                                                                | tions, gra                                                                                                                                                                                                    | m S                                                                                                                                                                                                |                                                                                                                                                                                         | fission                                                                                                       | products                                                                                                                                                                                                                                                                                                          | page                                                                                                                                                                                                                                                                                                                                                                                                                            | 35   |        |    |
| te132 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 .00+00 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                                                                                                     | or grams                                                                                                                                                                                | 250 0 45                                                                                                      | 300.0 VA                                                                                                                                                                                                                                                                                                          | 400.0 Vr                                                                                                                                                                                                                                                                                            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                                               |     | sn132<br>sb132<br>sb132m<br>te132<br>i132<br>xe132<br>cs132<br>bs132<br>in133                                                                                                   | 4.90E-05<br>.00E+00                                                                                                                                                                                                                    | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.84E+02<br>.00E+00<br>4.90E-05                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.84E+02<br>.00E+00<br>4.90E-05<br>.00E+00                                                                                                                                                                                                                   | .00E+00<br>.00E+00                                                                                                                                                     | .00E+00<br>.00E+00<br>2.84E+02<br>.00E+00<br>4.90E-05                                                                                                                                                                    | .00E+00<br>.00E+00<br>2.84E+02<br>.00E+00<br>4.90E-05                                                                                                                                                         | .00E+00<br>.00E+00<br>2.84E+02<br>.00E+00<br>4.90E-05                                                                                                                                              | .00E+00<br>.00E+00<br>2.84E+02<br>.00E+00<br>4.90E-05                                                                                                                                   | 230.0 yr<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.84E+02<br>.00E+00<br>4.90E-05 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.84E+02<br>.00E+00<br>4.90E-05                                                                                                                                                                                                                 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+02<br>.00E+00<br>4.90E-05<br>.00E+00                                                                                                                                                                                          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| Feb | 16 10:07                                                                                                         | 1996 Fil                                                                                                                                                    | e Name: /u                                                                                                                                                  | users/davis                                                                                                                                                 | /scale/sas                                                                                                                                     | 2h/UCFTINE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | /s3020ucfo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | .out BBA                                                                                                                           | .000000-017                                                                             | 17-0200-00                                                                                                                                                   | 012 REV 01                                                                                                                                                  | ATTACHMENT                                                                                                                                                                                                        | II - Page 3 | <b>39</b> |
|-----|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------|
|     | sb133<br>te133<br>te133m<br>i133<br>i133m<br>xe133<br>xe133                                                      | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                              | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                         | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                         | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.41E+02<br>3.49E-09                                              | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.41E+02                                              | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                     | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                     | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                         | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                               |             |           |
|     | cs133<br>ba133<br>in134<br>sn134<br>sb134<br>sb134<br>te134                                                      | 3.41E+02<br>1.30E-08<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                      | 3.41E+02<br>9.38E-09<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                            | 3.41E+02<br>6.75E-09<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                            | 3.41E+02<br>3.49E-09<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                               | 9.35E-10<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3.41E+02<br>3.47E-11<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 3.41E+02<br>1.29E-12<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                   | 3.41E+02<br>4.77E-14<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00  | .00E+00<br>3.41E+02<br>1.77E-15<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                       | .00E+00<br>3.41E+02<br>6.56E-17<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                      | 3.41E+02<br>9.02E+20<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                  |             |           |
|     | 1134m<br>xe134<br>xe134m<br>cs134d<br>cs134d<br>ba134<br>sn135<br>sb135                                          | .00E+00<br>7.23E-01<br>.00E+00<br>2.90E+01<br>.00E+00                                                                                                       | .00E+00<br>4.27E+02<br>.00E+00<br>1.35E-01<br>.00E+00<br>2.96E+01<br>.00E+00<br>.00E+00                                                                     | .00E+00<br>4.27E+02<br>.00E+00<br>2.50E-02<br>.00E+00<br>2.97E+01<br>.00E+00<br>.00E+00                                                                     | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>4.27E+02<br>.00E+00<br>8.68E-04<br>.00E+00<br>2.97E+01<br>.00E+00<br>.00E+00 | .00E+00<br>4.27E+02<br>.00E+00<br>1.04E-06<br>.00E+00<br>2.97E+01<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | .00E+00<br>4.27E+02<br>.00E+00<br>5.23E-14<br>.00E+00<br>2.97E+01<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.62E-21<br>.00E+00<br>2.97E+01<br>.00E+00<br>.00E+00 | 4.27E+02<br>.00E+00<br>1.31E-28<br>.00E+00<br>2.97E+01<br>.00E+00                       | 4.27E+02<br>.00E+00<br>6.57E-36<br>.00E+00<br>2.97E+01<br>.00E+00<br>.00E+00                                                                                 | 4.27E+02<br>.00E+00<br>3.76E-43<br>.00E+00<br>2.97E+01<br>.00E+00                                                                                           | .00E+00<br>4.27E+02<br>.00E+00<br>.00E+00<br>.00E+00<br>2.97E+01<br>.00E+00<br>.00E+00                                                                                                                            |             | •.        |
|     | te135<br>1135<br>xe135<br>xe135<br>cs135<br>cs135<br>ba135<br>ba135<br>sn136                                     | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>1.77E+02<br>.00E+00<br>3.87E-02<br>.00E+00                                                                      | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>1.77E+02<br>.00E+00<br>3.90E-02<br>.00E+00                                                                      | 1.77E+02<br>.00E+00<br>3.92E-02<br>.00E+00                                                                                                                  | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>1.77E+02<br>.00E+00<br>.00E+00                                                          | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>1.77E+02<br>.00E+00<br>4.09E-02<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .00E+00<br>.00E+00<br>.00E+00<br>1.77E+02<br>.00E+00<br>4.35E-02<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>1.77E+02<br>.00E+00<br>4.62E-02<br>.00E+00<br>.00E+00                       | .00E+00<br>.00E+00<br>.00E+00<br>1.77E+02<br>.00E+00<br>4.89E-02<br>.00E+00<br>.00E+00  | .00E+00<br>.00E+00<br>.00E+00<br>1.77E+02<br>.00E+00<br>5.15E-02<br>.00E+00<br>.00E+00                                                                       | .00E+00<br>.00E+00<br>.00E+00<br>1.77E+02<br>.00E+00<br>5.42E-02                                                                                            | .00E+00<br>.00E+00<br>.00E+00<br>1.77E+02<br>.00E+00<br>5.95E-02<br>.00E+00<br>.00E+00                                                                                                                            |             |           |
| 1   | #b136<br>te136<br>i136<br>i136m<br>xe136<br>cs136<br>ba136                                                       | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>5.61E+02<br>.00E+00<br>4.78E+00<br>.00E+00                                                                      | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>5.61E+02<br>.00E+00<br>4.78E+00<br>.00E+00                                                                      | .00E+00<br>.00E+00<br>5.61E+02<br>.00E+00                                                                                                                   | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>5.61E+02<br>.00E+00<br>4.78E+00<br>.00E+00                                                         | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>5.61E+02<br>.00E+00<br>4.78E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | .00E+00<br>.00E+00<br>.00E+00<br>5.61E+02<br>.00E+00<br>4.78E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | .00E+00<br>.00E+00<br>.00E+00<br>5.61E+02<br>.00E+00<br>4.78E+00<br>.00E+00                                                        | .00E+00<br>.00E+00<br>.00E+00<br>5.61E+02                                               | .00E+00<br>.00E+00<br>.00E+00<br>5.61E+02<br>.00E+00<br>4.78E+00                                                                                             | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>5.61E+02<br>.00E+00<br>4.78E+00                                                                      | .00E+00<br>.00E+00<br>.00E+00<br>5.61E+02<br>.00E+00<br>4.78E+00                                                                                                                                                  |             |           |
| 0   | Part B                                                                                                           | B&W 15x15,                                                                                                                                                  | 3.00mt%,                                                                                                                                                    | 20gud/mtu                                                                                                                                                   | nuclida                                                                                                                                        | concentra                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | tions, gra                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | M\$                                                                                                                                |                                                                                         | fission                                                                                                                                                      | products                                                                                                                                                    | page                                                                                                                                                                                                              | 36          |           |
|     | sb137<br>te137<br>i137<br>xe137<br>cs137<br>ba137<br>ba137<br>sb138<br>i138<br>xe138<br>cs138<br>cs138m<br>ba138 | initial<br>.00E+00<br>.00E+00<br>.00E+00<br>2.75E+02<br>8.56E+01<br>4.19E-05<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.65E+02<br>2.18E-03 | 15.0 yr<br>.00E+00<br>.00E+00<br>.00E+00<br>2.45E+02<br>1.16E+02<br>3.73E-05<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.65E+02<br>2.18E-03 | 20.0 yr<br>.00E+00<br>.00E+00<br>.00E+00<br>2.18E+02<br>1.42E+02<br>3.33E-05<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.65E+02<br>2.18E-03 | basis = 30.0 yr                                                                                                                                | Per B&W as<br>50.0 yr<br>.00E+00<br>.00E+00<br>.00E+00<br>1.09E+02<br>2.51E+02<br>1.66E-05<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 100.0 yr 0. 100.0 yr 00E+00 00E+00 00E+00 3.26E+02 5.24E-06 00E+00 . |                                                                                                                                    | .00E+00<br>.00E+00<br>3.40E+00<br>3.57E+02<br>5.20E-07<br>.00E+00<br>.00E+00<br>.00E+00 | 250.0 yr<br>.00E+00<br>.00E+00<br>.00E+00<br>1.07E+00<br>3.59E+02<br>1.64E-07<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.65E+02<br>2.18E-03 | 300.0 yr<br>.00E+00<br>.00E+00<br>.00E+00<br>3.37E-01<br>3.60E+02<br>5.15E-08<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.18E-03 | 400.0 yr<br>.00E+00<br>.00E+00<br>.00E+00<br>3.35E-02<br>3.60E+02<br>5.11E-09<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 |             |           |

| Eeh  | 16 10 • 07                                                  | 7 1006 Fil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | e Nome: /:                                                                  | users/davis                                | /ccale/cas                                                                                                                                             | 2h/UCFTIME                                                      | /s3020ucfo                                                                                                 | .out RRA                                                                                                              | 000000-017                                | 17-0200-00                                                                                                                                                                                                                           | 012 REV 01                                           | . ATTACHHENT                                         | 11 - | Page | 40 |
|------|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------|------|----|
| , 45 |                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | e Hemo. /                                                                   | •                                          |                                                                                                                                                        |                                                                 |                                                                                                            |                                                                                                                       |                                           |                                                                                                                                                                                                                                      |                                                      | •                                                    |      | ,    |    |
| •    | sb139<br>te139<br>1139                                      | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | .00E+00                                                                     | .00E+00<br>.00E+00                         | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.47E+02<br>3.33E-30<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                | .00E+00<br>.00E+00                                              | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                             | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                   | .00E+00<br>.00E+00                        | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                       | .00E+00<br>.00E+00                                   | .00E+00<br>.00E+00<br>.00E+00                        |      |      |    |
|      | 1139                                                        | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | .00E+00                                                                     | .00E+00                                    | .00E+00                                                                                                                                                | .00E+00                                                         | .00E+00                                                                                                    | .00E+00                                                                                                               | .00E+0B                                   | .00E+00                                                                                                                                                                                                                              | .00E+00                                              | .00E+00                                              |      |      |    |
|      | xe139                                                       | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | .00E+00                                                                     | . nne+na                                   | .00E+00                                                                                                                                                | .00E+00                                                         | .00E+00                                                                                                    | .00E+00                                                                                                               | .00E+00                                   | .00E+00                                                                                                                                                                                                                              | .00E+00<br>.00E+00                                   | .00E+00<br>.00E+00                                   |      |      |    |
|      | xe139<br>cs139<br>ba139                                     | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | .00E+00                                                                     | .00E+00                                    | .00E+00                                                                                                                                                | .00E+00                                                         | .00E+00                                                                                                    | .00E+00                                                                                                               | .00E+00                                   | .00E+00                                                                                                                                                                                                                              | _00E+D0                                              | -00E+00                                              |      | •    |    |
|      | la139<br>ce139<br>pr139<br>te140                            | 3.47E+02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 3.47E+02<br>3.22E-18                                                        | .00E+00<br>.00E+00<br>3.47E+02<br>3.26E-22 | 3.47E+02                                                                                                                                               | 3.47E+02<br>.00E+00                                             | 3.47E+02<br>.00E+00                                                                                        | 3.47E+02<br>.00E+00                                                                                                   | 3.47E+02<br>.00E+00                       | 3.47E+02<br>.00E+00                                                                                                                                                                                                                  | 3.47E+02<br>.00E+00                                  | 3.47E+02<br>.00E+00                                  |      |      |    |
|      | pr139                                                       | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | .00E+00                                                                     | .00E+00                                    | .00E+00                                                                                                                                                | .00E+00                                                         | .00E+00                                                                                                    | .00E+00                                                                                                               | 005+00                                    | .00E+00                                                                                                                                                                                                                              | .00E+00                                              | .00E+00                                              |      |      |    |
|      | te140                                                       | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | .00E+00                                                                     | .00E+00<br>.00E+00<br>.00E+00              | .00E+00                                                                                                                                                | .00E+00<br>.00E+00                                              | .00E+00                                                                                                    | .00E+00                                                                                                               | .00E+00                                   | .00E+00                                                                                                                                                                                                                              | .00E+00                                              | .00E+00<br>.00E+00                                   |      |      |    |
|      | i140<br>xe140                                               | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | .00E+00                                                                     | .00E+00                                    | .00E+00                                                                                                                                                | .00E+00                                                         | .00E+00                                                                                                    | .00E+00                                                                                                               | .00E+00<br>.00E+00                        | .00E+00                                                                                                                                                                                                                              | .00E+00                                              | .00E+00<br>.00E+00                                   |      |      |    |
|      | xe140<br>cs140<br>ba140                                     | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | .00E+00                                                                     | .00E+00<br>.00E+00                         | .00E+00                                                                                                                                                | .00E+00<br>.00E+00                                              | .00E+00                                                                                                    | .00E+00<br>.00E+00<br>.00E+00                                                                                         | .00E+00                                   | .00E+00                                                                                                                                                                                                                              | .00E+00                                              | .00E+00<br>.00E+00                                   |      |      |    |
|      | la140                                                       | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | .00E+00                                                                     | .00E+00                                    | .00E+00                                                                                                                                                | UUETUU                                                          | .00E+00                                                                                                    | .00E+00                                                                                                               | በበደፈበለ                                    | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                  | UUE+UU                                               | 005+00                                               |      |      |    |
|      | la140<br>ce140                                              | 3.67E+02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | .00E+00<br>3.67E+02                                                         | .00E+00<br>3.67E+02                        | .00E+00<br>3.67E+02                                                                                                                                    | 3.67E+02                                                        | 3.67E+02                                                                                                   | 3.67E+02                                                                                                              | 3.67E+02                                  | 3.67E+02                                                                                                                                                                                                                             | 3.67E+02                                             | 3.67E+02<br>.00E+00                                  |      |      |    |
|      | pr140<br>te141<br>1141                                      | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | .00E+00                                                                     | .00E+00                                    | .00E+00                                                                                                                                                | 3.67E+02<br>.00E+00<br>.00E+00                                  | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>3.67E+02<br>.00E+00                                                                                        | 3.67E+02<br>.00E+00                       | .00E+00                                                                                                                                                                                                                              | 3.67E+02<br>.00E+00<br>.00E+00                       | .00E+00                                              |      |      |    |
|      | 1141                                                        | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | .00E+00<br>.00E+00<br>.00E+00                                               | .00E+00                                    | .00E+00                                                                                                                                                | .005+00                                                         | .00E+00                                                                                                    | *AAF+AA                                                                                                               | .00E+00                                   | .00E+00                                                                                                                                                                                                                              | .00E+00                                              | .00E+00<br>.00E+00                                   |      |      |    |
|      | Cs141                                                       | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | .00E+00                                                                     | .00E+00<br>.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                                                                                                               | UUETUU                                    | .00E+00                                                                                                                                                                                                                              | .00E+00                                              | .00E+00                                              |      |      |    |
|      | xe141<br>cs141<br>ba141<br>la141<br>ce141                   | 3.47E+02<br>3.19E-14<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.21E+02<br>.00E+00             | .00E+00<br>.00E+00<br>.00E+00              | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.21E+02<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.21E+02<br>.00E+00                                            | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00<br>3.21E+02<br>.00E+00 | 3.67E+02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00<br>3.21E+02<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00                                   |      |      |    |
|      | PF141                                                       | 3.21E+02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 3.21E+02                                                                    | 3.21E+02<br>.00E+00                        | 3.21E+02                                                                                                                                               | 3.21E+02                                                        | 3.21E+02                                                                                                   | 3.21E+02                                                                                                              | 3.21E+02                                  | 3.21E+02                                                                                                                                                                                                                             | 3.21E+02                                             | 3.21E+02<br>.00E+00                                  |      |      |    |
|      | te142                                                       | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | .00E+00                                                                     | .00E+00                                    | .00E+00                                                                                                                                                | .UUETUU                                                         | .00E+00                                                                                                    | .00E+00                                                                                                               | . OUE+00                                  | .00E+00                                                                                                                                                                                                                              | .00E+00                                              | .00E+00                                              |      | •    |    |
|      | 1142                                                        | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | .UUETUU                                                                     | .00E+00                                    | .00E+00                                                                                                                                                | .00E+00                                                         | .00E+00                                                                                                    | .00E+00                                                                                                               | .00E+00<br>.00E+00                        | .00E+00                                                                                                                                                                                                                              | .00E+00                                              | .00E+00                                              |      |      |    |
|      | te142<br>i142<br>xe142<br>cs142<br>ba142<br>la142<br>ce142  | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | .00E+00                                                                     | DUETUU                                     | .00E+00                                                                                                                                                | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.23E+02<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.23E+02                                            | .00E+00                                                                                                               | .00E+00                                   | .00E+00                                                                                                                                                                                                                              | .00E+00<br>.00E+00<br>.00E+00                        | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.23E+02 |      |      |    |
|      | ba142                                                       | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | .00E+00<br>.00E+00<br>3.23E+02<br>.00E+00                                   | .00E+00<br>.00E+00                         | .00E+00                                                                                                                                                | .00E+00                                                         | .00E+00                                                                                                    | .00E+00                                                                                                               | .00E+00<br>.00E+00<br>.00E+00             | .00E+00                                                                                                                                                                                                                              | .00E+00                                              | .00E+00<br>.00F+00                                   |      |      |    |
|      | ce142                                                       | 3.23E+02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 3.23E+02                                                                    | 3.23E+02<br>.00E+00                        | 3.23E+02                                                                                                                                               | 3.23E+02                                                        | 3.23E+02                                                                                                   | 3.23E+02                                                                                                              | 3.23E+02<br>.00E+00                       | 3.23E+02                                                                                                                                                                                                                             | 3.23E+02<br>.00E+00                                  | 3.23E+02                                             |      |      | •  |
|      | pr142<br>pr142m<br>nd142<br>1143                            | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | .00E+00                                                                     | .00E+00                                    | .00E+00                                                                                                                                                | .00E+00                                                         | .00E+00                                                                                                    | .00E+00                                                                                                               | .00E+00                                   | .00E+00                                                                                                                                                                                                                              | _D0E+00                                              | .00E+00<br>.00E+00                                   |      |      |    |
|      | nd142                                                       | 3.24E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | .00E+00<br>3.24E+00                                                         | .00E+00<br>3.24E+00                        | .00E+00<br>3.24E+00<br>.00E+00                                                                                                                         | .00E+00<br>3.24E+00<br>.00E+00                                  | .00E+00<br>3.24E+00<br>.00E+00                                                                             | .00E+00<br>3.24E+00<br>.00E+00                                                                                        | .00E+00<br>3.24E+00<br>.00E+00            | 3.24E+00                                                                                                                                                                                                                             | 3.24E+00                                             | 3.24E+00                                             |      |      |    |
| 1    | 1143                                                        | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | .00E+00                                                                     | .00E+00                                    |                                                                                                                                                        | .00E+00                                                         |                                                                                                            |                                                                                                                       |                                           |                                                                                                                                                                                                                                      | .00E+00                                              | .00E+00                                              |      |      |    |
| 0    | Part B                                                      | B&W 15x15,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 3.00wt%,                                                                    | 20gud/mtu                                  | decay                                                                                                                                                  |                                                                 | tions, grasembly, 0.100.0 yr .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 2.69E+02 .00E+00                      | m e                                                                                                                   | •                                         | fission                                                                                                                                                                                                                              | products                                             | page                                                 | 37   |      | •  |
| U    |                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                             |                                            | basis =                                                                                                                                                | per B&W as                                                      | sembly, 0.                                                                                                 | 409 mthm f                                                                                                            | or grams                                  |                                                                                                                                                                                                                                      |                                                      | 400.0                                                |      |      |    |
|      | 74147                                                       | initial<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 15.0 yr<br>-00E+00<br>-00E+00                                               | 20.0 yr<br>.00E+00                         | 30.0 yr                                                                                                                                                | 50.0 yr                                                         | 100.0 yr                                                                                                   | 150.0 yr                                                                                                              | 200.0 yr                                  | 250.0 yr<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.69E+02<br>.00E+00                                                                                                                                               | 300.0 yr                                             | 400.0 yr                                             |      |      |    |
|      | C8143                                                       | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | .00E+00                                                                     | .00E+00                                    | .00E+00                                                                                                                                                | .00E+00                                                         | .00E+00                                                                                                    | .00E+00                                                                                                               | .00E+00                                   | .00E+00                                                                                                                                                                                                                              | .00E+00                                              | .00E+00<br>.00E+00<br>.00E+00                        |      |      |    |
|      | xe143<br>cs143<br>ba143<br>la143<br>ce143<br>pr143<br>nd143 | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | .00E+00                                                                     | .00E+00                                    | .00E+00                                                                                                                                                | .00E+00                                                         | .00E+00                                                                                                    | .00E+00                                                                                                               | .00E+00                                   | .DUE+00                                                                                                                                                                                                                              | .00E+00<br>.00E+00<br>.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<br>.00E+00                                   |      |      |    |
|      | pr143<br>nd143                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | .00E+00<br>2.69E+02                                                         | .00E+00<br>2.69E+02                        | .00E+00<br>2.69E+02                                                                                                                                    | .00E+00<br>2.69E+02                                             | 2.69E+02                                                                                                   | 2.69E+02                                                                                                              | 2.69E+02                                  | 2.69E+02                                                                                                                                                                                                                             | 2.69E+02                                             | .00E+00<br>2.69E+02                                  |      |      |    |
|      | 114-                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | :00c+0                                                                      | 2.69E+02                                   | 2.69E+02                                                                                                                                               | 2.69E+02                                                        | 700E+00                                                                                                    | TOOK FOU                                                                                                              | TOUE FOU                                  | IOUE FOU                                                                                                                                                                                                                             | 2.69E+02                                             | : "गगर्डगा                                           |      |      |    |
|      | Xe144<br>C8144                                              | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | .00E+00                                                                     | 00E+00                                     | .00E+00                                                                                                                                                | .00E+00                                                         | .00E+00                                                                                                    | .00E+00                                                                                                               | .00E+00<br>.00E+00<br>.00E+00             | .00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                        | .00E+00                                              | .00E+00                                              |      |      |    |
|      | xe144<br>cs144<br>bs144<br>ce144<br>pr144<br>pr144<br>nd144 | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2.69E+02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>1.40E-04 | .00E+00<br>.00E+00<br>.00E+00              | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.27E-10<br>9.58E-15<br>5.59E-17<br>3.42E+02                                                               | .00E+00                                                         | .00E+00                                                                                                    | 2.69E+02<br>TUTE-FUU<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00          | .00E+00                                   | .00E+00                                                                                                                                                                                                                              | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00  | .00E+00<br>.00E+00                                   |      |      |    |
|      | ce144                                                       | .00E+00<br>1.19E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.40E-04                                                                    | 1.64E-06<br>6.92E-11                       | 2.27E-10                                                                                                                                               | 4.36E-18                                                        | 2.21E-37<br>2.02E-43                                                                                       | .00E+00                                                                                                               | .00E+00                                   | .00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                        | .00E+00                                              | .00E+00                                              |      |      |    |
|      | pr144                                                       | 5.00E-07<br>2.92E-09                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 5.88E-09                                                                    | 6.92E-11                                   | 9.58E-15                                                                                                                                               | 1.84E-22                                                        | 2.02E-43                                                                                                   | .00E+00                                                                                                               | .00E+00                                   | .00E+00                                                                                                                                                                                                                              | .00E+00                                              | LUCTUU                                               |      |      |    |
|      | nd144                                                       | 3.42E+02<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3.42E+02                                                                    | 4.04E-13<br>3.42E+02                       | 3.42E+02                                                                                                                                               | 3.42E+02                                                        | .00E+00<br>3.42E+02                                                                                        | 3.42E+02                                                                                                              | 3.42E+02                                  | 3.42E+U2                                                                                                                                                                                                                             | 3.42E+02                                             | 3.42E+02                                             |      |      |    |
|      | 1145<br>xe145                                               | .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3.43E-11<br>3.42E+02<br>.00E+00                                             | .00E+00                                    | .00E+00                                                                                                                                                | 4.36E-18<br>1.84E-22<br>1.07E-24<br>3.42E+02<br>.00E+00         | .00E+00                                                                                                    | .00E+00                                                                                                               | .00E+00                                   | .00E+00<br>.00E+00                                                                                                                                                                                                                   | .00E+00<br>.00E+00                                   | .00E+00<br>.00E+00                                   |      |      |    |
|      | ~-172                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                             |                                            |                                                                                                                                                        |                                                                 |                                                                                                            | •                                                                                                                     |                                           |                                                                                                                                                                                                                                      |                                                      |                                                      |      |      |    |

| Feb 1 | 6 10:07                                                                                                                             | 7 1996 Fil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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                                                                                                                                                                                                                        | ATTACHMENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 11 - | Page 41 |
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.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.03E+02<br>2.79E-11<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 |      |         |
| 1 1   | Part B                                                                                                                              | B&W 15x15,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| J     |                                                                                                                                     | 1-141-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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                                                                                                                                                                                                                        | 400 0 vn                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |         |
|       | sm148<br>cs149<br>ba149<br>ca149<br>pr149<br>pr149<br>pm149<br>sm149<br>cs150<br>ba150<br>pr150<br>pr150<br>pr150<br>pm150<br>sm150 | initial 2.89E+01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 1.42E+00 5.79E-23 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+01 1.77E-07 .00E+00 .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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yr<br>2.89E+01<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+01<br>.00E+01<br>.00E+01<br>.00E+01<br>.00E+01<br>.00E+01                                                                                                                                                                                                                                                                        | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>1.42E+00<br>8.83E-35<br>.00E+00<br>.00E+00<br>.00E+00<br>4.85E+01                                                                                                                         | 30.0 yr<br>2.89E+01<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+01<br>.00E+01<br>.00E+01<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 50.0 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yr<br>2.89E+01<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 250.0 yr<br>2.89E+01<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+01<br>1.49E-09<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                 | 300.0 yr<br>2.89E+01<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                        | 400.0 yr<br>2.89E+01<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                      |      |         |

| Feb | 16 10:07                                                                                                                       | ' 1996 Fil                                                                                                                                                                                                                                                                                    | e Name: /u                                                                                                                                                                                                                              | users/davis                                                                                                                                               | /scale/sas                                                                                                                                                                                                                                                   | 2h/UCFTIME                                                                                                                                    | /s3020ucfo                                                                                                                                                | .out BBA                                                                                                                                                                                                                                                                                          | .000000-017                                                                                                                                                                                                    | 17-0200-00                                                                                                                                                                                                                                                      | 012 REV 01                                                                                                                                                                                                                                                                           | ATTACHMENT                                                                                                                                                                                                                                                                                                                                                                   | - 11 | Page 42 |
|-----|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|
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| 1   | sminos<br>eu1522m<br>eu1522m<br>ce1553331552<br>ce15533315533<br>pnd1554<br>pnd1554<br>ce1554<br>pnd1554<br>pnd1554<br>pnd1554 | 1.58E-02<br>.00E+00<br>2.75E-02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.70E+01<br>2.00E-08<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                          | 3.74E+01<br>1.22E-02<br>2.85E-02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+01<br>1.06E-10<br>.00E+00<br>.00E+00<br>.00E+00                                                                                         | 9.38E-03<br>.00E+00<br>2.93E-02<br>.00E+00<br>.00E+00                                                                                                     | 3.74E+01<br>5.57E-03<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+01<br>1.57E-17<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                    | 1.97E-03<br>.00E+00<br>3.14E-02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.70E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00 3.74E+01 1.46E-04 .00E+00 | 1.04E-05<br>.00E+00<br>3.19E-02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                          | 8.04E-07<br>.00E+00<br>3.19E-02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.70E+01<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                       | 5.98E-08<br>.00E+00<br>3.19E-02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                   | 4.44E-09<br>-00E+00<br>3.19E-02<br>-00E+00<br>-00E+00<br>-00E+00<br>-00E+00<br>-00E+00<br>-00E+00<br>-00E+00<br>-00E+00<br>-00E+00<br>-00E+00<br>-00E+00                                                                                                                             | 2.45E-11<br>.00E+00<br>3.19E-02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.70E+01<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                    |      | •.      |
| 0   | Part B                                                                                                                         | B&W 15x15,                                                                                                                                                                                                                                                                                    | 3.00mt%,                                                                                                                                                                                                                                | 20gwd/mtu                                                                                                                                                 | nuclide                                                                                                                                                                                                                                                      | concentra                                                                                                                                     | itions, gra                                                                                                                                               | ms .                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                | fission                                                                                                                                                                                                                                                         | products                                                                                                                                                                                                                                                                             | page                                                                                                                                                                                                                                                                                                                                                                         | 39   |         |
|     | ### ##################################                                                                                         | initial<br>9.08E+00<br>4.67E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.47E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 15.0 yr<br>9.08E+00<br>2.18E+00<br>5.76E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.39E-01<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 1.45E+00<br>6.48E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>1.62E-01<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 30.0 yr<br>9.08E+00<br>6.49E-01<br>7.28E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | mar BlV se                                                                                                                                    | **************************************                                                                                                                    | 409 mthm 1 150.0 yr 9.08 +00 4.04E-05 7.93E+00 .00E+00 .00E+00 .00E+00 7.02E-10 .00E+00 3.18E+00 3.18E+00 .00E+00 | 07 07ams 200.0 yr 9.08E+00 7.15E-07 7.93E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 3.18E+00 3.18E+00 .00E+00 | 250.0 yr<br>9.08E+00<br>1.27E-08<br>7.93E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.59E-16<br>.00E+00<br>3.18E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 300.0 yr<br>9.08E+00<br>2.24E-10<br>7.93E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>1.58E-19<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 400.0 yr<br>9.08E+00<br>7.01E-14<br>7.93E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.18E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 |      |         |

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 9.50E-03
 9.50E-03
 9.50E-03
 ho165
 .00E+00
 .00E+00
 dy166
 .00E+00
 .00E+00
 .00E+00
```

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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 44
 ho166
 ho166m
 er166
 er167
 er167m
 er168
 yb168
 er169
tm169
 yb169
 er170
tm170
 yb170
 er171
tm171
 yb171
 er172
 t=172
 yb172
 | SERVING | 15x15 | 3.00mtX | 20gud/mtu | decay | 0.58E+03 | 9.58E+03 | 9.58E
 actinides
 Part B B&W 15x15, 3.00mt%, 20gmd/mtu decay
 page
 t1207
t1208
 t1208
pb206
pb207
pb208
pb209
pb210
 pb210
pb211
pb212
pb214
b1208
b1209
b1210m
 61210
61211
 po210
 po211m
po211
 po212
po213
po214
 po216
po218
 rn218
 rn219
rn220
```

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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 45
 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 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
 1.06E-12 4.81E-12 1.10E-11 1.92E-11 2.91E-11 4.03E-11 5.27E-11 2.08E-13 4.08E-13 6.03E-13 7.95E-13 9.82E-13 1.17E-12 1.34E-12 .00E+00
 fr221
fr223
fr2223
ra2223
ra2225
ra2225
ra2225
ra2228
th2228
th2228
th2228
 2.13E-13 1.06E-12

1.07E-13 2.08E-13

.00E+00 .00E+00

5.85E-09 1.14E-08

6.53E-12 2.76E-12

9.43E-10 4.68E-09

1.14E-03 4.09E-03

1.70E-11 3.46E-11

6.37E-10 3.16E-09

4.14E-06 8.07E-06

2.07E-15 4.23E-15

.00E+00 .00E+00

9.61E-09 1.87E-08

1.27E-09 5.35E-10

1.87E-04 9.27E-04
 4.24E-14 5.27E-14 1.07E-13

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

2.32E-09 2.88E-09 5.85E-09

1.48E-09 5.49E-10 6.53E-12

1.15E-10 1.89E-10 9.43E-10

1.86E-04 2.92E-04 1.14E-03

6.71E-12 8.40E-12 1.70E-11

7.74E-11 1.28E-10 6.37E-10

1.64E-06 2.04E-06 4.14E-06

8.19E-16 1.03E-15 2.07E-15

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

3.82E-09 4.74E-09 9.61E-09

2.87E-07 1.07E-07 1.27E-09

2.27E-05 3.75E-05 1.87E-04

1.13E-01 1.43E-01 2.95E-01

2.57E-08 2.58E-08 2.59E-08
 4.24E-14 5.27E-14
 1.34E-12 1.52E-12
 7.36E-08 8.31E-08
2.99E-12 3.04E-12
 2.33E-07 2.92E-07
6.98E-02 8.08E-02
 2.83E-10 3.29E-10
1.58E-07 1.97E-07
5.21E-05 5.89E-05
3.46E-14 4.01E-14
 .00E+00 .00E+00
1.21E-07 1.37E-07
5.82E-10 5.91E-10
4.62E-02 5.78E-02
 th230
th231
 4.48E+00
2.95E-08
 actinides
 Part B B&W 15x15, 3.00wt%, 20gud/mtu decay
 page
 42
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Feb 16 10:07 1996 File Name: /users/dayis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 46
 1.13E-15 1.1
 1.13E-15 1.13E-15
1.21E-09 1.51E-09
 pu243
 pu244
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 pu245
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 1.15E-21
.00E+00
.00E+00
1.77E+01
2.32E-05
2.99E-10
 9.84E-22 9.09E-22
.00E+00 .00E+00
 6.61E-22
 1.22E-21
.00E+00
.00E+00
 1.20E-21
 1.07E-21
 8.39E-22
 7.75E-22 7.15E-22
 bu246
 1.23E-21
 .00E+00
.00E+00
6.50E-04
2.99E-35
.00E+00
2.24E+00
 1.25E-21 1.22E-21
.00E+00 .00E+00
.00E+00 .00E+00
2.30E+02 1.96E+02
6.05E-02 3.70E-02
7.80E-07 4.77E-07
9.71E+00 9.62E+00
 .00E+00
 .00E+00
 .00E+00
 am239
am240
 .00E+00
 .00E+00
 .00E+00
7.18E-01
1.25E-09
1.61E-14
 .00E+00
3.05E-02
6.69E-14
 .00E+00
2.43E-03
3.60E-18
 .00E+00
1.11E-03
 .00E+00
9.03E-04
 .00E+00
 7.66E-04
5.57E-31
7.19E-36
2.70E+00
 am241
am242m
am242m
am243
 8.77E+01
3.17E-03
4.08E-08
9.18E+00
 1.93E-22
 1.04E-26
 8.64E-19
5.74E+00
.00E+00
 4.64E-23
4.75E+00
.00E+00
 2.49E-27
3.94E+00
 1.34E-31
3.26E+00
 8.36E+00
 6.92E+00
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1.65E-24
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 .UUE+00 .00E+00
3.07E-24 3.06E-24
.00E+00 .00F+00
 .00E+00
3.00E-24
 am246
cm241
 1.94E-24 1.79E-24
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 actinides
 43
 page
 Part B B&W 15x15, 3.00mt%, 20gmd/mtu decay
 cm242
cm243
 cm244
 cm245
cm246
 cm247
cm248
cm249
 cm250
 cm251
bk249
bk250
 6.92E-24 6.39E-24

.00E+00 .00E+00

1.30E-13 2.49E-15

2.47E-19 2.28E-19

8.31E-12 1.77E-12

.00E+00 .00E+00

 bk251
cf249
 1.39E-18 3.13E-19
6.26E-10 5.80E-10
.00E+00 .00E+00
 2.89E-19
1.82E-10
.00E+00
 cf250
 cf251
cf252

 1.82E-10
 3.89E-11
 8.31E-12
 1.77E-12
 3.79E-13
 8.09E-14
 1.73E-14

 .00E+00
 .00E+00</td
 .00E+00
.00E+00
.00E+00
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.00E+00
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.00E+00
 cf253
cf254
cf255
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 .00E+00
 es255
 .00E+00
4.54E+05
 .00E+00
 .00E+00
4.54E+05
 .00E+00
 s250
 4.54E+05
 4.54E+05
 B&W 15x15, 3.00wt%, 20gwd/mtu decay 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 yr10000.0 yr12000.0 yr14000.0 yr16000.0 yr
2.32E-12 8.41E-15 5.20E-27 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00
7.49E-05 7.49E-0
 fission products
 page
 Part B B&W 15x15, 3.00mt%, 20gmd/mtu decay
 5.86E-06
.00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 ni 66
 00E+00 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
 zn 66
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| Feb 1 | 16 10:07                                                                                                                                                                      | 1996 FIL                                                                                                                | e Name: /                                                                  | users/davi:                                                                                                                                                 | s/scale/sas                                                                                                                                                                                                                  | 2h/UCFTIME                                                                                                                                                             | /s3020ucfo                                                                                                                                                             | o.out BB                                                                                                                                                                                                                     | A000000-017                                                                                                                                                                                                                                                                          | 17-0200-00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 012 REV 01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ATTACHHENT                                                                                                                                                                                                                                                                                                                                                    | II - Page 47 |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
|       | cu 67<br>2n 68<br>2n 68<br>2n 69<br>2n 69<br>2n 70<br>2n 70<br>2n 71<br>2n 71<br>2n 71<br>2n 71<br>2n 72<br>2n 72<br>2n 72<br>2n 73<br>3ge 73<br>3ge 73<br>4<br>73<br>4<br>74 |                                                                                                                         |                                                                            | .00E+00 2.32E-08 2.07E-09 .00E+00 7.63E-08 2.03E-06 .00E+00 | .00E+00 2.32E-08 2.07E-09 .00E+00 7.63E-08 2.03E-00 2.79E-09 .00E+00 | .00E+00<br>2.32E-08<br>2.07E-09<br>.00E+00<br>7.63E-08<br>2.03E-06<br>2.07E-09<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>2.32E-08<br>2.07E-09<br>.00E+00<br>7.63E-08<br>2.03E-06<br>2.09E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00 2.32E-08 2.07E-09 .00E+00 7.63E-08 2.03E-08 2.03E-09 .00E+00 | .00E+00 2.32E-08 2.07E-09 .00E+00 7.63E-08 2.03E-06 2.07E-09 .00E+00 | .00E+00<br>2.32E-09<br>.00E+00<br>7.63E-08<br>2.03E-08<br>2.03E-00<br>2.79E-09<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>2.32E-08<br>2.07E-09<br>.00E+00<br>7.63E-08<br>2.03E-00<br>2.09E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00 2.32E-08 2.07E-09 .00E+00 7.63E-08 2.03E-06 .00E+00 2.79E-09 .00E+00 2.00E+00 .00E+00 | II - Page 47 |
| 1     | cu 74<br>zn 74<br>ge 74<br>co 75<br>ni 75<br>cu 75<br>zn 75<br>ge 75<br>ge 75<br>ni 76<br>cu 76                                                                               | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.33E-02<br>.00E+00                                              | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.33E-02<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                        | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                    | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                              | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                              | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.33E-02<br>.00E+00                                                                                                                                        | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                            | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                             | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.33E-02<br>.00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.33E-02<br>.00E+00                                                                                                                                                                                                                                                                         |              |
| 0     | Part B                                                                                                                                                                        | B&W 15x15,                                                                                                              | 3.00ut%,                                                                   | 20gwd/mtu                                                                                                                                                   | decay                                                                                                                                                                                                                        | concentra                                                                                                                                                              | itions, dr                                                                                                                                                             |                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                      | fission                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | products                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | page                                                                                                                                                                                                                                                                                                                                                          | 45           |
| •     |                                                                                                                                                                               |                                                                                                                         |                                                                            |                                                                                                                                                             | basis                                                                                                                                                                                                                        | per B&W at                                                                                                                                                             | sembly, 0.                                                                                                                                                             | 409 mthm                                                                                                                                                                                                                     | for grams                                                                                                                                                                                                                                                                            | 2000 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1000 n - 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b></b>                                                                                                                                                                                                                                                                                                                                                       |              |
|       | zn 76                                                                                                                                                                         | initial                                                                                                                 | 200.0 Yr                                                                   | 1000.0 YF                                                                                                                                                   | 2000.0 Yr                                                                                                                                                                                                                    | 4000.0 Yr                                                                                                                                                              | FOOD O AL                                                                                                                                                              | -00F+00                                                                                                                                                                                                                      | 10000.0 Yr1                                                                                                                                                                                                                                                                          | 2000.0 YET                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 4000.0 Yr1<br>00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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                                                                                                                                                                                                                                                                   |              |
|       | zn 76<br>ga 76<br>ga 76<br>as 76<br>se 76<br>ni 77<br>cu 77<br>zn 77<br>ga 77<br>ga 77<br>ga 77<br>ga 77                                                                      | initial<br>.00E+00<br>.00E+00<br>1.02E-01<br>.00E+00<br>6.31E-04<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 |                                                                            | .00E+00<br>1.02E-01<br>.00E+00<br>6.31E-04<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                      |                                                                                                                                                                                                                              |                                                                                                                                                                        |                                                                                                                                                                        | .00E+00<br>1.02E-01<br>.00E+00<br>6.31E-04<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                       | for grams<br>10000.0 yr1<br>.00E+00<br>.00E+00<br>1.02E-01<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                         | .00E+00<br>1.02E-01<br>.00E+00<br>6.31E-04<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                                                                                      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.00E+00<br>1:02E-01<br>.00E+00<br>6.31E-04<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                                                                                                             |              |

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| Feb | 16 10:07                                                               | 1996 Fil                                                        | e Name: /                                                                                                                                                         | users/davis                                           | /scale/sas                                                                                        | 2h/UCFTIME                                                                                                                                                                                                | /s3020ucfd                                                       | out BBA                                                                               | .000000-017                                                                                       | 17-0200-00                                 | 012 REV 01                                                                                                                          | ATTACHHENT                               | 11 - Pa | ige 49 |
|-----|------------------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|---------|--------|
|     | kr 83m                                                                 | .00E+00                                                         | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                    | .00E+00                                               | .00E+00                                                                                           | .00E+00                                                                                                                                                                                                   | .00E+00<br>.00E+00                                               | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                        | .00E+00                                                                                           | .00E+00                                    | .00E+00<br>.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<br>.00E+00                       |         |        |
|     | ge 84<br>as 84                                                         | .00E+00<br>.00E+00                                              | .00E+00                                                                                                                                                           | .00E+00                                               | .00E+00<br>.00E+00<br>.00E+00                                                                     | .00E+00                                                                                                                                                                                                   | .00E+00                                                          | .00E+00                                                                               | .00E+00                                                                                           | .00E+00                                    | MMETHU                                                                                                                              | .00E+00                                  |         |        |
|     | se 84<br>br 84m<br>kr 84<br>ga 85<br>ge 85<br>as 85                    | .00E+00                                                         | .00E+00                                                                                                                                                           | .00E+00                                               | .00E+00                                                                                           | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                                                  | .00E+00                                                          | .00E+00                                                                               | .00E+00<br>.00E+00<br>.00E+00<br>3.28E+01<br>.00E+00                                              | .00E+00                                    | .00E+00<br>.00E+00<br>.00E+00<br>3.28E+01<br>.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<br>3.28E+01                                   | .00E+00<br>3.28E+01                                                                               | .00E+00                                                                                                                                                                                                   | .00E+00                                                          | .00E+00                                                                               | .00E+00                                                                                           | .00E+00<br>3.28E+01                        | * 285+01                                                                                                                            | .00E+00<br>3.28E+01                      |         |        |
|     | KF 84                                                                  | 3.28E+01                                                        | 3.285+01                                                                                                                                                          | .00E+00                                               | 3.285+01                                                                                          | .00E+00                                                                                                                                                                                                   | 3.28E+01<br>.00E+00                                              | 3.20E+U1                                                                              | .00F+00                                                                                           | .00E+00                                    | .00E+00                                                                                                                             | .00E+00                                  |         |        |
|     | ga 05<br>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<br>.00E+00<br>.00E+00                                   | 3.28E+01<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>6.05E-14<br>.00E+00<br>3.46E+01                                                                | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00              | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                          | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                      | .00E+00                                                          | 3.28E+01<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                               | .00E+00                                    | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.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<br>br 85                                                        | .00E+00                                                         | .00E+00                                                                                                                                                           | .00E+00                                               | .005+00                                                                                           | .UUE+UU                                                                                                                                                                                                   | .00E+00                                                          | 005+00                                                                                | .00E+00                                                                                           | .00E+00                                    | 00E+00                                                                                                                              | .00E+00<br>.00E+00                       |         |        |
|     | PL 92                                                                  | 3 ROF-11                                                        | 4.05F-14                                                                                                                                                          | 5.49F-28                                              | -00E+00                                                                                           | .00E+00                                                                                                                                                                                                   | .00E+00                                                          | .00E+00                                                                               | .00E+00                                                                                           | .00E+00                                    | .00E+00                                                                                                                             | .00E+00<br>.00E+00                       |         |        |
|     | kr 85<br>kr 85m<br>rb 85<br>ge 86<br>as 86<br>se 86                    | .00E+00<br>3.89E-11<br>.00E+00<br>3.46E+01                      | .00E+00                                                                                                                                                           | 5.49E-28<br>.00E+00                                   | .00E+00                                                                                           | .00E+00                                                                                                                                                                                                   | .00E+00<br>3.46E+01<br>.00E+00                                   | .00E+00                                                                               | .00E+00                                                                                           | .00E+00<br>3.46E+01                        | 00E+00                                                                                                                              | .00E+00                                  |         |        |
|     | rb 85                                                                  | 3.46E+01                                                        | 3.46E+01                                                                                                                                                          | 3.46E+01<br>.00E+00                                   | 3.46E+01                                                                                          | 3.46E+01                                                                                                                                                                                                  | 3.46E+01                                                         | 3.46E+01                                                                              | 3.46E+01<br>.00E+00                                                                               | 3.46E+01                                   | 3.46E+01                                                                                                                            | 3.46E+01                                 |         |        |
|     | ge 86                                                                  | .00E+00                                                         | .00E+00                                                                                                                                                           | .00E+00                                               | .00E+00                                                                                           | .00E+00                                                                                                                                                                                                   | .00E+00                                                          | .005+00                                                                               | *00E+00                                                                                           | .00E+00                                    | .005+00                                                                                                                             | .00E+00                                  |         |        |
|     | 88 00<br>ca 86                                                         | 00E+00                                                          | .005+00                                                                                                                                                           | .00E+00                                               | -005+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<br>.00E+00<br>.00E+00                                                                     | .00E+00                                    | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                            | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00 |         | •      |
|     | br 86m                                                                 | .00E+00                                                         | .00E+00                                                                                                                                                           | .00E+00                                               | .00E+00                                                                                           | .00E+00                                                                                                                                                                                                   | 000.00                                                           | .00E+00                                                                               |                                                                                                   | .00E+00                                    | -00E+00                                                                                                                             | .00E+00                                  |         |        |
|     | br 86<br>br 86m<br>kr 86<br>rb 86                                      | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>5.55E+01<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 5.55E+01<br>.00E+00<br>.00E+00<br>6.45E-02            | .00E+00<br>3.46E+01<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>5.55E+01<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                         | 5.55E+01<br>.00E+00<br>.00E+00                                   | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.555E+01<br>.00E+00<br>.00E+00<br>.00E+00 | 5.55E+01<br>.00E+00<br>.00E+00<br>6.45E-02<br>.00E+00                                             | 5.55E+01<br>.00E+00                        | .00E+00<br>5.55E+01<br>.00E+00<br>6.45E-02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.25E-01<br>3.21E-04<br>.00E+00<br>.00E+00 | 5.55E+01<br>.00E+00                      |         |        |
|     | rb 86m                                                                 | .UUE+UU                                                         | .00£+00                                                                                                                                                           | .00E+00                                               | .002+00                                                                                           | .00E+00                                                                                                                                                                                                   | .00E+00                                                          | -00E+00                                                                               | .00E+00                                                                                           | -00E+00                                    | .00E+00                                                                                                                             | .00E+00                                  |         |        |
|     | sr 887<br>se 87<br>br 87<br>br 87<br>br 87<br>sr 87<br>sr 888<br>as 88 | 6.45E-02                                                        | 6.45E-02                                                                                                                                                          | 6.45E-02                                              | 6.45E-02                                                                                          | 6.45E-02                                                                                                                                                                                                  | 6.45E-02                                                         | 6.45E-02                                                                              | 6.45E-02                                                                                          | .00E+00<br>6.45E-02<br>.00E+00             | 6.45E-02                                                                                                                            | .00E+00<br>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                                                          | .DDE+00                                                                               | .005+00                                                                                           | .00E+00<br>.00E+00                         | .005+00                                                                                                                             | .00E+00<br>.00E+00                       |         |        |
|     | se 87                                                                  | .00E+00<br>.00E+00                                              | -00E+00                                                                                                                                                           | .00E+00<br>.00E+00<br>.00E+00<br>7.25E+01<br>3.07E-04 | .UUE+UU                                                                                           | .00E+00                                                                                                                                                                                                   | .00E+00<br>.00E+00<br>.00E+00<br>7.25E+01<br>3.13E-04<br>.00E+00 | .00E+00                                                                               | -00E+00                                                                                           | OUETUU                                     | .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                                                                  | .00E+00<br>7.25E+01<br>3.07E-04<br>.00E+00                      | 7.25E+01                                                                                                                                                          | 7.25E+01                                              | 7.25E+01                                                                                          | 7.25E+01                                                                                                                                                                                                  | 7.25E+01                                                         | 7.25E+01                                                                              | 7.25E+01                                                                                          | .00E+00<br>7.25E+01<br>3.19E-04<br>.00E+00 | 7.25E+01                                                                                                                            | .00E+00<br>7.25E+01<br>3.23E-04          |         |        |
|     | 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-U4                                                                                                                            | .00E+00                                  |         |        |
|     | \$F 8/8                                                                | .UUE+UU                                                         | .00E+00                                                                                                                                                           | .00E+00                                               | .005+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<br>.00E+00<br>.00E+00                                   | .00E+00                                                                                                                                                           | .00E+0D                                               | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00              | .00E+00                                                                                                                                                                                                   | .00E+00                                                          | .00E+00<br>.00E+00<br>.00E+00<br>7.25E+01<br>3.15E-04<br>.00E+00<br>.00E+00           | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>7.25E+01<br>3.17E-04<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00                                    | .00E+00                                                                                                                             | .00E+00                                  | •       |        |
| 1   | Part R                                                                 | 88U 15x15.                                                      | 3.00mt%.                                                                                                                                                          | 20gud/mtu                                             | decay                                                                                             |                                                                                                                                                                                                           |                                                                  |                                                                                       |                                                                                                   | fission                                    | products                                                                                                                            | page                                     | 47      |        |
| 0   |                                                                        |                                                                 |                                                                                                                                                                   |                                                       | nuclide                                                                                           | concentra                                                                                                                                                                                                 | itions, gra                                                      | IMS                                                                                   | •                                                                                                 |                                            | -                                                                                                                                   | ·                                        |         |        |
|     |                                                                        | 1-1-1-1                                                         | E00 0                                                                                                                                                             | 4000 0                                                | basis :                                                                                           | Per BEW as                                                                                                                                                                                                | sembly, U.                                                       | ,409 Mthm 1                                                                           | OF GFAMS                                                                                          | 2000 D VES                                 | 4000 B vc1                                                                                                                          | 6000.0 vc                                |         |        |
|     | br 88                                                                  | 1012191                                                         | 00F+00                                                                                                                                                            | .00F+00                                               | .00F+00                                                                                           | -00E+00                                                                                                                                                                                                   | .00E+00                                                          | -00E+00                                                                               | -00E+00                                                                                           | .00E+00                                    | .00E+00                                                                                                                             | .00E+00                                  |         |        |
|     | br 88<br>rb 88<br>ss 89<br>se 89<br>br 89<br>rb 89<br>rb 89            | -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<br>1.04E+02                                             | .00E+00                                                                                                                                                           | .00E+00                                               | .00E+00                                                                                           | .00E+00                                                                                                                                                                                                   | .00E+00                                                          | .00E+00                                                                               | .00E+00                                                                                           | .00E+00                                    | .00E+00                                                                                                                             | .00E+00                                  |         |        |
|     | 88 18                                                                  | 1.04E+02                                                        | 1.04E+02                                                                                                                                                          | 1.04E+02                                              | 1.046+02                                                                                          | 1.046+02                                                                                                                                                                                                  | 1.04E+02                                                         | 1.042+02                                                                              | 1.U4E+U2                                                                                          | 00F+00                                     | .00F+00                                                                                                                             | -00F+00                                  |         |        |
|     | 88 69<br>88 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+0D                                                         | 00E+00                                                                                                                                                            | .00E+00                                               | .00E+00                                                                                           | .UUE+UU                                                                                                                                                                                                   | .00E+00                                                          | .00E+00                                                                               | .002+00                                                                                           | -00E+00                                    | .00E+00                                                                                                                             | -00E+00                                  |         |        |
|     | V 80                                                                   | 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 89<br>y 89m                                                          | 1.39E+02<br>.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                                                                                           | -D0E+00                                    | .00E+00                                                                                                                             | .UUE+UU                                  |         |        |
|     | as 90<br>se 90<br>br 90<br>kr 90<br>rb 90                              | .UUE+00                                                         | .UUE+UU                                                                                                                                                           | .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+0D                                                                                           | .00E+00                                    | .00E+00                                                                                                                             | .00E+00                                  |         |        |
|     | rb 90m                                                                 | .00E+00                                                         | .00E+00                                                                                                                                                           | 00E+00                                                | .00E+00                                                                                           | concentra<br>per 82W as<br>4000.0 yr<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | ,UUE+00                                                          | .UUE+00                                                                               | .005+00                                                                                           | .006+00                                    | .002+00                                                                                                                             | .002700                                  |         |        |

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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTINE/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 50
 8.57E-03 7.30E-04
2.23E-06 1.90E-07
.00E+00 .00E+00
1.70E+02 1.70E+02
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rb 94
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 ar 94
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nb 94
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zr 95
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| Eab | 16 10•07                                                             | 7 1004 E{                                                                                                  | a Nama: //                                                      | :eers/davi                                                      | s/scale/sas                                                                   | 2h/licetine                                                                 | :/=3020ucfo                                         | <br>out RRA                                                                                                                                                                     | .000000-017                                         | '17+020 <b>0-0</b> 0                     | 012 REV 01                                                                | ATTACHNEN                                           | T 11 - | Page 51 |
|-----|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|------------------------------------------|---------------------------------------------------------------------------|-----------------------------------------------------|--------|---------|
| 160 | 10 10.01                                                             | 1770 110                                                                                                   | e Haine. /                                                      |                                                                 | ,, <b>,</b> , , , , , , , , , , , , , , , , ,                                 |                                                                             |                                                     |                                                                                                                                                                                 |                                                     |                                          |                                                                           | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,             |        | ,       |
|     | mo 96<br>kr 97                                                       | 6.56E+00                                                                                                   | 6.56E+00<br>.00E+00                                             | 6.56E+00<br>.00E+00                                             | 6.56E+00<br>.00E+00                                                           | 6.56E+00                                                                    | 6.56E+00<br>.00E+00                                 | 6.56E+00                                                                                                                                                                        | 6.56E+00                                            | 6.56E+00<br>.00E+00                      | 6.56E+00<br>.00E+00                                                       | 6.56E+00<br>.00E+00                                 |        |         |
|     | rb 97                                                                | .00E+00                                                                                                    | .00E+00                                                         | .00E+00                                                         | .00E+00                                                                       | .00E+00                                                                     | .00E+80                                             | .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<br>.00E+00                                  |        |         |
|     | y 97<br>zr 97                                                        | .00E+00                                                                                                    | .00E+00                                                         | _00E+00                                                         | .00E+00                                                                       | .00E+00<br>.00E+00<br>.00E+00                                               | -00E+00                                             | .00E+00                                                                                                                                                                         | .00E+00<br>.00E+00                                  | .00E+00<br>.00E+00<br>.00E+00            | .00E+00                                                                   | .00E+00                                             |        |         |
|     | nb 97<br>nb 97/11                                                    | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                        | .00E+00                                                         | .00E+00                                                         | .00E+00<br>.00E+00<br>.00E+00                                                 | DURFFULL                                                                    | .00E+00                                             | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                             | .00E+00                                             | .00E+00<br>.00E+00                       | .00E+00<br>.00E+00<br>.00E+00                                             | .00E+00<br>.00E+00                                  |        |         |
|     | mo 97<br>kr 98                                                       | 2.17E+02                                                                                                   | 2.17E+02<br>.00E+00                                             | 2.17E+02                                                        | 2.17E+02<br>.00E+00                                                           | 2.17E+02                                                                    | 2.17E+02                                            | 2.17E+02                                                                                                                                                                        | 2.17E+02                                            | 2.17E+02                                 | 2.17E+02<br>.00E+00                                                       | 2.17E+02                                            | •      |         |
|     | kr 98<br>rb 98                                                       | 2.17E+02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.33E+02<br>1.37E-03         | .00E+00                                                         | .00E+00                                                         | .00E+00                                                                       | 2.17E+02<br>.00E+00<br>.00E+00                                              | .00E+00                                             | 2.17E+02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.33E+02<br>1.36E-03<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00                                             | .00E+00                                  | .00E+00                                                                   | .00E+00<br>.00E+00                                  |        |         |
|     | sr 98                                                                | .00E+00                                                                                                    | .00E+00<br>.00E+00<br>.00E+00                                   | .00E+00                                                         | .00E+00                                                                       | .00E+00                                                                     | .00E+00                                             | .00E+00                                                                                                                                                                         | .00E+00                                             | .00E+00<br>.00E+00<br>.00E+00            | .00E+00<br>.00E+00                                                        | .DOE+00                                             |        |         |
|     | y 98<br>zr 98                                                        | .00E+00                                                                                                    | . 400+400                                                       | .00E+00                                                         | .00E+00<br>.00E+00<br>.00E+00                                                 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.33E+02<br>1.36E-03<br>.00E+00 | .00E+00                                             | .00E+00                                                                                                                                                                         | .00E+00                                             | .00E+00                                  | .00E+00<br>.00E+00<br>.00E+00                                             | .00E+00<br>.00E+00                                  |        |         |
|     | nb 98                                                                | -00E+00                                                                                                    | .00E+00<br>.00E+00                                              | .00E+00                                                         | .00E+00                                                                       | .00E+00                                                                     | .00E+00                                             | .00E+00                                                                                                                                                                         | .00E+00                                             | .00E+00                                  | .00E+00                                                                   | .00E+00                                             |        |         |
|     | nb 98m<br>mo 98                                                      | .00E+00<br>2.33F+02                                                                                        | .00E+00<br>2.33E+02                                             | .00E+00<br>2.33F+02                                             | .00E+00<br>2.33E+02                                                           | .00E+00<br>2.33E+02                                                         | .00E+00<br>2.33E+02                                 | 2.33E+02                                                                                                                                                                        | .00E+00<br>2.33E+02                                 | 2.33E+02                                 | 2.33E+02                                                                  | .00E+00<br>2.33E+02                                 |        |         |
|     | tc 98                                                                | 1.37E-03                                                                                                   | 2.33E+02<br>1.37E-03                                            | 2.33E+02<br>1.36E-03                                            | 2.33E+02<br>1.36E-03                                                          | 1.36E-03                                                                    | 2.33E+02<br>1.36E-03                                | 1.36E-03                                                                                                                                                                        | 2.33E+02<br>1.36E-03                                | 2.33E+02<br>1.36E-03                     | 2.33E+02<br>1.36E-03                                                      | 2.33E+02<br>1.36E-03                                |        | ٠.      |
|     | rb 99<br>sr 99                                                       | 005+00                                                                                                     | .00E+00                                                         | .00E+00                                                         | .00E+00                                                                       | .00E+00                                                                     | .00E+00                                             | -00E+00                                                                                                                                                                         | .00E+00<br>.00E+00                                  | .00E+00<br>.00E+00                       | .00E+00                                                                   | .00E+00<br>.00E+00                                  |        |         |
|     | y 99<br>zr 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<br>nb 99                                                       | .00E+00                                                                                                    | .00F+00                                                         | .00E+00                                                         | .00E+00                                                                       | .00E+00                                                                     | .00E+00                                             | .00E+00                                                                                                                                                                         | .00E+00                                             | .00E+00                                  | .00E+00                                                                   | .00E+00                                             |        |         |
|     | nb 99m                                                               | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+02                                                        | .00E+00<br>.00E+00<br>2.30E+02                                  | .00E+00                                                         | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.29E+02               | .00E+00<br>.00E+00<br>.00E+00<br>2.28E+02<br>.00E+00                        | .00E+00                                             | .00E+00                                                                                                                                                                         | .00E+00                                             | .00E+00                                  | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00                                             |        |         |
|     | mo 99<br>tc 99                                                       | .00E+00<br>2.30E+02                                                                                        | .00E+00<br>2.30E+02                                             | .00E+00<br>2.30E+02                                             | 2.29E+02                                                                      | 2.28E+02                                                                    | .00E+00<br>2.26E+02                                 | 2.25E+02                                                                                                                                                                        | .00E+00<br>2.23E+02                                 | .00E+00<br>2.22E+02                      | 2.20E+02                                                                  | .00E+00<br>2.19E+02                                 |        |         |
|     | tc 99m                                                               | * UUETUU                                                                                                   | . 405+00                                                        | _UUE+UU                                                         | LUUETUU                                                                       | LUCETUU                                                                     | .00E+00                                             | .00E+00<br>5.99E+00                                                                                                                                                             | .00E+00                                             | .00E+00                                  | .002700                                                                   | .00E+00                                             |        |         |
|     | ru 99<br>rb100                                                       | 3.12E-01                                                                                                   | 3.87E-01<br>.00E+00                                             | 7.65E-01                                                        | 1.52E+00                                                                      | 3.UZE+UU                                                                    | 4.51E+00<br>.00E+00                                 | -00E+00                                                                                                                                                                         | 7.46E+00                                            | 8.92E+00<br>.00E+00                      | 1.04E+01<br>.00E+00                                                       | 1.18E+01<br>.00E+00                                 |        |         |
|     | sr100                                                                | .00E+00                                                                                                    | .00E+00                                                         | .00E+00                                                         | .00E+00<br>.00E+00<br>.00E+00                                                 | .00E+00                                                                     | .00E+00                                             | .00E+00<br>.00E+00<br>.00E+00                                                                                                                                                   | .00E+00<br>.00E+00<br>.00E+00                       | .00E+00<br>.00E+00<br>.00E+00            | .00E+00                                                                   | .00E+00                                             |        |         |
| 1   | y100                                                                 | .00E+00                                                                                                    | .00E+00                                                         | .00£+00                                                         |                                                                               | .00E+00                                                                     | .00E+00                                             | .002+00                                                                                                                                                                         | .005+00                                             |                                          | .00+300.                                                                  | .00E+00                                             |        |         |
| 0   | Part B                                                               | B&W 15x15,                                                                                                 |                                                                 |                                                                 |                                                                               | concentra                                                                   | itions, gra                                         | ms.                                                                                                                                                                             |                                                     |                                          | products                                                                  | page                                                | 49     |         |
|     |                                                                      | intelat                                                                                                    | 500 0 vc                                                        | 1000 0 ve                                                       | 2000.0 yr<br>.00E+00<br>.00E+00<br>.00E+00<br>2.63E+02<br>.00E+00<br>1.89E+01 | per BEW as                                                                  | sembly, 0.                                          | 409 mthm 1                                                                                                                                                                      | or grams                                            | 2000.0 vc1                               | 4000.0 vr1                                                                | 6000.0 ve                                           |        |         |
|     | zr100                                                                | initial<br>.00E+00<br>.00E+00<br>.00E+00<br>2.63E+02<br>.00E+00<br>1.89E+01                                | .00E+00                                                         | .00E+00                                                         | .00E+00                                                                       | .00E+00                                                                     | .00E+00                                             | .00E+00                                                                                                                                                                         | .00E+00                                             | .00E+00                                  | .00E+60                                                                   | .00E+00                                             |        |         |
|     | nb100<br>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<br>ru100                                                       | .00E+00                                                                                                    | .00E+00                                                         | .00E+00                                                         | .00E+00                                                                       | .00E+00                                                                     | 1.89E+01                                            | .00E+00<br>1.89E+01                                                                                                                                                             | 1.89E+01                                            | 1.89E+01                                 | 1.89E+01                                                                  | 1.89E+01                                            |        |         |
|     | rb101                                                                | .00E+00                                                                                                    | AUUETUU                                                         | -VUETUU                                                         |                                                                               |                                                                             |                                                     | .00E+00                                                                                                                                                                         |                                                     |                                          |                                                                           |                                                     |        |         |
|     | #r101<br>y101<br>zr101                                               | .00E+00                                                                                                    | .00E+00                                                         | .00E+00                                                         | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                      | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                    | .00E+00                                             | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                             | .00E+00                                             | .00E+00                                  | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                  | .00E+00<br>.00E+00                                  | •      |         |
|     | zr101                                                                | .00E+00                                                                                                    | .00E+00                                                         | .00E+00<br>.00E+00                                              | .00E+00                                                                       | .00E+00                                                                     | .00E+00                                             | .00E+00                                                                                                                                                                         | .00E+00                                             | .00E+00                                  | .00E+00                                                                   | .00E+00                                             |        |         |
|     | nb101<br>mo101                                                       | .00E+00                                                                                                    | .00E+00                                                         | .00E+00                                                         | .00E+00                                                                       | .00E+00                                                                     | .00E+00                                             | .00E+00                                                                                                                                                                         | .00E+00                                             | .00E+00                                  | .00E+00                                                                   | .00E+00<br>.00E+00                                  |        |         |
|     | tc101                                                                | .00F+00                                                                                                    | .00E+00                                                         | .00E+00                                                         | .00E+00                                                                       | .00E+00                                                                     | .00E+00                                             | .00E+00                                                                                                                                                                         | .00E+00                                             | .00E+00<br>2.18E+02                      | .00E+00<br>2.18E+02                                                       | .00E+00<br>2.18E+02                                 |        |         |
|     | 404                                                                  | ~****                                                                                                      | 2002:00                                                         | 2.105.03                                                        | 2 405.02                                                                      | 2 400,02                                                                    | 3 400,03                                            |                                                                                                                                                                                 |                                                     |                                          |                                                                           |                                                     |        |         |
|     | ru101                                                                | 2.18E+02<br>.00E+00                                                                                        | 2.18E+02                                                        | 2.18E+02                                                        | .00E+00<br>2.18E+02<br>.00E+00                                                | 2.18E+02<br>.00E+00                                                         | 2.18E+02<br>.00E+00                                 |                                                                                                                                                                                 | 2.18E+02<br>.00E+00                                 | .00E+00                                  | .00E+00                                                                   | .00E+00                                             |        | •       |
|     | ru101                                                                | 2.18E+02<br>.00E+00<br>.00E+00                                                                             | 2.18E+02                                                        | 2.18E+02                                                        | .00E+00                                                                       | .00E+00<br>2.18E+02<br>.00E+00<br>.00E+00                                   | .00E+00                                             |                                                                                                                                                                                 | .00E+00                                             | .00E+00<br>.00E+00                       | .00E+00                                                                   | .00E+00<br>.00E+00                                  |        | •       |
|     | ru101<br>*r102<br>y102<br>zr102<br>nb102                             | 2.18E+02<br>.00E+00<br>.00E+00<br>.00E+00                                                                  | 2.18E+02                                                        | 2.18E+02                                                        | .00E+00<br>.00E+00<br>.00E+00                                                 | 2.18E+02<br>.00E+00<br>.00E+00<br>.00E+00                                   | .00E+00<br>.00E+00<br>.00E+00                       |                                                                                                                                                                                 | .00E+00<br>.00E+00<br>.00E+00                       | .00E+00<br>.00E+00<br>.00E+00            | .00E+00                                                                   | .00E+00<br>.00E+00<br>.00E+00                       |        | •       |
|     | ru101<br>sr102<br>y102<br>zr102<br>nb102<br>mo102                    | 2.18E+02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                       | 2.18E+02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00            | 2.18E+02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00            | .00E+00<br>.00E+00<br>.00E+00                                                 | .00E+00                                                                     | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00            |                                                                                                                                                                                 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00            | .00E+00<br>.00E+00<br>.00E+00            | .00E+00                                                                   | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00            |        | •       |
|     | ru101<br>sr102<br>y102<br>zr102<br>nb102<br>mo102<br>tc102<br>tc102m | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 2.18E+02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00            | 2.18E+02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                      | .00E+00                                                                     | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                                                        | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                  | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 |        | •       |
|     | ru101<br>sr102<br>y102<br>zr102<br>nb102<br>mo102<br>tc102           | 2.18E+02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.10E+02<br>.00E+00          | 2.18E+02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 2.18E+02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00                                                 | .00E+00                                                                     | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 |                                                                                                                                                                                 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00            | .00E+00<br>.00E+00<br>.00E+00            | .00E+00                                                                   | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 |        | •       |

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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 52
 .00E+00 .00E+0
 .00E+00 .00E+0
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nb103
 mo1033
tc1033
rh1034
rh1034
sr1044
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mo104
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rh104
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 50
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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 53
 3.25E+01 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 .00
 pd108
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 2r109
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pd109m
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 51
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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01
 ATTACHMENT II - Page 54
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 in123
in123m
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an123m
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3.68E-04
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3.68E-04
 sb123
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 1.23E+00
 3.68E-04
.00E+00
 3.68E-04
.00E+00
 te123
 3.68E-04
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2.20E+00
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 te123m
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 pd124
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 ag124
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 sb124
 #b124m
 .00E+00
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 .00E+00
 .00E+00
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Feb 16 10:07 1996 File Name: /users/dayis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 56
 3.98E-02 3.9
 te124
pd125
ag125
cd125
 in125
in125m
sn125
sn125m
sb125
te125
 te125m
 pd126
 ag126
cd126
 in126
 Part B B&W 15x15, 3.00mt%, 20gwd/mtu decay
 fission products *
 page
 54
 sb126
sb126m
te126
 te126
xe126
ag127
cd127
in127
sn127
sn127
st127
te127
te127
xe128
 ag128
cd128
in128
 sn128
 sb128
sb128m
 te128
1128
xe128
 cd129
 fn129
 sn129m
 sb129
 te129
 te129m
 1129
xe129
 xe129m
cd130
in130
 sn130
 sb130
sb130m
```

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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 57
 1.01E+02 1.0
 te130
i130
i130m
xe130
 .00E+00 .
.00E+00 .
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 cd131
in131
sn131
sb131
te131
te131m
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 1131
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 1.38E+02
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 xe131
 .00E+00
 .00E+00
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 .00E+00
 xe131m
 Part B B&W 15x15, 3.00ut%, 20gud/mtu decay
 55
 cd132
in132
 sn132
sb132
sb132m
 te132
 1132
 xe132
 cs132
 ba132
 in133
 sn133
sb133
te133
 te133m
i133
i133m
 xe133
 xe133m
 cs 133
 ba133
in134
 sn134
sb134
sb134m
 te134
 1134
1134m
 xe134
xe134m
 cs134
 cs134m
 ba134
sn135
 sb135
 te135
1135
 xe135
 xe135m
 1.77E+02 1.7
 cs135
 cs135m
 ba135
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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 58
 .00E+00 .00E+00
.00E+00 .00E+00
.00E+00 .00E+00
.00E+00 .00E+00
.00E+00 .00E+00
5.61E+02 5.61E+02
.00E+00 .00E+00
4.78E+00 4.78E+00
.00E+00 .00E+00
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4.78E+00 4.78E+00
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5.61E+02
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4.78E+00
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.00E+00
 ba135m
sn136
sb136
 .00E+00
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.00E+00
.00E+00
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5.61E+02
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4.78E+00
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5.61E+02
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 te136
 1136
1136m
 .00E+00
5.61E+02
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 5.61E+02
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4.78E+00
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 5.61E+02
 xe136
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4.78E+00
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4.78E+00
.00E+00
 cs136
 4.78E+00
.00E+00
 ba 136
 Part B B&W 15x15, 3.00mt%, 20gmd/mtu decay
 fission products
 page
 56
 sb137
 te137
i137
xe137
cs137
ba137
ba137m
 sb138
te138
i138
xe138
cs138
cs138m
 ba138
 la138
 sb139
te139
1139
 xe139
 cs139
ba139
 la139
 ce139
pr139
te140
f140
xe140
 cs140
ba140
 la140
 ce140
pr140
te141
1141
xe141
 cs141
ba141
 la141
ce141
pr141
nd141
te142
1142
 xe142
cs142
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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 59

 .00E+00
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pr142
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 fission products
 Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay
 page
 xe1433
cs1433
la1433
prd1433
re1444
cs1444
ba1444
 ce144
pr144
pr144m
nd144
1145
xe145
 cs145
ba145
 La145
 ce145
pr145
nd145
pm145
sm145
 xe146
cs146
ba146
 Da146
La146
ce146
pr146
nd146
pm146
am146
 cs147
ba147
 la147
 pr147
nd147
pm147
 cs148
ba148
 la148
ce148
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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 60
 .00E+00 .00E+00
1.03E+02 1.03E+02
.00E+00 .00E+00
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 .00E+00 .00E+00
1.03E+02 1.03E+02
 .00E+00
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 .00E+00
 -00E+00
 pr148
nd148
 .00E+00
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 1.03E+02
 1.03E+02
 1.03E+02 1.03E+02
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 pm148
pm148m
 .00E+00
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 .00E+00
 fission products
 Part B B&W 15x15, 3.00mt%, 20gmd/mtu decay
 page
 initial
 sm148
cs149
ba149
la149
ce149
pr149
pm149
sm149
 2.89E+01
.00E+00
.00E+
 1.42E+00
.00E+00
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.00E+00
4.85E+01
.00E+00
8.04E+01
8.38E-16
.00E+00
.00E+00
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4.85E+01
 eu149
cs150
ba150
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8.04E+01
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 ce150
 pr150
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 nd 150
 4.85E+01
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3.28E-24
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 ba151
la151
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5.26E-20
6.22E+00
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6.08E+00
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 pr151
nd151
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1.07E-26
6.22E+00
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 sm151
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 eu151
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 ba152
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 La152
ce152
pr152
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 pa 152
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3.74E+01
1.35E-13
.00E+00
3.19E-02
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3.74E+01
6.85E-25
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3.19E-02
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 pm152m
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3.19E-02
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 eu152m
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 sd152
la153
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nd153
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 pm153
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2.70E+01
 em153
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2.70E+01
 eu153
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 ce154
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 pr154
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pm154
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| pm154m                                    | .00E+00                                                        | .00E+00                       | .00E+00                       | .00E+00                                                                                | .00+400                         | .00E+00             | .00E+00                                                                                                                          | .00E+00             | .00E+00                                   | .00E+00                                                        | .00E+00             |    |
|-------------------------------------------|----------------------------------------------------------------|-------------------------------|-------------------------------|----------------------------------------------------------------------------------------|---------------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------------------------|----------------------------------------------------------------|---------------------|----|
| Part B                                    | B&W 15x15,                                                     | 3.00ut%,                      | 20gud/mtu                     | decay                                                                                  |                                 |                     |                                                                                                                                  |                     | fission                                   | products                                                       | page                | 59 |
|                                           |                                                                | •                             | _                             | nial Ida                                                                               | concentra                       | tions, gra          | MS<br>409 mthm f                                                                                                                 | or grams            |                                           | ·                                                              | -                   |    |
|                                           | initial                                                        | 500.0 yr                      | 1000.0 yr                     | 2000.0 yr<br>9.08E+00<br>.00E+00<br>7.93E+00<br>.00E+00                                | 4000.0 yr                       | 6000.0 yr           | 8000.0 yr1                                                                                                                       | 0000.0 yr1          | 2000.0 yr1                                | 4000.0 yr1                                                     | 6000.0 yr           |    |
| sm154<br>eu154                            | initial<br>9.08E+00<br>7.01E-14                                | 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<br>.00F+00 |    |
| ed 154                                    | 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            |    |
| od154<br>la155                            | .00E+00                                                        | .00E+00<br>.00E+00<br>.00E+00 | .00E+00                       | .00E+00                                                                                | .00+300                         | .00E+00             | .00E+00                                                                                                                          | .00E+00             | .00E+00                                   | .00E+00                                                        | :00E+00             |    |
| ce155<br>pr155<br>nd155                   | .006+00                                                        | .00E+00                       |                               | .00E+00                                                                                | .00E+00                         | .00E+00<br>.00E+00  | .005700                                                                                                                          | .002700             | .00E+00                                   | .00E+00                                                        | .00E+00<br>.00E+00  |    |
| nd155                                     | .00E+00                                                        | .00E+00                       | .00E+00<br>.00E+00<br>.00E+00 | .00E+00                                                                                | .00E+00                         | .00E+00             | .00E+00                                                                                                                          | .00E+00             | .00E+00                                   | 00E+00                                                         | .00E+00             |    |
| pm155<br>sm155                            | .00E+00                                                        | .002+00                       | .00£+00                       | .00E+00                                                                                | .00E+00<br>.00E+00              | .00E+00             | .00E+00                                                                                                                          | .00E+00             | .00E+00                                   | .00E+00                                                        | .00E+00             |    |
| sm155<br>eu155                            | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00            | .00E+00<br>2.15E-32           | .00E+00                       | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                               | .00E+00<br>.00+300              | .00E+00             | .00E+00                                                                                                                          | .00E+00             | .00E+00                                   | .00E+00<br>.00E+00<br>.00E+00                                  | .00E+00<br>.00E+00  |    |
| ad155m                                    | .00E+00                                                        | .00E+00                       | .00E+00                       | .00E+00                                                                                | .00E+00                         | .00F+00             | .00E+00                                                                                                                          | .00E+00             | .0DE+00                                   | .005+00                                                        | 00F+00              |    |
| gd155m<br>gd155                           | .00E+00<br>3.18E+00                                            | 3.18E+00                      | 3.18E+00                      | .00E+00<br>3.18E+00<br>.00E+00<br>.00E+00                                              | .00E+00<br>3.18E+00             | 3.18E+00            | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 3.18E+00            | 3.18E+DD                                  | 3.18E+00                                                       | 3.18E+00            |    |
| ce156<br>pr156<br>nd156<br>pm156          | .00E+00<br>.00E+00                                             | .00E+00                       | .00E+00                       | .UUE+UU                                                                                | .00E+00                         | .00E+00             | .00E+00                                                                                                                          | .00E+00             | .00E+00                                   | .00E+00                                                        | .00E+00<br>.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<br>.00E+00                                             | .00E+00                       | .00E+00                       | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>9.32E+00                                   | .00E+00                         | .00E+00             | .00E+00                                                                                                                          | .00E+00             | .00E+00<br>.00E+00<br>.00E+00             | .00E+00                                                        | .00E+00             |    |
| sm156<br>eu156                            | .00E+00<br>.00E+00                                             | .00E+00                       | 00+300.<br>00+300.            | .00E+00                                                                                | .00E+00                         | .00E+00             | -00E+00                                                                                                                          | .00E+00<br>.00E+00  | .00E+00                                   | .00E+00                                                        | .00E+00<br>.00E+00  |    |
| gd156<br>ce157                            | 9.32E+00<br>.00E+00                                            | 9.32E+00                      | 9.32E+00<br>.00E+00           | 9.32E+00                                                                               | 9.32E+00<br>.00E+00             | 9.32E+00            | 9.32E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                             | 9.32E+00            | 9.32E+00                                  | 9.32E+00                                                       | 9.32E+00            |    |
| ce157                                     | .00+300                                                        | _00F+00                       | .00+300                       | .00E+00                                                                                | .00E+00                         | .00E+00             | .00E+00                                                                                                                          | .00E+00             | .00E+00                                   | .00E+00                                                        | .00E+00<br>.00E+00  |    |
| pr157<br>nd157                            | .005+00                                                        | -00E+00                       | .00E+00                       | .00E+00                                                                                | .00E+00                         | .00E+00             | .00E+00                                                                                                                          | .00E+00             | -00E+00                                   | .00E+00                                                        | .00E+00             |    |
| pm157<br>sm157                            | .00E+00<br>.00E+00<br>.00E+00                                  | .00E+00<br>.00E+00            | .00E+00                       | .00E+00<br>.00E+00<br>.00E+00                                                          | .00E+00                         | .00E+00             | .00E+00                                                                                                                          | .00E+00             | .00E+00<br>.00E+00<br>.00E+00             | .00E+00<br>.00E+00<br>.00E+00                                  | .00E+00             |    |
| sm157                                     | .00E+00                                                        | .005+00                       | .004+00                       | .00E+00                                                                                | .00E+00                         | -00E+00             | .00E+00                                                                                                                          | .00E+00             | .00E+00                                   | .00E+00                                                        | .00E+00<br>.00E+00  |    |
| eu157                                     | .00E+00<br>3.11E-02<br>.00E+00                                 | .00E+00<br>3.11E-02           | .00E+00<br>3.11E-02           | 3-11E-02                                                                               | .00E+00<br>3.11E-02             | .00E+00<br>3.11E-02 | 3.11E-02                                                                                                                         | .00E+00<br>3.11E-02 | .00E+00<br>3.11E-02                       | .00E+00<br>3.11E-02                                            | 3.11E-02            |    |
| pr 158                                    | .00E+00                                                        | .00F+00                       | .00F+00                       | .00E+00                                                                                | .00F+00                         | .00E+00             | .00E+00                                                                                                                          | .00E+00             | _00E+00                                   | .00E+00                                                        | .00E+00             |    |
| gd157<br>pr158<br>nd158<br>pm158          | .00E+00<br>.00E+00<br>.00E+00                                  | .00E+00<br>.00E+00            | .008+00                       | .00E+00<br>3.11E-02<br>.00E+00<br>.00E+00<br>.00E+00                                   | .00E+00<br>.00E+00              | .00E+00             | .00E+00<br>3.11E-02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                       | .00E+00             | .00E+00                                   | .00E+00                                                        | .00E+00             |    |
| pm 126<br>sm 158                          | .00E+00                                                        | .00E+00                       | .00E+00                       | .00E+00                                                                                | .00E+00                         | .00E+00             | .00E+00                                                                                                                          | .00E+00             | .00E+00                                   | .00E+00<br>.00E+00<br>.00E+00<br>3.25E+00                      | .00E+00             |    |
| sm158<br>eu158<br>gd158                   | _00E+00                                                        | .00E+00                       | .00£+00                       | .00E+00                                                                                | _00E+00                         | .00E+00<br>3.25E+00 | .00E+00                                                                                                                          | .00E+00             | .00E+00<br>3.25E+00                       | .00E+00                                                        | .00E+00             |    |
| gd158                                     | 3.25E+00                                                       | 3.25E+00<br>.00E+00           | 3.25E+00<br>.00E+00           | 005+00                                                                                 | 3.25E+00<br>.00E+00             | 3.25E+00<br>.00E+00 | 3.25E+UU                                                                                                                         | 3.25E+00<br>.00E+00 | 3.25E+00                                  | 3.25E+UU                                                       | 3.25E+00<br>.00E+00 |    |
| nd 159                                    | .00E+00                                                        | .00E+0D                       | _00E+00                       | .00E+00                                                                                | .00E+00                         | .00E+00             | .00E+00                                                                                                                          | _00E+00             | .00E+00<br>.00E+00<br>.00E+00             | .00E+00                                                        | .00E+00             |    |
| pm159                                     | .00E+00                                                        | .00E+00                       | .00E+00                       | .00E+00                                                                                | .00E+00<br>.00E+00<br>.00E+00   | .00E+00             | .00E+00                                                                                                                          | .00E+00             | .00E+00                                   | .00E+00                                                        | .00E+00             |    |
| pr159<br>nd159<br>pm159<br>sm159<br>eu159 | .00E+00                                                        | .00E+00                       | .00E+00                       | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                    | 00+300.                         | .00E+00<br>.00E+00  | .00E+00                                                                                                                          | _ODE+OD             | .00E+00                                   | .00E+00                                                        | .00E+00<br>.00E+00  |    |
| gd159<br>tb159                            | .00E+00                                                        | .00E+00                       | .00£+00                       | .00E+00                                                                                | .00E+00<br>5.03E-01             | .00E+00             | .00E+00                                                                                                                          | _00E+00             | .00E+00                                   | .00E+00                                                        | .00E+00             |    |
| tb159                                     | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 5.03E-01                      | 5.03E-01<br>.00E+00           | 5.03E-01<br>.00E+00                                                                    | 5.03E-01                        | 5.03E-01<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                        | 5.03E-01<br>.00E+00 | .00E+00<br>.00E+00<br>5.03E-01<br>.00E+00 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 5.03E+01<br>,00E+00 |    |
| nd160                                     | 005+00                                                         | .00E+00                       |                               | -00E+00                                                                                | .00E+00                         | .00E+00             | .00E+00                                                                                                                          | .00E+00             | .00E+00                                   | .00E+00                                                        | .00E+00             |    |
| pm160<br>sm160                            | .00E+00                                                        | .00E+00                       | .00E+00                       | .00E+00                                                                                | .00E+00                         | .00E+00             | .00E+00                                                                                                                          | UUETUU              | .00E+00                                   | .00E+00                                                        | .00E+00             |    |
| eu160<br>gd160                            | .00E+00<br>.00E+00<br>2.25E-01                                 | .00E+00<br>2.25E-01           | .00E+00<br>2.25E-01           | .00E+00                                                                                | .00E+00                         | .00E+00<br>2.25E-01 | .00E+00                                                                                                                          | .00E+00<br>2.25E-01 | .00E+00<br>2.25E-01                       | .00E+00<br>2.25E-01                                            | .00E+00<br>2.25E-01 |    |
| tb160                                     | -00E+00                                                        | .UUE+UU                       | _UUE+UU                       | -00E+00                                                                                | .00E+00                         | .00E+00             | .00E+00                                                                                                                          | .00E+00             | .00E+00                                   | .00E+00                                                        | .00E+00             |    |
| tb160<br>dy160                            | .00E+00<br>3.93E-02                                            | 3.93E-02                      | 3.93E-02                      | 3.93E-02                                                                               | 2.25E-01<br>.00E+00<br>3.93E-02 | 3.93E-02            | .00E+00<br>2.25E-01<br>.00E+00<br>3.93E-02                                                                                       | 3.93E-02            | .00E+00<br>3.93E-02                       | .00E+00<br>3.93E-02                                            | 3.93E-02            |    |
| ndlol                                     | .00+300<br>.00+300                                             | .00E+00                       | .00+300<br>.00+300            | .00E+00<br>.00E+00<br>.00E+00<br>2.25E-01<br>3.93E-02<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>.00E+00              | .00E+00             | .00E+00                                                                                                                          | .00E+00             | .00E+00<br>.00E+00                        | .00E+00                                                        | .00E+00<br>.00E+00  |    |
| pm161<br>sm161                            | .00E+00                                                        | .00E+0D                       | .00E+0D                       | .00E+00                                                                                | .005+00                         | .00E+00             | .00E+00                                                                                                                          | .00E+00             | .00E+00                                   | .00E+00                                                        | .00E+00             | •  |
| eu161                                     | .00E+00<br>.00E+00                                             | .00E+00                       | .00£+00                       | -00E+00                                                                                | .00E+00                         | .00E+00             | .00E+00<br>.00E+00                                                                                                               | .00E+00             | .00E+00<br>.00E+00<br>.00E+00             | .00E+00                                                        | .00E+00             |    |
| gd161<br>tb161                            | .00+300.<br>00+300.                                            | .00E+00                       | .00E+00                       | .00E+00                                                                                | .00E+00<br>.00E+00              | .00E+00             | .00E+00                                                                                                                          | .00E+00             | .00E+00                                   | .00E+00                                                        | .00E+00<br>.00E+00  | -  |
| 10101                                     |                                                                |                               | 1002.00                       |                                                                                        |                                 |                     |                                                                                                                                  |                     | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,   | 3-01-90                                                        |                     |    |

Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCfTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 62

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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 63
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2.13E-02 2.77E-02 2.77E-02 4.60E-02 5.30E-02 3.50E-02 4.62E-00 1.60E-02 7.31E-02
2.46E-09 3.01E-09 3.56E-09 4.33E-04 4.83E-04 4.84E-04 4.85E-04 4.85E-02 4.86E-04
2.46E-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 8.36E-09
1.05E-03 1.99E-03 1.32E-03 1.46E-03 1.56E-03 1.96E-03 7.2E-09 8.36E-09
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 7 1996 File Name: /users/davis/scale/ass2h/UCFIIHE/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHM
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 1.50E-05
.00E+00
 1.50E-05
 1.50E-05
 kr 80
 cu 81
zn 81
 .00E+00
 .00E+00
 .00E+00
 .00E+00
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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 67
 .00E+00
.00E+00
.00E+00
.00E+00
.00E+00
5.85E+00
6.59E-07
.00E+00
.00E+00
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.00E+00
.00E+00
5.85E+00
6.42E-07
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.00E+00
.05E+00
6.34E-07
.00E+00
.00E+00
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.00E+00
.00E+00
5.85E-07
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5.85E+00
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 .00E+00
 ga 81
 ge 81
as 81
 .00E+00
.00E+00
.00E+00
5.85E+00
6.55E-07
.00E+00
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.00E+00
5.85E+00
6.50E-07
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.00E+00
5.85E+00
6.72E-07
.00E+00
.00E+00
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se 81m
br 81
kr 81
kr 81m
 6.46E-07
.00E+00
.00E+00
 6.30E-07
 .00E+00
 zn 82
ga 82
 .00E+00
 .00E+00
 fission products
 Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay
 66
 page
 ge 82
as 82
 as -82m
 se 82
br 82
 kr 83m
ga 84
ge 84
as 84
 se 84
br 84
 br 84m
kr 84
 ge 85
 br 86m
 rb 86m
sr 86
ge 87
as 87
 se 87
br 87
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Feb 16 10:07 1996 File Name: /users/dayis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 68
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7.25E+01
 .00E+00
7.25E+01
3.31E-04
.00E+00
 .00E+00
7.25E+01
3.34E-04
 .00E+00
7.25E+01
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7.25E+01
3.46E-04
 .00E+00
7.25E+01
 .00E+00
 .00E+00
 .00E+00
 .00E+00
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 7.25E+01
 7.25E+01
 7.25E+01
 7.25E+01
 3.38E-04
.00E+00
.00E+00
.00E+00
 3.36E-04
.00E+00
 3.44E-04
.00E+00
 3.23E-04
.00E+00
 sr 87
 3.27E-04
.00E+00
 3.29E-04
.00E+00
 3.40E-04
 3.25E-04
 .00E+00 ·
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 sr 87m
 .00E+DO
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 .00E+00
.00E+00
 .00E+00
 ge 88
 .00E+00
 as 88
 .00E+00
 .00E+00
 se 88
 . DDE+DD
 page
 67
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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 69
 1.44E-03 1.44E-03 1.44E-03
.00E+00 .00E+00 .00E+00
.00E+00 .00E+00 .00E+00
 1.45E-03 1.45E-03 1.45E-03 1.45E-03 1.45E-03 1.45E-03 .00E+00 .00E+00
 nb 93m
 1.45E-03
 1.45E-03
 br 94
 .00E+00
 ..00E+00
 .00E+00
 kr 94
 .DOE+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 .00E+00
 rb 94
 .00E+00
 .00E+00
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 .00E+00
 .00E+00
 fission products
 Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay
 page
 sr 94
 nb 94
 5.89E-05
.00E+00
.00E+00
.00E+00
.00E+00
.00E+00
.00E+00
.00E+00
2.24E+02
 nb 94m
 br 95
kr 95
 .00E+00
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2.24E+02
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 ar 95
 zr 95
 nb 95
 nb 95m
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 mo 95
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 zr 96
nb 96
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 .DOE+00
 .00E+00
 ar100
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fission products

| y100                                               | .00E+00             | .00E+00                                                                                                    | .00E+00             | .00E+00                                   | .00E+00                                   | .00E+00                                   | .00E+00                                                                     | .00E+00                        | .00E+00                        | .00E+00             | .00E+00             |    |
|----------------------------------------------------|---------------------|------------------------------------------------------------------------------------------------------------|---------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------|--------------------------------|--------------------------------|---------------------|---------------------|----|
| Part B                                             | B&W 15x15,          | 3.00mt%,                                                                                                   | 20gwd/mtu           | decay                                     |                                           | *ia=a ==a                                 |                                                                             |                                | fission                        | products            | page                | 69 |
|                                                    |                     |                                                                                                            |                     | basis =                                   | concentra                                 | sembly. O.                                | ms<br>409 mthm f                                                            | SEATS TO                       |                                |                     |                     |    |
|                                                    | initial1            | 8000.0 yr2                                                                                                 | 20000.0 yr2         | 2000.0 yr2                                | 4000.0 yr2                                | 6000.0 yr2                                | 409 mthm f<br>8000.0 yr3                                                    | 0000.0 yr3                     | 2000.0 yr3                     | 6000.0 yr3          | 8000.0 yr           |    |
| zr100                                              | -00E+00             | UUETUU                                                                                                     | ONE+ON              | DUETUU                                    | .00E+00                                   | _UUE+UU                                   | .DUF+00                                                                     | . 00E+DU                       | .uue+uu                        | .005+00             | .005+00             |    |
| nb100                                              | .00E+00             | .00E+00                                                                                                    | .00E+00             | .00E+00                                   | .00E+00                                   | .00E+00                                   | .005+00                                                                     | .00E+00                        | .005+00                        | .00E+00             | .00E+00<br>.00E+00  |    |
| nb100m<br>mo100                                    | .00E+00<br>2.63E+02 | .00E+00<br>.00E+00<br>2.63E+02                                                                             | 2.63E+02            | 2 635402                                  | .00E+00<br>2.63E+02                       | 2.63E+02                                  | .00E+00<br>.00E+00<br>2.63E+02                                              | .00E+00<br>.00E+00<br>2.63E+02 | .00E+00<br>.00E+00<br>2.63E+02 | 2.63E+02            | 2.63E+02            |    |
| tc100                                              | .00E+00             | .00F+00                                                                                                    | .00E+00             | .00E+00<br>.00E+00<br>2.63E+02<br>.00E+00 | .00E+00                                   | .00E+00                                   | _DUE+00                                                                     | .00E+00                        | .00E+00                        | .00E+00             | .00E+00             |    |
| tc100<br>ru100                                     | 1.89E+01            | .00E+00<br>1.89E+01<br>.00E+00<br>.00E+00                                                                  | 1.89E+01            | 1.89-4111                                 | 1.89E+01                                  | 1.89E+01                                  | 1_R9F+D1                                                                    | 1.89E+01                       | 1.89E+01                       | 1.89E+01            | 1.89E+01            |    |
| rb101                                              | .00E+00             | .00E+00                                                                                                    | .00E+00             | .00E+00<br>.00E+00                        | .00E+00                                   | .00E+00<br>.00E+00                        | .00E+00<br>.00E+00<br>.00E+00                                               | .00E+00<br>.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<br>zr101                                      | .00E+00<br>.00E+00  | .00E+00                                                                                                    | .00E+00             | .00E+00                                   | .00E+00                                   | .00E+00                                   | .005+00                                                                     | .00E+00                        | .00E+00                        | .00E+00<br>.00E+00  | .00E+00<br>.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                                   | .00F+00                                   | .00E+00                                                                     | .00E+00                        | .00E+00                        | .00E+00             | -00E+00             |    |
| tc101                                              | .00E+00             | .00E+00                                                                                                    | .00E+00             | .00E+00<br>.00E+00<br>.00E+00<br>2.18E+02 | .00E+00<br>.00E+00<br>.00E+00<br>2.18E+02 | .00E+00<br>2.18E+02                       | .00E+00                                                                     | .00E+00                        | .00E+00                        | .00E+00             | .00E+00             |    |
| ru101<br>sr102                                     | 2.18E+02            | .00E+00<br>.00E+00<br>.00E+00<br>2.18E+02<br>.00E+00                                                       | 2.18E+02            | 2.18E+02                                  | 2.18E+02                                  | 2.18E+02                                  | .00E+00<br>.00E+00<br>.00E+00<br>2.18E+02<br>.00E+00                        | 2.18E+02                       | 2.18E+02                       | 2.18E+02            | 2.18E+02            |    |
| \$F102                                             | .00E+00             | .00E+00                                                                                                    | .00E+00             | .00E+00                                   | .00E+00                                   | .00E+00                                   | .005400                                                                     | .00E+00                        | .00E+00                        | .00E+00<br>.00E+00  | .00E+00<br>.00E+00  |    |
| y102<br>zr102<br>nb102                             | .00E+00             | .00E+00                                                                                                    | 005+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<br>.00E+00                        | .00E+00                                   | _D0E+00                                   | .00E+00<br>.00E+00                                                          | .00E+00                        | .00E+00                        | .00E+00             | _00E+00             |    |
| moluz                                              | .00E+00             | .00E+00                                                                                                    | .00E+00             | _00E+00                                   | .08E+80                                   | .00E+00                                   | .00E+00                                                                     | .00E+00<br>.00E+00             | .00E+00<br>.00E+00             | .00E+00<br>.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<br>2.10E+02 | .00E+00<br>2.10E+02<br>.00E+00            | .00E+00<br>2.10E+02                       | .00E+00<br>2.10E+02                       | .00E+00<br>2.10E+02                                                         | .00E+00<br>2.10E+02            | .00E+00<br>2.10E+02            | .00E+00<br>2.10E+02 | .00E+00<br>2.10E+02 |    |
| ru102                                              | 2.10E+02<br>.00E+00 | 005402                                                                                                     | .00E+00             | 00F+00                                    | .00E+00                                   | .00E+00                                   | .005+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             |    |
| rh102<br>pd102<br>sr103                            | .00E+00             | .00E+00                                                                                                    | .00E+00             | .005+00                                   | .00E+00                                   | .00E+00                                   | .00E+00<br>.00E+00<br>.00E+00                                               | .DOE+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<br>.00E+00  |    |
| y103<br>zr103<br>nb103                             | .00E+00             | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00             | .00E+00                                   | .00E+00                                   | .00E+00                                   | .00E+00<br>.00E+00<br>.00E+00                                               | .00E+00                        | .00E+00                        | .00E+00             | .00E+00             |    |
| mo103                                              | .00E+00             | -00E+00                                                                                                    | .00E+00             | .00E+00<br>.00E+00                        | .00E+00                                   | .00E+00                                   | .00E+00                                                                     | .00E+00                        | -00E+00                        | .00E+00             | .00E+00             |    |
| mo103<br>tc103<br>ru103                            | .00E+00             | .00E+00<br>.00E+00<br>.00E+00<br>1.44E+02                                                                  | .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<br>1.44E+02                                                         | .00E+00                        | .00E+00<br>1.44E+02            | -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+0Z                                                                    | 1.44E+02                       | 1.44E+02<br>.00E+00            | 1.44E+02            | 1.44E+02<br>.00E+00 |    |
| rniusm                                             | .00E+00<br>.00E+00  | 005400                                                                                                     | .00E+00<br>.00E+00  | .00E+00                                   | .00E+00                                   | .00E+00                                   | .00E+00                                                                     | .00E+00<br>.00E+00             | .00E+00                        | .00E+00             | .00E+00             |    |
| rh103m<br>sr104<br>y104<br>zr104<br>nb104<br>mo104 | .00E+00             | .00E+00<br>.00E+00<br>.00E+00                                                                              | .00E+00             | .00E+00                                   | .00E+00                                   | .00E+00                                   | 1.44E+U2<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>1.39E+02 | .00E+00                        | .00E+00                        | .00E+00             | .00E+00             |    |
| zr104                                              | .00E+00             | .00E+00                                                                                                    | .00E+00             | .00E+00<br>.00E+00<br>.00E+00             | .00E+00                                   | .00E+00                                   | .00E+00                                                                     | .00E+00                        | .00E+00                        | .00E+00             | .00E+00             |    |
| nb104                                              | .00E+00             | .00E+00                                                                                                    | .00E+00             | .00±+00                                   | _00E+00                                   | .00E+00                                   | .00E+00                                                                     | .00E+00                        | .00E+00                        | .00E+00             | .00E+00             |    |
| mo104                                              | .00E+00             | .00E+00<br>.00E+00<br>.00E+00<br>1.39E+02<br>.00E+00                                                       | -00E+00             | .UUF+UU                                   | .00E+00                                   | .00E+00                                   | .005+00                                                                     | .00E+00                        | .00E+00                        | .00E+00             | .00E+00<br>.00E+00  |    |
| tc104<br>ru104                                     | .00E+00<br>1.39E+02 | 1 305+00                                                                                                   | .00E+00<br>1.39E+02 | 1 30F+02                                  | 1.305+02                                  | 1.39E+02                                  | 1.39F+02                                                                    | .00E+00<br>1.39E+02            | .00E+00<br>1.39E+02            | 1.39E+02            | 1.39E+02            |    |
| rh104                                              | .00E+00             | .00E+00                                                                                                    | .00E+00             | .00E+00<br>1.39E+02<br>.00E+00            | .00E+00<br>1.39E+02<br>.00E+00            | .00E+00                                   | .00E+00                                                                     | .COE+CO                        | .00E+00                        | .00E+00             | .00E+00             |    |
| rh104m                                             | .00E+00             | .00E+00                                                                                                    | .00E+00             | .00E+00                                   | .00E+UU                                   | .00E+00                                   | LUCETUU                                                                     | .00E+00                        | .00E+00                        | .00E+00             | .00E+00             |    |
| nd104                                              | 4.10E+01            | 4.10E+01<br>.00E+00                                                                                        | 4.10E+01            | 4.10E+01                                  | 4.10E+01                                  | 4.10E+01                                  | 4.10E+01<br>.00E+00                                                         | 4.10E+01                       | 4.10E+01                       | 4.10E+01            | 4.10E+01            |    |
| y105<br>zr105<br>nb105                             | -00E+00             | .00E+00                                                                                                    | -00E+00             | . DDF+DO                                  | .00E+00                                   | .00E+00                                   | .UUE+00                                                                     | .00E+00                        | .00E+00                        | .00E+00             | .00E+00<br>.00E+00  |    |
| ZC105                                              | .00E+00             | .00E+00<br>.00E+00<br>.00E+00                                                                              | .00E+00             | .00E+00<br>.00E+00                        | .00E+00                                   | .00E+00                                   | .UUE+UU                                                                     | .00E+00                        | .00E+00                        | .00E+00             | .00E+00             |    |
| mo105                                              | .00E+00<br>.00E+00  | -005+00                                                                                                    | .00E+00             | .00E+00                                   | .00E+00                                   | .00E+00                                   | .00E+00                                                                     | _00E+00                        | .00E+00                        | .00E+00             | -00E+00             |    |
| tc105                                              | .00E+00             | .00E+00                                                                                                    | 005.00              | DOE*DO                                    | UUETUU                                    | .006+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<br>.00E+00<br>.00E+00<br>1.01E+02 | .00E+00                                   | .00E+00<br>.00E+00<br>.00E+00<br>1.01E+02 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                         | .00E+00                        | .00E+00                        | .00E+00             | .00E+00<br>.00E+00  |    |
| rh105m<br>pd105                                    | .00E+00             | .00E+00<br>1.01E+02                                                                                        | *00F+00             | .005+00                                   | .002700                                   | .UUETUU                                   | .002700                                                                     | 1.01E+02                       | 1.01E+02                       |                     | 1.01E+02            |    |

Part B B&W 15x15, 3.00mt%, 20gmd/mtu decay

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|          |             | initial1            | 8000.0 yr2          | 0000.0 yr2          | basis =<br>2000.0 yr2<br>.00E+00 | 4000.0 yr2          | 6000.0 yr2          | 8000.0 yr3          | 0000.0 yr3          | 2000.0 yr3          | 6000.0 yr3          | 8000.0 yr           |
|----------|-------------|---------------------|---------------------|---------------------|----------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| ١.       | 106         | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
|          | 106         | *00E+00             | .UUE+UU             | .UUE+UU             | .00E+00                          | .006+00             | .005+00             | *00F+00             | .005+00             | .005+00             | .002+00             | .005+00             |
|          | 106         | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| mc       | 106         | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| t        | :106        | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| Lr       | 1106        | -00E+00             | .00E+00             | -00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
|          | 106         | -00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| LL       | 106m        | -00E+00             | .00E+00<br>7.94E+01 | .00E+00             | .00E+00                          | .00E+00<br>7.94E+01 | .00E+00             | .00E+00<br>7.94E+01 | .00E+00<br>7.94E+01 | .00E+00<br>7.94E+01 | .00E+00<br>7.94E+01 | .00E+00<br>7.94E+01 |
| pc       | 1106        | 7.94E+01            |                     | 7.948+01            | 7.94E+01<br>.00E+00              | .00E+00             | 7.94E+01<br>.00E+00 | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| aş       | 1106        | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| _?       | 107         | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| Z i      | 107         | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| #11E     | 107         | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+0D             |
| + 0      | 107         | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| ri       | 1107        | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| rh       | 107         | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | -00E+00             | .00E+00             | .00E+00             | .00E+00             |
| DC       | 1107        | 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            |
| DC       | 1107m       | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| àc       | 1107        | 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            |
| Zſ       | 108         | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00£+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| nt       | 108<br>108  | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| mc       | 108         | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| to       | :108        | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| Lr       | 1108        | .00E+00             | -00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| Γţ       | 108         | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+80             | .00E+00             | -00E+00             |
| F        | 108m        | .00E+00             | .00E+00             | .00E+00<br>3.25E+01 | .00E+00<br>3.25E+01              | 3.25E+01            | .00E+00<br>3.25E+01 | .00E+00<br>3.25E+01 | .00E+00<br>3.25E+01 | .00E+00<br>3.25E+01 | .00E+00<br>3.25E+01 | .00E+00<br>3.25E+01 |
| pc       | 1108        | 3.25E+01<br>.00E+00 | 3.25E+01<br>.00E+00 | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| 91       | 108<br>108m | 4.54E-43            | .00E+00             | .00E+00             | .00E+00                          | 005+00              | 00E+00              | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| C.C.     | 108         | 4.70E-05            | 4.70E-05            | 4.70E-05            | 4.70E-05                         | .00E+00<br>4.70E-05 | .00E+00<br>4.70E-05 | 4.70E-05            | 4.70E-05            | 4.70E-05            | 4.70E-05            | 4.70E-05            |
| 71       | 109         | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| nt       | 109         | .00E+00             | .00E+00             | .00E+00             | _00E+00                          | .00E+00             |
| mc.      | 109         | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | -00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| to       | 109         | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| rı       | 1109        | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | -00E+00             | .00E+00             | .00E+00             | .00E+00             |
|          | 109         | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | -00E+00             | .00E+00             | .00E+00             | .00E+00             |
| ch       | 109#        | .00E+00             | .00E+00             | .00E+00             | .00E+DD                          | .00E+00             |
| po       | 1109        | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| PC       | 1109m       | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00<br>2.19E+01 | .00E+00<br>2.19E+01 | .00E+00<br>2.19E+01 | .00E+00<br>2.19E+01 |
| 82       | 109         | 2.19E+01            | 2.19E+01            | 2.19E+01            | 2.19E+01                         | 2.19E+01            | 2.19E+01            | 2.19E+01<br>.00E+00 | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| # S      | 109m<br>109 | .00E+00             | .00E+00             | .00E+00<br>.00E+00  | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| nt<br>nt | 110         | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| mo       | 110         | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| to       | 110         | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| rı       | 110         | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00£+00             |
| - cb     | 1110        | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+D0             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| - ch     | 110ma       | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
| pc       | 1110        | 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            |
| à        | 1110        | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |
|          | 110m        | .00E+00             | .00E+00             | .00E+00             | .00E+00                          | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             | .00E+00             |

nuclide concentrations, grams
basis \*per B&W assembly, 0.409 mthm for grams
initial18000.0 yr20000.0 yr22000.0 yr24000.0 yr26000.0 yr28000.0 yr30000.0 yr32000.0 yr36000.0 yr

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 5.76E+00
.00E+00
.00E+00
.00E+00
.00E+00
 5.76E+00
.00E+00
 nb111
mo111
tc111
ru111
rh111
pd111
pd111m
 .00E+00
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 ag111
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cd111
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cd115
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.00E+00
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.00E+00
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 in115
 in115m
 Part B B&W 15x15, 3.00mt%, 20gmd/mtu decay
 fission products
 72
 page
 1188100 products prod
 sn115
 tc116
ru116
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| Feb | 16 10:07                 | 1996 F{l                                                                                                                                     | e Name: /u                     | sers/davis          | /scale/sas                                                                                                             | 2h/UCFTINE                                           | /s3020ucfo          | .out BB/                                                                                                                                               | 1000000-017                                                            | 17-0200-00                                | D12 REV 01                                           | ATTACHMENT          | 11 - Page 73 |
|-----|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------|------------------------------------------------------|---------------------|--------------|
|     | rh116                    | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                     | .00E+00                        | .00E+00             | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>1.31E+00                                                                   | .00E+00                                              | .00E+00             | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>1.31E+00<br>.00E+00<br>4.77E-01                                                                            | .00E+00                                                                | .00E+00                                   | .00E+00<br>.00E+00<br>.00E+00                        | .00E+00             |              |
|     | pd116                    | .00E+00                                                                                                                                      | .00E+00                        | .00E+00<br>.00E+00  | .00E+00                                                                                                                | .00E+00<br>.00E+00                                   | .00E+00             | .00E+00                                                                                                                                                | .00E+00                                                                | .00E+00                                   | .00E+00                                              | .00E+00<br>.00E+00  |              |
|     | pd116<br>ag116<br>ag116m | .00E+00                                                                                                                                      | .00E+00<br>.00E+00<br>1.31E+00 | .00E+00             | -00E+00                                                                                                                | .00E+00                                              | .00E+00             | .00E+00                                                                                                                                                | .00E+00<br>.00E+00                                                     | .00E+00<br>.00E+00<br>1.31E+00<br>.00E+00 | .00E+00                                              | .00E+00             |              |
|     | callo                    | 1.31E+00                                                                                                                                     | 1.31E+00                       | 1.31E+00            | 1.31E+00                                                                                                               | .00E+00<br>1.31E+00                                  | 1.31E+00            | 1.31E+00                                                                                                                                               | 1.31E+00<br>.00E+00                                                    | 1.31E+00                                  | 1.31E+00<br>.00E+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<br>.00E+00  |              |
|     | in116m<br>sn116          | .00E+00<br>4.77E-01                                                                                                                          | .00E+00<br>4.77E-01            | .00E+00<br>4.77E-01 | .00E+00<br>4.77E-01                                                                                                    | .00E+00<br>4.77E-01                                  | 4.77E-01            | 4.77E-01                                                                                                                                               | 4.77E-01                                                               | .00E+00<br>4.77E-01                       | .00E+00<br>4.77E-01                                  | 4.77E-01            |              |
|     | tc117                    |                                                                                                                                              | .00E+00                        | .00E+00             | .00E+00                                                                                                                | .00E+00                                              | .00E+00             | .00E+00                                                                                                                                                | .00E+00                                                                | _DDE+00                                   | _00E+00                                              | .00E+00             | •            |
|     | rull/                    | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                              | .00E+00                        | .00E+00             | 4.77E-01<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00                                              | .00E+00             | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                                    | .00E+80                                                                | .00E+00                                   | .00E+00                                              | .00E+00<br>.00E+00  |              |
|     | rh117<br>pd117           | .00E+00                                                                                                                                      | .00E+00                        | .00E+00             | .00E+00                                                                                                                | .00E+00<br>.00E+00                                   | _ODE+00             | .00E+00                                                                                                                                                | .00E+00<br>.00E+00                                                     | .00E+00                                   | .00E+00<br>.00E+00<br>.00E+00                        | .00E+00             |              |
|     | ag117                    | .00E+00                                                                                                                                      | .00E+00                        | .00E+00             | .00E+00                                                                                                                | .00E+00                                              | .00E+00             | .00E+00                                                                                                                                                | .00E+00<br>.00E+00                                                     | .00E+00                                   | -00E+00                                              | .00E+00             |              |
|     | ag117m                   | .00E+00                                                                                                                                      | .00E+00                        | .00E+00             | .00E+00                                                                                                                | .00E+00<br>.00E+00                                   | .00E+00<br>.00E+08  | .00E+00                                                                                                                                                | .00E+00                                                                | .00E+00                                   | .00E+00                                              | .00E+00<br>.00E+00  |              |
|     | cd117<br>cd117m          | .00E+00                                                                                                                                      | .00E+00                        | .00E+00             | .00E+00                                                                                                                | .00E+00                                              | .00E+00             | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                         | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                               | .00E+00                                   | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>1.19E+00 | .00E+00             |              |
|     | in117                    | .00E+00                                                                                                                                      | .00E+00                        | .00E+00             | .00E+00                                                                                                                | .00E+00                                              | .00E+00             | .00E+00                                                                                                                                                | -00E+00                                                                | .00E+00<br>.00E+00<br>1.19E+00            | .00E+00                                              | .00E+00<br>.00E+00  |              |
|     | in117m                   | .00E+00                                                                                                                                      | 1.19E+00                       | .00E+00<br>1.19E+00 | .UUE+UU<br>1.10F+00                                                                                                    | .00E+00                                              | .00E+00<br>1.19E+00 | 1.19E+00                                                                                                                                               | 1.19E+00                                                               | 1-19E+00                                  | 1.19E+00                                             | 1.19E+00            |              |
|     | sn117<br>sn117m          | .00E+00                                                                                                                                      | .00E+DO                        | .00E+00             | .00E+00                                                                                                                | 1.19E+00<br>.00E+00                                  | .00E+00             | .00E+00                                                                                                                                                | .00E+00                                                                | .005+00                                   | .00E+00                                              | .00E+00             |              |
|     | tc118                    | .00E+00                                                                                                                                      | .00E+00                        | .00E+00             | .00E+00                                                                                                                | .00E+00                                              | .00E+00<br>.00E+00  | .00E+00                                                                                                                                                | .00E+00                                                                | .00E+00<br>.00E+00                        | .00E+00                                              | .00E+00<br>.00E+00  |              |
|     | ru118<br>rh118           | .005+00                                                                                                                                      | .00E+00                        | .00E+00<br>.00E+00  | .00E+00                                                                                                                | -00E+00                                              | .00E+00             | .00E+00                                                                                                                                                | .00E+00                                                                | _00E+00                                   | .00E+00                                              | .00E+00             |              |
|     | pd118                    | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                                          | .00E+00                        | .00E+00             | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                               | .00E+00                                              | .00E+00             | .00E+00                                                                                                                                                | .00E+00<br>.00E+00                                                     | _00E+00                                   | .00E+00                                              | .00E+00             |              |
|     | ag118                    | .00E+00                                                                                                                                      | .00E+00<br>.00E+00<br>.00E+00  | -00E+00             | .00E+00                                                                                                                | .00E+00                                              | -00E+00             | .00E+00                                                                                                                                                | .00E+00<br>.00E+00                                                     | .00E+00                                   | .00E+00                                              | .00E+00<br>.00E+00  | · .          |
|     | ag118m<br>cd118          | .00E+00                                                                                                                                      | .00E+00                        | .00E+00<br>.00E+00  | -00E+00                                                                                                                | .00E+00                                              | .00E+00<br>.00E+00  | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00                                                                | _00E+0D                                   | .00E+00<br>.00E+00<br>.00E+00                        | .00E+00             |              |
|     | in118                    | .00E+00                                                                                                                                      | .00E+00<br>.00E+00             | .00E+00             | .00E+00                                                                                                                | UUETUU                                               | .00E+00             | .00E+00                                                                                                                                                | .00E+00                                                                | -00E+00                                   | .00E+00                                              | _00E+00             |              |
|     | in118m                   | 9.73E-01<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>9.73E-01            | .00E+00<br>9.73E-01 | .00E+00<br>9.73E-01                                                                                                    | .00E+00<br>9.73E-01<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00<br>9.73E-01 | .00E+00                                                                                                                                                | .00E+00                                                                | .00E+00<br>9.73E-01                       | .00E+00<br>9.73E-01                                  | .00E+00<br>9.73E-01 |              |
|     | sn118<br>ru119           | -00E+00                                                                                                                                      | .00E+00                        | -00E+00             | -00E+00                                                                                                                | .00E+00                                              | .00E+00             | .00E+00                                                                                                                                                | 9.73E-01<br>.00E+00                                                    | .00E+00                                   | UUETUU                                               | .00E+00             |              |
|     | rh119                    | .00E+00                                                                                                                                      | .00E+00<br>.00E+00<br>.00E+00  | .00E+00             | .00E+00<br>.00E+00<br>.00E+00                                                                                          | .00E+00                                              | .00E+00             | .00E+00                                                                                                                                                | .00E+00                                                                | .00E+00                                   | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00             | -00E+00             |              |
|     | pd119<br>ag119           | .00E+00                                                                                                                                      | .00E+00                        | .00E+00<br>.00E+00  | .00E+00                                                                                                                | .00E+00                                              | .00E+00<br>.00E+00  | .00E+00                                                                                                                                                | -005+00                                                                | .00E+00                                   | .00E+00                                              | .00E+00<br>.00E+00  |              |
|     | cd119                    | .00E+00                                                                                                                                      | .00E+00                        | -00E+DO             | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>1.03E+00                                                                   | .00E+00                                              | .00E+00             | .00E+00                                                                                                                                                | .00E+00                                                                | _DOE+00                                   | .00E+00                                              | .00E+00             |              |
|     | cd119<br>cd119m          | .00E+00                                                                                                                                      | .00E+00                        | .00E+00             | .00E+00                                                                                                                | .00E+00                                              | .00E+00             | .00E+00                                                                                                                                                | .00E+00                                                                | .00E+00                                   | .00E+00                                              | .00E+00<br>.00E+00  |              |
|     | in119<br>in119m          | .00E+00                                                                                                                                      | .00E+00<br>.00E+00             | .00E+00<br>.00E+00  | .00E+00                                                                                                                | .00E+00                                              | .00E+00             | .00E+00                                                                                                                                                | .00E+00                                                                | _00E+00                                   | .00E+00<br>.00E+00<br>1.03E+00                       | .00E+00             |              |
|     | sn119                    | 1.03E+00                                                                                                                                     | 1.03E+00<br>.00E+00<br>.00E+00 | 1.03E+00            | 1.03E+00                                                                                                               | 1.03E+00<br>.00E+00                                  | 1.03E+00            | 1.03E+00                                                                                                                                               | .00E+00<br>1.03E+00                                                    | 1.03E+00                                  | 1.03E+00                                             | 1.03E+00            |              |
|     | sn119m                   | .00E+00                                                                                                                                      | .00E+00                        | .00E+00<br>.00E+00  | .00E+00                                                                                                                | .00E+00                                              | .00E+00<br>.00E+00  | .00E+00                                                                                                                                                | .00E+00                                                                | .00E+00                                   | .005+00                                              | .00E+00<br>.00E+00  |              |
|     | ru120<br>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             |              |
|     | pd120<br>ag120<br>cd120  | .00E+00                                                                                                                                      | .00E+00                        | .00E+00<br>.00E+00  | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                    | .00E+00<br>.00E+00                                   | .00E+00<br>.00E+00  | .UUE+UU                                                                                                                                                | .00E+00                                                                | .00E+00                                   | .00E+00                                              | .00E+00<br>.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<br>1.01E+00                                                                                                                          | .00E+00                        | .00E+00             | .00E+00                                                                                                                | .00E+00                                              | .00E+00<br>1.01E+00 | .00E+00                                                                                                                                                | .00E+00                                                                | .00E+00<br>1.01E+00                       | .00E+00<br>1.01E+00                                  | .00E+00             |              |
|     | sn120<br>rh121           | 1.01E+00<br>.00E+00                                                                                                                          | 1.01E+00<br>.00E+00            | 1.01E+00<br>.00E+00 | 1.01E+00                                                                                                               | .00E+00<br>.00E+00<br>1.01E+00<br>.00E+00            | .00E+00             | .00E+00<br>.00E+00<br>.00E+00<br>1.01E+00                                                                                                              | .00E+00<br>.00E+00<br>.00E+00<br>1.01E+00                              | .00E+00                                   | .00E+00                                              | 1.01E+00<br>.00E+00 |              |
| 1   |                          | .002.00                                                                                                                                      | .002.00                        | .002.00             | 1002.00                                                                                                                | 1002.00                                              |                     |                                                                                                                                                        |                                                                        |                                           |                                                      |                     |              |
|     | Part B                   | 8&W 15x15,                                                                                                                                   | 3.00mt%,                       | 20gwd/mtu           | decay                                                                                                                  | concentra                                            | tions ass           | <b>m</b> e                                                                                                                                             |                                                                        | fission                                   | products                                             | page                | 73           |
| 0   |                          |                                                                                                                                              |                                |                     | basis =                                                                                                                | per B&W as                                           | sembly. 0.          | 409 mthm 1                                                                                                                                             | .00E+00  for grams 30000.0 yr3 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 |                                           |                                                      |                     |              |
|     |                          | initial1                                                                                                                                     | 8000.0 Yr2                     | 0000.0 yr2          | 2000.0 yr2                                                                                                             | 4000.0 yr2                                           | 6000.0 yr2          | 8000.0 Yr.                                                                                                                                             | 30000.0 Yr3                                                            | 2000 <u>.0 Yr</u> 3                       | 600 <u>0.0 yr</u> 3                                  | 8000.0 yr           |              |
|     | pd121<br>ag121<br>cd121  | .00E+00                                                                                                                                      | .00E+00                        | .UUE+00             | .UUE+00                                                                                                                | .UUE+UU                                              | .UUE+UU<br>.OOF+OO  | .UUE+UU                                                                                                                                                | .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             | •            |
|     | 10121                    | -00E+00                                                                                                                                      | .00E+00                        | .00E+00             | .00E+00                                                                                                                | .00E+00                                              | .00E+00             | .00E+00                                                                                                                                                | .00E+00                                                                | .00E+00                                   | .00E+00                                              | .00E+00             |              |
|     | in121m<br>sn121          | .00E+00                                                                                                                                      | .00E+00.                       | .00E+00             | .00E+00                                                                                                                | .00E+00                                              | .00E+00             | .00E+0D                                                                                                                                                | .00+300.                                                               | .00E+00                                   | .00E+00                                              | .00E+00             |              |
|     |                          | ,,,,,,,,,                                                                                                                                    |                                |                     |                                                                                                                        |                                                      | ,                   |                                                                                                                                                        |                                                                        |                                           |                                                      |                     |              |

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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFT1ME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 74
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 rh122
 pd122
ag122
cd122
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sn1222m
sb1222m
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te1233m
cd1233m
sn1233m
sb1223m
sn1233m
sb12234
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sn125
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sn125
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m
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cd126
in126
 Part B B&W 15x15, 3.00wtX, 20gwd/mtu decay

| Nuclide concentrations, grams | Section
 74
 page
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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 75
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.00E+00
.00E+00
.00E+00
1.12E+01
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.00E+00
.00E+00
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|-----|------------------------------------------------------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------|---------------------|------|--------|----|
|     | sb139<br>te139                                             | .00E+00<br>.00E+00<br>.00E+00                                              | .00E+00<br>.00E+00                                                        | .00E+00                                                                                     | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                        | .00E+00<br>.00E+00                                              | .00E+00                        | .00E+00<br>.00E+00<br>.00E+00                                                                                            | .00E+00<br>.00E+00<br>.00E+00                                                                                                                                                           | .00E+00                        | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00                                                                              | .DOE+00<br>.OOE+00  |      |        |    |
|     | te139<br>i139                                              | .00E+00                                                                    | .00E+00                                                                   | .00E+00                                                                                     | .00E+00                                                         | .00E+00                                                         | .00E+00                        | .00E+00                                                                                                                  | .00E+00                                                                                                                                                                                 | .00E+00                        | .00E+00                                                                                                                          | .00E+00             |      |        |    |
|     | xe139<br>cs139                                             |                                                                            | .00E+00                                                                   | .00E+00                                                                                     | .00E+00                                                         | .00E+00<br>.00E+00                                              | .00E+00                        | .00E+00                                                                                                                  | .00E+00                                                                                                                                                                                 | .00E+00                        | .00E+00                                                                                                                          | .00E+00<br>.00E+00  |      |        |    |
|     | ba139                                                      | .00E+00<br>3.47E+02<br>.00E+00                                             | .00E+00<br>.00E+00<br>3.47E+02                                            | .00E+00                                                                                     | .00E+00<br>3.47E+02                                             | .00E+00                                                         | .00E+00<br>3.47E+02            | .00E+00<br>.00E+00<br>3.47E+02                                                                                           | .00E+00<br>.00E+00<br>3.47E+02                                                                                                                                                          | .00E+00                        | .00E+00                                                                                                                          | .00E+00             |      |        |    |
|     | la139<br>ce139                                             | 3.47E+U2                                                                   | _UUE+00                                                                   | _00E+UU                                                                                     | .00E+00                                                         | 3.47E+02<br>.00E+00                                             | .00E+00                        | .UUE+UU                                                                                                                  | .UUE+UU                                                                                                                                                                                 | 3.47E+02<br>.00E+00            |                                                                                                                                  | 3.47E+02<br>.00E+00 |      |        |    |
|     | pr139<br>te140<br>i140                                     | .00E+00                                                                    | .00E+00                                                                   | .00E+00                                                                                     | .00E+00                                                         | .00E+00                                                         | *00E+00.                       | .00E+00                                                                                                                  | .00E+00                                                                                                                                                                                 | .00E+00                        | .00E+00<br>.00E+00<br>.00E+00<br>.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<br>.00E+00  |      |        |    |
|     | xe140                                                      | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00             | .00E+00<br>.00E+00<br>.00E+00                                             | .00E+00                                                                                     | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00                        | .00E+00<br>.00E+00<br>.00E+00                                   | .00E+00                        | .00E+00<br>.00E+00<br>.00E+00                                                                                            | .00E+00<br>.00E+00<br>.00E+00                                                                                                                                                           | .00E+00                        | .00E+00                                                                                                                          | .00E+00             |      |        |    |
|     | xe140<br>cs140<br>ba140                                    | .00E+00                                                                    | -00E+00                                                                   | .00E+00                                                                                     | .00E+00                                                         | .00E+00                                                         | .00E+00                        | .00E+00                                                                                                                  | .00E+00                                                                                                                                                                                 | .00E+00                        | .00E+00                                                                                                                          | .00E+00<br>.00E+00  |      |        |    |
|     | laikn                                                      | .00E+00                                                                    | DDETUD                                                                    |                                                                                             | .00E+00                                                         | 11(1) + 11(1)                                                   | _00F+00                        |                                                                                                                          | DULETUD                                                                                                                                                                                 | .00E+00                        |                                                                                                                                  | .DOE+00             |      |        |    |
|     | ce140<br>pr140<br>te141                                    | 3.67E+02                                                                   | 3.67E+02<br>.00E+00<br>.00E+00                                            | 3.67E+02<br>.00E+00<br>.00E+00                                                              | 3.67E+02<br>.00E+00<br>.00E+00                                  | 3.67E+02<br>.00E+00<br>.00E+00                                  | 3.67E+02                       | 3.67E+02<br>.00E+00<br>.00E+00<br>.00E+00                                                                                | 3.67E+02<br>.00E+00<br>.00E+00                                                                                                                                                          | 3.67E+02                       | 3.67E+02<br>.00E+00                                                                                                              | 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<br>.00E+00  |      |        |    |
|     | 1141<br>xe141                                              | .002.00                                                                    | .00E+00                                                                   | .00E+00                                                                                     | .005+00                                                         | .00E+00<br>.00E+00                                              | .UUE+UU                        | .00E+00                                                                                                                  | .00E+00                                                                                                                                                                                 | .00E+00                        | .00E+00                                                                                                                          | .00E+00             |      |        |    |
|     | xe141                                                      |                                                                            | .00E+00                                                                   | .00E+00                                                                                     | .00E+00                                                         | .00E+00                                                         | .00E+00                        | .00E+00                                                                                                                  | .00E+0D                                                                                                                                                                                 | .00E+00                        | .00E+00                                                                                                                          | .00E+00<br>.00E+00  |      |        |    |
|     | cs141<br>ba141<br>la141                                    | .00E+00                                                                    | .00E+00                                                                   | .00E+00                                                                                     | .00E+00                                                         | .00E+00                                                         | .00E+00                        | .00E+00                                                                                                                  | .00E+00                                                                                                                                                                                 | .00F+00                        | .00E+00                                                                                                                          | .D0E+D0             |      | •      |    |
|     | la141                                                      | .00E+00                                                                    | .00E+00                                                                   | .00E+00<br>.00E+00                                                                          | .00E+00                                                         | .00E+00                                                         | .00E+00                        | .00E+00                                                                                                                  | .00E+00                                                                                                                                                                                 | .00E+00                        | .00E+00                                                                                                                          | .00E+00             |      |        |    |
|     | ce141                                                      | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.21E+02                       | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.21E+02                      | 3.21E+02                                                                                    | .00E+00<br>.00E+00<br>.00E+00<br>3.21E+02                       | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.21E+02            | .00E+00<br>3.21E+02<br>.00E+00 | 3.21E+02                                                                                                                 | 3.21E+02                                                                                                                                                                                | .00E+00<br>.00E+00<br>3.21E+02 | 3.21E+02                                                                                                                         | .00E+00<br>3.21E+02 |      |        |    |
|     | nd 141                                                     | .00E+00                                                                    | .00E+00                                                                   | 3.21E+02<br>.00E+00                                                                         | .00E+00                                                         | .00E+00                                                         | .00E+00                        | .00E+00                                                                                                                  | .00E+00                                                                                                                                                                                 | . DUF+UU                       | .00E+00                                                                                                                          | .00E+00             |      |        |    |
|     | te142                                                      | .00E+00                                                                    | .00E+00                                                                   | .00E+00<br>.00E+00                                                                          | .00E+00                                                         | .005+00                                                         | .00E+00<br>.00E+00             | .00E+00                                                                                                                  | .00E+00                                                                                                                                                                                 | .00E+00                        | .00E+00                                                                                                                          | .00E+00<br>.00E+00  |      |        |    |
|     | pri41<br>ndi41<br>te142<br>i142<br>xe142<br>cs142<br>ba142 | .00E+00                                                                    | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00                                                                                     | UNETUN                                                          | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.23E+02<br>.00E+00 | .ODE+OO                        | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.21E+02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.3.23E+02 | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00                        | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | .00E+00             |      |        |    |
|     | cs142                                                      | .00E+00                                                                    | .00E+00                                                                   | .00E+00<br>.00E+00                                                                          | .00E+00<br>.00E+00<br>.00E+00                                   | .00E+00                                                         | .00E+00<br>.00E+00             | .00E+00                                                                                                                  | .00E+00                                                                                                                                                                                 | .00E+00                        | .00E+00                                                                                                                          | .00E+00<br>.00E+00  |      |        |    |
|     | 18142                                                      | .00E+00<br>.00E+00<br>3.23E+02<br>.00E+00                                  | .00E+00                                                                   | .00E+00                                                                                     | .00E+00                                                         | .00E+00                                                         | .00E+00                        | .00E+00                                                                                                                  | .00E+00                                                                                                                                                                                 | .00E+00                        | .00E+00                                                                                                                          | .00E+00             |      |        |    |
|     | ce142<br>pr142                                             | 3.23E+02                                                                   | 3.23E+02                                                                  | 3.23E+02<br>.00E+00                                                                         | 3.23E+02<br>.00E+00                                             | 3.23E+02                                                        | 3.23E+02<br>.00E+00            | 3.23E+02<br>.00E+00                                                                                                      | 3.23E+02                                                                                                                                                                                | 3.23E+02<br>.00E+00            | 3.23E+02                                                                                                                         | 3.23E+02<br>.00E+00 |      |        |    |
|     | pr142<br>pr142m                                            | _00E+00                                                                    | .00E+00                                                                   | .00E+00                                                                                     | .00E+00                                                         | .00E+00                                                         | .00E+00                        | .00E+00                                                                                                                  | .00E+00                                                                                                                                                                                 | .00E+00                        | .00E+00                                                                                                                          | .00E+00             |      |        |    |
|     | pr142m<br>nd142<br>1143                                    | 3.24E+00                                                                   | .00E+00<br>3.24E+00                                                       | .00E+00<br>3.24E+00                                                                         | .00E+00<br>3.24E+00<br>.00E+00                                  | .00E+00<br>3.24E+00<br>.00E+00                                  | .00E+00<br>3.24E+00<br>.00E+00 | .00E+00<br>3.24E+00<br>.00E+00                                                                                           | .00E+00<br>3.24E+00<br>.00E+00                                                                                                                                                          | .00E+00<br>3.24E+00            | .00E+00<br>3.24E+00                                                                                                              | 3.24E+00            |      |        |    |
| 1   | 1143                                                       | .00E+00                                                                    | .00E+00                                                                   | .00E+00                                                                                     | .00E+00                                                         | .00E+00                                                         | .00E+00                        | .QUE+QO                                                                                                                  | .UUE+UU                                                                                                                                                                                 | .00E+00                        | .00E+00                                                                                                                          | .00E+00             |      |        |    |
|     | Part B                                                     | B&W 15x15,                                                                 | 3.00mt%,                                                                  | 20gwd/mtu                                                                                   | decay                                                           |                                                                 |                                |                                                                                                                          |                                                                                                                                                                                         | fission                        | products                                                                                                                         | page                | 77   | •      |    |
| 0   |                                                            |                                                                            |                                                                           | 20gwd/mtu<br>20000.0 yr2<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.69E+02 | nuclide<br>basis =                                              | concentra                                                       | itions, gra<br>sembly. O.      | ms<br>409 mthm f                                                                                                         | or grams                                                                                                                                                                                | •                              |                                                                                                                                  |                     |      |        |    |
|     |                                                            | initiali                                                                   | 8000.0 Yr                                                                 | 20000.0 yr2                                                                                 | 2000.0 Yr2                                                      | 4000.0 yr2                                                      | 6000.b yr2                     | 8000.0 yr3                                                                                                               | 0000.0 yr3                                                                                                                                                                              | 2000.0 yr3                     | 16000.0 Yr3                                                                                                                      | 8000.0 yr           |      |        |    |
|     | xe143<br>cs143<br>ba143<br>la143                           | .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                                                                    | .005+00                                                                   | .80E+00                                                                                     | .00E+00                                                         | .DDE+DO                                                         | .00E+00                        | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>2.69E+02                                                          | .00E+00                                                                                                                                                                                 | .00E+00                        | .00E+00                                                                                                                          | .00E+00             |      |        | •  |
|     | ce143<br>pr143<br>nd143                                    | .00E+00                                                                    | .00E+00                                                                   | .00E+00                                                                                     | .00E+00                                                         | .00E+00                                                         | .00E+00                        | .00E+00                                                                                                                  | .00E+00                                                                                                                                                                                 | .00E+00                        | .00E+00                                                                                                                          | .00E+00             |      |        |    |
|     | nd143<br>1144                                              | 2.69E+02                                                                   | 2.69E+02                                                                  | 2.69E+02<br>.00E+00                                                                         | 2.69E+02<br>.00E+00                                             | 2.69E+02<br>.00E+00                                             | 2.69E+02<br>.00E+00            | 2.69E+02                                                                                                                 | 2.69E+02<br>.00E+00                                                                                                                                                                     | 2.69E+02<br>.00E+00            | 2.69E+02<br>.00E+00                                                                                                              | 2.69E+02<br>.00E+00 |      |        |    |
|     | xe144                                                      | .00E+00                                                                    | .00E+00                                                                   | .00E+00                                                                                     | .00E+00                                                         | .00E+00                                                         | .00E+00                        | .00E+00                                                                                                                  | .00E+00                                                                                                                                                                                 | .DOE+00                        | .00E+00                                                                                                                          | .00E+00             |      |        |    |
|     | xe144<br>cs144                                             | -00E+00                                                                    | .00E+00                                                                   | .00E+00                                                                                     | .00E+00<br>.00E+00                                              | .00E+00                                                         | .00E+00                        | .00E+00                                                                                                                  | .00E+00<br>.00E+00                                                                                                                                                                      | .00E+00                        | .00E+00                                                                                                                          | .00E+00<br>.00E+00  |      |        |    |
|     | ba144<br>(=144                                             | 2.69E+02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00 | 2.69E+02<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00           | .00E+00<br>.00E+00                                                                          | .00E+00                                                         | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00             | .00E+00                        | .00E+00<br>.00E+00<br>.00E+00                                                                                            | .00E+00<br>.00E+00<br>.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<br>.00E+00                                                                                                               | .00E+00             |      |        |    |
|     | pr144                                                      | .00E+00                                                                    | .00E+00                                                                   | .00E+00                                                                                     | .00E+00                                                         | .002+00                                                         | .00F+00                        | :00E+00                                                                                                                  | .00E+00                                                                                                                                                                                 | _00E+00                        | .00E+00                                                                                                                          | .00E+00<br>.00E+00  |      |        |    |
|     | pr144m<br>nd144<br>1145                                    | 3.42E+02<br>.00E+00                                                        | 3.42E+02                                                                  | .00E+00<br>3.42E+02                                                                         | .00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>.00E+00<br>3.42E+02 | .00E+00<br>3.42E+02<br>.00E+00                                  | 3.42E+02                       | .00E+00<br>3.42E+02                                                                                                      | .00E+00<br>3.42E+02                                                                                                                                                                     | 3.42E+02                       | .00E+00<br>3.42E+02<br>.00E+00                                                                                                   | 3.42E+02            |      |        |    |
|     | 1145<br>xe145                                              | .00E+00                                                                    | .00E+00<br>3.42E+02<br>.00E+00                                            | .00E+00                                                                                     | .00E+00                                                         | .00E+00                                                         | .00E+00                        | .00E+00                                                                                                                  | .00E+00                                                                                                                                                                                 | .00E+00                        | .00E+00                                                                                                                          | .00E+00<br>.00E+00  |      |        |    |
|     |                                                            |                                                                            |                                                                           |                                                                                             |                                                                 |                                                                 |                                |                                                                                                                          |                                                                                                                                                                                         |                                |                                                                                                                                  | = -                 | •    |        |    |

| Feb 44 10-07 1004 File Names (Massardovia (analy/analy/MCETTNE/a7020Mafe aut - 884000000-01717-0200-00012 BEV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ATTACUMENT II - Dage 70    |
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| Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 11 ATTACHMENT II - Page 78 |
| cs145 .00E+00   | .00E+00                    |
| bai45 .00E+00   |                            |
| ce145 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | .00E+00                    |
| pri45 .00E+00 nd145 2.03E+02 2.03E+00 pm145 .00E+00   | ) .00E+00<br>2 2.03E+02    |
| pm145 .00E+00   | .00E+00                    |
| \$m145 .00E+00 xe146 .00E+00 .0 |                            |
| sm145       .00E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ) .00E+00                  |
| ba146 .00E+00   | 00E+00<br>0.00E+00         |
| lai46 .00E+00   | 0 .00E+00                  |
| ce146 .00E+00   | ) .00E+00                  |
| nd146 1.87E+02 0.00E+00 .00E+00 .00  | 1.87E+02<br>1.00E+00       |
| nd146 1.87E+02 1.87E+  | 2.586-03                   |
| xe147 .00E+00   | 0 .00E+00 ·.<br>0 .00E+00  |
| bal47 .00E+00   | .00E+00                    |
| ba147 .00E+00   | 00E+00<br>0 _00E+00        |
| Dec     | .00E+00                    |
| nd147 .00E+00   | 00E+00<br>00E+00           |
| pr146 .00E+00   | 8.97E+01                   |
| cs148                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 00E+00<br>00E+00           |
| ba148 .00E+00   | ) .00E+00                  |
| ce148 .00E+00   | .00E+00<br>.00E+00         |
| pri48 .00E+00   | ? 1.03E+02                 |
| pm148 .00E+00 pm148m .00E+00 .  |                            |
| <b>1</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                            |
| Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission product nuclide concentrations, grams                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                            |
| basis =per B&W assembly, 0.409 mthm for grams initial18000.0 yr20000.0 yr22000.0 yr24000.0 yr26000.0 yr28000.0 yr30000.0 yr32000.0 yr36000.0 y sm148 2.89E+01 2.89E+0  | 78000 0 va                 |
| sm148 2.89E+01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2.89E+01                   |
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| pri49 .00E+00   | .00E+00                    |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | .00E+00                    |
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| bai51 .00E+00   | 00E+00 .                   |

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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01
 ATTACHMENT II - Page 80
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 gd157
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nd159
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sm160
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 gd161
tb161
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 fission products
 page
 80
 Part B B&W 15x15, 3.00mt%, 20gmd/mtu decay
 dy161
 pm162
sm162
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dy164
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tb165
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dy165m
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 ho165
dy166
 9.50E-03
.00E+00
 9.50E-03
 9.50E-03
 .00E+00
 .00E+00
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 .00E+00
7.08E-13
 .00E+00
2.27E-11
 .00E+00
7.14E-12
1.57E-03
 .00E+00 .00E+00
2.23E-13 2.21E-14
 .00E+00
6.97E-15
 .00E+00
 .00E+00
 .00E+00
7.20E-11
 ho166
 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 1.57E-03 1.5
 2.29E-10
1.57E-03
2.44E-05
 7.26E-10
 ho166m
 2.30E-09
 6.97E-15
1.57E-03
2.44E-05
.00E+00
2.01E-05
.00E+00
7.41E-07
.00E+00
7.89E-07
 er166
 er167
 er167m
 er168
 yb168
er169
 tm169
 yb169
er170
tm170
 .00E+00
.00E+00
4.62E-09
.00E+00
.00E+00
 tm170m
yb170
 er171
 tm171
 yb171
er172
 .00E+00
6.73E-07
 tm172
 yb172
 9.58E+03
 BEW 15x15, 3.00wtX, 20gwd/mtu decay nuclide concentrations, grams initial 40000. yr 45000. yr 55000. yr 60000. yr 65000. yr 70000. yr 70
 actinides
 page
 Part B B&W 15x15, 3.00mtX, 20gmd/mtu decay
 he 4
tl206
 t1207
 t1208
 tl209
pb206
pb207
pb208
pb209
 3.47E-03 3.67E-03

4.95E-10 5.20E-10

4.89E-13 5.07E-13

8.07E-09 8.54E-09

.00E+00 .00E+00

7.63E-01 9.14E-01

.00E+00 2.26E-06

2.94E-11 3.08E-11

4.64E-14 4.80E-14

3.69E-09 4.03E-09

5.89E-05 6.23E-09

5.89E-05 6.23E-09

5.25E-16 3.41E-16

2.44E-24 2.52E-24

5.55E-18 6.06E-18

8.72E-16

4.15E-16 4.36E-16
 pb210
 pb211
pb212
 pb214
 51208
 b1209
b1210m
 61211
 b1212
b1213
 4.18E-09 4.37E-09

4.11E-05 4.29E-05

.00E+00 .00E+00

2.36E-16 2.45E-16

2.07E-24 2.10E-24

3.20E-18 3.42E-18
 b1214
 po210
 5.14E-05
.00E+00
2.88E-16
2.27E-24
4.50E-18
7.20E-16
1.76E-18
8.31E-10
 .00E+00
3.07E-16
2.35E-24
5.03E-18
 .00E+00
2.67E-16
2.19E-24
3.97E-18
 po211m
po211
 po212
po213
 6.62E-16
3.42E-16
 7.74E-16
 5.75E-16 6.01E-16
 po214
 3.01E-16 3.13E-16
1.60E-18 1.63E-18
6.64E-10 6.93E-10
2.57E-14 2.74E-14
 4.15E-16 4.36E-16
1.89E-18 1.95E-18
9.52E-10 1.01E-09
 3.92E-16
 po215
 1.69E-18
7.64E-10
3.18E-14
 1.82E-18
8.93E-10
 216 od
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 3.61E-14
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 4.85E-14
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 rn219
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Feb 16 10:07 1996 File Name: /usars/davis/scale/sas2h/UCFTIME/s3020ucfq.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 82
 1.20E-06 1.38E-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 2.38E-10 2.54E-10 2.94E-10 3.34E-10 3.73E-10 4.49E-10 4.86E-10 6.90E-10 1.26E-09 1.36E-09
 fr221
 2.38E-10
 2.54E-10
 5.68E-12
 6.80E-12
 fr223
ra222
 3.87E-12 4.13E-12
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 6.70E-12
 3.17E-12
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 3.59E-12
 3.87E-12
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1.97E-07 -2.12E-07
3.83E-12 3.97E-12
1.30E-06 1.48E-06
2.15E-01 2.34E-01
1.02E-09 1.14E-09
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2.51E-07
4.42E-12
1.99E-06
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1.50E-09
1.34E-06
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1.83E-13
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3.06E-06
3.76E-01
2.35E-09
2.06E-06
2.20E-04
2.87E-13
 2.62E-07
4.57E-12
 3.72E-07
1.08E-11
 1.73E-07
3.63E-12
1.05E-06
1.87E-01
 1.80E-07
3.68E-12
1.13E-06
 3.67E-07
 ra223
ra224
ra225
ra226
ra228
ac225
ac227
ac228
th227
th229
 8.98E-12
 3.97E-12 4.12E-12
1.48E-06 1.65E-06
2.34E-01 2.51E-01
1.14E-09 1.26E-09
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2.98E-01
 5.58E-06
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 2.16E+01
 2.14E+01
 th230
th231
 9.42E+00
 3.26E-08
 page
 82
 20 4.60E-20 8.36E-20 9
2 4.74E-22 8.60E-22 1
3.00E+00 .00E+00
4.55E-10 2.49E-10 1.84
3.00E+00 .00E+00
 2.43E-07 2.02E-07
1.86E-20 1.96E-20
1.92E-22 2.01E-22
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np240
np241
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pu237
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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 83
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 pu243
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 1.16E-07
.00E+00
 1.10E-07
 pu244
 .00E+00
 .00E+00
 pu245
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pu246
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am240
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 am244m
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 4.26E-25 3.49E-25
 1.48E-28
 6.34E-25
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 Part B B&W 15x15, 3.00mt%, 20gwd/mtu decay
 actinides
 page
 cm242
cm243
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.00E+00 .00E+00
2.07E-03 1.75E-03
1.14E-05 8.54E-06
3.24E-05 3.24E-05
1.52E-06 1.51E-06
.00E+00 .00E+00
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 cm245
 cm246
cm247
 cm248
 cm249
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1.93E-24
 3.33E-16
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.00E+00
9.83E-25
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 cm251
bk249
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                                                  fission products
                    Part B B&W 15x15, 3.00wt%, 20gud/mtu decay
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      86
                    ge 82
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| Feb 16 10: | 07 1996 Fi | le Name: / | users/davi | s/scale/sas | :2h/UCFTIME | /s3020ucfo | .out BB/ | 1000000-017 | 17-0200-00 | 012 REV 01 | ATTACHNENT | 11 - | Page | 86 |
|--|---|--|---|--|--|---|--|---|--|--|---|------|------|----|
| ## 16 | n .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 3.28E+01 .00E+00 .00E+00 .00E+00 | | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | • | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | ATTACHMENT .00E+00 | | Page | 86 |
| ge 87 88 87 86 87 86 87 87 87 87 87 87 87 88 88 88 88 | | | | | | .00E+00 .00E+00 .55E+01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 | | .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 7.25E+01 5.16E-04 .00E+00 .00E+00 | .00E+00 .00E+00 5.55E+01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .7.25E+01 5.68E-04 .00E+00 .00E+00 | | | |
| 0 Part | B B&W 15x15 | , 3.00wt%, | 20gud/mtu | decay nuclide basis = | concentra | tions, gra sembly, 0. | ms 409 mthm | for grams | fission | products | page | 87 | | |
| br 88 kr 88 sr 88 ss 89 kr 889 kr 89 y 889 y 889 y 889 o br 90 kr 90 rb | Initial | 4000. yr -00E+00 .00E+00 1.04E+02 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 45000. yr .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 50000. yr .00E+00 .00E+00 1.04E+02 .00E+00 | 55000. yr .00E+00 .00E+00 1.04E+02 .00E+00 | 60000. yr .00E+00 .00E+00 1.04E+02 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 65000. yr .00E+00 .00E+00 1.04E+02 .00E+00 | 70000. yr1 .00E+00 .00E+00 1.04E+02 .00E+00 | 0000. yr2 .00E+00 .00E+00 1.04E+02 .00E+00 | 0000. yr2 -00E+00 -00E+02 -00E+02 -00E+00 | Page 50000. yr .00E+00 | | | |

| Eab | 16 10 • 07 | 7 1006 EEI | a Nama: / | ueere/devi | /eraia/eas | .2h/HCETTME | :/s3020ucfo | .out RRJ | 100000-017 | 17-0200-00 | 012 REV 01 | ATTACHHENT | 11 - | Page | 87 |
|-----|-------------------------|--|----------------------------------|----------------------|--|----------------------------------|---------------------------------|---|---------------------------------|--|----------------------|---|------|------|----|
| ren | 10 10.07 | 1775 111 | | | | 2.17.001 11.11. | ., 55020461, | | | | | *************************************** | •• | 9- | • |
| | sr 90 | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 .00E+00 1.70E+02 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 | | | |
| | у 90 у 90m | .00E+00 | .00E+00 | .00E+00 | -00E+00 | -00E+00 | .00E+00 | .00E+00 | .00E+00 | -00E+00 | .00E+00 | .00E+00 | | | |
| | zr 90 | .00E+00 1.70E+02 | 1.70E+02 | | 1.70E+02 | 1.70E+02 | .00E+00 1.70E+02 | 1.70E+02 | 1.70E+02 | .00E+00 1.70E+02 | 4 7000 | 1.70E+02 | | | |
| | zr 90m se 91 | .00E+00 | .00E+00 | -00E+00 -00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 | .00E+00 | .00E+00 .00E+00 | .00E+00 .00E+00 | .00E+00 .00E+00 | .00E+00 | | | |
| | br 91 | _00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 | .00E+00 | .00E+0D | .00E+00 | .00E+00 | 1.70E+02 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 | .00E+00 | | | |
| | kr 91 | .00F+00 | -00E+00 | .00E+00 | - BOF+DO | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 | | | |
| | rb 91 sr 91 | .00E+00 .00E+00 | .00E+00 .00E+00 | .00E+00 | .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 | .00E+00 .00E+00 | .00E+00 .00E+00 | .00E+00 .00E+00 | .00E+00 | .00E+00 .00E+00 | .00E+00 | | | |
| | v 91 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | | | |
| | ý 91m | .00E+00 1.79E+02 | .00E+00 1.79E+02 | .00E+00 1.79E+02 | .00E+00 | .00E+00 1.79E+02 | .00E+00 1.79E+02 | .00E+00 1.79E+02 | .00E+00 1.79E+02 | 1.79F+02 | 1.79E+02 | .00E+00 1.79E+02 | | | |
| | zr 91 nb 91 | 4 M1E-27 | 5.22E-28 | 3.19E-30 | 1.79E+02 1.95E-32 | 1.19E-34 | 7.31E-37 | 4.47E-39 | 2.73E-41 | | | .00E+00 | | | |
| | se 92 br 92 kr 92 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 | .00E+00 .00E+00 | .00E+00 | .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 sr 92 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 | .00E+00 .00E+00 | -00E+00 | .00E+00 .00E+00 .00E+00 | .00E+00 | .00E+00 | | | |
| | sr 92 y 92 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 | | | |
| | zr 92 nb 92 | 1.89E+02 3.28E-08 | 1.89E+02 3.28E-08 | 1.89E+02 3.28E-08 | 1.89E+02 3.28E-08 | 1.89E+02 3.28E-08 | 1.89E+02 3.28E-08 | 1.89E+02 3.28E-08 | 1.89E+02 | 1.89E+02 | 1.89E+02 | 1.89E+02 | | | |
| | nb 92 | 3.28E-08 .00E+00 | 3.28E-08 .00E+00 | 3.28E-08 .00E+00 | 3.28E-08 | 3.28E-08 | 3.28E-08 | 3.28E-08 | 1.89E+02 3.28E-08 .00E+00 | 3.28E-08 | 3.27E-08 .00E+00 | .3.27E-08 .00E+00 | | | |
| | se 93 br 93 kr 93 | _DOE+00 | _00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .002+00 | .00E+00 | .00E+00 | .00E+00 | | | |
| | kr 93 | .00F+00 | .00E+00 | .00E+00 | .00E+00 | -00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 | | | |
| | rb 93 sr 93 | .00E+00 .00E+00 | .00E+00 | .00E+00 | -00E+00 | .00E+00 .00E+00 | .00E+00 .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | | | |
| | y 93 | .00E+00 | .00E+00 | -00E+00 | .00E+00 | .00E+00 | _00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 1.27E+02 | .00E+00 | | | |
| | zr 93 nb 93 | 1.36E+02 2.37E+00 | 1.36E+02 2.49E+00 1.44E-03 | 1.36E+02 2.80E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 1.36E+02 3.11E+00 1.43E-03 | 1.35E+02 3.42E+00 1.43E-03 | .00E+00 1.35E+02 3.72E+00 | .00E+00 .00E+00 1.35E+02 4.03E+00 1.42E-03 .00E+00 | .00E+00 1.34E+02 4.33E+00 | .00E+00 1.89E+02 3.28E-08 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .33E+02 1.40E-03 .00E+00 | 1.2/E+02 1.20E+01 | 1.24E+02 1.49E+01 | | | |
| | nb 93m | 1.44E-03 | 1.44E-03 | 1.43E-03 | 1.43E-03 | 1.43E-03 | 1.42E-03 .00E+00 | 1.42E-03 | 1.42E-03 .00E+00 | 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 rb 94 | .00E+00 | .00E+00 | .00E+00 .00E+00 | .00E+00 | .00E+00 .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | | | |
| 1 | Part B | B&W 15x15 | 3.00wt%. | 20gwd/mtu | | | | | | fission | products | page | 88 | | |
| 0 | | - | | | nuclide | concentra | tions, gra | MS | for grama | fission 00000. yr2 .00E+00 .00E+00 2.23E+02 4.11E-06 .00E+00 | • | - | | | |
| | | initial | 40000. yr | 45000. yr | 50000. yr | 55000. yr | 60000. yr | 65000. Yr | 70000. yr1 | 00000. yr2 | 000 <u>0</u> 0. yr2 | 250000. yr | | | |
| | 8F 94 | -00E+00 | -00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .005+00 | .00E+00 | .00E+00 | .00E+00 | | | |
| | y 94 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 br 95 | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 | .00E+00 | .00E+00 2.23E+02 1.36E-05 .00E+00 | .00E+00 | .00E+00 2.23E+02 4.11E-06 .00E+00 .00E+00 | .00E+00 | .00E+00 | | | |
| | kr 95 | .00E+00 | _00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .005400 | .005+00 | .00E+00 | .00E+00 | .00E+00 | | | |
| | rb 95 sr 95 | .00E+00 | .00E+00 | .00E+00 .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .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 | | | |
| | y 95 zr 95 | .00E+00 .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 | | | |
| | nb 95 nb 95m | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 .00E+00 | | .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 | .00E+00 | | | |
| | mo 95 | .00E+00 2.24E+02 .00E+00 .00E+00 .00E+00 | 2.24E+02 .00E+00 | | 2.24E+02 .00E+00 .00E+00 .00E+00 .00E+00 | 2.24E+02 | 2.24E+02 | Z. Z4ETUZ | 2.24E+02 | 2.24E+02 .00E+00 | 2.24E+02 | 2.24E+02 | | | |
| | br 96 kr 96 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 | | | |
| | rb 96 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 .00E+00 | .00E+00 | .00E+00 .00E+00 .00E+00 | .00E+00 | .00E+00 | | | |
| | sr 96 y 96 | .00E+00 | .00E+00 | .00E+00 | -00E+00 | .00E+00 | .00E+00 | .UUE+00 | .00+400 .00+300 | .UUE+00 | .00E+00 | .00E+00 .00E+00 | | | |
| | zr 96 | 2.32E+02 .00E+00 | 2.32E+02 | 2.32E+02 | 2.325702 | £.32E+U£ | 2.32E+02 | 2.32E+UZ | 2.32E+02 | 2.32ETUZ | 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 | | | |

| Feb | 16 10:07 | 7 1996 Fi | le Name: / | users/davia | s/scale/sa | 2h/UCFTIME | /s3020ucfd | out BB/ | 1000000-017 | 17-0200-00 | 012 REV 01 | ATTACHHEN | т 11 - | Page 88 |
|-----|---|--|--|---|---|---|--|---|--|---|---|--------------------|-------------|---------|
| | | | | | | | | | | | | • | | |
| | mo 96 kr 97 rb 97 sr 97 y 97 zr 97 | 6.56E+00 | 6.56E+00 | 6.56E+00 .00E+00 | 6.56E+00 | 6.56E+00 .00E+00 | 6.56E+00 .00E+00 .00E+00 .00E+00 | 6.56E+00 | 6.56E+00 .00E+00 | 6.56E+00 .00E+00 | 6.56E+00 | 6.56E+00 | | |
| | kr 97 | .00E+00 .00E+00 .00E+00 | 6.56E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 | 6.56E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .33E+02 | .00E+00 | .00E+00 | 6.56E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .2.33E+02 1.35E-03 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | | |
| | FD 9/ | .00E+00 | .00E+00 | .00E+00 | -00E+00 | .00E+00 | .00E+00 | -00E+00 | .00E+00 | .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 | .00E+00 .00E+00 | | |
| | y 97 | .UUE+UU | .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 | .UUE+UU | .00E+00 | | |
| | nb 97 nb 97m | .00E+00 | .00E+00 | .00E+00 .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+0D | .DDE+DD | .00E+00 | .00E+00 .00E+00 | | |
| | mo 97 | 2.17E+02 | 2.17F+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 | | |
| | mo 97 kr 98 rb 98 | .00E+00 | .00E+00 | 2.17E+02 .00E+00 | .00E+00 | .00E+00 .00E+00 2.17E+02 .00E+00 | 2.17E+02 .00E+00 | .00E+00 | .00E+00 .00E+00 .00E+00 2.17E+02 | .00E+00 | .00E+00 2.17E+02 .00E+00 | .00E+00 | | |
| | rb 98 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 | | |
| | sr 98 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | 00E+00 | .00E+00 | · UNETUU | .00E+00 | | |
| | y 98 zr 98 | .00E+00 | .00E+00 | .00E+00 .00E+00 | .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 2.33E+02 | .00E+00 .00E+00 .00E+00 .00E+00 2.33E+02 1.35E-03 | .00E+00 | .00E+00 .00E+00 .00E+00 2.33E+02 1.35E-03 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 2.33E+02 1.34E+03 | .00E+00 .00E+00 .00E+00 2.33E+02 1.32E-03 | .00E+00 | | |
| | nb 98 nb 98m | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | -00E+00 | .00E+00 | -00E+00 | .00E+00 | .00E+00 .00E+00 | | |
| | DD 78m | .00E+00 .00E+00 2.33E+02 1.36E-03 | 2.33F+02 | 2.33F+02 | 2.33F+02 | 2.33F+02 | 2.33F+02 | 2.33F+02 | 2.33F+02 | 2.33E+02 | 2.33F+02 | 2.33E+02 | | |
| | tc 98 | 1.36E-03 | 1.36E-03 | 2.33E+02 1.36E-03 | 1.35E-03 | 1.35E-03 | 1.35E-03 | 1.35E-03 | 1.358-03 | 1.34E-03 | 1.32E-03 | 1.31E-03 | | |
| | rb 99 | nnexnn | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .002.700 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | | |
| | 8F 99 | .00E+00 | .UUE+UU | .00E+00 | .00E+00 | .00E+00 | .DOE+00 | .UUE+UU | .005+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 | | |
| | mo 98 tc 98 rb 99 sr 99 y 99 zr 99 | .00E+00 .00E+00 .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 | .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 | | |
| | nb 99 nb 99m | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | | |
| | nb 99m | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 | | |
| | mo 99 tc 99 | 2.03F+02 | 2.02E+02 | .00E+00 1.99E+02 | 1.96E+02 | .00E+00 1.92E+02 | 1.89E+02 | 1.86E+02 | 1.83E+02 | 1.66E+02 | 1.202702 | 1.01E+02 | | |
| | tc 99m ru 99 | .00E+00 2.71E+01 | .00E+00 | .00E+00 3.17E+01 | .00E+00 | .00E+00 | .00E+00 4.12E+01 | .00E+00 | .00E+00 4.74E+01 | .00E+00 | .00E+00 1.11E+02 | .00E+00 | | |
| | ru 99 | 7 71EAN1 | | | | | | | | | | | | |
| | -5100 | 005+00 | 2.042+01 | 3.1/2401 | 3.49E+U1 | 3.81E+U1 | 4.125+01 | 4.43E+U1 | 4./42+03 | 0.456+01 | 1.11E+U2 | 1.29E+02 | | |
| | rh inn | UUETUU | .00E+00 .00E+00 | .00E+00 .00E+00 | .00E+00 .00E+00 | .00E+00 .00E+00 | OOF+DO | .00E+00 .00E+00 | .00E+00 .00E+00 | .00E+00 .00E+00 | .00F+00 | .00F+00 | | |
| • | rh inn | UUETUU | .00E+00 .00E+00 | .00E+00 .00E+00 | .00E+00 .00E+00 | .00E+00 3.81E+01 .00E+00 .00E+00 | OOF+DO | .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 | 1.34E-03 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 1.66E+02 .00E+00 6.45E+01 .00E+00 .00E+00 | .00F+00 | .00F+00 | | |
| 1 | rh inn | UUETUU | 1.36E-03 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 2.02E+02 .00E+00 2.84E+01 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 | 1.35E-03 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 1.96E+02 .00E+00 3.49E+01 .00E+00 .00E+00 | .00E+00 .00E+00 | OOF+DO | 1.35E-03 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 1.86E+02 .00E+00 4.43E+01 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 | .00F+00 | .00F+00 | . 89 | |
| 1 0 | rh inn | UUETUU | .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 decay | .00E+00 .00E+00 .00E+00 | OOF+DO | .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 | .00F+00 | .00F+00 | · 89 | |
| | rh inn | UUETUU | .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 20gwd/mtu | .00E+00 .00E+00 .00E+00 decay nuclid | .00E+00 .00E+00 .00E+00 .00E+00 | OOF+DO | .00E+00 .00E+00 .00E+00 .00E+00 | 4.74E+03 .00E+00 .00E+00 .00E+00 | 0.45E+01 .00E+00 .00E+00 .00E+00 fission | .00F+00 | .00F+00 | · 89 | |
| | rh inn | UUETUU | 2.04E+01 .00E+00 .00E+00 .00E+00 , 3.00Ht%, | .00E+00 .00E+00 .00E+00 .00E+00 20gwd/mtu 45000. yr .00E+00 | 3.49E+01 .00E+00 .00E+00 decay nuclid basis: 50000. yr .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 e concentrr sper 8&W as 55000. yr | OOF+DO | 4.435+01 .00E+00 .00E+00 .00E+00 | 00E+00 .00E+00 .00E+00 .00E+00 | 0.45E+01 .00E+00 .00E+00 .00E+00 fission | .00F+00 | .00F+00 | : 89 | |
| | rh inn | UUETUU | 2.04E+01 .00E+00 .00E+00 .00E+00 , 3.00mt%, 40000. yr .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 20gwd/mtu 45000. yr .00E+00 .00E+00 | 3.49E+07 .00E+00 .00E+00 decay nuclid basis: 50000. yr .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 e concentra sper 82W as 55000. yr .00E+00 .00E+00 | OOF+DO | 4.435+01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | for grams 70000. yr1 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 fission | .00F+00 | .00F+00 | : 89 | |
| | rh inn | UUETUU | 2.04E+01 .00E+00 .00E+00 .00E+00 , 3.00Ht%, 40000. yr .00E+00 .00E+00 | 3.172+01 .00E+00 .00E+00 .00E+00 20gwd/mtu 45000. yr .00E+00 .00E+00 2.63E+02 | 3.49E+01 .00E+00 .00E+00 .00E+00 decay nuclid basis 50000. yr .00E+00 .00E+00 .2.63E+02 | 3.818-91 .00E+00 .00E+00 .00E+00 e concentra sper 82W as 55000. yr .00E+00 .00E+00 .00E+00 2.63E+02 | OOF+DO | 4.43±01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .2.63E+02 | for grams 70000. yr1 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 fission .00000. yr2 .00E+00 .00E+00 .00E+00 2.63E+02 | .00F+00 | .00F+00 | : 89 | |
| | rh inn | UUETUU | 2.04E+01 .00E+00 .00E+00 .00E+00 , 3.00Ht%, 40000. yr .00E+00 .00E+00 .00E+00 2.63E+02 .00E+00 | 3.172+01 .00E+00 .00E+00 .00E+00 20gwd/mtu 45000. yr .00E+00 .00E+00 .00E+00 2.63E+02 .00E+00 | 3.49E+01 .00E+00 .00E+00 .00E+00 decay nuclid basis 50000. yr .00E+00 .00E+00 .00E+00 2.63E+02 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | OOF+DO | 4.43±+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .2.63E+02 .00E+00 | for grams 70000. yr1 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 fission .00E+00 .00E+00 .00E+00 .00E+00 .2.63E+02 | .00F+00 | .00F+00 | : 89 | |
| | rh inn | UUETUU | 2.04E+01 .00E+00 .00E+00 .00E+00 , 3.00wt%, 40000. yr .00E+00 .00E+00 2.63E+02 .00E+00 1.89E+01 | 3.172+01 .00E+00 .00E+00 .00E+00 20gwd/mtu 45000. yr .00E+00 .00E+00 .00E+00 2.63E+02 .00E+00 1.89E+01 | 3.49E+01 .00E+00 .00E+00 .00E+00 decay nuclid basis 5 50000.yr .00E+00 .00E+00 .00E+00 2.63E+02 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 1.89E+01 | OOF+DO | 4.43±01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 2.63E+02 .00E+00 1.89E+01 | for grams 70000. yr1 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 2.63E+02 .00E+00 1.89E+01 | .00E+00 .00E+00 .00E+00 .00E+00 fission .00E+00 .00E+00 .00E+00 .00E+00 1.89E+01 | .00F+00 | .00F+00 | : 89 | |
| | rh inn | UUETUU | 2.04E+01 .00E+00 .00E+00 .00E+00 , 3.00wt%, 40000. yr .00E+00 .00E+00 2.63E+02 .00E+00 1.89E+01 .00E+00 | 3.172+01 .00E+00 .00E+00 .00E+00 20gwd/mtu 45000. yr .00E+00 .00E+00 2.63E+02 .00E+00 1.89E+01 .00E+00 | 3.49E+01 .00E+00 .00E+00 .00E+00 decay nuclid basis 5 50000.yr .00E+00 .00E+00 .00E+00 1.89E+01 .00E+00 | 3.818-91 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 2.63E+02 .00E+00 1.89E+01 .00E+00 | OOF+DO | 4.43±01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 2.63E+02 .00E+00 1.89E+01 .00E+00 | for grams 70000. yr1 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 2.63E+02 .00E+00 1.89E+01 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 fission .00E+00 .00E+00 .00E+00 .00E+00 1.89E+01 .00E+00 | .00F+00 | .00F+00 | : 89 | |
| | rh inn | UUETUU | 2.04E+01 .00E+00 .00E+00 .00E+00 , 3.00wt%, 40000. yr .00E+00 .00E+00 2.63E+02 .00E+00 1.89E+01 .00E+00 .00E+00 | 3.172+01 .00E+00 .00E+00 .00E+00 20gwd/mtu 45000. yr .00E+00 .00E+00 2.63E+02 .00E+00 1.89E+01 .00E+00 .00E+00 | 3.49E+01 .00E+00 .00E+00 .00E+00 decay nuclid basis 5 50000.yr .00E+00 .00E+00 .00E+00 1.89E+01 .00E+00 .00E+00 | 3.818-91 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 2.63E+02 .00E+00 1.89E+01 .00E+00 .00E+00 | OOF+DO | 4.43±01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 1.89E+01 .00E+00 .00E+00 | for grams 70000-90 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 2.63E+02 .00E+00 1.89E+01 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 fission .00E+00 .00E+00 .00E+00 .00E+00 1.89E+01 .00E+00 .00E+00 .00E+00 | .00F+00 | .00F+00 | : 89 | |
| | rh inn | UUETUU | 2.04E+01 .00E+00 .00E+00 .00E+00 ,3.00wt%, 40000.yr .00E+00 .00E+00 2.63E+02 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 3.172+01 .00E+00 .00E+00 .00E+00 20gwd/mtu 45000. yr .00E+00 .00E+00 2.63E+02 .00E+00 .00E+00 .00E+00 .00E+00 | 3.49E+01 .00E+00 .00E+00 .00E+00 decay nuclid basis 5 50000.yr .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 3.818-91 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 1.89E+01 .00E+00 .00E+00 .00E+00 | OOF+DO | 4.43±01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 1.89E+01 .00E+00 .00E+00 .00E+00 | for grams 70000 yr1 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 1.89E+01 .00E+00 .00E+00 .00E+00 | .00F+00 | .00F+00 | e 89 | |
| | rh inn | UUETUU | 2.04E+01 .00E+00 .00E+00 .00E+00 , 3.00wt%, 40000. yr .00E+00 .00E+00 2.63E+02 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 3.172+01 .00E+00 .00E+00 .00E+00 20gwd/mtu 45000. yr .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 3.49E+01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | OOF+DO | ### 4.35±01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 1.89E+01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | for grams 70000 yr1 .00E+00 | 00E+00 .00E+00 .00E+00 .00E+00 fission 00000. yr2 .00E+00 .00E+00 .00E+00 1.89E+01 .00E+00 .00E+00 .00E+00 .00E+00 | .00F+00 | .00F+00 | e 89 | |
| | rh inn | UUETUU | 2.04E+01 .00E+00 .00E+00 .00E+00 ,3.00wt%, 40000.yr .00E+00 .00E+00 2.63E+02 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 3.172+01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 3.49E+01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | OOF+DO | ### 435+01 .00E+00 | for grams 70000 yr1 .00E+00 | 00E+00 .00E+00 .00E+00 .00E+00 fission 00000. yr2 .00E+00 .00E+00 .00E+00 1.89E+01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00F+00 | .00F+00 | e 89 | |
| | rh inn | UUETUU | 2.04E+01 .00E+00 .00E+00 .00E+00 .3.00wt%, 40000.yr .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 3.172+01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 3.49E+01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 3.818+01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | OOF+DO | ### 435+01 .00E+00 | ### ################################## | ### ### ############################## | .00F+00 | .00F+00 | · 89 | |
| | rh inn | UUETUU | 2.04E+01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 3.17/±01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 3.49E+01 .00E+00 | 3.818+01 .00E+00 | OOF+DO | 4.43±+01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 2.63E+02 .00E+00 | ### ################################## | ## 100 | .00F+00 | .00F+00 | e 89 | |
| | rh inn | UUETUU | 2.04E+01 .00E+00 .00E+00 .00E+00 .3.00wt%, 40000.yr .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 3.17/±01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 3.49E+01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | OOF+DO | 4.43±+01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 2.63E+02 .00E+00 | # .74E+01 .00E+00 | ## ## ## ## ## ## ## ## ## ## ## ## ## | .00F+00 | .00F+00 | e 89 | |
| | rh inn | UUETUU | 2.04E+01 .00E+00 | 3.172+01 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 3.49E+01 .00E+00 | 3.818+01 .00E+00 | OOF+DO | 4.43±+01 .00E+00 | ###################################### | ## ## ## ## ## ## ## ## ## ## ## ## ## | .00F+00 | .00F+00 | . 89 | |
| | rh inn | UUETUU | 2.04E+01 .00E+00 | 3.172+01 .00E+00 | 3.49E+01 .00E+00 | 3.818+01 .00E+00 | OOF+DO | 4.43±01 .00E+00 | ###################################### | ## ## ## ## ## ## ## ## ## ## ## ## ## | .00F+00 | .00F+00 | . 89 | |
| | rh inn | UUETUU | 2.04E+01 .00E+00 | 3.172+01 .00E+00 | 3.49E+01 .00E+00 | .00E+00 | OOF+DO | 4.35±01 .00E+00 | ###################################### | ### ################################## | .00F+00 | .00F+00 | . 89 | |
| | rh inn | UUETUU | 2.04E+01 .00E+00 | 3.176+01 .00E+00 | 3.49E+01 .00E+00 | 3.818+01 .00E+00 | OOF+DO | 4.35±01 .00E+00 | #.74E+01 .00E+00 | ## ## ## ## ## ## ## ## ## ## ## ## ## | .00F+00 | .00E+00 .00E+00 | . 89 | |

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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 89
                                                                                                                                                                            .00E+00
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                                                                                                                                                                                                                                              .00E+00
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                rh108
               rh108m
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| Feb | 16 10:07 | 1996 Fil | le Name: /c | users/davis | s/scale/sas | 2h/UCFTIME | /s3020ucfo | .out BBA | 000000-017 | 17-0200-00 | 012 REV 01 | ATTACHMENT | II - P | age 90 |
|-----|---|---|--|---|---|--|--|--|---|--|--|---|--------|--------|
| | pd108 | 3.25E+01 | 3.25E+01 .00E+00 | 3.25E+01 | 3.25E+01 .00E+00 | 3.25E+01 .00E+00 | 3.25E+01 | 3.25E+01 .00E+00 | 3:25E+01 | 3.25E+01 .00E+00 .00E+00 4.70E-05 | 3.25E+01 .00E+00 | 3.25E+01 | | |
| | ag108 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | 00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 | | |
| | ag108m cd108 | .00E+00 4.70E-05 | .00E+00 4.70E-05 | .00E+00 4.70E-05 | .00E+00 4.70E-05 | .00E+00 4.70E-05 | 4.70E-05 | .00E+00 4.70E-05 .00E+00 .00E+00 .00E+00 | .00E+00 4.70E-05 | 4.70E-05 | 4.70E-05 | 4.70E-05 | | |
| | zr109 nb109 mo109 | .00E+00 | .00E+00 .00E+00 .00E+00 | .OUE+00 | .00E+00 | .00E+00 | .00E+00 | .00+300 | .00E+00 | .00E+00 | .00E+00 | .00£+00 | | |
| | nb109 | .00E+00 | -00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 | | |
| | +^1na | .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 | .00F+00 | .00E+00 | | |
| | ru109 rh109 rh109m pd109 pd109m ag109 | -00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 | .00E+00 | | |
| | rh109m | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 | | |
| | pd109 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+U1 | 2.19E+01 | | 2.19E+01 | 2.19E+01 | 2.19F+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 | .UUE+UU | .00E+00 .00E+00 | | |
| | ag109m cd109 nb110 mo110 tc110 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 | .00E+00 .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 | | ٠, |
| | tc110 | .00E+00 | .00E+00 | .00E+00 | DOE+DO | DUETUU | .00E+00 | .00E+00 | .00E+00 | .UUE+UU | .00E+00 | .00E+00 .00E+00 | | |
| | ru110 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 | .00E+00 | .00E+00 | _00F+00 | .00E+00 .00E+00 9.64E+00 | .00E+00 | | |
| | pd110 ag110 | 9.64E+00 | 9.64E+00 .00E+00 | 9.64E+00 | 9.64E+00 | 9.64E+00 | 9.64E+00 .00E+00 | 9.64E+00 | 9.64E+00 | 9.64E+00 .00E+00 | 9.64E+00 .00E+00 | 9.64E+00 | | |
| | agilu agilom | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 9.64E+00 .00E+00 | .00E+00 | .00E+00 .00E+00 9.64E+00 .00E+00 | .00E+00 .00E+00 9.64E+00 .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 | | |
| 1 | _ | DEU 15v15 | 3 00u+Y | 20aud/m*ii | decey | | | | | fission | nroducts | DAGE | 91 | |
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| | | 1-1+1-1 | 40000 VP | 45000 ve | SAAAA VA | 55000 VP | 40000 vc | 45000 Ve | 70000 001 | 00000 | 000000 002 | 50000 vr | | |
| | cd110 | initial 5.76E+00 | 40000. yr 5.76E+00 | 45000. yr 5.76E+00 | 50000. yr 5.76E+00 | 55000. yr 5.76E+00 | 60000. yr 5.76E+00 | 65000. yr 5.76E+00 | 70000. yr1 5.76E+00 | 00000. yr2 | 00000. yr2 | 50000. yr 5.76E+00 | | |
| | cd110 nb111 | initial 5.76E+00 .00E+00 | 40000. yr 5.76E+00 .00E+00 | 45000. yr 5.76E+00 .00E+00 | 50000. yr 5.76E+00 .00E+00 | 55000. yr 5.76E+00 .00E+00 | 60000. yr 5.76E+00 .00E+00 | 65000. yr 5.76E+00 .00E+00 | 70000. yr1 5.76E+00 .00E+00 | 00000. yr2 5.76E+00 .00E+00 | 00000. yr2 5.76E+00 .00E+00 | 5.76E+00 .00E+00 | | |
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| | nb111 | .00E+00 | 40000. yr 5.76E+00 .00E+00 .00E+00 .00E+00 | 45000. yr 5.76E+00 .00E+00 .00E+00 .00E+00 | .00E+00 | | | 65000. yr 5.76E+00 .00E+00 .00E+00 .00E+00 | .00E+00 | .00E+00 | 00000. yr2 5.76E+00 .00E+00 .00E+00 .00E+00 | 5.76E+00 5.76E+00 .00E+00 .00E+00 .00E+00 | | • |
| | nb111 mo111 tc111 ru111 rh111 | .00E+00 .00E+00 .00E+00 | 40000. yr 5.76E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 45000. yr 5.76E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 | | | 65000. Yr 5.76E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 | .00E+00 | 00000. yr2 5.76E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 | | • |
| | nb111 mo111 tc111 ru111 rh111 | .00E+00 .00E+00 .00E+00 | 40000. yr 5.76E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 45000. yr 5.76E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 | | | 65000. Yr 5.76E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 | 00000. yr2 5.76E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 | | • |
| | nb111 mo111 tc111 rull1 rh111 pd111 pd111m | .00E+00 .00E+00 .00E+00 .00E+00 | 40000. yr 5.76E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 45000.yr 5.76E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 | | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 65000. Yr 5.76E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | | • |
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| | nb111 mo111 tc111 rull1 rh111 pd111 pd111m | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 40000. yr 5.76E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 5.04E+00 .00E+00 | 45000. yr 5.76E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 5.04E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | | • |
| | nbili molil telli rulli rhill pdill pdill agill agill agill cdill cdill molil | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 40000. yr 5.76E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | 45000. yr 5.76E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | | • |
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| Feb 16 10: | 07 1996 Fi | le Name: / | users/davi: | s/scale/sas | 2h/UCFTIME | /s3020ucfo | .out BBA | .900000-017 | 17-0200-00 | 012 REV 01 | ATTACHHENT | 11 - | Page ' | 91 |
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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFT1HE/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 92
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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 94

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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 97
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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 98

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| Part B | B&W 15x15, | 3.00wt%, | 20gud/mtu | decay | | | | | fission | products | page | 9 |
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| sm154 eu154 gd154 la1555 pr1555 nd1555 eu1555 gd1556 gd1556 | 9.08F+00 | 0.08F+00 | 9_08F+00 | 9.08F+00 | 9.08F+00 | 9.08F+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 | |
| ad154 | 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 | |
| (a155 | .005400 | | _uuetuu | | Luuetuu | LUCTUU | -005700 | | -uuc vuu | . UUCTUU | .UUETUU | |
| ce155 | .00E+00 | .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 | .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 | .00+400 | :00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 .00E+00 | .00E+00 | .00E+00 | .00E+00 | |
| 8m155 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | |
| eu122 | .00E+00 | .00E+00 | .00E+00 | .005+00 | .00E+00 | .00E+00 | .00E+00 | .005+00 | .005+00 | .005+00 | .00E+00 | |
| 80155 | .00E+00 3.18E+00 | .00E+00 3.18E+00 | .00E+00 3.18E+00 | .00E+00 3.18E+00 | .00E+00 3.18E+00 | .00E+00 3.18E+00 | .00E+00 3.18E+00 | .00E+00 3.18E+00 | .00E+00 3.18E+00 | .00E+00 3.18E+00 | .00E+00 3.18E+00 | |
| Ca15-6 | .00E+00 | 005400 | .00E+00 | 005+00 | 005+00 | .00E+00 | .00E+00 | 005+00 | .006+00 | .005+00 | .00E+00 | |
| 00156 | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 .00E+00 | .00E+00 .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 | |
| Da 156 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00F+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 9.32E+00 .00E+00 | .00E+00 .00E+00 9.32E+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+0D | 9.32E+00 | 9,32E+00 | 9.32E+00 | 9.32E+00 .00E+00 | 9.32E+00 | 9.32E+00 | 9.32E+00 .00E+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 | * 005+00 | .00E+00 | |
| pr157 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .005+00 | .00E+00 | .00E+00 | |
| na12/ | .00E+00 | .00E+00 | .00E+00 | .005+00 | .005+00 | .005+00 | .D0E+00 .D0E+00 | ,005+00 | .UUE+UU | .005+00 | .00E+00 .00E+00 | |
| ce156 pr1566 nd1566 sm1566 eu1566 ce157 pr1577 pm1577 eu1577 pm1577 eu1577 pr1588 | .00E+00 | .00E+00 | .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 | .004300 | .00E+00 | .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 | .00E+00 | |
| eu157 | -00E+00 | .00E+00 | .00E+00 | 00E+00 3.11E-02 .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | _00F+00 | .00E+00 | |
| ad157 | .00E+00 3.11E-02 | 3.11E-02 | 3.11E-02 | 3.11E-02 | 3.11E-02 .00E+00 .00E+00 | 3.11E-02 | 3.11E-02 | 3.11E-02 | 3_11F-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 | .D0E+00 | |
| nd158 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+DO | .00E+00 | .00E+00 | กกระกก | · .00E+00 | .00E+00 | .00E+00 | |
| pm158 sm158 | .00E+00 | .DOE+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 | .00E+00 | .00E+00 | |
| sm158 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .DOE+00 | .00E+00 | .00E+00 | .00E+00 | |
| eu158 | .00E+00 | .00E+00 | .00E+00 3.25E+00 .00E+00 .00E+00 | .00E+00 3.25E+00 .00E+00 .00E+00 | .00E+00 3.25E+00 .00E+00 .00E+00 | .00E+00 3.25E+00 .00E+00 | .00E+00 | UUE+UU | .00E+00 3.25E+00 .00E+00 | .00E+00 3.25E+00 | .00E+00 3.25E+00 | |
| 80128 | 3.25E+00 .00E+00 | 3.25E+00 .00E+00 | 3.23E+UU | 3.23E+UU | 3.236+00 | 3.236+00 | 3.25E+00 .00E+00 | 3.236+04 | 3.235400 | .00E+00 | .00E+00 | |
| pr 129 | .00E+00 | .00E+00 | 005+00 | 005400 | 005+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | . በበ೯+በበ | .00E+00 | |
| D=150 | .00E+00 | .00E+00 | .00E+00 | NNEANO | .00F+00 | UUETUU | .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 | .00E+00 .00E+00 .00E+00 | .00E+00 | |
| eu159 | .00E+00 | .00E+00 | .00E+00 .00E+00 | .00E+00 | .00E+00 | .80E+00 | .00E+D0 | .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 | DOE+00 | .00E+00 | ,00E+00 | |
| smilo eu158 gd158 pr159 nd159 pm159 sm159 eu159 gd159 tb159 nd160 | 5.03E-01 | 5.03E-01 | 5.03E-01 | .00E+00 .00E+00 .00E+00 5.03E-01 | 5.USE-U1 | .00E+00 .00E+00 .00E+00 5.03E-01 | 5.03E-01 | .00E+00 .00E+00 .00E+00 .00E+00 5.03E-01 | .00E+00 .00E+00 .00E+00 .00E+00 | 3.036-01 | 5.03E-01 | |
| nd160 | .00E+00 | .00E+00 | .00E+00 | -005+00 | .00E+00 | .005+00 | .002+00 | .uue+uu | .002700 | .00E+00 | .00E+00 | |
| pm160 sm160 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | -00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 | |
| 2416U | .00E+00 | .00E+00 | .00E+00 | 005400 | .00E+00 | .00E+00 | .00E+00 | 005400 | 005400 | 005+00 | .00E+00 | |
| eu160 gd160 | 2.25E-01 | 2.25E-01 | 2.25E-01 | .00E+00 2.25E-01 | 2.25F-01 | .00E+00 2.25E-01 | 2.25E-01 | .00E+00 2.25E-01 | .00E+00 2.25E-01 | .00E+00 2.25E-01 | 2.25E-01 | |
| #h160 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00F+00 | .00F+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | |
| tb160 dy160 nd161 | 3.93E-02 | 3.93E-02 | .00E+00 3.93E-02 | .00E+00 3.93E-02 .00E+00 .00E+00 | .00E+00 3.93E-02 .00E+00 | .00E+00 3.93E-02 | 3.93E-02 | .00E+00 3.93E-02 | .00E+00 3.93E-02 | .00E+00 3.93E-02 | 3.93E-02 | |
| nd161 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+0D | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+D0 | |
| pm161 | .00E+00 | .00E+00 | .DDE+DD | .00E+00 | .00E+00 | .00E+00 | .00E+00 | _00F+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 | .00F+00 | .00E+00 | |
| pm161 sm161 eu161 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | .00E+00 | |
| gd161 tb161 | .00E+00 | .00E+00 | .00E+00 | .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 | .00E+00 | .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 .00E+00 .00E+00 | .00E+00 .00E+00 | .00E+00 .00E+00 | |
| | | | _ UUEFUU | | UUTSUU | .uuetul | LUUETUU | LUUETUU | LUUETUU | .UUETUU | . UUETUU | |

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eu162
gd162
   tb162
  tb162m
 dy162
sm163
eu163
gd163
tb163
  tb163m
 dy163
sm164
  eu164
  gd164
   tb164
   dy164
  sm165
  eu165
 gd165
tb165
dy165
dy165m
ho165
dy166
ho166
ho166m
 er 167
 er167m
er168
 yb168
  er169
tm169
 yb169
  er170
tm170
 tm170m
yb170
   er171
    tm171
 yb171
er172
   tm172
  yb172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   actinides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             page 101
  Part B BEW 15x15, 3.00wt%, 20gwd/mtu decay
                                                                                                                                                                                                                                                 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams
                                               initial300000. yr500000. yr99999999. yr
7.18E+01 7.39E+01 8.21E+01 9.90E+01
2.71E-15 2.61E-15 2.01E-15 1.18E-15
9.99E-11 1.00E-10 1.01E-10 1.01E-10
2.10E-15 2.46E-15 3.99E-15 7.90E-15
 tl206
tl207
tl208
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1.21E-11 1.33E-11 1.59E-11 1.52E-11 3.43E+01 4.31E+01 7.35E+01 1.23E+02 1.49E+00 1.87E+00 3.42E+00 7.27E+00
 tl209
                  pb206
 pb207
 pb208
 pb209
pb210
 pb211
pb212
pb214
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bi208
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bi210m
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bi212
bi213
 bi214
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po211m
po211
 po212
po213
po214
 po215
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rn219
rn220
rn222
fr221
 fr223
ra222
ra223
ra224
ra225
  ra226
 razzo
razzo
aczzo
aczzo
aczzo
thzzo
thzzo
                                                                     .00E+00 .00E+00
6.17E-07 6.17E-07
4.01E-09 7.94E-09
1.57E+00 1.49E+00
                   2.11E-09 2.48E-09 4.01E-09 7.94E-09
1.19E+00 1.31E+00 1.57E+00 1.49E+00
2.14E+01 2.06E+01 1.60E+01 9.46E+00
3.62E-08 3.62E-08 3.61E-08
  th228
  th229
  th230
 th231
 Part B BEW 15x15, 3.00wtX, 20gwd/mtu decay
                                                                                                                                                                                                                                                    actinides
                                                                                                                                                                                                                                                                                                  page 102
                                                                                                     nuclide concentrations, grams
basis =per 8£W assembly, 0.409 mthm for grams
initial300000. yr500000. yr999999. 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
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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 101
                9.67E-11
                             9.67E-11
                                          9.67E-11 9.67E-11
      pa234
      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
                4.36E-09
2.51E+01
                             3.23E-09
2.73E+01
                                                       4.75E-11
3.05E+01
       u232
                                          9.67E-10
       u233
                                          3.16E+01
       u234
                             6.12E+01
                                           4.51E+01
                                                       2.91E+01
                 6.68E+01
       u235
                8.89E+03
                             8.89E+03
                                          8.89E+03 8.89E+03
                2.06E+03
3.22E-21
                             2.06E+03
5.45E-23
4.42E+05
                                          2.05E+03
                                                       2.01E+03
.00E+00
       u236
       u237
                                           4.48E-30
                 4.42E+05
                                                        4.42E+05
       u238
                                          4.42E+05
       u239
u240
u241
                               .00E+00
                                                        .00E+00
2.53E-17
                  .00E+00
                                            .00E+00
                                           1.87E-17
                 1.17E-17
                              1.34E-17
                  .00E+00
                                            .00E+00
                                                         .00E+00
                               .00E+00
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np2356m
np2366m
np2336
np2337
np2438
np2440m
np2441
pu2337
pu2338
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                  .00E+00
                               .00E+00
                                            .00E+00
                                            .00E+00
                 .00E+00
                               .00E+00
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5.01E+02
                                          1.82E-05 8.93E-07
4.62E+02 3.93E+02
                              6.08E-05
                             4.93E+02
                  .00E+00
                               .00E+00
                                            .00E+00
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1.02E-21
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1.64E-21 2.22E-21
.00E+00 .00E+00
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pu240
pu241
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2.34E-09
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                              4.75E-01
                                           1.51E-03
                              6.49E-11
                                           7.61E-11
                1.06E-13
                              1.80E-15
                                           1.48E-22
                                                         .00E+00
      pu242
                 4.46E+01
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                              4.06E+01
                                          2.80E+01
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.00E+00
.00E+00
.00E+00
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pu244
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.00E+00
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pu246
am239
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am242m
am242
am243
am244m
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                .00E+00
1.48E-28
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                                                         .00E+00
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      am246
                                          6.97E-33
                                                        .00E+00
      cm241
                               .00E+00
                                            .00E+00
                  .00E+00
                                                                                                                                                           page 103
                                                                                                                                    actinides
      Part B B&W 15x15, 3.00mtX, 20gmd/mtu decay
                                                          nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams
                  initial300000. yr500000. yr999999. yr
.00E+00 .00E+00 .00E+00 .00E+00
.00E+00 .00E+00 .00E+00 .00E+00
      cm242
cm243
cm244
                                                       .00E+00
1.73E-37
                  .00E+00
                               .00E+00
                                            .00E+00
      CM245
                 6.39E-11
                             1.08E-12 8.90E-20
      cm246
cm247
                             2.26E-21
3.20E-05
                                                      2.13E-33
3.10E-05
                                           9.53E-25
                3.85E-19
                3.21E-05
                                          3.17E-05
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cm249
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                                                       2.14E-07
                9.86E-07
                             8.91E-07
                                                         .00E+00
                  .00E+00
                                            .00E+00
                               .00E+00
      cm250
                 1.41E-19
                             1.92E-20
                                          6.65E-24 1.48E-32
      cm251
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                               .00E+00
                                            .00E+00
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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 102
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bk250
                                                           .00E+00
                                              .00E+00
                 .00E+00 .00E+00
4.15E-28 5.67E-29
                                            1.96E-32
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                4.15E-28 5.67E-29
.00E+00 .00E+00
.00E+00 .00E+00
1.48E-23 2.02E-24
.00E+00 .00E+00
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cf250
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                                                           .00E+00
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                                                         1.56E-36
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                                                            .00E+00
      cf252
cf253
cf254
cf255
es254
es254m
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                                                            -00E+00
                                              .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
      es255
                 .00E+00 .00E+00 .00E+00
4.54E+05 4.54E+05 4.54E+05
       $250
                                                           .00E+00
    total
                                                         4.54E+05
                                                                                                                                                                 page 104
                                                                                                                              fission products
      Part B B&W 15x15, 3.00mt%, 20gmd/mtu decay
                                                            nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams
                initial300000. yr500000. yr9999999. yr
.00E+00 .00E+00 .00E+00 .00E+00
                                           7.49E-05 7.49E-05
                                           2.88E-06 2.88E-06
5.54E-06 5.54E-06
2.97E-05 2.40E-05
      be 9
be 10
       c 14
                                            3.98E-32
                                                           .00E+00
                                             .00E+00
      ni 66
                                                           .00E+00
                                                           .00E+00
      cu 66
                                            1.75E-07
                                                         1.75E-07
                                            .00E+00
2.32E-08
                                                         .00E+00
2.32E-08
      cu 67
      zn 67
                                                         2.07E-09
.00E+00
      zn 68
                                            2.07E-09
      zn 69
                                              .00E+00
                                                           .00E+00
      zn 69m
                                              .00E+00
                                            7.63E-08
      ga 69
                                                          7.63E-08
                                           2.03E-06
.00E+00
                                                          2.03E-06
      zn 70
                                                           .00E+00
      ge 70
                                            2.79E-09
                                                          2.79E-09
                                                           .00E+00
                                              .00E+00
                                            .00E+00
2.00E-05
                                                            .00E+00
                                                          2.00E-05
      ga 71
ge 71
                                              .00E+00
                                                          .00E+00
                                                           .00E+00
      ge 71m
                                              .00E+00
      co 72
ni 72
                                              .00E+00
                                              .00E+00
                                                            .00E+00
      ni 72
cu 72
zn 72
ge 72
ge 72
co 73
ni 73
cu 73
                                              .00E+00
                                                            .00E+00
                                                            .00E+00
                                              .DOE+00
                                                            .00E+00
                                            1.30E-03
                                                          1.30E-03
                                              .00E+00
                                                           .00E+00
                                              .00E+00
                                                            .00E+00
                                                            .00E+00
      ga 73
ge 73
ge 73m
                                              .00E+00
                                                            .00E+00
                                            4.09E-03
                                                          4.09E-03
                                                            .00E+00
                                              .00E+00
                  .00E+00
.00E+00
                                .00E+00
      co 74
                                              .00E+00
                                                            .00E+00
      ni 74
                                              .00E+00
                                                           .00E+00
      cu 74
                                .00E+00
                                              .00E+00
                                                           .00E+00
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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 103
                                                    .00E+00
                            .00E+00
                                        .00E+00
                .00E+00
      zn 74
                                                    .00E+00
     ga 74
                                        .00E+00
     ge 74
co 75
ni 75
               3.49E-03
                           3.49E-03
                                                   3.49E-03
                                       3,49E-03
              3.49E-03
.00E+00
.00E+00
.00E+00
.00E+00
.00E+00
.00E+00
3.33E-02
.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
.33E-02
     zn 75
ga 75
                                                     .00E+00
                                         .00E+00
                                         .00E+00
                                                     .00E+00
      ge 75
                                         .00E+00
                                                     .00E+00
      ge 75m
                                       .00E+00
3.33E-02
                                                   3.33E-02
      as 75
     ni 76
                                         .00E+00
                                                     .00E+00
      cu 76
                             .00E+00
                                         .00E+00
                                                     .00E+00
     Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay
nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams
                                                                                                                                              page 105
                                                                                                                 fission products
              zn 76
     ge 76
     as 76
se 76
     ni 77
     cu 77
     zn 77
     ga 77
     ge 77
ge 77m
      45 77
     se 77
      se 77m
     ni 78
cu 78
     zn 78
     ga 78
ge 78
     as 78
     se 78
cu 79
      zn 79
     ga 79
ge 79
      48 79
     se 79
se 79m
              br 79
                                       1.40E+00
                                                   1.40E+00
     br 79m
kr 79
                                                     .00E+00
                                         .00E+00
                                         .00E+00
                                                     .00E+00
     cu 80
                                         .00E+00
                                                     .00E+00
                                         .00E+00
                                                     .00E+00
      zn 80
     ga 80
                                         .00E+00
                                                     .00E+00
     ge 80
                                         .00E+00
                                                     .00E+00
                                                  .00E+00
3.93E+00
.00E+00
                                         .00E+00
      as 80
                                       3.93E+00
.00E+00
      se 80
      br 80
                                         .00E+00
                                                     .00E+00
     br 80m
```

kr 80

cu 81 zn 81 .00E+00

.00E+00 .00E+00

1.50E-05

.00E+00

.00E+00

1.50E-05

.00E+00

.00E+00

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Feb 16 10:07 1996 File Name: /users/dayis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 104
                                 .00E+00
                   .00E+00
                                               .00E+00
      ga 81
                                                            .00+300
.00+300
.00+300
                                               .00E+00
      ge 81
      ās 81
                   .00E+00
                                 .00E+00
                                               .00E+00
      se 81
                                 .00E+00
                                               -00E+00
                               .00E+00
5.85E+00
2.68E-07
                   .00E+00
                                                             .00E+00
      se 81m
                                               .00E+00
                 5.85E+00
                                             5.85E+00
                                                           5.85E+00
2.75E-08
      br 81
                 3.16E-07
.00E+00
                                             1.40E-07
.00E+00
      kr 81
                                 .00E+0D
                                                             .00E+00
      kr. 81m
      zn 82
ga 82
                                 .00E+00
                                               .00E+00
                                                             .00E+00
                   .00E+00
                   .00E+00
                                 .00E+00
                                               .00E+00
                                                             .00E+00
                                                                                                                                  fission products
                                                                                                                                                                      page 106
      Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay
                                                              nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams
                   initial300000. yr500000. yr999999. yr
.00E+00 .00E+00 .00E+00 .00E+00
.00E+00 .00E+00 .00E+00 .00E+00
      ge 82
      as 82
                   .00E+00
                                               .00E+00
                                                             .00E+00
      as 82m
                                 .00E+00
                 .00E+00
9.54E+00
.00E+00
1.22E-01
.00E+00
.00E+00
.00E+00
.00E+00
.00E+00
.00E+00
.00E+00
                                             9.54E+00
.00E+00
                               9.54E+00
                                                           9.54E+00
      se 82
                                 .00E+00
                                                             .00E+00
      br 82
                                                             .00E+00
                                 .00E+00
                                               .00E+00
      br 82m
      kr 82
                               1.22E-01
                                             1.22E-01
                                                           1.22E-01
                                 .00E+00
                                               .00E+00
                                                             .00E+00
      zn 83
      ga 83
                                                           .00E+00
.00E+00
.00E+00
.00E+00
.00E+00
                                 .00E+00
.00E+00
.00E+00
                                               .00E+00
.00E+00
      ge 83
      as 83
      se 83
      se 83m
      br 83
kr 83
                                               .00E+00
                                1.35E+01
                                             1.35E+01
                  .00E+00
.00E+00
.00E+00
.00E+00
                                                             .00E+00
.00E+00
.00E+00
      kr 83m
                                 .00E+00
                                               .00E+00
      ga 84
ge 84
as 84
se 84
br 84
                                 .00E+00
                                               .00E+00
                                               .00E+00
                                                            .00E+00
.00E+00
                                 .00E+00
                                               .00E+00
                                 .00E+00
                                               .00E+00
                 .00E+00
.00E+00
3.28E+01
.00E+00
.00E+00
                                                           .00E+00
3.28E+01
.00E+00
                                 .00E+00
                                               .00E+00
                               3.28E+01
.00E+00
                                             3.28E+01
.00E+00
      kr 84
      ga 85
                                                             .00E+00
      ge 85
                                 .00E+00
                                               .00E+00
                                 .00E+00
                                               .00E+00
      as 85
      se 85
                                 .00E+00
                                               .00E+00
                                                             .00E+00
                   .00E+00
.00E+00
                                                            .00E+00
.00E+00
                                 .00E+00
                                               .00E+00
      se 85m
      br 85
      kr 85
                                 .00E+00
                                               .00E+00
                                                             .00E+00
      kr 85m
                   .00E+00
                                 .00E+00
                                               .00E+00
                                                          3.46E+01
.00E+00
.00E+00
.00E+00
                 3.46E+01
.00E+00
                               3.46E+01
.00E+00
                                             3.46E+01
      rb 85
      ge 86
                                               .00E+00
                 .00E+00
.00E+00
.00E+00
.00E+00
5.55E+01
                                 .00E+00
.00E+00
                                               .00E+00
      as 86
      se 86
                                               .00E+00
      br 86
                                                             .00E+00
      br 86m
                                 .00E+00
                                               .00E+00
                               5.55E+01
                                                           5.55E+01
      kr 86
                                             5.55E+01
      rb 86
                   .00E+00
                                 .00E+00
                                               .00E+00
                                                             .00E+00
                 .00E+00
6.45E-02
.00E+00
                                 .00E+00
                                               .00E+00
                                                             .00E+00
      rb 86m
                               6.45E-02
.00E+00
                                             6.45E-02
                                                           6.45E-02
      SF 86
      ge 87
                                               .00E+00
                                                             .00E+00
                                 .00E+00
                   .00E+00
                                               .00E+00
                                                             .00E+00
      as 87
                                               .00E+00
      se 87
                   .00E+00
                                                             .00E+00
      br 87
                                 .00E+00
                                               .00E+00
                                                             .00E+00
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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 105
                                    .00E+00
7.25E+01
                                                    .00E+00
7.25E+01
        kr 87
                       .00E+00
                                                                      .00E+00
                                                                    7.25E+01
       rb 87
                     7.25E+01
                                     6.20E-04
                                                    8.30E-04
                                                                     1.35E-03
       sr 87
                    5.68E-04
                                                                      .00E+00
                                       .00E+00
       8r 87m
                      .00E+00
                                                      .00E+00
                                       .00E+00
                                                      .00E+00
                                                                       .00E+00
        ge 88
                       .00E+00
                       .00E+00
                                      .00E+00
                                                       .00E+00
                                                                       .00E+00
        as 88
        se 88
                       .00E+00
                                       .00E+00
                                                       .00E+00
                                                                       .00E+00
                                                                                                                                                                                              page 107
                                                                                                                                                       fission products
       Part 8 B&W 15x15, 3.00xt%, 20gwd/mtu decay
                                                                        or nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams
                      initial300000. yr500000. yr5999999. yr
.00E+00 .00E+00 .00E+00 .00E+00
.00E+00 .00E+00 .00E+00 .00E+00
       br 88
kr 88
                    .00E+00 .00E+00
.00E+00 .00E+00
.00E+00 .00E+00
.00E+00 .00E+00
.00E+00 .00E+00
.00E+00 .00E+00
.00E+00 .00E+00
.00E+00 .00E+00
.00E+00 .00E+00
.00E+00 .00E+00
                                                     .00E+00 .00E+00
1.04E+02 1.04E+02
       rb 88
       sr 88
as 89
                                                       .00E+00
                                                                      .00E+00
                                                       .00E+00
                                                                       .00E+00
        se 89
                                                       .00E+00
                                                                       .00E+00
        br 89
                                                                    .00E+00
.00E+00
.00E+00
        kr 89
                                                       .00E+00
        rb 89
        sr 89
                                                       .00E+00
        y 89
y 89m
                                                     1.39E+02
                                                       .00E+00
                                                                       .00E+00
                      .00E+00
.00E+00
.00E+00
.00E+00
.00E+00
                                       .00E+00
                                                       .00E+00
        as 90
                                                                       _00E+00
                                                                       .00E+00
        se 90
                                      .00E+00
.00E+00
        br 90
                                                       .00E+00
                                                                       .00E+00
                                                       .00E+00
                                                                       .00E+00
        kr 90
                                                                    .00E+00
.00E+00
.00E+00
.00E+00
.00E+00
        rb 90
                                      .00E+00
.00E+00
        rb 90m
                                                       .00E+00
                                                       .00E+00
        sr 90
       y 90
y 90m
zr 90
                                     .00E+00
1.70E+02
                                                     .00E+00
1.70E+02
                    .00E+00
1.70E+02
.00E+00
                                       .00E+00
                                                                       .00E+00
        2r 90m
                                                       .00E+00
                                                                      .00E+00
                                                       .00E+00
        se 91
                                       .00E+00
                                      .00E+00
.00E+00
.00E+00
       br 91
kr 91
                                                       .00E+00
                                                                       .00E+00
        rb 91
                                                       .00E+00
                                                                       -00E+00
                                                                       .00E+00
        ar 91
                                    .00E+00
.00E+00
.00E+00
1.79E+02
.00E+00
.00E+00
                                                                    .00E+00
.00E+00
1.79E+02
.00E+00
         y 91
                                                       .00E+00
                                                     .00E+00
1.79E+02
         ý 91m
       zr 91
nb 91
                                                      .00E+00
.00E+00
       se 92
br 92
                                                                       _00E+00
                                                       .00E+00
                                                                       .00E+00
       kr 92
rb 92
sr 92
                                      .00E+00
.00E+00
                                                                      .00E+00
                                                       .00E+00
                                                       .00E+00
                                                                      .00E+00
       y 92
zr 92
nb 92
                                    .00E+00
1.89E+02
3.26E-08
                                                       .00E+00
                                                     1.89E+02
                                                                     1.89E+02
                                                     3.25E-08
                                                                    3.22E-08
                      .00E+00
.00E+00
.00E+00
                                                                      .00E+00
                                      .00E+00
                                                       .00E+00
        se 93
        br 93
kr 93
                                      .00E+00
.00E+00
                                                                      .00E+00
                                                       .00E+00
                                                       .00E+00
        rb 93
                                                       .00E+00
        sr 93
                                                                       .00E+00
                                                       .00E+00
        y 93
                       .00E+00
                                       .00E+00
                                                                       .00E+00
                    1.24E+02 1.21E+02 1.11E+02 8.82E+01 1.49E+01 1.76E+01 2.81E+01 5.06E+01
       zr 93
nb 93
```

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Feb 16 10:07 1996 File Name: /users/davis/scale/ses2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 106
              1.31E-03 1.28E-03 1.17E-03
                                                   9.30E-04
      nb 93m
                 .00E+00
                                         .00E+00
      br 94
                            .00E+00
                                                     .00E+00
      kr 94
                 .00E+00
                             .00E+00
                                         .00E+00
                                                     .00E+00
                             .00E+00
                                         -00E+00
                                                     .00E+00
      rb 94
                 .00E+00
                                                                                                                                                page 108
                                                                                                                  fission products
      Part B B&W 15x15, 3.00mt%, 20gmd/mtu decay
                                                      nuclide concentrations, grams
                                                      basis =per BEW assembly, 0.409 mthm for grams
                initial300000. yr500000. yr9999999. yr
.00E+00 .00E+00 .00E+00 .00E+00
      sr 94
               .00E+00 .00E+00
2.23E+02 2.23E+02
2.45E-08 4.44E-09
                                         .00E+00
                                                     .00E+00
                                       2.23E+02
                                                   2.23E+02
      zr 94
                           4.44E-09
.00E+00
                                       4.80E-12
      nb 94
                                                   1.84E-19
      nb 94m
                .00E+00
                                         .00E+00
                                                     .00E+00
                 .00E+00
.00E+00
.00E+00
.00E+00
                            .00E+00
                                         .00E+00
      br 95
                                                     .00E+00
                                                     .00E+00
      kr 95
                             .00E+00
                                         .00E+00
                                                     .00E+00
      rb 95
                                         .00E+00
      sr 95
                             .00E+00
                                                     .00E+00
      y 95
zr 95
                             .00E+00
                                                     .00E+00
                             .00E+00
                                         .00E+00
                                                     .00E+00
                                                     .00E+00
      nb 95
                             .00E+00
                                         .00E+00
               .00E+00
2.24E+02
.00E+00
.00E+00
.00E+00
.00E+00
.00E+00
2.32E+02
.30E+00
6.56E+00
                           .00E+00
2.24E+02
      nb 95m
                                         .00E+00
                                                   2.24E+02
.00E+00
                                       2.24E+02
      mo 95
      br 96
                             .00E+00
                                         .00E+00
                             .00E+00
                                         .00E+00
                                                     .00E+00
      kr 96
                             .00E+00
      rb 96
                                                     .00E+00
      sr 96
                             .00E+00
                                         .00E+00
                                                     .00E+00
                           .00E+00
2.32E+02
      y 96
                                         .00E+00
                                                     .00E+00
                                       2.32E+02
      zr 96
                                                    2.32E+02
      nb 96
                             .00E+00
                                         .00E+00
                                                     .00E+00
                           6.56E+00
.00E+00
      mo 96
                                       6.56E+00
                                                   6.56E+00
                                         .00E+00
      kr 97
                                                     .00E+00
                .00E+00
.00E+00
.00E+00
.00E+00
      rb 97
                             .00E+00
                                         .00E+00
                                                     .00E+00
      sr 97
                             .00E+00
                                         .00E+00
                                                     100E+00
                             .00E+00
      y 97
                                         .00E+00
                                                     .00E+00
      zr 97
                             .00E+00
                                         .00E+00
                                                     .00E+00
      nb 97
                             .00E+00
                                         .00E+00
                                                     .00E+00
                           .00E+00
2.17E+02
                                         .00E+00
                                                     .00E+00
      nb 97m
                                       2.17E+02
.00E+00
.00E+00
      mo 97
               2.17E+02
                                                   2.17E+02
                 .00E+00
.00E+00
.00E+00
.00E+00
      kr 98
                            .00E+00
                                                     .00E+00
                                                     .00E+00
      rb 98
      sr 98
                             .00E+00
                                         .00E+00
                                                     .00E+00
      y 98
                             .00E+00
                                         .00E+00
                                                     .00E+00
                             .00E+00
                                         -00E+00
                                                     .00E+00
      zr 98
      nb 98
                 .00E+00
                             .00E+00
                                         .00E+00
                                                     .00E+00
               .00E+00
2.33E+02
1.31E-03
                                         .00E+00
                                                   .00E+00
2.33E+02
1.16E-03
      nb 98m
                             .00E+00
                           2.33E+02
1.30E-03
                                       2.33E+02
      mo 98
                                       1.26E-03
.00E+00
      tc 98
      rb 99
                 .00E+00
                             .00E+00
                                                     .00E+00
                            .00E+00
                                         .00E+00
                                                     .00E+00
      sr 99
                 .00E+00
                                         .00E+00
                                                     .00E+00
                             .00E+00
      zr 99
      nb 99
                 .00E+00
                             .00E+00
                                         .00E+00
                                                     .00E+00
                             .00E+00
                                                     .00E+00
     nb 99m
                 .00E+00
                                         .00E+00
                            .00E+00
      mo 99
                 .00E+00
                                         .00E+00
                                                     .00E+00
                                       4.46E+01
                                                    8.64E+00
      tc 99
                1.01E+02
                           8.61E+01
                             .00E+00
                                                   .00E+00
2.22E+02
      tc 99m
                 .00E+00
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               1.29E+02
                           1.44E+02
                                       1.86E+02
      ru 99
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rh104 rh104m

pd104 y105 zr105

nb105 mo105 tc105 ru105 rh105

rh105m

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                                                           nuclide concentrations, grams basis =per B&W assembly, 0.409 mthm for grams
                  initial300000. yr500000. yr999999. yr
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      ru106
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      rh106m
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      ag110m
                                                                                                                                                             page 111
                                                                                                                            fission products
      Part B B&W 15x15, 3.00ut%, 20gud/mtu decay
                                                           núclide concentrations, grams
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                  basis =per B&W assembly, 0.409 mthm for grams initial300000. yr500000. yr999999. yr
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Part B B&W 15x15, 3.00mtX, 20gwd/mtu decay
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                                                                                                                                                                                                                           nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams
                                          initial300000. yr500000. yr999999. yr
4.57E-02 4.57E-02 4.57E-02 4.57E-02
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  Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           page 113
                                                                                                                                                                                                                                          nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams
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ag121
cd121
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                                                                                                                                                                                                                                               INFORMATION ONLY
                                                                      .00E+00
                                                                      .00E+00
in122m
sn122
sb122
                                                                                           1.31E+00
.00E+00
                                           1.31E+00
.00E+00
                                                                   1.31E+00
.00E+00
sb122m
te122
rh123
pd123
ag123
cd123
                                                                   .00E+00
4.68E-02
.00E+00
                                                                                          .00E+00
4.68E-02
.00E+00
                                              .00E+00
                                           4.68E-02
.00E+00
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                                              .00E+00
in123
in123m
sn123
sn123m
sb123
te123m
                                              .00E+00
.00E+00
.00E+00
                                          1.23E+00
3.68E-04
.00E+00
                                                                   1.23E+00
3.68E-04
                                                                                          1.23E+00
3.68E-04
                                                                      .00E+00
                                                                                              .00E+00
pd124
ag124
cd124
                                                                                             .00E+00
.00E+00
                                              .00E+00
                                                                       .00E+00
                                                                      .00E+00
                                              .00E+00
cd124
in124
sn124
sb124
sb124
sb124
pd125
cd125
in125
in125
                                                                                          .00E+00
.00E+00
.00E+00
.00E+00
.00E+02
.00E+00
                                           .00E+00
2.20E+00
.00E+00
                                                                   .00E+00
2.20E+00
.00E+00
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                                          .00E+00
3.98E-02
.00E+00
                                                                                             .00E+00
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.00E+00
.00E+00
                                              .00E+00
                                             .00E+00
.00E+00
sn125
sn125m
sb125
te125
te125m
                                           .00E+00
2.68E+00
.00E+00
                                                                  .00E+00
2.68E+00
.00E+00
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                                                                                          2.68E+00
                                                                                             .00E+00
.00E+00
                                              .00E+00
.00E+00
                                                                       .00E+00
pd126
                                                                      .00E+00
                      .DDE+DD
 ag 126
                                                                                              .00E+00
                      .00E+00
cd126
                   .00E+00 .00E+00
8.64E-01 6.11E-01
                                                                       .00E+00
                                                                                              .00E+00
 in126
                                                                  1.53E-01
                                                                                           4.77E-03
sn126
                                                                                                                                                                                                                      fission products
                                                                                                                                                                                                                                                                                 page 114
Part B B&W 15x15, 3.00mt%, 20gmd/mtu decay
                                                                                               nuclide concentrations, grams
basis *per B&W assembly, 0.409 mthm for grams
                  initial300000. yr500000. yr99999999. yr
4.10E-08 2.90E-08 7.25E-09 2.27E-10
3.12E-10 2.21E-10 5.52E-11 1.72E-12
4.10E+00 4.35E+00 4.81E+00 4.96E+00
1.22E-09 1.22E-09 1.22E-09
sb126
sb126m
                                          2.21E-10
4.35E+00
1.22E-09
.00E+00
                   4.10E+00
1.2E+09
.00E+00
.00E+00
.00E+00
.00E+00
                                                                  4.81E+00
1.22E-09
.00E+00
te126
xe126
ag127
                                                                                              .00E+00
                                                                                              .00E+00
cd127
                                              .00E+00
                                                                      .00E+00
                                                                      .00E+00
                                                                                              .00E+00
 in127
                                              .00E+00
                                              .00E+00
 in127m
                                                                       .00E+00
                                                                                              .00E+00
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sn127

.00E+00

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.00E+00
                                    .00E+00
sn127m
                       .00E+00
                                                .00E+00
                       .00E+00
                                    .00E+00
                                                .00E+00
sb127
           .00E+00
                                                .00E+00
te127
                       .00E+00
                                    .00E+00
te127m
                       .00E+00
                                    .00E+00
                                   1.12E+01
          1.12E+01
                                               1.12E+01
                      1.12E+01
                                                                                                                             INFORMATION ONLY
 1127
                                                .00E+00
xe127
           .00E+00
                       .00E+00
                                    .00E+00
ag128
cd128
           .00E+00
.00E+00
                                    .00E+00
                       .00E+00
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                                    .00E+00
In128
                       .00E+00
                                    .00E+00
sn128
                       .00E+00
                                    .00E+00
sb128
sb128m
                                    .00E+00
         2.43E+01
.00E+00
3.97E-01
.00E+00
.00E+00
                     2.43E+01
.00E+00
3.97E-01
                                               2.43E+01
.00E+00
te128
                                  2.43E+01
1128
xe128
                                    .00E+00
                                  3.97E-01
                                               3.97E-01
cd129
                       .00E+00
                                    .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
te129
te129m
           .00E+00
                       .00E+00
                                    .00E+00
                                                .00E+00
                                              4.78E+01
2.16E+00
1129
xe129
         4.94E+01
5.50E-01
                                  4.89E+01
                      4.93E+01
                      6.58E-01
                                  1.09E+00
                                                .00E+00
.00E+00
                                    .00E+00
.00E+00
           .00E+00
xe129m
                       .00E+00
                       .00E+00
.00E+00
cd130
           .00E+00
in130
sn130
           .00E+00
           .00E+00
                                    .00E+00
                                                .00E+00
                                                .00E+00
           .00E+00
sb130
                       .00E+00
                                    .00E+00
                                    .00E+00
sb130m
te130
                       .00E+00
          1.01E+02
                                  1.01E+02
                                               1.01E+02
                      1.01E+02
           .00E+00
                       .00E+00
                                    .00E+00
                                                .00E+00
 1130
          .00E+00
1.16E+00
1130m
xe130
                       .00E+00
                      1.16E+00
                                  1.16E+00
                                               1.16E+00
                                                .00E+00
           .00E+00
                                    .00E+00
                       .00E+00
cd131
                                    .00E+00
in131
                       .00E+00
           .00E+00
.00E+00
                                                .00E+00
                                    .00E+00
                       .00E+00
sn131
                       .00E+00
.00E+00
sb131
                                    .00E+00
te131
te131m
           .00E+00
                                    .00E+00
                                                .00E+00
           .00E+00
                        .00E+00
                                    -00E+00
                                                .00E+00
 1131
                                               1.38E+02
         1.38E+02
                      1.38E+02
xe131
                                  1.38E+02
          .00E+00
                       .00E+00
                                    .00E+00
                                                .00E+00
xe131m
                                                                                                                                             page 115
                                                                                                              fission products
Part B B&W 15x15, 3.00mt%, 20gmd/mtu decay
                                                 nuclide concentrations, grams
                                                  basis =per B&W assembly, 0.409 mthm for grams
           initial300000. yr500000. yr999999. yr
.00E+00 .00E+00 .00E+00 .00E+00
.00E+00 .00E+00 .00E+00 .00E+00
cd132
in132
                       .00E+00
           .00E+00
                                                .DOE+00
                                    .00E+00
sn132
           .00E+00
                                                .00E+00
sb132
                       .00E+00
                                    .00E+00
                       .00E+00
                                    .00E+00
sb132m
           .00E+00
                                    .00E+00
                                                .DOE+00
                       .00E+0D
te132
          .00E+00
2.84E+02
                                  .00E+00
2.84E+02
                                               .00E+00
2.84E+02
                       .00E+00
 1132
                      2.84E+02
xe132
           .00E+00
                       .00E+00
                                    .00E+00
                                                .00E+00
cs132
          4.90E-05
00E+00
                                  4.90E-05
                                               4.90E-05
                      4.90E-05
ba132
                                    -00E+00
                                                .00E+00
in133
                       .00E+00
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.00E+00

sn133

.00E+00

-00E+00

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.00E+00
                                                     .00E+00
sb133
te133
             .00E+00
                          .00E+00
                                                     .00E+00
             .00E+00
                          .00E+00
                                        .00E+00
te133m
1133
             .00E+00
                          .00E+00
                                        .00E+00
                                        .00E+00
                                                     .00E+00
                                                                                                                                   INFORMATION ONLY
             .00E+00
                          .00E+00
                                                     .00E+00
.00E+00
                          .00E+00
                                        .00E+00
 1133m
             .00E+00
                          .00E+00
xe133
             .00E+00
                                        .00E+00
           .00E+00
3.41E+02
                                        .00E+00
xe133m
                          .00E+00
                                                   .00E+00
3.41E+02
.00E+00
.00E+00
.00E+00
.00E+00
.00E+00
.00E+00
.00E+00
cs 133
                        3.41E+02
                                      3,41E+02
             .00E+00
ba133
                          .00E+00
                                        .00E+00
in134
sn134
             .00E+00
                          .00E+00
                                        .00E+00
                                        .00E+00
             .00E+00
                          .00E+00
sb134
sb134m
te134
                          .00E+00
                                        .00E+00
             .00E+00
                                        .00E+00
             .00E+00
                          .00E+00
             .00E+00
                          .00E+00
 1134
1134m
                          .00E+00
                                        .00E+00
             .00E+00
                                      .00E+00
4.27E+02
            .00E+00
                          .00E+00
           4.27E+02
.00E+00
xe134
xe134m
                         4.27E+02
                                                     .00E+00
                          .00E+00
                                        .00E+00
cs134
cs134m
ba134
                                        .00E+00
                                                     .00E+00
             .00E+00
                          .00E+00
             .00E+00
                          .00E+00
                                                   2.97E+01
.00E+00
           2.97E+01
                         2.97E+01
                                      2.97E+01
sn135
                                        .00E+00
             .00E+00
                          .00E+00
                                                     .00E+00
.00E+00
.00E+00
                                        .00E+00
sb135
             .00E+00
                          .00E+00
te135
             .00E+00
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                                        .00E+00
 1135
             .00E+00
                          .00E+00
                                        .00E+00
xe135
             .00E+00
xe135m
cs135
                          .00E+00
                                        .00E+00
                                                     .00E+00
             .00E+00
                                                   1.31E+02
.00E+00
4.61E+01
           1.64E+02
.00E+00
                         1.62E+02
                                      1.52E+02
cs135m
                                       .00E+00
                          .00E+00
ba135
ba135m
           1.29E+01
                                      2.48E+01
                         1.54E+01
                                                     .00E+00
                          .00E+00
                                        .00E+00
             .00E+00
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sn136
sb136
             .00E+00
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te136
             .00E+00
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            .00E+00
 1136
                          .00E+00
                                        .00E+00
 i 136m
                          .00E+00
                                        .00E+00
                                                   5.61E+02
.00E+00
                        5.61E+02
                                      5.61E+02
xe136
           5.61E+02
cs136
             .00E+00
                          .00E+00
                                        .00E+00
           4.78E+00
                         4.78E+00
                                      4.78E+00
                                                   4.78E+00
ba136
ba136m
            .00E+00
                          .00E+00
                                        .00E+00
                                                     .00E+00
Part B B&W 15x15, 3.00wtX, 20gwd/mtu decay
                                                                                                                         fission products
                                                                                                                                                          page 116
                                                      nuclide concentrations, grams
basis *per B&W assembly, 0.409 mthm for grams
            initial300000. yr500000. yr9999999. yr
.00E+00 .00E+00 .00E+00 .00E+00
sb137
te137
 1137
xe137
cs137
ba137
ba137m
                                                   3.60E+02
.00E+00
                        3.60E+02
           3.60E+02
                                      3.60E+02
            .00E+00
                          .00E+00
                                        .00E+00
sb138
te138
                                        .00E+00
             .00E+00
                          .00E+00
                          .00E+00
                                                     .00E+00
             .00E+00
                                        .00E+00
                                       .00E+00
                                                     .00E+00
 1138
             .00E+00
                          .00E+00
             .00E+00
                          .00E+00
xe138
                                                    .00E+00
                          .00E+00
cs138
             .00E+00
                                        .00E+00
            .00E+00
                                        .00E+00
cs138m
                          .00E+00
           3.65E+02
2.18E-03
                                     3.65E+02 3.65E+02
2.18E-03 2.18E-03
ba138
                        3.65E+02
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La138

2.18E-03

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sb139
              .00E+00
.00E+00
                              .00E+00
                                              .00E+00
                                                             .00E+00
te139
1139
                                                             .00E+00
                              .00E+00
              .00E+00
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                                              .00E+00
                                                             .00E+00
xe139
               .00E+00
                              .00E+00
                                              .00E+00
                                                                                                                                                  INFORMATION ONLY
cs139
ba139
              .00E+00
                              .00E+00
                                              .00E+00
                                                             .00E+00
            3.47E+02
.00E+00
.00E+00
                                                           3.47E+02
.00E+00
la139
                            3.47E+02
                                            3.47E+02
ce139
pr139
te140
                              .00E+00
                                              .00E+00
                                                           .00E+00
.00E+00
.00E+00
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              .00E+00
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                                              .00E+00
 1140
xe140
            .00E+00
.00E+00
.00E+00
3.67E+02
cs140
ba140
la140
                              .00E+00
                                              .00E+00
                              .00E+00
                                              .00E+00
ce140
                            3.67E+02
                                            3.67E+02
            3.67E+02
.00E+00
pr140
                              .00E+00
                                              .00E+00
                                                           .00E+00
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te141
                              .00E+00
                                              .00E+00
 1141
xe141
                              .00E+00
                                              .00E+00
                              .00E+00
                                              .00E+00
cs141
ba141
                              .00E+00
                                              .00E+00
la141
                            .00E+00
3.21E+02
.00E+00
                                           .00E+00
3.21E+02
ce141
pr141
nd141
te142
1142
                                              .00E+00
                              .00E+00
                                              .00E+00
                                             .00E+00
.00E+00
                             .00E+00
.00E+00
xe142
cs142
ba142
                                           .00E+00
3.23E+02
.00E+00
la142
               .00E+00
                              .00E+00
            3.23E+02
.00E+00
                            3.23E+02
.00E+00
ce142
pr142
                           .00E+00
3.24E+00
.00E+00
            .00E+00
3.24E+00
.00E+00
                                              .00E+00
pr142m
                                           3.24E+00
.00E+00
nd142
 1143
             page 117
                                                                                                                                            fission products
Part B B&W 15x15, 3.00mt%, 20gwd/mtu decay
xe143
cs143
ba143
la143
ce143
pr143
nd143
i144
xe144
cs144
            .00E+00
2.69E+02
.00E+00
.00E+00
ba144
La144
ce144
pr144
pr144m
            3.42E+02
nd144
1145
xe145
              .00E+00
                                                             .00E+00
                              .00E+00
                                              .00E+00
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.00E+00

.00E+00

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.00E+00
.00E+00
                                  .00E+00
cs145
                       .00E+00
                                              .00E+0B
ba145
                       .00E+00
                                   .00E+00
                                              -00E+00
la145
                       .00E+00
                                  .00E+00
                                              .00E+00
                                                                                                                  INFORMATION ONLY
ce145
           .00E+00
                       .00E+00
                                   .00E+00
                                              .00E+00
pr145
nd145
         .00E+00
2.03E+02
                       .00E+00
                                  .00E+00
                                              .00E+00
                     2.03E+02
                                 2.03E+02
                                             2.03E+02
pm145
sm145
           .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
cs146
           .00E+00
                       .00E+00
                                   .00E+00
                                              .00E+00
         .00E+00
.00E+00
.00E+00
.00E+00
1.87E+02
2.58E-03
.00E+00
.00E+00
.00E+00
.00E+00
.00E+00
.00E+00
.00E+00
                       .00E+00
                                  .00E+00
                                              .00E+00
ba146
la146
                       .00E+00
                                  .00E+00
                                              .00E+00
ce146
pr146
nd146
                       .00E+00
                                   .00E+00
                                              .00E+00
                                             1.87E+02
                                 1.87E+02
                      1.87E+02
                                  .00E+00
                                              .00E+00
pm146
                      .00E+00
sm146
                                 2.57E-03
                                             2.57E-03
                     2.58E-03
                      .00E+00
                                              .00E+00
xe147
                                  .00E+00
cs147
ba147
                                              .00E+00
                       .00E+00
                                   -00E+00
                                              .00E+00
                       .00E+00
                                   .00E+00
                       .00E+00
                                  .00E+00
                                              .00E+00
La147
                       .00E+00
ce147
                                   .00E+00
                                              .00E+00
                       .00E+00
pr147
                       .00E+00
nd147
                                  .00E+00
                                              .00E+00
pm147
Sm147
                     8.97E+01
                                 8.97E+01
                                             8.97E+01
cs148
ba148
           .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
ce148
           .00E+00
                                   -00E+00
                                              .00E+00
                                  .00E+00
                                              .00E+00
                       .00E+00
pr148
           .00E+00
                     1.03E+02
nd148
          1.03E+02
                                 1.03E+02
                                             1.03E+02
                                  .00E+00
pa148
           .00E+00
                       .00E+00
                                              .00E+00
                                  .00E+00
                                              .00E+00
pm 148m
           .00E+00
                       .00E+00
                                                                                                                                        page 118
                                                                                                         fission products
Part B B&W 15x15, 3.00wtX, 20gwd/mtu decay
                                               nuclide concentrations, grams
                                               basis =per B&W assembly, 0.409 mthm for grams
         initial300000. yr500000. yr9999999. yr
2.89E+01 2.89E+01 2.89E+01 2.89E+01
sm148
                                  .00E+00
                                              .00E+00
cs149
           .00E+00
                      .00E+00
                       .00E+00
                                  .00E+00
                                              .00E+00
ba149
           .00E+00
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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay
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                               nuclide concentrations, grams basis *per B&W assembly, 0.409 *mthm for grams initial300000. yr500000. yr5999999. yr 9.08E+00 9.08E+00 9.08E+00 9.08E+00 00E+00 00E+
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Part B B&W 15x15, 3.00mt%, 20gmd/mtu decay
                                                   nuclide concentrations, grams
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| 0 linp 0 case 56 | 6 or subcase \$\$ 0 -6 a10 1 | 0 1 Part B | 51 B&W 15x15, 3.0 | 26 Dut%, 20gud/ | 2 mtu decay | 3000 | 1000 | 1697 | 5 | | |
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Feb 16 10:07 1996 File Name: /users/davis/scale/sas2h/UCFTIME/s3020ucfo.out BBA000000-01717-0200-00012 REV 01 ATTACHMENT II - Page 122

6 0 51 26 2
0 case or subcase 6 Part B B&W 15x15, 3.00mt%, 20gwd/mtu decay
56\$\$ 0 -10 a10 1 a t
0 56\$ array 20 entries read
0 0t 3000 1000