

as 79	1.520E-05	1.511E-05	1.502E-05	1.491E-05	1.480E-05	1.468E-05	1.455E-05	1.442E-05	1.429E-05	1.415E-05	1.402E-05
se 79	1.148E+00	1.258E+00	1.367E+00	1.474E+00	1.581E+00	1.686E+00	1.791E+00	1.894E+00	1.995E+00	2.096E+00	2.195E+00
se 79m	6.534E-06	6.497E-06	6.458E-06	6.414E-06	6.366E-06	6.315E-06	6.262E-06	6.207E-06	6.151E-06	6.094E-06	6.038E-06
br 79	3.520E-06	4.191E-06	4.913E-06	5.687E-06	6.509E-06	7.379E-06	8.294E-06	9.253E-06	1.025E-05	1.130E-05	1.238E-05
br 79m	1.760E-13	1.798E-13	1.902E-13	1.999E-13	2.089E-13	2.174E-13	2.254E-13	2.330E-13	2.401E-13	2.470E-13	2.535E-13
kr 79	4.815E-13	4.950E-13	5.265E-13	5.564E-13	5.849E-13	6.121E-13	6.384E-13	6.637E-13	6.884E-13	7.124E-13	7.359E-13
kr 79m	9.084E-17	9.284E-17	9.828E-17	1.033E-16	1.081E-16	1.125E-16	1.166E-16	1.206E-16	1.243E-16	1.278E-16	1.312E-16
rb 79	3.354E-30	1.016E-29	2.809E-29	7.185E-29	1.723E-28	3.899E-28	8.365E-28	1.710E-27	3.348E-27	6.304E-27	1.146E-26
zn 80	8.268E-11	8.206E-11	8.068E-11	7.932E-11	7.796E-11	7.662E-11	7.530E-11	7.400E-11	7.273E-11	7.150E-11	7.029E-11
ga 80	1.057E-08	1.045E-08	1.023E-08	1.000E-08	9.776E-09	9.552E-09	9.329E-09	9.110E-09	8.893E-09	8.681E-09	8.473E-09
ge 80	1.787E-06	1.767E-06	1.733E-06	1.698E-06	1.663E-06	1.628E-06	1.592E-06	1.557E-06	1.522E-06	1.487E-06	1.453E-06
as 80	1.103E-06	1.092E-06	1.077E-06	1.062E-06	1.045E-06	1.029E-06	1.012E-06	9.951E-07	9.781E-07	9.613E-07	9.446E-07
se 80	3.153E+00	3.447E+00	3.737E+00	4.024E+00	4.306E+00	4.585E+00	4.860E+00	5.130E+00	5.397E+00	5.659E+00	5.917E+00
br 80	3.762E-10	3.833E-10	4.011E-10	4.180E-10	4.343E-10	4.501E-10	4.653E-10	4.800E-10	4.945E-10	5.086E-10	5.224E-10
br 80m	4.186E-09	4.256E-09	4.445E-09	4.623E-09	4.793E-09	4.955E-09	5.110E-09	5.260E-09	5.403E-09	5.542E-09	5.677E-09
kr 80	8.936E-06	1.019E-05	1.151E-05	1.287E-05	1.429E-05	1.576E-05	1.727E-05	1.882E-05	2.042E-05	2.205E-05	2.372E-05
zn 81	1.973E-12	2.009E-12	2.057E-12	2.106E-12	2.156E-12	2.205E-12	2.255E-12	2.304E-12	2.354E-12	2.403E-12	2.451E-12
ga 81	5.425E-09	5.360E-09	5.235E-09	5.110E-09	4.986E-09	4.863E-09	4.741E-09	4.621E-09	4.503E-09	4.387E-09	4.275E-09
ge 81	5.255E-07	5.191E-07	5.083E-07	4.973E-07	4.862E-07	4.752E-07	4.641E-07	4.532E-07	4.423E-07	4.316E-07	4.211E-07
ge 81m	1.374E-08	1.358E-08	1.326E-08	1.295E-08	1.263E-08	1.232E-08	1.201E-08	1.171E-08	1.141E-08	1.111E-08	1.083E-08
as 81	3.908E-06	3.877E-06	3.837E-06	3.794E-06	3.749E-06	3.702E-06	3.655E-06	3.606E-06	3.558E-06	3.510E-06	3.462E-06
se 81	1.389E-04	1.380E-04	1.368E-04	1.355E-04	1.342E-04	1.328E-04	1.313E-04	1.298E-04	1.283E-04	1.268E-04	1.253E-04
se 81m	3.622E-05	3.624E-05	3.658E-05	3.686E-05	3.709E-05	3.728E-05	3.743E-05	3.755E-05	3.765E-05	3.772E-05	3.779E-05
br 81	5.172E+00	5.658E+00	6.138E+00	6.613E+00	7.081E+00	7.542E+00	7.997E+00	8.445E+00	8.885E+00	9.318E+00	9.744E+00
kr 81	1.258E-06	1.483E-06	1.725E-06	1.987E-06	2.267E-06	2.565E-06	2.882E-06	3.218E-06	3.574E-06	3.949E-06	4.344E-06
kr 81m	1.347E-13	1.455E-13	1.603E-13	1.756E-13	1.915E-13	2.079E-13	2.248E-13	2.424E-13	2.606E-13	2.795E-13	2.990E-13
rb 81	2.154E-14	2.201E-14	2.330E-14	2.450E-14	2.562E-14	2.667E-14	2.765E-14	2.858E-14	2.946E-14	3.030E-14	3.109E-14
zn 82	1.122E-12	1.119E-12	1.108E-12	1.098E-12	1.087E-12	1.077E-12	1.067E-12	1.057E-12	1.047E-12	1.038E-12	1.030E-12
ga 82	1.926E-09	1.898E-09	1.843E-09	1.788E-09	1.733E-09	1.679E-09	1.626E-09	1.573E-09	1.522E-09	1.472E-09	1.423E-09
ge 82	3.114E-07	3.071E-07	2.993E-07	2.915E-07	2.837E-07	2.760E-07	2.684E-07	2.609E-07	2.536E-07	2.464E-07	2.394E-07
as 82	2.592E-06	2.559E-06	2.499E-06	2.440E-06	2.381E-06	2.323E-06	2.265E-06	2.207E-06	2.151E-06	2.095E-06	2.041E-06
as 82m	3.435E-07	3.450E-07	3.499E-07	3.546E-07	3.591E-07	3.635E-07	3.677E-07	3.718E-07	3.757E-07	3.795E-07	3.832E-07
se 82	8.283E+00	9.056E+00	9.820E+00	1.058E+01	1.132E+01	1.206E+01	1.278E+01	1.350E+01	1.421E+01	1.490E+01	1.559E+01
br 82	4.302E-04	4.725E-04	5.225E-04	5.737E-04	6.261E-04	6.798E-04	7.346E-04	7.904E-04	8.473E-04	9.051E-04	9.638E-04
br 82m	1.105E-06	1.219E-06	1.352E-06	1.488E-06	1.628E-06	1.771E-06	1.917E-06	2.067E-06	2.219E-06	2.374E-06	2.531E-06
kr 82	6.602E-02	7.967E-02	9.474E-02	1.113E-01	1.292E-01	1.487E-01	1.696E-01	1.920E-01	2.160E-01	2.414E-01	2.683E-01
zn 83	3.863E-14	3.921E-14	3.994E-14	4.068E-14	4.142E-14	4.216E-14	4.291E-14	4.366E-14	4.441E-14	4.516E-14	4.590E-14
ga 83	8.401E-11	8.451E-11	8.489E-11	8.529E-11	8.571E-11	8.615E-11	8.660E-11	8.707E-11	8.756E-11	8.806E-11	8.857E-11
ge 83	5.539E-08	5.479E-08	5.359E-08	5.241E-08	5.125E-08	5.010E-08	4.897E-08	4.786E-08	4.678E-08	4.572E-08	4.469E-08
as 83	2.561E-06	2.533E-06	2.482E-06	2.432E-06	2.381E-06	2.331E-06	2.282E-06	2.233E-06	2.185E-06	2.138E-06	2.092E-06
se 83	1.939E-04	1.922E-04	1.895E-04	1.868E-04	1.841E-04	1.814E-04	1.786E-04	1.759E-04	1.732E-04	1.705E-04	1.679E-04
se 83m	1.094E-05	1.083E-05	1.064E-05	1.044E-05	1.025E-05	1.006E-05	9.869E-06	9.680E-06	9.493E-06	9.310E-06	9.131E-06
br 83	2.702E-03	2.677E-03	2.635E-03	2.593E-03	2.550E-03	2.507E-03	2.465E-03	2.422E-03	2.380E-03	2.339E-03	2.299E-03
kr 83	1.231E+01	1.328E+01	1.420E+01	1.507E+01	1.589E+01	1.667E+01	1.741E+01	1.809E+01	1.873E+01	1.933E+01	1.988E+01
kr 83m	2.069E-03	2.050E-03	2.019E-03	1.988E-03	1.956E-03	1.924E-03	1.893E-03	1.861E-03	1.830E-03	1.800E-03	1.770E-03
rb 83	6.416E-08	6.769E-08	7.157E-08	7.554E-08	7.943E-08	8.317E-08	8.673E-08	9.010E-08	9.328E-08	9.629E-08	9.913E-08
sr 83	2.660E-14	2.718E-14	2.878E-14	3.027E-14	3.165E-14	3.295E-14	3.418E-14	3.533E-14	3.642E-14	3.746E-14	3.845E-14
ga 84	4.730E-10	4.628E-10	4.438E-10	4.247E-10	4.058E-10	3.871E-10	3.685E-10	3.502E-10	3.322E-10	3.145E-10	2.973E-10
ge 84	1.934E-08	1.914E-08	1.872E-08	1.831E-08	1.790E-08	1.750E-08	1.710E-08	1.671E-08	1.633E-08	1.596E-08	1.560E-08

Cycle 2 -DD Assembly

fission products

page

power= 11.49mw, burnup= 15103.mwd, flux= 3.58E+13n/cm*2-sec
nuclide concentrations, grams
basis = 0.3883 MTU

	charge	722.6 d	788.3 d	854.0 d	919.7 d	985.4 d	1051.1 d	1116.8 d	1182.5 d	1248.2 d	1313.9 d
as 84	4.064E-07	4.026E-07	3.954E-07	3.883E-07	3.813E-07	3.744E-07	3.677E-07	3.611E-07	3.546E-07	3.484E-07	3.422E-07
as 84m	3.535E-08	3.503E-08	3.444E-08	3.385E-08	3.327E-08	3.270E-08	3.214E-08	3.160E-08	3.106E-08	3.055E-08	3.004E-08
se 84	1.114E-04	1.101E-04	1.079E-04	1.058E-04	1.036E-04	1.014E-04	9.923E-05	9.710E-05	9.499E-05	9.293E-05	9.091E-05
br 84	1.133E-03	1.121E-03	1.099E-03	1.077E-03	1.055E-03	1.034E-03	1.012E-03	9.910E-04	9.701E-04	9.495E-04	9.294E-04
br 84m	6.281E-06	6.313E-06	6.435E-06	6.546E-06	6.649E-06	6.744E-06	6.832E-06	6.914E-06	6.991E-06	7.064E-06	7.133E-06
kr 84	2.845E+01	3.116E+01	3.386E+01	3.655E+01	3.921E+01	4.186E+01	4.450E+01	4.711E+01	4.971E+01	5.230E+01	5.486E+01
rb 84	3.358E-06	3.743E-06	4.158E-06	4.587E-06	5.029E-06	5.480E-06	5.940E-06	6.410E-06	6.887E-06	7.373E-06	7.865E-06
sr 84	8.583E-07	1.055E-06	1.274E-06	1.516E-06	1.783E-06	2.073E-06	2.389E-06	2.731E-06	3.098E-06	3.492E-06	3.913E-06
ga 85	4.219E-13	4.283E-13	4.364E-13	4.446E-13	4.528E-13	4.611E-13	4.694E-13	4.778E-13	4.861E-13	4.944E-13	5.027E-13
ge 85	5.797E-10	5.810E-10	5.799E-10	5.789E-10	5.782E-10	5.776E-10	5.771E-10	5.768E-10	5.767E-10	5.767E-10	5.769E-10
as 85	2.784E-07	2.743E-07	2.664E-07	2.580E-07	2.509E-07	2.432E-07	2.357E-07	2.283E-07	2.211E-07	2.141E-07	2.072E-07
se 85	1.809E-05	1.787E-05	1.750E-05	1.713E-05	1.675E-05	1.638E-05	1.601E-05	1.565E-05	1.528E-05	1.493E-05	1.458E-05
br 85	1.218E-04	1.204E-04	1.181E-04	1.157E-04	1.133E-04	1.109E-04	1.085E-04	1.062E-04	1.038E-04	1.016E-04	9.931E-05
kr 85	6.880E+00	7.447E+00	7.995E+00	8.524E+00	9.034E+00	9.525E+00	9.997E+00	1.045E+01	1.089E+01	1.131E+01	1.171E+01
kr 85m	1.145E-02	1.132E-02	1.110E-02	1.088E-02	1.066E-02	1.043E-02	1.021E-02	9.993E-03	9.777E-03	9.564E-03	9.355E-03
rb 85	2.542E+01	2.773E+01	3.001E+01	3.224E+01	3.443E+01	3.659E+01	3.871E+01	4.078E+01	4.282E+01	4.482E+01	4.678E+01
sr 85	1.153E-08	1.217E-08	1.295E-08	1.378E-08	1.463E-08	1.547E-08	1.632E-08	1.716E-08	1.800E-08	1.886E-08	1.972E-08
sr 85m	5.046E-12	5.235E-12	5.616E-12	5.992E-12	6.368E-12	6.746E-12	7.128E-12	7.518E-12	7.918E-12	8.330E-12	8.757E-12
y 85	2.969E-19	4.189E-19	5.677E-19	7.411E-19	9.385E-19	1.160E-18	1.408E-18	1.681E-18	1.982E-18	2.311E-18	2.667E-18
ge 86	6.848E-08	6.699E-08	6.420E-08	6.141E-08	5.864E-08	5.589E-08	5.317E-08	5.049E-08	4.785E-08	4.526E-08	4.273E-08
as 86	2.141E-07	2.100E-07	2.020E-07	1.941E-07	1.862E-07	1.785E-07	1.708E-07	1.632E-07	1.557E-07	1.484E-07	1.412E-07
se 86	1.068E-05	1.053E-05	1.026E-05	9.989E-06	9.720E-06	9.453E-06	9.190E-06	8.930E-06	8.674E-06	8.423E-06	8.178E-06
br 86	5.481E-05	5.416E-05	5.304E-05	5.191E-05	5.079E-05	4.967E-05	4.856E-05	4.746E-05	4.638E-05	4.532E-05	4.428E-05
kr 86	4.825E+01	5.253E+01	5.673E+01	6.084E+01	6.487E+01	6.880E+01	7.265E+01	7.642E+01	8.010E+01	8.370E+01	8.722E+01
rb 86	3.479E-03	3.849E-03	4.267E-03	4.699E-03	5.141E-03	5.592E-03	6.053E-03	6.523E-03	7.001E-03	7.486E-03	7.979E-03
rb 86m	1.205E-08	1.319E-08	1.454E-08	1.591E-08	1.731E-08	1.874E-08	2.019E-08	2.167E-08	2.317E-08	2.469E-08	2.623E-08
sr 86	4.042E-02	4.938E-02	5.931E-02	7.029E-02	8.232E-02	9.545E-02	1.097E-01	1.251E-01	1.416E-01	1.593E-01	1.781E-01

ge 87	1.336E-10	1.308E-10	1.255E-10	1.202E-10	1.150E-10	1.098E-10	1.046E-10	9.952E-11	9.452E-11	8.962E-11	8.482E-11
as 87	7.848E-09	7.712E-09	7.449E-09	7.188E-09	6.929E-09	6.672E-09	6.419E-09	6.169E-09	5.924E-09	5.684E-09	5.450E-09
se 87	2.392E-06	2.360E-06	2.298E-06	2.237E-06	2.176E-06	2.116E-06	2.057E-06	1.999E-06	1.942E-06	1.887E-06	1.832E-06
br 87	6.426E-05	6.348E-05	6.208E-05	6.067E-05	5.928E-05	5.790E-05	5.652E-05	5.517E-05	5.384E-05	5.253E-05	5.125E-05
kr 87	6.667E-03	6.586E-03	6.447E-03	6.306E-03	6.166E-03	6.027E-03	5.889E-03	5.752E-03	5.617E-03	5.484E-03	5.354E-03
rb 87	6.558E+01	7.138E+01	7.705E+01	8.260E+01	8.803E+01	9.334E+01	9.853E+01	1.036E+02	1.085E+02	1.134E+02	1.181E+02
sr 87	2.316E-04	2.783E-04	3.312E-04	3.907E-04	4.575E-04	5.323E-04	6.158E-04	7.087E-04	8.119E-04	9.263E-04	1.053E-03
sr 87m	6.050E-08	7.274E-08	8.701E-08	1.031E-07	1.212E-07	1.414E-07	1.638E-07	1.885E-07	2.158E-07	2.457E-07	2.783E-07
y 87	1.733E-10	1.770E-10	1.873E-10	1.969E-10	2.059E-10	2.143E-10	2.223E-10	2.297E-10	2.368E-10	2.436E-10	2.501E-10
zr 87	6.778E-20	9.558E-20	1.295E-19	1.690E-19	2.140E-19	2.645E-19	3.208E-19	3.832E-19	4.518E-19	5.266E-19	6.076E-19
ge 88	3.290E-12	3.229E-12	3.111E-12	2.994E-12	2.878E-12	2.762E-12	2.648E-12	2.535E-12	2.424E-12	2.316E-12	2.210E-12
as 88	7.675E-09	7.513E-09	7.207E-09	6.902E-09	6.598E-09	6.297E-09	5.999E-09	5.706E-09	5.417E-09	5.133E-09	4.856E-09
se 88	3.064E-07	3.022E-07	2.941E-07	2.861E-07	2.782E-07	2.703E-07	2.626E-07	2.550E-07	2.476E-07	2.403E-07	2.332E-07
br 88	1.629E-05	1.609E-05	1.572E-05	1.535E-05	1.498E-05	1.462E-05	1.426E-05	1.391E-05	1.357E-05	1.323E-05	1.290E-05
kr 88	2.031E-02	2.005E-02	1.961E-02	1.916E-02	1.872E-02	1.827E-02	1.783E-02	1.739E-02	1.696E-02	1.654E-02	1.613E-02
rb 88	2.145E-03	2.119E-03	2.073E-03	2.027E-03	1.981E-03	1.936E-03	1.890E-03	1.845E-03	1.801E-03	1.757E-03	1.714E-03
sr 88	9.066E+01	9.866E+01	1.065E+02	1.141E+02	1.216E+02	1.289E+02	1.361E+02	1.430E+02	1.498E+02	1.565E+02	1.630E+02
y 88	1.518E-05	1.746E-05	1.984E-05	2.230E-05	2.483E-05	2.743E-05	3.008E-05	3.278E-05	3.553E-05	3.832E-05	4.115E-05
zr 88	6.473E-12	6.836E-12	7.239E-12	7.653E-12	8.060E-12	8.453E-12	8.828E-12	9.185E-12	9.524E-12	9.846E-12	1.015E-11
as 89	2.966E-11	2.985E-11	2.999E-11	3.013E-11	3.029E-11	3.044E-11	3.061E-11	3.078E-11	3.095E-11	3.113E-11	3.132E-11
se 89	1.665E-08	1.660E-08	1.644E-08	1.628E-08	1.613E-08	1.599E-08	1.585E-08	1.572E-08	1.559E-08	1.548E-08	1.536E-08
br 89	2.971E-06	2.942E-06	2.889E-06	2.836E-06	2.784E-06	2.732E-06	2.681E-06	2.631E-06	2.582E-06	2.535E-06	2.488E-06
kr 89	4.812E-04	4.749E-04	4.638E-04	4.526E-04	4.414E-04	4.303E-04	4.193E-04	4.084E-04	3.977E-04	3.871E-04	3.768E-04

Cycle 2 -DD Assembly

fission products

page

power= 11.49mw, burnup= 15103.mwd, flux= 3.58E+13n/cm**2-sec

nuclide concentrations, grams
basis = 0.3883 MTU

	charge	722.6 d	788.3 d	854.0 d	919.7 d	985.4 d	1051.1 d	1116.8 d	1182.5 d	1248.2 d	1313.9 d
rb 89	2.448E-03	2.417E-03	2.363E-03	2.309E-03	2.255E-03	2.202E-03	2.148E-03	2.095E-03	2.043E-03	1.992E-03	1.942E-03
sr 89	1.219E+01	1.199E+01	1.176E+01	1.150E+01	1.124E+01	1.098E+01	1.072E+01	1.046E+01	1.021E+01	9.953E+00	9.703E+00
y 89	1.097E+02	1.206E+02	1.313E+02	1.417E+02	1.520E+02	1.620E+02	1.718E+02	1.813E+02	1.906E+02	1.997E+02	2.085E+02
y 89m	2.045E-08	2.228E-08	2.427E-08	2.630E-08	2.838E-08	3.049E-08	3.263E-08	3.481E-08	3.703E-08	3.927E-08	4.153E-08
zr 89	1.214E-08	1.478E-08	1.784E-08	2.124E-08	2.497E-08	2.906E-08	3.351E-08	3.833E-08	4.352E-08	4.909E-08	5.504E-08
nb 89	2.076E-20	2.930E-20	3.971E-20	5.185E-20	6.566E-20	8.118E-20	9.848E-20	1.176E-19	1.387E-19	1.617E-19	1.866E-19
as 90	5.781E-13	5.836E-13	5.900E-13	5.968E-13	6.040E-13	6.115E-13	6.193E-13	6.273E-13	6.354E-13	6.435E-13	6.518E-13
se 90	5.028E-09	5.024E-09	4.994E-09	4.967E-09	4.943E-09	4.922E-09	4.904E-09	4.889E-09	4.875E-09	4.863E-09	4.853E-09
br 90	7.420E-07	7.366E-07	7.263E-07	7.161E-07	7.060E-07	6.961E-07	6.864E-07	6.769E-07	6.676E-07	6.585E-07	6.497E-07
kr 90	8.730E-05	8.609E-05	8.390E-05	8.172E-05	7.955E-05	7.740E-05	7.527E-05	7.317E-05	7.110E-05	6.907E-05	6.709E-05
rb 90	3.814E-04	3.762E-04	3.670E-04	3.577E-04	3.485E-04	3.394E-04	3.304E-04	3.214E-04	3.127E-04	3.040E-04	2.956E-04
rb 90m	2.048E-04	2.027E-04	1.994E-04	1.961E-04	1.927E-04	1.892E-04	1.858E-04	1.824E-04	1.790E-04	1.756E-04	1.723E-04
sr 90	1.468E+02	1.593E+02	1.715E+02	1.833E+02	1.948E+02	2.060E+02	2.168E+02	2.272E+02	2.373E+02	2.471E+02	2.566E+02
y 90	3.907E-02	4.245E-02	4.573E-02	4.893E-02	5.203E-02	5.505E-02	5.799E-02	6.083E-02	6.360E-02	6.628E-02	6.887E-02
y 90m	3.325E-07	3.461E-07	3.682E-07	3.896E-07	4.103E-07	4.303E-07	4.499E-07	4.690E-07	4.877E-07	5.060E-07	5.240E-07
zr 90	3.477E+00	4.171E+00	4.921E+00	5.727E+00	6.587E+00	7.500E+00	8.463E+00	9.475E+00	1.054E+01	1.164E+01	1.279E+01
zr 90m	2.246E-11	2.737E-11	3.304E-11	3.934E-11	4.628E-11	5.386E-11	6.212E-11	7.106E-11	8.069E-11	9.102E-11	1.021E-10
nb 90	1.761E-17	2.485E-17	3.368E-17	4.398E-17	5.572E-17	6.892E-17	8.366E-17	1.000E-16	1.180E-16	1.377E-16	1.590E-16
mo 90	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
se 91	3.447E-10	3.475E-10	3.501E-10	3.528E-10	3.556E-10	3.585E-10	3.615E-10	3.646E-10	3.677E-10	3.709E-10	3.741E-10
br 91	9.008E-08	8.926E-08	8.750E-08	8.577E-08	8.407E-08	8.241E-08	8.078E-08	7.919E-08	7.764E-08	7.613E-08	7.467E-08
kr 91	1.652E-05	1.630E-05	1.589E-05	1.549E-05	1.509E-05	1.469E-05	1.431E-05	1.392E-05	1.355E-05	1.318E-05	1.282E-05
rb 91	1.941E-04	1.918E-04	1.878E-04	1.838E-04	1.798E-04	1.759E-04	1.719E-04	1.681E-04	1.642E-04	1.605E-04	1.568E-04
sr 91	1.210E-01	1.196E-01	1.173E-01	1.150E-01	1.127E-01	1.103E-01	1.080E-01	1.057E-01	1.035E-01	1.013E-01	9.911E-02
y 91	1.845E+01	1.817E+01	1.786E+01	1.753E+01	1.719E+01	1.684E+01	1.650E+01	1.616E+01	1.582E+01	1.548E+01	1.515E+01
y 91m	6.108E-03	6.040E-03	5.924E-03	5.806E-03	5.688E-03	5.571E-03	5.455E-03	5.339E-03	5.226E-03	5.114E-03	5.004E-03
zr 91	1.385E+02	1.668E+02	1.668E+02	1.806E+02	1.941E+02	2.074E+02	2.203E+02	2.330E+02	2.454E+02	2.576E+02	2.694E+02
nb 91	4.195E-10	4.890E-10	5.629E-10	6.409E-10	7.226E-10	8.079E-10	8.965E-10	9.883E-10	1.083E-09	1.181E-09	1.281E-09
mo 91	6.786E-22	9.578E-22	1.298E-21	1.695E-21	2.146E-21	2.654E-21	3.219E-21	3.846E-21	4.534E-21	5.286E-21	6.099E-21
se 92	2.061E-11	2.084E-11	2.110E-11	2.137E-11	2.165E-11	2.192E-11	2.220E-11	2.249E-11	2.277E-11	2.306E-11	2.335E-11
br 92	9.384E-09	9.375E-09	9.313E-09	9.256E-09	9.204E-09	9.155E-09	9.110E-09	9.068E-09	9.029E-09	8.994E-09	8.962E-09
kr 92	1.885E-06	1.863E-06	1.820E-06	1.779E-06	1.738E-06	1.698E-06	1.658E-06	1.620E-06	1.582E-06	1.545E-06	1.510E-06
rb 92	1.337E-05	1.322E-05	1.297E-05	1.272E-05	1.247E-05	1.222E-05	1.198E-05	1.174E-05	1.150E-05	1.127E-05	1.105E-05
sr 92	3.654E-02	3.618E-02	3.557E-02	3.495E-02	3.434E-02	3.372E-02	3.311E-02	3.251E-02	3.191E-02	3.132E-02	3.075E-02
y 92	4.830E-02	4.782E-02	4.701E-02	4.620E-02	4.538E-02	4.457E-02	4.376E-02	4.296E-02	4.217E-02	4.139E-02	4.062E-02
zr 92	1.668E+02	1.820E+02	1.969E+02	2.115E+02	2.259E+02	2.400E+02	2.539E+02	2.675E+02	2.809E+02	2.941E+02	3.070E+02
nb 92	3.772E-08	4.390E-08	5.046E-08	5.737E-08	6.460E-08	7.213E-08	7.994E-08	8.802E-08	9.634E-08	1.049E-07	1.137E-07
mo 92	7.217E-16	1.158E-15	1.761E-15	2.562E-15	3.589E-15	4.874E-15	6.445E-15	8.335E-15	1.058E-14	1.320E-14	1.625E-14
se 93	4.264E-13	4.301E-13	4.342E-13	4.387E-13	4.435E-13	4.487E-13	4.541E-13	4.597E-13	4.654E-13	4.713E-13	4.772E-13
br 93	1.004E-09	1.013E-09	1.032E-09	1.050E-09	1.068E-09	1.085E-09	1.103E-09	1.120E-09	1.137E-09	1.154E-09	1.171E-09
kr 93	4.263E-07	4.225E-07	4.145E-07	4.068E-07	3.992E-07	3.919E-07	3.847E-07	3.777E-07	3.710E-07	3.644E-07	3.580E-07
rb 93	1.296E-05	1.284E-05	1.261E-05	1.239E-05	1.217E-05	1.195E-05	1.174E-05	1.153E-05	1.132E-05	1.112E-05	1.092E-05
sr 93	1.836E-03	1.820E-03	1.794E-03	1.769E-03	1.743E-03	1.717E-03	1.691E-03	1.666E-03	1.640E-03	1.616E-03	1.591E-03
y 93	1.532E-01	1.519E-01	1.498E-01	1.477E-01	1.456E-01	1.435E-01	1.414E-01	1.393E-01	1.372E-01	1.352E-01	1.332E-01
y 93m	1.207E-06	1.197E-06	1.181E-06	1.164E-06	1.148E-06	1.131E-06	1.115E-06	1.098E-06	1.082E-06	1.066E-06	1.051E-06
zr 93	1.804E+02	1.969E+02	2.132E+02	2.292E+02	2.449E+02	2.604E+02	2.756E+02	2.905E+02	3.052E+02	3.198E+02	3.338E+02
nb 93	4.252E-06	5.255E-06	6.399E-06	7.692E-06	9.141E-06	1.075E-05	1.254E-05	1.450E-05	1.665E-05	1.899E-05	2.153E-05
nb 93m	7.432E-05	8.915E-05	1.052E-04	1.224E-04	1.408E-04	1.603E-04	1.809E-04	2.026E-04	2.253E-04	2.490E-04	2.737E-04

power= 11.49mw, burnup= 15103.mwd, flux= 3.58E+13n/cm**2-sec

nuclide concentrations, grams

basis = 0.3883 MTU

	charge	722.6 d	788.3 d	854.0 d	919.7 d	985.4 d	1051.1 d	1116.8 d	1182.5 d	1248.2 d	1313.9 d
tc 93	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
br 94	1.218E-10	1.239E-10	1.286E-10	1.330E-10	1.372E-10	1.411E-10	1.449E-10	1.486E-10	1.520E-10	1.554E-10	1.586E-10
kr 94	1.848E-08	1.848E-08	1.842E-08	1.836E-08	1.832E-08	1.828E-08	1.824E-08	1.822E-08	1.820E-08	1.818E-08	1.817E-08
rb 94	3.149E-06	3.127E-06	3.087E-06	3.049E-06	3.012E-06	2.976E-06	2.941E-06	2.907E-06	2.875E-06	2.843E-06	2.812E-06
sr 94	3.060E-04	3.034E-04	2.993E-04	2.952E-04	2.911E-04	2.870E-04	2.830E-04	2.789E-04	2.750E-04	2.711E-04	2.673E-04
y 94	4.954E-03	4.915E-03	4.857E-03	4.797E-03	4.737E-03	4.677E-03	4.617E-03	4.558E-03	4.499E-03	4.441E-03	4.384E-03
zr 94	1.902E+02	2.081E+02	2.258E+02	2.433E+02	2.606E+02	2.778E+02	2.948E+02	3.116E+02	3.282E+02	3.446E+02	3.609E+02
nb 94	9.027E-05	1.045E-04	1.195E-04	1.353E-04	1.516E-04	1.686E-04	1.861E-04	2.042E-04	2.226E-04	2.415E-04	2.608E-04
nb 94m	5.740E-10	5.859E-10	6.186E-10	6.489E-10	6.773E-10	7.039E-10	7.288E-10	7.524E-10	7.747E-10	7.960E-10	8.163E-10
mo 94	1.084E-03	1.364E-03	1.681E-03	2.037E-03	2.432E-03	2.867E-03	3.342E-03	3.859E-03	4.418E-03	5.020E-03	5.665E-03
br 95	8.248E-13	8.351E-13	8.481E-13	8.616E-13	8.756E-13	8.900E-13	9.047E-13	9.196E-13	9.347E-13	9.498E-13	9.649E-13
kr 95	8.422E-09	8.475E-09	8.521E-09	8.573E-09	8.631E-09	8.694E-09	8.762E-09	8.833E-09	8.907E-09	8.983E-09	9.060E-09
rb 95	2.240E-07	2.227E-07	2.206E-07	2.186E-07	2.166E-07	2.146E-07	2.127E-07	2.109E-07	2.091E-07	2.073E-07	2.056E-07
sr 95	9.069E-05	8.996E-05	8.879E-05	8.763E-05	8.648E-05	8.535E-05	8.423E-05	8.312E-05	8.204E-05	8.098E-05	7.994E-05
y 95	2.874E-03	2.855E-03	2.827E-03	2.800E-03	2.772E-03	2.744E-03	2.716E-03	2.688E-03	2.660E-03	2.633E-03	2.606E-03
zr 95	2.633E+01	2.614E+01	2.592E+01	2.568E+01	2.544E+01	2.519E+01	2.494E+01	2.468E+01	2.443E+01	2.418E+01	2.393E+01
nb 95	1.449E+01	1.436E+01	1.425E+01	1.412E+01	1.399E+01	1.386E+01	1.372E+01	1.358E+01	1.345E+01	1.331E+01	1.317E+01
nb 95m	1.696E-02	1.685E-02	1.671E-02	1.656E-02	1.641E-02	1.625E-02	1.608E-02	1.592E-02	1.576E-02	1.559E-02	1.543E-02
mo 95	1.515E+02	1.695E+02	1.872E+02	2.046E+02	2.218E+02	2.386E+02	2.552E+02	2.714E+02	2.873E+02	3.029E+02	3.182E+02
tc 95	1.162E-16	1.642E-16	2.227E-16	2.910E-16	3.688E-16	4.564E-16	5.542E-16	6.626E-16	7.819E-16	9.124E-16	1.054E-15
tc 95m	1.098E-15	1.642E-15	2.323E-15	3.148E-15	4.117E-15	5.227E-15	6.483E-15	7.889E-15	9.449E-15	1.117E-14	1.305E-14
ru 95	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
br 96	2.640E-13	2.654E-13	2.665E-13	2.677E-13	2.688E-13	2.699E-13	2.711E-13	2.722E-13	2.734E-13	2.746E-13	2.758E-13
kr 96	6.542E-09	6.446E-09	6.268E-09	6.089E-09	5.910E-09	5.731E-09	5.553E-09	5.376E-09	5.202E-09	5.030E-09	4.862E-09
rb 96	3.603E-08	3.592E-08	3.565E-08	3.540E-08	3.518E-08	3.498E-08	3.480E-08	3.464E-08	3.449E-08	3.435E-08	3.423E-08
sr 96	2.795E-06	2.774E-06	2.738E-06	2.703E-06	2.668E-06	2.634E-06	2.601E-06	2.569E-06	2.538E-06	2.507E-06	2.478E-06
y 96	1.660E-05	1.648E-05	1.627E-05	1.607E-05	1.588E-05	1.569E-05	1.550E-05	1.532E-05	1.514E-05	1.496E-05	1.479E-05
y 96m	1.527E-05	1.521E-05	1.517E-05	1.513E-05	1.508E-05	1.503E-05	1.497E-05	1.491E-05	1.485E-05	1.479E-05	1.472E-05
zr 96	1.959E+02	2.146E+02	2.330E+02	2.514E+02	2.695E+02	2.876E+02	3.054E+02	3.231E+02	3.406E+02	3.580E+02	3.753E+02
nb 96	4.841E-04	4.886E-04	5.009E-04	5.136E-04	5.266E-04	5.398E-04	5.531E-04	5.664E-04	5.796E-04	5.927E-04	6.056E-04
mo 96	3.454E+00	4.314E+00	5.288E+00	6.381E+00	7.594E+00	8.930E+00	1.039E+01	1.198E+01	1.370E+01	1.556E+01	1.754E+01
tc 96	9.380E-16	1.124E-15	1.338E-15	1.575E-15	1.837E-15	2.123E-15	2.435E-15	2.775E-15	3.143E-15	3.542E-15	3.972E-15
ru 96	1.062E-22	1.730E-22	2.675E-22	3.959E-22	5.647E-22	7.804E-22	1.050E-21	1.382E-21	1.784E-21	2.265E-21	2.834E-21
kr 97	4.277E-11	4.363E-11	4.588E-11	4.798E-11	4.995E-11	5.181E-11	5.355E-11	5.521E-11	5.677E-11	5.827E-11	5.970E-11
rb 97	4.559E-09	4.523E-09	4.447E-09	4.376E-09	4.309E-09	4.245E-09	4.186E-09	4.129E-09	4.075E-09	4.024E-09	3.975E-09
sr 97	5.300E-07	5.264E-07	5.199E-07	5.137E-07	5.078E-07	5.021E-07	4.966E-07	4.914E-07	4.864E-07	4.816E-07	4.769E-07
y 97	8.078E-06	8.034E-06	7.971E-06	7.909E-06	7.849E-06	7.790E-06	7.734E-06	7.678E-06	7.624E-06	7.572E-06	7.521E-06
y 97m	1.750E-06	1.742E-06	1.733E-06	1.724E-06	1.715E-06	1.706E-06	1.697E-06	1.689E-06	1.680E-06	1.672E-06	1.663E-06
zr 97	2.864E-01	2.852E-01	2.839E-01	2.825E-01	2.811E-01	2.798E-01	2.784E-01	2.770E-01	2.756E-01	2.742E-01	2.729E-01
nb 97	2.048E-02	2.040E-02	2.031E-02	2.021E-02	2.012E-02	2.002E-02	1.992E-02	1.983E-02	1.973E-02	1.964E-02	1.955E-02
nb 97m	2.681E-04	2.669E-04	2.657E-04	2.644E-04	2.632E-04	2.619E-04	2.606E-04	2.593E-04	2.580E-04	2.567E-04	2.555E-04
mo 97	1.922E+02	2.109E+02	2.294E+02	2.479E+02	2.662E+02	2.844E+02	3.025E+02	3.205E+02	3.384E+02	3.561E+02	3.738E+02
tc 97	4.047E-08	4.814E-08	5.640E-08	6.527E-08	7.475E-08	8.485E-08	9.558E-08	1.070E-07	1.190E-07	1.317E-07	1.451E-07
tc 97m	6.411E-09	6.783E-09	7.188E-09	7.601E-09	8.007E-09	8.399E-09	8.773E-09	9.130E-09	9.469E-09	9.792E-09	1.010E-08
ru 97	8.678E-17	1.226E-16	1.662E-16	2.171E-16	2.750E-16	3.401E-16	4.126E-16	4.930E-16	5.813E-16	6.778E-16	7.822E-16
kr 98	1.337E-10	1.309E-10	1.256E-10	1.203E-10	1.150E-10	1.098E-10	1.046E-10	9.950E-11	9.449E-11	8.957E-11	8.475E-11
rb 98	7.833E-10	7.892E-10	7.949E-10	8.010E-10	8.075E-10	8.144E-10	8.216E-10	8.290E-10	8.367E-10	8.444E-10	8.523E-10
sr 98	4.103E-07	4.080E-07	4.034E-07	3.989E-07	3.946E-07	3.905E-07	3.865E-07	3.827E-07	3.790E-07	3.754E-07	3.720E-07
y 98	1.018E-06	1.015E-06	1.011E-06	1.007E-06	1.004E-06	1.001E-06	9.980E-07	9.952E-07	9.927E-07	9.902E-07	9.879E-07
y 98m	1.923E-06	1.920E-06	1.922E-06	1.924E-06	1.927E-06	1.930E-06	1.933E-06	1.936E-06	1.939E-06	1.943E-06	1.946E-06

Cycle 2 -DD Assembly

fission products

page

power= 11.49mw, burnup= 15103.mwd, flux= 3.58E+13n/cm**2-sec

nuclide concentrations, grams

basis = 0.3883 MTU

	charge	722.6 d	788.3 d	854.0 d	919.7 d	985.4 d	1051.1 d	1116.8 d	1182.5 d	1248.2 d	1313.9 d
zr 98	1.410E-04	1.405E-04	1.402E-04	1.398E-04	1.394E-04	1.390E-04	1.386E-04	1.382E-04	1.378E-04	1.374E-04	1.370E-04
nb 98	1.339E-05	1.334E-05	1.331E-05	1.328E-05	1.324E-05	1.320E-05	1.316E-05	1.312E-05	1.308E-05	1.304E-05	1.301E-05
nb 98m	9.241E-05	9.188E-05	9.146E-05	9.093E-05	9.032E-05	8.965E-05	8.892E-05	8.815E-05	8.735E-05	8.653E-05	8.571E-05
mo 98	1.905E+02	2.094E+02	2.282E+02	2.470E+02	2.658E+02	2.845E+02	3.032E+02	3.218E+02	3.404E+02	3.590E+02	3.775E+02
tc 98	6.716E-04	8.194E-04	9.831E-04	1.163E-03	1.359E-03	1.571E-03	1.801E-03	2.046E-03	2.309E-03	2.589E-03	2.885E-03
ru 98	2.447E-05	2.661E-05	2.869E-05	3.071E-05	3.268E-05	3.460E-05	3.646E-05	3.827E-05	4.001E-05	4.171E-05	4.334E-05
rb 99	5.754E-11	5.850E-11	5.974E-11	6.100E-11	6.227E-11	6.354E-11	6.482E-11	6.610E-11	6.738E-11	6.866E-11	6.993E-11
sr 99	3.728E-08	3.728E-08	3.716E-08	3.707E-08	3.702E-08	3.698E-08	3.697E-08	3.698E-08	3.700E-08	3.704E-08	3.708E-08
y 99	2.571E-06	2.564E-06	2.553E-06	2.543E-06	2.535E-06	2.527E-06	2.521E-06	2.515E-06	2.510E-06	2.505E-06	2.501E-06
zr 99	9.707E-06	9.674E-06	9.644E-06	9.615E-06	9.587E-06	9.559E-06	9.533E-06	9.507E-06	9.482E-06	9.458E-06	9.434E-06
nb 99	4.488E-05	4.473E-05	4.460E-05	4.447E-05	4.435E-05	4.423E-05	4.411E-05	4.400E-05	4.389E-05	4.378E-05	4.368E-05
nb 99m	3.253E-04	3.246E-04	3.245E-04	3.244E-04	3.242E-04	3.239E-04	3.236E-04	3.233E-04	3.229E-04	3.226E-04	3.222E-04
mo 99	1.216E+00	1.213E+00	1.211E+00	1.209E+00	1.207E+00	1.205E+00	1.204E+00	1.202E+00	1.200E+00	1.198E+00	1.196E+00
tc 99	1.936E+02	2.118E+02	2.298E+02	2.474E+02	2.648E+02	2.819E+02	2.987E+02	3.152E+02	3.313E+02	3.472E+02	3.627E+02
tc 99m	9.785E-02	9.762E-02	9.752E-02	9.741E-02	9.730E-02	9.719E-02	9.708E-02	9.698E-02	9.687E-02	9.677E-02	9.668E-02
ru 99	7.055E-03	7.799E-03	8.548E-03	9.301E-03	1.006E-02	1.082E-02	1.158E-02	1.235E-02	1.312E-02	1.389E-02	1.466E-02
rh 99	4.221E-17	6.090E-17	8.358E-17	1.104E-16	1.411E-16	1.757E-16	2.144E-16	2.573E-16	3.046E-16	3.563E-16	4.124E-16
pd 99	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
rb100	1.761E-09	1.723E-09	1.651E-09	1.580E-09	1.509E-09	1.439E-09	1.369E-09	1.301E-09	1.233E-09	1.167E-09	1.102E-09
sr100	8.205E-09	8.190E-09	8.132E-09	8.077E-09	8.027E-09	7.980E-09	7.937E-09	7.897E-09	7.860E-09	7.826E-09	7.795E-09
y100	4.510E-07	4.516E-07	4.520E-07	4.529E-07	4.542E-07	4.560E-07	4.580E-07	4.604E-07	4.629E-07	4.655E-07	4.683E-07
zr100	3.285E-05	3.274E-05	3.263E-05	3.252E-05	3.241E-05	3.231E-05	3.220E-05	3.210E-05	3.201E-05	3.191E-05	3.181E-05

nb100	7.482E-06	7.460E-06	7.445E-06	7.430E-06	7.415E-06	7.400E-06	7.386E-06	7.371E-06	7.356E-06	7.342E-06	7.327E-06
nb100m	1.075E-06	1.080E-06	1.097E-06	1.113E-06	1.128E-06	1.142E-06	1.156E-06	1.169E-06	1.181E-06	1.193E-06	1.204E-06
mo100	2.158E+02	2.373E+02	2.588E+02	2.803E+02	3.017E+02	3.232E+02	3.446E+02	3.659E+02	3.873E+02	4.086E+02	4.298E+02
tc100	9.194E-06	9.484E-06	1.053E-05	1.160E-05	1.269E-05	1.382E-05	1.496E-05	1.613E-05	1.731E-05	1.852E-05	1.974E-05
ru100	1.116E+01	1.342E+01	1.593E+01	1.871E+01	2.176E+01	2.508E+01	2.868E+01	3.257E+01	3.675E+01	4.123E+01	4.601E+01
rb101	3.102E-13	3.128E-13	3.153E-13	3.181E-13	3.209E-13	3.239E-13	3.270E-13	3.302E-13	3.335E-13	3.369E-13	3.402E-13
sr101	1.007E-09	1.008E-09	1.004E-09	1.000E-09	9.972E-10	9.947E-10	9.925E-10	9.908E-10	9.894E-10	9.883E-10	9.876E-10
y101	1.317E-07	1.315E-07	1.307E-07	1.301E-07	1.296E-07	1.292E-07	1.288E-07	1.286E-07	1.284E-07	1.282E-07	1.281E-07
zr101	5.249E-06	5.236E-06	5.221E-06	5.208E-06	5.199E-06	5.191E-06	5.186E-06	5.183E-06	5.180E-06	5.179E-06	5.179E-06
nb101	3.231E-05	3.227E-05	3.234E-05	3.241E-05	3.248E-05	3.255E-05	3.263E-05	3.270E-05	3.277E-05	3.283E-05	3.290E-05
mo101	4.113E-03	4.109E-03	4.117E-03	4.126E-03	4.134E-03	4.143E-03	4.152E-03	4.161E-03	4.170E-03	4.178E-03	4.187E-03
tc101	4.002E-03	3.999E-03	4.007E-03	4.016E-03	4.024E-03	4.033E-03	4.042E-03	4.050E-03	4.059E-03	4.067E-03	4.076E-03
ru101	1.806E+02	1.985E+02	2.163E+02	2.341E+02	2.519E+02	2.695E+02	2.871E+02	3.047E+02	3.221E+02	3.395E+02	3.568E+02
rh101	7.625E-10	8.183E-10	8.723E-10	9.247E-10	9.760E-10	1.026E-09	1.076E-09	1.126E-09	1.175E-09	1.225E-09	1.276E-09
rh101m	3.497E-12	3.586E-12	3.812E-12	4.026E-12	4.231E-12	4.428E-12	4.617E-12	4.801E-12	4.981E-12	5.157E-12	5.331E-12
pd101	1.326E-14	1.771E-14	2.324E-14	2.984E-14	3.759E-14	4.659E-14	5.690E-14	6.862E-14	8.182E-14	9.656E-14	1.129E-13
rb102	2.053E-14	2.089E-14	2.134E-14	2.180E-14	2.226E-14	2.273E-14	2.319E-14	2.366E-14	2.412E-14	2.459E-14	2.505E-14
sr102	1.311E-10	1.324E-10	1.339E-10	1.354E-10	1.370E-10	1.387E-10	1.404E-10	1.421E-10	1.438E-10	1.456E-10	1.474E-10
y102	1.572E-07	1.551E-07	1.509E-07	1.468E-07	1.428E-07	1.388E-07	1.350E-07	1.312E-07	1.276E-07	1.240E-07	1.205E-07
zr102	4.967E-06	4.950E-06	4.922E-06	4.898E-06	4.877E-06	4.860E-06	4.844E-06	4.831E-06	4.820E-06	4.810E-06	4.801E-06
nb102	3.390E-06	3.388E-06	3.393E-06	3.400E-06	3.408E-06	3.418E-06	3.428E-06	3.440E-06	3.452E-06	3.465E-06	3.477E-06
nb102m	3.848E-06	3.867E-06	3.924E-06	3.982E-06	4.040E-06	4.098E-06	4.157E-06	4.214E-06	4.271E-06	4.327E-06	4.382E-06
mo102	2.908E-03	2.913E-03	2.933E-03	2.954E-03	2.976E-03	2.997E-03	3.018E-03	3.039E-03	3.060E-03	3.081E-03	3.101E-03
tc102	2.272E-05	2.275E-05	2.292E-05	2.308E-05	2.325E-05	2.341E-05	2.358E-05	2.374E-05	2.391E-05	2.407E-05	2.423E-05
tc102m	3.432E-06	3.451E-06	3.526E-06	3.592E-06	3.651E-06	3.704E-06	3.751E-06	3.793E-06	3.832E-06	3.867E-06	3.900E-06
ru102	1.670E+02	1.849E+02	2.030E+02	2.214E+02	2.399E+02	2.587E+02	2.778E+02	2.970E+02	3.165E+02	3.362E+02	3.561E+02
rh102	6.993E-05	8.347E-05	9.759E-05	1.122E-04	1.273E-04	1.427E-04	1.584E-04	1.744E-04	1.906E-04	2.069E-04	2.233E-04
rh102m	1.855E-08	2.029E-08	2.200E-08	2.367E-08	2.530E-08	2.688E-08	2.841E-08	2.989E-08	3.131E-08	3.267E-08	3.398E-08

Cycle 2 -DD Assembly

fission products

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power= 11.49mw, burnup= 15103.mwd, flux= 3.58E+13n/cm**2-sec
nuclide concentrations, grams
basis = 0.3883 MTU

	charge	722.6 d	788.3 d	854.0 d	919.7 d	985.4 d	1051.1 d	1116.8 d	1182.5 d	1248.2 d	1313.9 d
pd102	1.175E-05	1.545E-05	1.981E-05	2.487E-05	3.064E-05	3.713E-05	4.438E-05	5.238E-05	6.115E-05	7.070E-05	8.103E-05
sr103	1.257E-12	1.276E-12	1.301E-12	1.327E-12	1.355E-12	1.382E-12	1.410E-12	1.439E-12	1.468E-12	1.497E-12	1.526E-12
y103	2.505E-09	2.540E-09	2.585E-09	2.632E-09	2.681E-09	2.732E-09	2.785E-09	2.838E-09	2.893E-09	2.947E-09	3.002E-09
zr103	6.700E-07	6.710E-07	6.712E-07	6.724E-07	6.745E-07	6.773E-07	6.808E-07	6.848E-07	6.892E-07	6.938E-07	6.986E-07
nb103	3.357E-06	3.375E-06	3.419E-06	3.465E-06	3.513E-06	3.563E-06	3.615E-06	3.667E-06	3.719E-06	3.772E-06	3.824E-06
mo103	2.564E-04	2.581E-04	2.628E-04	2.675E-04	2.721E-04	2.767E-04	2.812E-04	2.857E-04	2.901E-04	2.944E-04	2.986E-04
tc103	2.116E-04	2.130E-04	2.169E-04	2.207E-04	2.246E-04	2.283E-04	2.320E-04	2.357E-04	2.393E-04	2.428E-04	2.462E-04
ru103	1.313E+01	1.331E+01	1.354E+01	1.378E+01	1.402E+01	1.426E+01	1.451E+01	1.474E+01	1.498E+01	1.521E+01	1.543E+01
rh103	1.022E+02	1.129E+02	1.233E+02	1.333E+02	1.430E+02	1.524E+02	1.615E+02	1.703E+02	1.787E+02	1.868E+02	1.945E+02
rh103m	1.301E-02	1.319E-02	1.341E-02	1.365E-02	1.390E-02	1.414E-02	1.438E-02	1.462E-02	1.485E-02	1.508E-02	1.530E-02
pd103	2.304E-06	2.885E-06	3.560E-06	4.336E-06	5.218E-06	6.212E-06	7.324E-06	8.560E-06	9.925E-06	1.142E-05	1.306E-05
ag103	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sr104	2.038E-13	2.070E-13	2.109E-13	2.149E-13	2.189E-13	2.230E-13	2.270E-13	2.312E-13	2.353E-13	2.394E-13	2.435E-13
y104	1.664E-10	1.679E-10	1.696E-10	1.714E-10	1.733E-10	1.753E-10	1.774E-10	1.795E-10	1.816E-10	1.838E-10	1.860E-10
zr104	3.321E-07	3.348E-07	3.388E-07	3.432E-07	3.481E-07	3.534E-07	3.590E-07	3.648E-07	3.707E-07	3.767E-07	3.828E-07
nb104	2.702E-06	2.732E-06	2.789E-06	2.851E-06	2.917E-06	2.986E-06	3.058E-06	3.132E-06	3.207E-06	3.282E-06	3.357E-06
nb104m	4.330E-07	4.381E-07	4.484E-07	4.596E-07	4.715E-07	4.840E-07	4.969E-07	5.101E-07	5.234E-07	5.367E-07	5.500E-07
mo104	1.709E-04	1.728E-04	1.774E-04	1.820E-04	1.867E-04	1.915E-04	1.962E-04	2.009E-04	2.055E-04	2.101E-04	2.146E-04
tc104	3.337E-03	3.374E-03	3.466E-03	3.558E-03	3.651E-03	3.743E-03	3.836E-03	3.927E-03	4.018E-03	4.107E-03	4.194E-03
ru104	1.000E+02	1.122E+02	1.246E+02	1.375E+02	1.506E+02	1.641E+02	1.779E+02	1.921E+02	2.065E+02	2.213E+02	2.365E+02
rh104	5.217E-05	5.352E-05	5.579E-05	5.814E-05	6.061E-05	6.318E-05	6.586E-05	6.864E-05	7.152E-05	7.450E-05	7.758E-05
rh104m	2.345E-05	2.406E-05	2.687E-05	2.973E-05	3.262E-05	3.554E-05	3.849E-05	4.145E-05	4.443E-05	4.740E-05	5.037E-05
pd104	2.164E+01	2.634E+01	3.162E+01	3.748E+01	4.394E+01	5.099E+01	5.864E+01	6.689E+01	7.576E+01	8.522E+01	9.530E+01
y105	3.163E-11	3.218E-11	3.291E-11	3.364E-11	3.438E-11	3.512E-11	3.587E-11	3.662E-11	3.736E-11	3.811E-11	3.884E-11
zr105	3.830E-08	3.780E-08	3.681E-08	3.583E-08	3.488E-08	3.394E-08	3.303E-08	3.214E-08	3.127E-08	3.042E-08	2.959E-08
nb105	1.256E-06	1.272E-06	1.301E-06	1.332E-06	1.365E-06	1.400E-06	1.436E-06	1.473E-06	1.509E-06	1.546E-06	1.583E-06
mo105	6.826E-05	6.930E-05	7.167E-05	7.407E-05	7.651E-05	7.896E-05	8.141E-05	8.386E-05	8.628E-05	8.867E-05	9.101E-05
tc105	1.079E-03	1.097E-03	1.138E-03	1.180E-03	1.222E-03	1.264E-03	1.305E-03	1.346E-03	1.386E-03	1.425E-03	1.464E-03
ru105	3.814E-02	3.879E-02	4.029E-02	4.179E-02	4.329E-02	4.478E-02	4.627E-02	4.773E-02	4.918E-02	5.060E-02	5.200E-02
rh105	2.876E-01	2.923E-01	3.032E-01	3.141E-01	3.250E-01	3.358E-01	3.464E-01	3.569E-01	3.673E-01	3.774E-01	3.873E-01
rh105m	3.050E-05	3.101E-05	3.221E-05	3.341E-05	3.461E-05	3.581E-05	3.699E-05	3.817E-05	3.932E-05	4.046E-05	4.157E-05
pd105	6.614E+01	7.483E+01	8.381E+01	9.309E+01	1.027E+02	1.125E+02	1.226E+02	1.330E+02	1.437E+02	1.546E+02	1.658E+02
ag105	3.765E-15	5.594E-15	7.883E-15	1.067E-14	1.394E-14	1.773E-14	2.204E-14	2.691E-14	3.236E-14	3.841E-14	4.508E-14
ag105m	5.583E-19	7.954E-19	1.089E-18	1.437E-18	1.839E-18	2.299E-18	2.818E-18	3.400E-18	4.049E-18	4.765E-18	5.551E-18
cd105	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
y106	8.129E-15	8.691E-15	9.590E-15	1.070E-14	1.198E-14	1.341E-14	1.496E-14	1.658E-14	1.826E-14	1.997E-14	2.169E-14
zr106	2.150E-10	2.260E-10	2.442E-10	2.658E-10	2.902E-10	3.170E-10	3.455E-10	3.753E-10	4.059E-10	4.370E-10	4.681E-10
nb106	6.860E-08	7.034E-08	7.310E-08	7.624E-08	7.971E-08	8.346E-08	8.741E-08	9.150E-08	9.570E-08	9.994E-08	1.042E-07
mo106	8.865E-06	9.043E-06	9.424E-06	9.821E-06	1.023E-05	1.065E-05	1.107E-05	1.150E-05	1.192E-05	1.235E-05	1.276E-05
tc106	5.723E-05	5.850E-05	6.135E-05	6.426E-05	6.720E-05	7.017E-05	7.315E-05	7.612E-05	7.907E-05	8.198E-05	8.483E-05
ru106	2.859E+01	3.156E+01	3.450E+01	3.742E+01	4.033E+01	4.323E+01	4.611E+01	4.899E+01	5.185E+01	5.471E+01	5.754E+01
rh106	2.918E-05	3.201E-05	3.491E-05	3.779E-05	4.067E-05	4.354E-05	4.640E-05	4.926E-05	5.211E-05	5.496E-05	5.779E-05
rh106m	3.100E-04	3.182E-04	3.378E-04	3.580E-04	3.788E-04	4.001E-04	4.219E-04	4.441E-04	4.667E-04	4.895E-04	5.126E-04
pd106	2.136E+01	2.590E+01	3.087E+01	3.630E+01	4.217E+01	4.849E+01	5.527E+01	6.250E+01	7.019E+01	7.834E+01	8.696E+01
ag106	1.540E-15	1.658E-15	1.844E-15	2.044E-15	2.259E-15	2.493E-15	2.748E-15	3.025E-15	3.328E-15	3.657E-15	4.015E-15
ag106m	1.462E-12	1.509E-12	1.615E-12	1.719E-12	1.821E-12	1.923E-12	2.025E-12	2.128E-12	2.232E-12	2.339E-12	2.448E-12
cd106	1.246E-17	2.000E-17	3.040E-17	4.421E-17	6.193E-17	8.408E-17	1.112E-16	1.438E-16	1.824E-16	2.276E-16	2.801E-16
y107	2.798E-17	3.084E-17	3.481E-17	3.916E-17	4.391E-17	4.911E-17	5.478E-17	6.092E-17	6.754E-17	7.464E-17	8.219E-17

zrl07 1.845E-12 1.922E-12 2.060E-12 2.214E-12 2.379E-12 2.555E-12 2.739E-12 2.930E-12 3.124E-12 3.321E-12 3.519E-12
nbl07 1.177E-08 1.207E-08 1.254E-08 1.307E-08 1.364E-08 1.425E-08 1.488E-08 1.554E-08 1.620E-08 1.687E-08 1.754E-08

Cycle 2 -DD Assembly

fission products

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power= 11.49mw, burnup= 15103.mwd, flux= 3.58E+13n/cm**2-sec
nuclide concentrations, grams
basis = 0.3883 MTU

	charge	722.6 d	788.3 d	854.0 d	919.7 d	985.4 d	1051.1 d	1116.8 d	1182.5 d	1248.2 d	1313.9 d
mol07	1.325E-06	1.356E-06	1.415E-06	1.479E-06	1.547E-06	1.619E-06	1.693E-06	1.769E-06	1.845E-06	1.922E-06	1.998E-06
tc107	2.001E-05	2.054E-05	2.168E-05	2.287E-05	2.408E-05	2.532E-05	2.657E-05	2.782E-05	2.907E-05	3.031E-05	3.153E-05
ru107	2.626E-04	2.695E-04	2.848E-04	3.004E-04	3.162E-04	3.321E-04	3.480E-04	3.639E-04	3.797E-04	3.953E-04	4.106E-04
rh107	1.545E-03	1.585E-03	1.675E-03	1.767E-03	1.859E-03	1.953E-03	2.046E-03	2.139E-03	2.232E-03	2.323E-03	2.412E-03
pd107	2.910E+01	3.372E+01	3.859E+01	4.371E+01	4.910E+01	5.474E+01	6.065E+01	6.681E+01	7.322E+01	7.988E+01	8.679E+01
pd107m	6.113E-08	7.439E-08	9.033E-08	1.082E-07	1.281E-07	1.501E-07	1.744E-07	2.009E-07	2.299E-07	2.614E-07	2.955E-07
ag107	2.168E-06	2.756E-06	3.430E-06	4.194E-06	5.054E-06	6.011E-06	7.071E-06	8.238E-06	9.514E-06	1.090E-05	1.241E-05
ag107m	1.170E-14	1.257E-14	1.395E-14	1.544E-14	1.704E-14	1.877E-14	2.065E-14	2.271E-14	2.494E-14	2.737E-14	3.002E-14
cd107	1.780E-14	2.365E-14	3.093E-14	3.964E-14	4.996E-14	6.206E-14	7.613E-14	9.236E-14	1.110E-13	1.321E-13	1.561E-13
in107	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
zr108	1.561E-13	1.639E-13	1.773E-13	1.930E-13	2.105E-13	2.296E-13	2.499E-13	2.711E-13	2.929E-13	3.149E-13	3.369E-13
nb108	3.974E-10	4.079E-10	4.247E-10	4.433E-10	4.633E-10	4.845E-10	5.066E-10	5.293E-10	5.525E-10	5.757E-10	5.989E-10
mol108	1.935E-07	1.982E-07	2.075E-07	2.174E-07	2.278E-07	2.387E-07	2.499E-07	2.613E-07	2.728E-07	2.843E-07	2.956E-07
tc108	2.013E-06	2.076E-06	2.203E-06	2.340E-06	2.486E-06	2.638E-06	2.795E-06	2.955E-06	3.116E-06	3.277E-06	3.437E-06
ru108	2.047E-04	2.106E-04	2.237E-04	2.371E-04	2.508E-04	2.648E-04	2.788E-04	2.929E-04	3.069E-04	3.207E-04	3.343E-04
rh108	1.268E-05	1.305E-05	1.386E-05	1.469E-05	1.554E-05	1.640E-05	1.727E-05	1.814E-05	1.901E-05	1.986E-05	2.071E-05
rh108m	1.901E-06	1.948E-06	2.066E-06	2.179E-06	2.288E-06	2.392E-06	2.491E-06	2.587E-06	2.680E-06	2.769E-06	2.856E-06
pd108	1.763E+01	2.060E+01	2.375E+01	2.708E+01	3.060E+01	3.430E+01	3.819E+01	4.226E+01	4.652E+01	5.096E+01	5.558E+01
ag108	1.774E-10	2.190E-10	2.567E-10	2.973E-10	3.408E-10	3.875E-10	4.372E-10	4.901E-10	5.461E-10	6.052E-10	6.672E-10
ag108m	1.176E-07	1.359E-07	1.551E-07	1.751E-07	1.958E-07	2.170E-07	2.387E-07	2.608E-07	2.832E-07	3.060E-07	3.290E-07
cd108	1.790E-05	2.341E-05	2.992E-05	3.748E-05	4.619E-05	5.612E-05	6.736E-05	7.999E-05	9.409E-05	1.097E-04	1.270E-04
zr109	3.150E-14	3.105E-14	3.015E-14	2.931E-14	2.852E-14	2.777E-14	2.705E-14	2.638E-14	2.573E-14	2.512E-14	2.452E-14
nb109	1.197E-10	1.187E-10	1.164E-10	1.143E-10	1.123E-10	1.105E-10	1.087E-10	1.071E-10	1.055E-10	1.040E-10	1.026E-10
mol109	3.565E-08	3.613E-08	3.678E-08	3.760E-08	3.855E-08	3.962E-08	4.078E-08	4.201E-08	4.329E-08	4.459E-08	4.590E-08
tc109	2.600E-07	2.679E-07	2.839E-07	3.010E-07	3.192E-07	3.381E-07	3.575E-07	3.773E-07	3.972E-07	4.171E-07	4.368E-07
ru109	1.173E-05	1.208E-05	1.284E-05	1.362E-05	1.443E-05	1.526E-05	1.610E-05	1.694E-05	1.779E-05	1.863E-05	1.945E-05
ru109m	1.970E-06	2.028E-06	2.161E-06	2.295E-06	2.429E-06	2.563E-06	2.697E-06	2.830E-06	2.960E-06	3.089E-06	3.215E-06
rh109	4.059E-05	4.179E-05	4.444E-05	4.716E-05	4.994E-05	5.276E-05	5.560E-05	5.845E-05	6.128E-05	6.408E-05	6.684E-05
rh109m	8.897E-06	9.162E-06	9.734E-06	1.033E-05	1.094E-05	1.156E-05	1.219E-05	1.283E-05	1.346E-05	1.409E-05	1.471E-05
pd109	2.718E-02	2.831E-02	3.040E-02	3.258E-02	3.484E-02	3.717E-02	3.956E-02	4.200E-02	4.449E-02	4.701E-02	4.956E-02
pd109m	2.596E-07	3.065E-07	3.615E-07	4.216E-07	4.871E-07	5.582E-07	6.352E-07	7.183E-07	8.075E-07	9.030E-07	1.005E-06
ag109	1.040E+01	1.209E+01	1.385E+01	1.567E+01	1.757E+01	1.954E+01	2.157E+01	2.366E+01	2.581E+01	2.802E+01	3.027E+01
ag109m	2.182E-05	2.273E-05	2.441E-05	2.616E-05	2.797E-05	2.984E-05	3.177E-05	3.373E-05	3.573E-05	3.775E-05	3.980E-05
cd109	1.056E-06	1.474E-06	1.996E-06	2.640E-06	3.424E-06	4.366E-06	5.486E-06	6.804E-06	8.342E-06	1.012E-05	1.216E-05
in109	1.837E-19	2.627E-19	3.612E-19	4.784E-19	6.147E-19	7.707E-19	9.476E-19	1.147E-18	1.368E-18	1.613E-18	1.882E-18
nb110	2.021E-12	2.013E-12	1.988E-12	1.964E-12	1.940E-12	1.917E-12	1.894E-12	1.871E-12	1.850E-12	1.828E-12	1.808E-12
mol110	1.676E-08	1.681E-08	1.681E-08	1.680E-08	1.680E-08	1.681E-08	1.682E-08	1.683E-08	1.684E-08	1.686E-08	1.688E-08
tc110	3.135E-08	3.209E-08	3.340E-08	3.490E-08	3.655E-08	3.832E-08	4.019E-08	4.212E-08	4.411E-08	4.611E-08	4.811E-08
ru110	3.470E-06	3.572E-06	3.793E-06	4.022E-06	4.260E-06	4.502E-06	4.749E-06	4.997E-06	5.245E-06	5.491E-06	5.735E-06
rh110	1.402E-08	1.442E-08	1.535E-08	1.626E-08	1.716E-08	1.804E-08	1.891E-08	1.978E-08	2.063E-08	2.148E-08	2.233E-08
rh110m	6.719E-06	6.917E-06	7.344E-06	7.789E-06	8.248E-06	8.717E-06	9.193E-06	9.673E-06	1.015E-05	1.063E-05	1.110E-05
pd110	5.645E+00	6.603E+00	7.620E+00	8.699E+00	9.842E+00	1.105E+01	1.233E+01	1.367E+01	1.508E+01	1.656E+01	1.810E+01
ag110	3.110E-06	3.427E-06	4.017E-06	4.652E-06	5.334E-06	6.064E-06	6.842E-06	7.668E-06	8.543E-06	9.466E-06	1.043E-05
ag110m	4.528E-02	5.520E-02	6.655E-02	7.931E-02	9.347E-02	1.090E-01	1.260E-01	1.443E-01	1.641E-01	1.852E-01	2.077E-01
cd110	1.845E+00	2.357E+00	2.962E+00	3.655E+00	4.474E+00	5.397E+00	6.442E+00	7.615E+00	8.924E+00	1.038E+01	1.198E+01
nb111	3.178E-12	3.232E-12	3.303E-12	3.373E-12	3.445E-12	3.516E-12	3.588E-12	3.660E-12	3.732E-12	3.803E-12	3.874E-12
mol111	5.648E-10	5.722E-10	5.810E-10	5.899E-10	5.990E-10	6.080E-10	6.172E-10	6.263E-10	6.355E-10	6.447E-10	6.539E-10
tc111	1.921E-08	1.951E-08	2.001E-08	2.057E-08	2.119E-08	2.185E-08	2.255E-08	2.328E-08	2.402E-08	2.477E-08	2.552E-08
ru111	1.603E-07	1.648E-07	1.744E-07	1.844E-07	1.948E-07	2.055E-07	2.163E-07	2.272E-07	2.381E-07	2.490E-07	2.597E-07
rh111	1.251E-06	1.286E-06	1.361E-06	1.440E-06	1.520E-06	1.603E-06	1.686E-06	1.770E-06	1.854E-06	1.938E-06	2.021E-06

Cycle 2 -DD Assembly

fission products

page

power= 11.49mw, burnup= 15103.mwd, flux= 3.58E+13n/cm**2-sec
nuclide concentrations, grams
basis = 0.3883 MTU

	charge	722.6 d	788.3 d	854.0 d	919.7 d	985.4 d	1051.1 d	1116.8 d	1182.5 d	1248.2 d	1313.9 d
pd111	1.605E-04	1.650E-04	1.748E-04	1.850E-04	1.955E-04	2.062E-04	2.171E-04	2.281E-04	2.391E-04	2.500E-04	2.609E-04
pd111m	1.881E-06	2.208E-06	2.601E-06	3.036E-06	3.518E-06	4.051E-06	4.641E-06	5.292E-06	6.009E-06	6.799E-06	7.667E-06
ag111	7.252E-02	7.489E-02	7.937E-02	8.404E-02	8.886E-02	9.381E-02	9.885E-02	1.039E-01	1.091E-01	1.142E-01	1.192E-01
ag111m	7.368E-06	7.581E-06	8.035E-06	8.506E-06	8.993E-06	9.492E-06	9.999E-06	1.051E-05	1.103E-05	1.154E-05	1.205E-05
cd111	2.682E+00	3.131E+00	3.604E+00	4.105E+00	4.636E+00	5.197E+00	5.789E+00	6.413E+00	7.069E+00	7.758E+00	8.480E+00
cd111m	3.047E-07	3.733E-07	4.557E-07	5.502E-07	6.580E-07	7.804E-07	9.187E-07	1.074E-06	1.248E-06	1.442E-06	1.657E-06
in111	1.698E-14	2.451E-14	3.405E-14	4.562E-14	5.932E-14	7.532E-14	9.383E-14	1.151E-13	1.393E-13	1.666E-13	1.973E-13
sn111	4.600E-21	6.498E-21	8.817E-21	1.153E-20	1.463E-20	1.813E-20	2.206E-20	2.644E-20	3.131E-20	3.668E-20	4.257E-20
nb112	1.022E-14	1.039E-14	1.061E-14	1.084E-14	1.106E-14	1.129E-14	1.151E-14	1.174E-14	1.196E-14	1.219E-14	1.241E-14
mol112	1.423E-10	1.446E-10	1.474E-10	1.503E-10	1.532E-10	1.561E-10	1.590E-10	1.619E-10	1.649E-10	1.678E-10	1.707E-10
tc112	1.003E-09	1.018E-09	1.039E-09	1.061E-09	1.084E-09	1.109E-09	1.134E-09	1.161E-09	1.187E-09	1.214E-09	1.241E-09
ru112	1.470E-07	1.505E-07	1.579E-07	1.656E-07	1.736E-07	1.817E-07	1.900E-07	1.983E-07	2.065E-07	2.147E-07	2.228E-07
rh112	7.984E-08	8.172E-08	8.587E-08	9.014E-08	9.451E-08	9.896E-08	1.034E-07	1.079E-07	1.124E-07	1.169E-07	1.213E-07
pd112	4.042E-03	4.137E-03	4.347E-03	4.563E-03	4.784E-03	5.009E-03	5.237E-03	5.466E-03	5.694E-03	5.922E-03	6.148E-03
ag112	6.039E-04	6.181E-04	6.495E-04	6.819E-04	7.150E-04	7.487E-04	7.827E-04	8.170E-04	8.512E-04	8.853E-04	9.192E-04
cd112	1.453E+00	1.677E+00	1.914E+00	2.164E+00	2.428E+00	2.707E+00	3.000E+00	3.308E+00	3.632E+00	3.972E+00	4.327E+00
in112	8.516E-17	1.408E-16	2.249E-16	3.468E-16	5.176E-16	7.506E-16	1.061E-15	1.467E-15	1.989E-15	2.650E-15	3.477E-15

inl12m	9.469E-17	1.565E-16	2.501E-16	3.857E-16	5.757E-16	8.349E-16	1.180E-15	1.632E-15	2.213E-15	2.949E-15	3.869E-15
snl12	4.923E-13	9.237E-13	1.625E-12	2.723E-12	4.386E-12	6.827E-12	1.032E-11	1.519E-11	2.185E-11	3.080E-11	4.261E-11
mol13	2.444E-12	2.485E-12	2.539E-12	2.593E-12	2.648E-12	2.703E-12	2.758E-12	2.812E-12	2.867E-12	2.922E-12	2.976E-12
tc113	4.018E-10	4.075E-10	4.149E-10	4.226E-10	4.307E-10	4.390E-10	4.476E-10	4.562E-10	4.650E-10	4.738E-10	4.826E-10
ru113	5.924E-08	6.057E-08	6.333E-08	6.627E-08	6.934E-08	7.252E-08	7.576E-08	7.906E-08	8.236E-08	8.565E-08	8.891E-08
rh113	3.420E-08	3.490E-08	3.645E-08	3.805E-08	3.970E-08	4.139E-08	4.310E-08	4.482E-08	4.654E-08	4.825E-08	4.994E-08
pd113	3.608E-06	3.680E-06	3.838E-06	4.003E-06	4.172E-06	4.345E-06	4.521E-06	4.699E-06	4.877E-06	5.054E-06	5.231E-06
ag113	7.224E-04	7.367E-04	7.684E-04	8.013E-04	8.352E-04	8.699E-04	9.051E-04	9.407E-04	9.763E-04	1.012E-03	1.047E-03
ag113m	4.933E-07	5.031E-07	5.247E-07	5.472E-07	5.704E-07	5.941E-07	6.182E-07	6.425E-07	6.669E-07	6.912E-07	7.154E-07
cd113	3.839E-02	3.764E-02	3.837E-02	3.914E-02	3.993E-02	4.072E-02	4.149E-02	4.225E-02	4.299E-02	4.370E-02	4.438E-02
cd113m	7.117E-04	7.105E-04	7.366E-04	7.643E-04	7.930E-04	8.226E-04	8.529E-04	8.839E-04	9.154E-04	9.474E-04	9.798E-04
inl13	4.287E-05	4.869E-05	5.463E-05	6.073E-05	6.701E-05	7.348E-05	8.012E-05	8.695E-05	9.396E-05	1.012E-04	1.085E-04
inl13m	2.584E-13	2.979E-13	3.424E-13	3.899E-13	4.407E-13	4.950E-13	5.531E-13	6.152E-13	6.816E-13	7.524E-13	8.281E-13
snl13	1.060E-13	1.442E-13	1.916E-13	2.498E-13	3.201E-13	4.045E-13	5.049E-13	6.237E-13	7.637E-13	9.280E-13	1.120E-12
snl13m	3.347E-21	6.380E-21	1.109E-20	1.839E-20	2.931E-20	4.515E-20	6.747E-20	9.818E-20	1.395E-19	1.941E-19	2.650E-19
sb113	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
mol14	2.548E-13	2.595E-13	2.673E-13	2.749E-13	2.823E-13	2.896E-13	2.966E-13	3.036E-13	3.104E-13	3.170E-13	3.236E-13
tc114	3.365E-11	3.429E-11	3.557E-11	3.680E-11	3.798E-11	3.912E-11	4.023E-11	4.129E-11	4.233E-11	4.333E-11	4.431E-11
ru114	6.348E-08	6.488E-08	6.788E-08	7.097E-08	7.411E-08	7.730E-08	8.051E-08	8.372E-08	8.692E-08	9.008E-08	9.318E-08
rh114	3.750E-08	3.824E-08	3.990E-08	4.160E-08	4.332E-08	4.505E-08	4.679E-08	4.853E-08	5.025E-08	5.196E-08	5.363E-08
pd114	4.107E-06	4.176E-06	4.335E-06	4.496E-06	4.657E-06	4.819E-06	4.981E-06	5.141E-06	5.300E-06	5.458E-06	5.613E-06
ag114	1.312E-07	1.333E-07	1.382E-07	1.431E-07	1.481E-07	1.530E-07	1.580E-07	1.629E-07	1.678E-07	1.727E-07	1.775E-07
cd114	1.941E+00	2.211E+00	2.490E+00	2.780E+00	3.082E+00	3.395E+00	3.719E+00	4.056E+00	4.404E+00	4.765E+00	5.137E+00
inl14	6.166E-12	7.170E-12	8.283E-12	9.475E-12	1.075E-11	1.210E-11	1.354E-11	1.506E-11	1.666E-11	1.836E-11	2.015E-11
inl14m	2.624E-07	3.069E-07	3.555E-07	4.077E-07	4.635E-07	5.228E-07	5.858E-07	6.526E-07	7.232E-07	7.977E-07	8.762E-07
snl14	1.354E-06	1.733E-06	2.172E-06	2.677E-06	3.252E-06	3.900E-06	4.627E-06	5.437E-06	6.336E-06	7.327E-06	8.417E-06
mol15	2.110E-15	2.176E-15	2.273E-15	2.384E-15	2.508E-15	2.641E-15	2.783E-15	2.930E-15	3.080E-15	3.233E-15	3.385E-15
tc115	4.370E-12	4.514E-12	4.732E-12	4.984E-12	5.265E-12	5.569E-12	5.891E-12	6.226E-12	6.570E-12	6.917E-12	7.265E-12
ru115	1.436E-09	1.475E-09	1.543E-09	1.618E-09	1.698E-09	1.783E-09	1.871E-09	1.962E-09	2.053E-09	2.146E-09	2.237E-09
rh115	9.120E-08	9.281E-08	9.626E-08	9.981E-08	1.034E-07	1.071E-07	1.108E-07	1.145E-07	1.182E-07	1.218E-07	1.254E-07
pd115	8.192E-07	8.289E-07	8.529E-07	8.766E-07	9.001E-07	9.234E-07	9.464E-07	9.692E-07	9.916E-07	1.014E-06	1.035E-06
ag115	1.926E-05	1.949E-05	2.005E-05	2.060E-05	2.115E-05	2.170E-05	2.223E-05	2.276E-05	2.328E-05	2.380E-05	2.430E-05
ag115m	1.229E-07	1.239E-07	1.266E-07	1.292E-07	1.318E-07	1.344E-07	1.370E-07	1.395E-07	1.419E-07	1.443E-07	1.467E-07

Cycle 2 -DD Assembly

fission products

page

power= 11.49mw, burnup= 15103.mwd, flux= 3.58E+13n/cm**2-sec
nuclide concentrations, grams
basis = 0.3883 MTU

	charge	722.6 d	788.3 d	854.0 d	919.7 d	985.4 d	1051.1 d	1116.8 d	1182.5 d	1248.2 d	1313.9 d
cd115	4.304E-03	4.361E-03	4.489E-03	4.616E-03	4.743E-03	4.870E-03	4.997E-03	5.123E-03	5.250E-03	5.375E-03	5.501E-03
cd115m	3.603E-03	3.706E-03	3.830E-03	3.962E-03	4.099E-03	4.238E-03	4.378E-03	4.521E-03	4.665E-03	4.810E-03	4.957E-03
inl15	4.470E-01	4.795E-01	5.094E-01	5.362E-01	5.622E-01	5.853E-01	6.065E-01	6.257E-01	6.432E-01	6.590E-01	6.733E-01
inl15m	3.612E-04	3.660E-04	3.767E-04	3.874E-04	3.981E-04	4.088E-04	4.194E-04	4.300E-04	4.406E-04	4.512E-04	4.617E-04
snl15	3.553E-02	3.978E-02	4.414E-02	4.859E-02	5.314E-02	5.779E-02	6.254E-02	6.737E-02	7.230E-02	7.731E-02	8.241E-02
sb115	4.032E-28	1.222E-27	3.377E-27	8.639E-27	2.072E-26	4.688E-26	1.006E-25	2.056E-25	4.026E-25	7.580E-25	1.378E-24
te115	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
tc116	1.990E-13	2.032E-13	2.092E-13	2.156E-13	2.224E-13	2.294E-13	2.367E-13	2.441E-13	2.516E-13	2.592E-13	2.667E-13
ru116	5.686E-10	5.818E-10	6.029E-10	6.256E-10	6.497E-10	6.748E-10	7.007E-10	7.272E-10	7.539E-10	7.808E-10	8.075E-10
rh116	4.271E-09	4.360E-09	4.536E-09	4.717E-09	4.903E-09	5.092E-09	5.283E-09	5.474E-09	5.665E-09	5.855E-09	6.042E-09
pd116	2.540E-07	2.575E-07	2.664E-07	2.750E-07	2.833E-07	2.915E-07	2.994E-07	3.071E-07	3.147E-07	3.220E-07	3.291E-07
ag116	3.843E-06	3.882E-06	3.986E-06	4.086E-06	4.183E-06	4.277E-06	4.367E-06	4.455E-06	4.541E-06	4.623E-06	4.704E-06
ag116m	1.597E-08	1.612E-08	1.661E-08	1.705E-08	1.746E-08	1.784E-08	1.819E-08	1.852E-08	1.883E-08	1.912E-08	1.940E-08
cd116	8.357E-01	9.370E-01	1.041E+00	1.148E+00	1.257E+00	1.369E+00	1.484E+00	1.600E+00	1.719E+00	1.840E+00	1.963E+00
inl16	4.035E-08	4.385E-08	4.767E-08	5.141E-08	5.505E-08	5.860E-08	6.205E-08	6.540E-08	6.866E-08	7.182E-08	7.488E-08
inl16m	3.498E-05	3.802E-05	4.133E-05	4.457E-05	4.773E-05	5.080E-05	5.379E-05	5.670E-05	5.953E-05	6.226E-05	6.491E-05
snl16	2.743E-01	3.309E-01	3.928E-01	4.597E-01	5.315E-01	6.082E-01	6.895E-01	7.754E-01	8.658E-01	9.604E-01	1.059E+00
tc117	5.193E-15	5.294E-15	5.429E-15	5.571E-15	5.720E-15	5.874E-15	6.032E-15	6.193E-15	6.356E-15	6.519E-15	6.683E-15
ru117	1.442E-11	1.471E-11	1.511E-11	1.554E-11	1.599E-11	1.645E-11	1.693E-11	1.741E-11	1.790E-11	1.839E-11	1.888E-11
rh117	1.959E-09	1.991E-09	2.047E-09	2.106E-09	2.167E-09	2.230E-09	2.294E-09	2.359E-09	2.424E-09	2.490E-09	2.554E-09
pd117	7.542E-08	7.601E-08	7.753E-08	7.903E-08	8.049E-08	8.194E-08	8.335E-08	8.474E-08	8.610E-08	8.743E-08	8.873E-08
ag117	8.179E-07	8.254E-07	8.460E-07	8.657E-07	8.846E-07	9.029E-07	9.205E-07	9.376E-07	9.541E-07	9.700E-07	9.855E-07
ag117m	6.000E-08	6.056E-08	6.207E-08	6.351E-08	6.491E-08	6.625E-08	6.754E-08	6.879E-08	7.000E-08	7.117E-08	7.231E-08
cd117	1.747E-04	1.763E-04	1.807E-04	1.849E-04	1.890E-04	1.929E-04	1.967E-04	2.004E-04	2.039E-04	2.074E-04	2.107E-04
cd117m	4.668E-05	4.711E-05	4.830E-05	4.944E-05	5.052E-05	5.155E-05	5.255E-05	5.350E-05	5.442E-05	5.532E-05	5.618E-05
inl17	3.663E-05	3.697E-05	3.790E-05	3.878E-05	3.964E-05	4.046E-05	4.125E-05	4.201E-05	4.275E-05	4.346E-05	4.416E-05
inl17m	1.244E-04	1.255E-04	1.287E-04	1.317E-04	1.346E-04	1.374E-04	1.401E-04	1.427E-04	1.452E-04	1.477E-04	1.500E-04
snl17	7.751E-01	8.674E-01	9.620E-01	1.059E+00	1.158E+00	1.259E+00	1.362E+00	1.467E+00	1.574E+00	1.682E+00	1.792E+00
inl17m	1.404E-04	1.568E-04	1.765E-04	1.979E-04	2.212E-04	2.462E-04	2.731E-04	3.019E-04	3.326E-04	3.652E-04	3.998E-04
sb117	3.599E-17	4.697E-17	5.963E-17	7.438E-17	9.143E-17	1.110E-16	1.331E-16	1.581E-16	1.860E-16	2.170E-16	2.511E-16
te117	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
tc118	4.019E-16	4.089E-16	4.179E-16	4.270E-16	4.362E-16	4.455E-16	4.548E-16	4.641E-16	4.734E-16	4.827E-16	4.920E-16
ru118	4.077E-12	4.151E-12	4.249E-12	4.350E-12	4.453E-12	4.558E-12	4.664E-12	4.770E-12	4.878E-12	4.985E-12	5.092E-12
rh118	1.355E-10	1.380E-10	1.418E-10	1.458E-10	1.500E-10	1.543E-10	1.587E-10	1.631E-10	1.676E-10	1.721E-10	1.766E-10
pd118	2.214E-08	2.241E-08	2.295E-08	2.350E-08	2.406E-08	2.463E-08	2.521E-08	2.578E-08	2.635E-08	2.691E-08	2.747E-08
ag118	4.672E-08	4.714E-08	4.821E-08	4.925E-08	5.026E-08	5.126E-08	5.224E-08	5.320E-08	5.414E-08	5.505E-08	5.595E-08
ag118m	1.726E-08	1.743E-08	1.784E-08	1.825E-08	1.865E-08	1.904E-08	1.943E-08	1.980E-08	2.017E-08	2.053E-08	2.088E-08
cd118	5.946E-05	5.996E-05	6.127E-05	6.254E-05	6.378E-05	6.499E-05	6.617E-05	6.732E-05	6		

tell18	6.815E-24	9.053E-24	1.180E-23	1.514E-23	1.922E-23	2.425E-23	3.058E-23	3.883E-23	4.996E-23	6.562E-23	8.845E-23
ru119	6.539E-14	6.655E-14	6.808E-14	6.962E-14	7.120E-14	7.279E-14	7.439E-14	7.601E-14	7.763E-14	7.925E-14	8.086E-14
rh119	3.779E-11	3.851E-11	3.949E-11	4.052E-11	4.157E-11	4.266E-11	4.376E-11	4.488E-11	4.601E-11	4.714E-11	4.827E-11
pd119	3.941E-09	4.015E-09	4.138E-09	4.268E-09	4.403E-09	4.543E-09	4.685E-09	4.830E-09	4.976E-09	5.122E-09	5.267E-09
ag119	2.626E-08	2.646E-08	2.693E-08	2.740E-08	2.788E-08	2.836E-08	2.884E-08	2.931E-08	2.979E-08	3.025E-08	3.071E-08
cd119	2.187E-06	2.203E-06	2.244E-06	2.284E-06	2.323E-06	2.362E-06	2.400E-06	2.437E-06	2.474E-06	2.510E-06	2.545E-06
cd119m	8.484E-07	8.545E-07	8.722E-07	8.890E-07	9.051E-07	9.206E-07	9.355E-07	9.498E-07	9.637E-07	9.770E-07	9.900E-07

Cycle 2 -DD Assembly

fission products

page

power= 11.49mw, burnup= 15103.mwd, flux= 3.58E+13n/cm**2-sec

nuclide concentrations, grams
basis = 0.3883 MTU

	charge	722.6 d	788.3 d	854.0 d	919.7 d	985.4 d	1051.1 d	1116.8 d	1182.5 d	1248.2 d	1313.9 d
in119	1.236E-06	1.244E-06	1.268E-06	1.291E-06	1.312E-06	1.333E-06	1.354E-06	1.373E-06	1.392E-06	1.410E-06	1.428E-06
in119m	1.323E-05	1.333E-05	1.358E-05	1.382E-05	1.406E-05	1.430E-05	1.453E-05	1.476E-05	1.498E-05	1.520E-05	1.541E-05
sn119	7.168E-01	7.983E-01	8.814E-01	9.661E-01	1.052E+00	1.140E+00	1.229E+00	1.319E+00	1.411E+00	1.504E+00	1.598E+00
sn119m	2.815E-03	3.156E-03	3.516E-03	3.894E-03	4.291E-03	4.708E-03	5.145E-03	5.603E-03	6.082E-03	6.584E-03	7.107E-03
sb119	3.584E-11	3.697E-11	3.945E-11	4.187E-11	4.425E-11	4.660E-11	4.894E-11	5.129E-11	5.367E-11	5.609E-11	5.856E-11
tell19	3.819E-17	4.990E-17	6.339E-17	7.912E-17	9.730E-17	1.181E-16	1.417E-16	1.683E-16	1.980E-16	2.310E-16	2.673E-16
ru120	4.522E-15	4.599E-15	4.697E-15	4.797E-15	4.898E-15	4.999E-15	5.101E-15	5.203E-15	5.305E-15	5.407E-15	5.509E-15
rh120	1.956E-12	1.982E-12	2.013E-12	2.045E-12	2.078E-12	2.113E-12	2.147E-12	2.182E-12	2.218E-12	2.254E-12	2.289E-12
pd120	9.228E-09	9.145E-09	8.968E-09	8.795E-09	8.629E-09	8.467E-09	8.311E-09	8.159E-09	8.012E-09	7.870E-09	7.733E-09
ag120	6.096E-09	6.139E-09	6.217E-09	6.302E-09	6.392E-09	6.487E-09	6.585E-09	6.686E-09	6.788E-09	6.891E-09	6.994E-09
ag120m	6.653E-10	6.788E-10	7.050E-10	7.321E-10	7.601E-10	7.887E-10	8.177E-10	8.470E-10	8.762E-10	9.052E-10	9.339E-10
cd120	9.527E-07	9.593E-07	9.765E-07	9.935E-07	1.010E-06	1.027E-06	1.043E-06	1.059E-06	1.075E-06	1.090E-06	1.106E-06
in120	5.913E-08	5.954E-08	6.063E-08	6.170E-08	6.275E-08	6.379E-08	6.481E-08	6.582E-08	6.680E-08	6.776E-08	6.871E-08
in120m	4.096E-08	4.138E-08	4.267E-08	4.386E-08	4.497E-08	4.600E-08	4.697E-08	4.788E-08	4.874E-08	4.956E-08	5.035E-08
sn120	7.055E-01	7.857E-01	8.675E-01	9.509E-01	1.036E+00	1.122E+00	1.210E+00	1.299E+00	1.390E+00	1.482E+00	1.575E+00
sb120	4.752E-12	4.878E-12	5.181E-12	5.470E-12	5.748E-12	6.016E-12	6.277E-12	6.532E-12	6.784E-12	7.035E-12	7.285E-12
sb120m	3.653E-09	3.751E-09	3.988E-09	4.216E-09	4.435E-09	4.648E-09	4.856E-09	5.061E-09	5.265E-09	5.467E-09	5.671E-09
tel20	1.773E-11	2.085E-11	2.424E-11	2.790E-11	3.183E-11	3.605E-11	4.056E-11	4.537E-11	5.051E-11	5.599E-11	6.182E-11
rh121	1.850E-13	1.882E-13	1.924E-13	1.966E-13	2.009E-13	2.052E-13	2.096E-13	2.140E-13	2.184E-13	2.227E-13	2.271E-13
pd121	1.161E-10	1.176E-10	1.196E-10	1.216E-10	1.238E-10	1.261E-10	1.284E-10	1.308E-10	1.332E-10	1.356E-10	1.380E-10
ag121	3.126E-09	3.142E-09	3.167E-09	3.196E-09	3.227E-09	3.260E-09	3.294E-09	3.330E-09	3.367E-09	3.404E-09	3.442E-09
cd121	1.388E-07	1.398E-07	1.424E-07	1.449E-07	1.474E-07	1.499E-07	1.524E-07	1.548E-07	1.572E-07	1.596E-07	1.619E-07
cd121m	3.061E-08	3.088E-08	3.162E-08	3.234E-08	3.305E-08	3.374E-08	3.441E-08	3.507E-08	3.571E-08	3.633E-08	3.694E-08
in121	2.539E-07	2.560E-07	2.624E-07	2.684E-07	2.742E-07	2.797E-07	2.850E-07	2.901E-07	2.950E-07	2.997E-07	3.043E-07
in121m	2.601E-06	2.622E-06	2.673E-06	2.724E-06	2.774E-06	2.823E-06	2.872E-06	2.921E-06	2.968E-06	3.014E-06	3.060E-06
sn121	2.057E-03	2.074E-03	2.118E-03	2.162E-03	2.204E-03	2.245E-03	2.285E-03	2.324E-03	2.362E-03	2.399E-03	2.435E-03
sn121m	4.468E-02	5.003E-02	5.550E-02	6.109E-02	6.679E-02	7.259E-02	7.847E-02	8.444E-02	9.049E-02	9.661E-02	1.028E-01
sb121	7.006E-01	7.795E-01	8.597E-01	9.409E-01	1.023E+00	1.106E+00	1.190E+00	1.275E+00	1.360E+00	1.447E+00	1.533E+00
tel21	1.269E-10	1.343E-10	1.444E-10	1.546E-10	1.647E-10	1.749E-10	1.850E-10	1.952E-10	2.056E-10	2.161E-10	2.268E-10
tel21m	5.340E-10	5.799E-10	6.271E-10	6.750E-10	7.231E-10	7.713E-10	8.195E-10	8.678E-10	9.164E-10	9.656E-10	1.015E-09
i121	1.632E-18	2.250E-18	3.000E-18	3.884E-18	4.908E-18	6.078E-18	7.404E-18	8.897E-18	1.057E-17	1.242E-17	1.445E-17
rh122	4.545E-15	4.623E-15	4.725E-15	4.827E-15	4.931E-15	5.035E-15	5.140E-15	5.245E-15	5.350E-15	5.455E-15	5.559E-15
pd122	4.574E-11	4.641E-11	4.726E-11	4.814E-11	4.904E-11	4.996E-11	5.088E-11	5.182E-11	5.277E-11	5.371E-11	5.465E-11
ag122	3.308E-10	3.335E-10	3.372E-10	3.412E-10	3.456E-10	3.501E-10	3.549E-10	3.598E-10	3.647E-10	3.696E-10	3.749E-10
ag122m	9.852E-10	9.931E-10	1.004E-09	1.015E-09	1.028E-09	1.041E-09	1.055E-09	1.069E-09	1.084E-09	1.099E-09	1.114E-09
cd122	8.499E-08	8.518E-08	8.581E-08	8.643E-08	8.706E-08	8.768E-08	8.830E-08	8.891E-08	8.952E-08	9.012E-08	9.070E-08
in122	2.858E-08	2.870E-08	2.906E-08	2.941E-08	2.975E-08	3.009E-08	3.041E-08	3.073E-08	3.104E-08	3.134E-08	3.164E-08
in122m	5.839E-08	5.931E-08	6.177E-08	6.411E-08	6.635E-08	6.848E-08	7.052E-08	7.248E-08	7.436E-08	7.618E-08	7.792E-08
sn122	9.109E-01	1.016E+00	1.124E+00	1.234E+00	1.347E+00	1.461E+00	1.577E+00	1.695E+00	1.815E+00	1.937E+00	2.061E+00
sb122	2.875E-04	3.228E-04	3.641E-04	4.124E-04	4.529E-04	5.004E-04	5.501E-04	6.018E-04	6.555E-04	7.113E-04	7.690E-04
sb122m	3.244E-08	3.630E-08	4.085E-08	4.562E-08	5.061E-08	5.583E-08	6.128E-08	6.694E-08	7.282E-08	7.892E-08	8.524E-08
tel22	2.150E-02	2.650E-02	3.214E-02	3.847E-02	4.551E-02	5.330E-02	6.186E-02	7.122E-02	8.142E-02	9.248E-02	1.044E-01
rh123	2.427E-16	2.468E-16	2.522E-16	2.577E-16	2.631E-16	2.686E-16	2.741E-16	2.797E-16	2.852E-16	2.907E-16	2.961E-16
pd123	1.194E-12	1.212E-12	1.235E-12	1.258E-12	1.281E-12	1.305E-12	1.329E-12	1.353E-12	1.377E-12	1.401E-12	1.425E-12
ag123	1.949E-10	1.959E-10	1.966E-10	1.974E-10	1.984E-10	1.995E-10	2.007E-10	2.019E-10	2.032E-10	2.045E-10	2.059E-10
cd123	9.499E-08	9.462E-08	9.391E-08	9.324E-08	9.262E-08	9.206E-08	9.153E-08	9.104E-08	9.058E-08	9.014E-08	8.974E-08
in123	1.047E-07	1.052E-07	1.067E-07	1.082E-07	1.096E-07	1.110E-07	1.123E-07	1.137E-07	1.150E-07	1.162E-07	1.175E-07
in123m	2.004E-07	2.017E-07	2.051E-07	2.084E-07	2.117E-07	2.150E-07	2.181E-07	2.213E-07	2.243E-07	2.273E-07	2.303E-07
sn123	4.004E-02	4.212E-02	4.420E-02	4.623E-02	4.820E-02	5.009E-02	5.190E-02	5.362E-02	5.527E-02	5.684E-02	5.834E-02
sn123m	5.440E-05	5.473E-05	5.565E-05	5.655E-05	5.742E-05	5.826E-05	5.909E-05	5.989E-05	6.068E-05	6.144E-05	6.219E-05

Cycle 2 -DD Assembly

fission products

page

power= 11.49mw, burnup= 15103.mwd, flux= 3.58E+13n/cm**2-sec

nuclide concentrations, grams
basis = 0.3883 MTU

	charge	722.6 d	788.3 d	854.0 d	919.7 d	985.4 d	1051.1 d	1116.8 d	1182.5 d	1248.2 d	1313.9 d
sb123	8.682E-01	9.686E-01	1.071E+00	1.174E+00	1.280E+00	1.386E+00	1.494E+00	1.603E+00	1.713E+00	1.824E+00	1.936E+00
tel23	1.136E-04	1.492E-04	1.913E-04	2.405E-04	2.975E-04	3.626E-04	4.363E-04	5.191E-04	6.114E-04	7.136E-04	8.261E-04
tel23m	2.896E-05	3.666E-05	4.574E-05	5.628E-05	6.837E-05	8.212E-05	9.763E-05	1.150E-04	1.344E-04	1.558E-04	1.795E-04
i123	1.611E-12	1.647E-12	1.743E-12	1.833E-12	1.917E-12	1.995E-12	2.069E-12	2.138E-12	2.204E-12	2.267E-12	2.327E-12
pd124	2.412E-13	2.418E-13	2.416E-13	2.414E-13	2.413E-13	2.412E-13	2.412E-13	2.412E-13	2.412E-13	2.414E-13	2.415E-13
ag124	1.056E-10	1.041E-10	1.009E-10	9.778E-11	9.468E-11	9.161E-11	8.859E-11	8.561E-11	8.269E-11	7.984E-11	7.705E-11
cd124	8.840E-09	8.717E-09	8.472E-09	8.231E-09	7.994E-09	7.762E-09	7.535E-09	7.313E-09	7.096E-09	6.885E-09	6.679E-09
in124	5.433E-08	5.431E-08	5.447E-08	5.461E-08	5.473E-08	5.484E-08	5.493E-08	5.502E-08	5.510E-08	5.518E-08	5.525E-08
in124m	1.756E-08	1.787E-08	1.865E-08	1.940E-08	2.012E-08	2.082E-08	2.150E-08	2.216E-08	2.280E-08	2.342E-08	2.402E-08
sn124	1.535E+00	1.712E+00	1.893E+00	2.077E+00	2.265E+00	2.455E+00	2.648E+00	2.844E+00	3.043E+00	3.244E+00	3.447E+00
sb124	5.044E-03	5.769E-03	6.560E-03	7.406E-03	8.303E-03	9.249E-03	1.024E-02	1.128E-02	1.236E-02	1.349E-02	1.466E-02
sb124m	4.058E-09	4.314E-09	4.695E-09	5.096E-09							

tel124	1.588E-02	2.004E-02	2.478E-02	3.016E-02	3.621E-02	4.298E-02	5.051E-02	5.882E-02	6.797E-02	7.798E-02	8.889E-02
i124	4.029E-15	4.163E-15	4.512E-15	4.855E-15	5.194E-15	5.531E-15	5.864E-15	6.196E-15	6.527E-15	6.857E-15	7.187E-15
xe124	2.620E-15	3.562E-15	4.717E-15	6.112E-15	7.772E-15	9.721E-15	1.199E-14	1.459E-14	1.756E-14	2.091E-14	2.468E-14
pd125	2.399E-15	2.440E-15	2.494E-15	2.548E-15	2.602E-15	2.656E-15	2.711E-15	2.766E-15	2.820E-15	2.874E-15	2.928E-15
ag125	4.080E-12	4.150E-12	4.241E-12	4.333E-12	4.425E-12	4.517E-12	4.610E-12	4.703E-12	4.796E-12	4.888E-12	4.980E-12
cd125	6.630E-09	6.531E-09	6.335E-09	6.139E-09	5.946E-09	5.754E-09	5.566E-09	5.380E-09	5.198E-09	5.020E-09	4.846E-09
in125	2.960E-08	2.975E-08	3.017E-08	3.058E-08	3.098E-08	3.137E-08	3.175E-08	3.213E-08	3.249E-08	3.284E-08	3.319E-08
in125m	1.341E-07	1.352E-07	1.380E-07	1.408E-07	1.435E-07	1.461E-07	1.487E-07	1.513E-07	1.537E-07	1.562E-07	1.585E-07
sn125	2.002E-02	2.027E-02	2.098E-02	2.165E-02	2.228E-02	2.288E-02	2.344E-02	2.397E-02	2.448E-02	2.496E-02	2.543E-02
sn125m	2.061E-05	2.071E-05	2.103E-05	2.134E-05	2.163E-05	2.190E-05	2.217E-05	2.242E-05	2.267E-05	2.291E-05	2.314E-05
sb125	1.637E+00	1.797E+00	1.954E+00	2.110E+00	2.264E+00	2.415E+00	2.564E+00	2.710E+00	2.854E+00	2.996E+00	3.134E+00
tel125	3.472E-01	4.230E-01	5.061E-01	5.962E-01	6.933E-01	7.973E-01	9.081E-01	1.026E+00	1.149E+00	1.280E+00	1.416E+00
tel125m	1.916E-02	2.137E-02	2.356E-02	2.571E-02	2.784E-02	2.994E-02	3.202E-02	3.408E-02	3.610E-02	3.810E-02	4.006E-02
i125	1.235E-11	1.439E-11	1.676E-11	1.948E-11	2.253E-11	2.593E-11	2.970E-11	3.387E-11	3.844E-11	4.345E-11	4.890E-11
xe125	6.104E-14	7.744E-14	9.718E-14	1.201E-13	1.465E-13	1.766E-13	2.107E-13	2.491E-13	2.921E-13	3.400E-13	3.931E-13
xe125m	7.435E-18	9.432E-18	1.184E-17	1.463E-17	1.784E-17	2.151E-17	2.566E-17	3.034E-17	3.558E-17	4.141E-17	4.787E-17
pd126	2.122E-31	6.429E-31	1.777E-30	4.545E-30	1.090E-29	2.467E-29	5.292E-29	1.082E-28	2.118E-28	3.988E-28	7.250E-28
ag126	1.370E-16	1.378E-16	1.382E-16	1.387E-16	1.393E-16	1.399E-16	1.405E-16	1.412E-16	1.419E-16	1.426E-16	1.433E-16
cd126	2.675E-09	2.619E-09	2.512E-09	2.406E-09	2.300E-09	2.195E-09	2.091E-09	1.989E-09	1.889E-09	1.790E-09	1.694E-09
in126	1.083E-08	1.104E-08	1.152E-08	1.199E-08	1.247E-08	1.295E-08	1.342E-08	1.389E-08	1.435E-08	1.480E-08	1.524E-08
in126m	1.913E-08	1.918E-08	1.936E-08	1.954E-08	1.972E-08	1.990E-08	2.008E-08	2.026E-08	2.044E-08	2.062E-08	2.079E-08
sn126	3.415E+00	3.824E+00	4.244E+00	4.673E+00	5.112E+00	5.559E+00	6.015E+00	6.479E+00	6.950E+00	7.428E+00	7.913E+00
sb126	1.401E-03	1.427E-03	1.465E-03	1.502E-03	1.538E-03	1.573E-03	1.608E-03	1.642E-03	1.676E-03	1.710E-03	1.743E-03
sb126m	2.291E-06	2.306E-06	2.331E-06	2.354E-06	2.374E-06	2.394E-06	2.412E-06	2.430E-06	2.448E-06	2.465E-06	2.482E-06
tel126	1.099E-01	1.225E-01	1.353E-01	1.485E-01	1.620E-01	1.758E-01	1.900E-01	2.045E-01	2.194E-01	2.347E-01	2.504E-01
i126	1.387E-06	1.574E-06	1.784E-06	2.005E-06	2.235E-06	2.475E-06	2.725E-06	2.984E-06	3.253E-06	3.529E-06	3.815E-06
xe126	9.048E-06	1.130E-05	1.386E-05	1.675E-05	1.997E-05	2.354E-05	2.749E-05	3.181E-05	3.653E-05	4.165E-05	4.718E-05
ag127	3.294E-17	3.281E-17	3.241E-17	3.202E-17	3.164E-17	3.127E-17	3.091E-17	3.056E-17	3.022E-17	2.990E-17	2.959E-17
cd127	3.055E-09	2.990E-09	2.866E-09	2.743E-09	2.621E-09	2.499E-09	2.379E-09	2.261E-09	2.144E-09	2.030E-09	1.918E-09
in127	4.622E-08	4.580E-08	4.511E-08	4.442E-08	4.374E-08	4.306E-08	4.239E-08	4.173E-08	4.107E-08	4.044E-08	3.981E-08
in127m	6.562E-08	6.610E-08	6.735E-08	6.858E-08	6.981E-08	7.103E-08	7.223E-08	7.342E-08	7.459E-08	7.574E-08	7.686E-08
sn127	1.232E-03	1.241E-03	1.269E-03	1.296E-03	1.321E-03	1.345E-03	1.368E-03	1.389E-03	1.410E-03	1.429E-03	1.448E-03
sn127m	2.428E-05	2.447E-05	2.501E-05	2.553E-05	2.602E-05	2.650E-05	2.695E-05	2.739E-05	2.781E-05	2.822E-05	2.861E-05
sb127	9.114E-02	9.181E-02	9.390E-02	9.587E-02	9.774E-02	9.951E-02	1.012E-01	1.028E-01	1.043E-01	1.058E-01	1.072E-01
tel127	9.038E-03	9.132E-03	9.344E-03	9.545E-03	9.735E-03	9.917E-03	1.009E-02	1.025E-02	1.041E-02	1.056E-02	1.070E-02
tel127m	4.151E-01	4.265E-01	4.374E-01	4.480E-01	4.583E-01	4.681E-01	4.774E-01	4.863E-01	4.949E-01	5.030E-01	5.107E-01
i127	8.470E+00	9.486E+00	1.052E+01	1.157E+01	1.263E+01	1.371E+01	1.479E+01	1.589E+01	1.699E+01	1.810E+01	1.922E+01
xe127	1.236E-07	1.587E-07	2.007E-07	2.501E-07	3.073E-07	3.730E-07	4.480E-07	5.330E-07	6.287E-07	7.358E-07	8.552E-07

Cycle 2 -DD Assembly

fission products

page

power= 11.49mw, burnup= 15103.mwd, flux= 3.58E+13n/cm**2-sec
nuclide concentrations, grams
basis = 0.3883 MTU

	charge	722.6 d	788.3 d	854.0 d	919.7 d	985.4 d	1051.1 d	1116.8 d	1182.5 d	1248.2 d	1313.9 d
xe127m	2.118E-26	6.418E-26	1.774E-25	4.537E-25	1.088E-24	2.462E-24	5.282E-24	1.080E-23	2.114E-23	3.981E-23	7.236E-23
cs127	8.569E-28	2.597E-27	7.177E-27	1.836E-26	4.404E-26	9.965E-26	2.138E-25	4.371E-25	8.557E-25	1.611E-24	2.929E-24
ag128	1.252E-18	1.243E-18	1.222E-18	1.202E-18	1.181E-18	1.161E-18	1.141E-18	1.122E-18	1.103E-18	1.084E-18	1.067E-18
cd128	2.466E-09	2.413E-09	2.313E-09	2.213E-09	2.114E-09	2.016E-09	1.918E-09	1.822E-09	1.728E-09	1.635E-09	1.545E-09
in128	2.240E-08	2.248E-08	2.277E-08	2.303E-08	2.327E-08	2.350E-08	2.371E-08	2.391E-08	2.409E-08	2.427E-08	2.444E-08
in128m	2.030E-08	2.042E-08	2.079E-08	2.114E-08	2.147E-08	2.178E-08	2.207E-08	2.235E-08	2.262E-08	2.287E-08	2.312E-08
sn128	1.560E-03	1.563E-03	1.579E-03	1.593E-03	1.607E-03	1.620E-03	1.632E-03	1.643E-03	1.654E-03	1.664E-03	1.674E-03
sn128m	1.402E-06	1.405E-06	1.420E-06	1.433E-06	1.446E-06	1.458E-06	1.469E-06	1.479E-06	1.489E-06	1.498E-06	1.507E-06
sb128	1.391E-03	1.402E-03	1.437E-03	1.469E-03	1.499E-03	1.526E-03	1.552E-03	1.576E-03	1.599E-03	1.620E-03	1.640E-03
sb128m	2.883E-04	2.890E-04	2.924E-04	2.955E-04	2.985E-04	3.012E-04	3.038E-04	3.062E-04	3.085E-04	3.106E-04	3.127E-04
tel128	1.773E+01	1.968E+01	2.165E+01	2.365E+01	2.567E+01	2.771E+01	2.977E+01	3.185E+01	3.395E+01	3.606E+01	3.819E+01
i128	2.187E-05	2.473E-05	2.806E-05	3.157E-05	3.525E-05	3.910E-05	4.312E-05	4.732E-05	5.167E-05	5.620E-05	6.087E-05
xe128	2.348E-01	2.921E-01	3.574E-01	4.310E-01	5.134E-01	6.050E-01	7.062E-01	8.174E-01	9.390E-01	1.071E+00	1.215E+00
cd129	1.218E-12	1.241E-12	1.268E-12	1.297E-12	1.328E-12	1.360E-12	1.395E-12	1.432E-12	1.470E-12	1.511E-12	1.554E-12
in129	1.517E-08	1.502E-08	1.472E-08	1.443E-08	1.414E-08	1.386E-08	1.358E-08	1.331E-08	1.305E-08	1.280E-08	1.255E-08
in129m	2.985E-08	2.959E-08	2.905E-08	2.853E-08	2.801E-08	2.752E-08	2.703E-08	2.656E-08	2.610E-08	2.565E-08	2.522E-08
sn129	6.179E-05	6.221E-05	6.338E-05	6.450E-05	6.560E-05	6.667E-05	6.770E-05	6.871E-05	6.969E-05	7.064E-05	7.157E-05
sn129m	9.855E-05	9.855E-05	9.907E-05	9.954E-05	9.997E-05	1.004E-04	1.007E-04	1.011E-04	1.014E-04	1.017E-04	1.019E-04
sb129	1.406E-02	1.414E-02	1.440E-02	1.464E-02	1.487E-02	1.509E-02	1.531E-02	1.551E-02	1.571E-02	1.590E-02	1.609E-02
tel129	3.466E-03	3.489E-03	3.552E-03	3.612E-03	3.670E-03	3.726E-03	3.779E-03	3.831E-03	3.880E-03	3.928E-03	3.974E-03
tel129m	4.610E-01	4.660E-01	4.737E-01	4.818E-01	4.898E-01	4.974E-01	5.048E-01	5.119E-01	5.186E-01	5.252E-01	5.315E-01
i129	3.019E+01	3.360E+01	3.706E+01	4.057E+01	4.412E+01	4.771E+01	5.133E+01	5.499E+01	5.869E+01	6.241E+01	6.615E+01
xe129	6.120E-04	8.473E-04	1.144E-03	1.511E-03	1.959E-03	2.501E-03	3.148E-03	3.915E-03	4.814E-03	5.861E-03	7.072E-03
xe129m	2.017E-05	2.581E-05	3.241E-05	4.010E-05	4.897E-05	5.912E-05	7.067E-05	8.371E-05	9.837E-05	1.147E-04	1.330E-04
cs129	2.559E-17	3.629E-17	4.945E-17	6.494E-17	8.273E-17	1.029E-16	1.256E-16	1.510E-16	1.791E-16	2.102E-16	2.440E-16
ba129	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cd130	2.791E-08	2.731E-08	2.617E-08	2.503E-08	2.390E-08	2.278E-08	2.168E-08	2.058E-08	1.951E-08	1.845E-08	1.742E-08
in130	2.109E-08	2.071E-08	2.001E-08	1.930E-08	1.859E-08	1.789E-08	1.720E-08	1.651E-08	1.583E-08	1.517E-08	1.452E-08
in130m	8.229E-09	8.310E-09	8.507E-09	8.693E-09	8.869E-09	9.038E-09	9.199E-09	9.353E-09	9.502E-09	9.645E-09	9.783E-09
sn130	1.429E-04	1.423E-04	1.416E-04	1.410E-04	1.403E-04	1.397E-04	1.391E-04	1.386E-04	1.381E-04	1.376E-04	1.371E-04
sn130m	6.402E-05	6.383E-05	6.363E-05	6.345E-05	6.329E-05	6.313E-05	6.299E-05	6.287E-05	6.274E-05	6.263E-05	6.252E-05
sb130	2.289E-03	2.288E-03	2.298E-03	2.307E-03	2.316E-03	2.324E-03	2.331E-03	2.338E-03	2.344E-03	2.350E-03	2.356E-03
sb130m	4.096E-04	4.087E-04	4.087E-04	4.086E-04	4.085E-04	4.083E-04	4.081E-04	4.079E-04	4.077E-04	4.075E-04	4.072E-04
tel130	8.368E+01	9.223E+01	1.008E+02	1.094E+02	1.180E+02	1.267E+02	1.353E+02	1.440E+02	1.526E+02	1.613E+02	1.700E+02
i130	1.175E-03	1.339E-03	1.506E-03	1.681E-03	1.864E-03	2.055E-03	2.255E-03	2.462E-03	2.678E-03	2.902E-03	3.133E-03
i130m	7.565E-06	8.642E-06	9.734E-06	1.088E-05	1.208E-05	1.333E-05	1.464E-05	1.600E-05	1.742E-05	1.889E-05	2.041E-05
xe130	5.665E-01	6.953E-01	8.403E-01	1.002E+00	1.182E+00	1.379E+00	1.596E+00	1.833E+00	2.090E+00	2.369E+00	2.670E+00
cd131	9.833E-10	9.620E-10	9.219E-10	8.819E-10	8.421E-10	8.026E-10	7.636E-10	7.251E-10	6.873E-10	6.502E-10	6.138E-10

in131	4.186E-09	4.137E-09	4.047E-09	3.959E-09	3.876E-09	3.796E-09	3.718E-09	3.644E-09	3.571E-09	3.502E-09	3.435E-09
in131m	2.342E-09	2.346E-09	2.354E-09	2.367E-09	2.383E-09	2.403E-09	2.425E-09	2.448E-09	2.474E-09	2.500E-09	2.527E-09
sn131	2.029E-05	2.024E-05	2.015E-05	2.009E-05	2.003E-05	1.998E-05	1.995E-05	1.991E-05	1.989E-05	1.987E-05	1.985E-05
sn131m	3.057E-05	3.049E-05	3.038E-05	3.029E-05	3.022E-05	3.016E-05	3.011E-05	3.007E-05	3.004E-05	3.002E-05	3.000E-05
sb131	3.951E-03	3.941E-03	3.936E-03	3.931E-03	3.927E-03	3.924E-03	3.920E-03	3.917E-03	3.915E-03	3.912E-03	3.910E-03
tel131	4.526E-03	4.520E-03	4.528E-03	4.535E-03	4.542E-03	4.548E-03	4.554E-03	4.560E-03	4.566E-03	4.571E-03	4.576E-03
tel131m	6.811E-02	6.839E-02	6.950E-02	7.052E-02	7.144E-02	7.229E-02	7.308E-02	7.380E-02	7.448E-02	7.511E-02	7.571E-02
i131	2.437E+00	2.438E+00	2.447E+00	2.456E+00	2.463E+00	2.471E+00	2.477E+00	2.484E+00	2.490E+00	2.495E+00	2.501E+00
xe131	1.119E+02	1.216E+02	1.308E+02	1.397E+02	1.481E+02	1.561E+02	1.637E+02	1.709E+02	1.776E+02	1.840E+02	1.899E+02
xe131m	4.357E-02	4.409E-02	4.476E-02	4.543E-02	4.610E-02	4.676E-02	4.741E-02	4.806E-02	4.870E-02	4.934E-02	4.997E-02
cs131	7.031E-10	7.239E-10	7.703E-10	8.145E-10	8.566E-10	8.968E-10	9.353E-10	9.726E-10	1.009E-09	1.044E-09	1.078E-09
ba131	8.201E-13	1.021E-12	1.259E-12	1.529E-12	1.833E-12	2.171E-12	2.544E-12	2.956E-12	3.405E-12	3.895E-12	4.424E-12

Cycle 2 -DD Assembly

fission products

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power= 11.49mw, burnup= 15103.mwd, flux= 3.58E+13n/cm**2-sec
nuclide concentrations, grams
basis = 0.3883 MTU

	charge	722.6 d	788.3 d	854.0 d	919.7 d	985.4 d	1051.1 d	1116.8 d	1182.5 d	1248.2 d	1313.9 d
cd132	1.859E-12	1.891E-12	1.935E-12	1.979E-12	2.023E-12	2.068E-12	2.113E-12	2.158E-12	2.203E-12	2.248E-12	2.293E-12
in132	1.797E-09	1.800E-09	1.797E-09	1.795E-09	1.794E-09	1.793E-09	1.793E-09	1.793E-09	1.794E-09	1.795E-09	1.797E-09
sn132	2.896E-05	2.891E-05	2.885E-05	2.879E-05	2.874E-05	2.868E-05	2.863E-05	2.859E-05	2.854E-05	2.850E-05	2.846E-05
sb132	4.118E-04	4.118E-04	4.140E-04	4.160E-04	4.179E-04	4.197E-04	4.213E-04	4.230E-04	4.245E-04	4.260E-04	4.274E-04
sb132m	2.724E-04	2.716E-04	2.703E-04	2.691E-04	2.681E-04	2.672E-04	2.663E-04	2.655E-04	2.648E-04	2.642E-04	2.635E-04
tel132	1.437E+00	1.435E+00	1.438E+00	1.440E+00	1.443E+00	1.445E+00	1.446E+00	1.448E+00	1.450E+00	1.451E+00	1.452E+00
i132	4.275E-02	4.271E-02	4.282E-02	4.293E-02	4.302E-02	4.311E-02	4.319E-02	4.327E-02	4.334E-02	4.341E-02	4.347E-02
i132m	2.492E-04	2.536E-04	2.656E-04	2.769E-04	2.877E-04	2.978E-04	3.075E-04	3.167E-04	3.255E-04	3.339E-04	3.420E-04
xe132	2.234E+02	2.485E+02	2.740E+02	3.001E+02	3.267E+02	3.538E+02	3.814E+02	4.095E+02	4.381E+02	4.672E+02	4.967E+02
cs132	3.560E-05	4.137E-05	4.591E-05	5.056E-05	5.530E-05	6.015E-05	6.509E-05	7.012E-05	7.522E-05	8.038E-05	8.561E-05
ba132	2.147E-05	2.623E-05	3.151E-05	3.729E-05	4.358E-05	5.036E-05	5.764E-05	6.541E-05	7.367E-05	8.241E-05	9.162E-05
in133	7.747E-11	7.839E-11	7.951E-11	8.068E-11	8.189E-11	8.313E-11	8.441E-11	8.570E-11	8.702E-11	8.834E-11	8.966E-11
sn133	2.342E-07	2.336E-07	2.318E-07	2.302E-07	2.289E-07	2.278E-07	2.268E-07	2.259E-07	2.252E-07	2.246E-07	2.241E-07
sb133	3.631E-04	3.611E-04	3.575E-04	3.541E-04	3.511E-04	3.482E-04	3.456E-04	3.431E-04	3.408E-04	3.386E-04	3.365E-04
tel133	3.072E-03	3.062E-03	3.051E-03	3.041E-03	3.032E-03	3.023E-03	3.015E-03	3.006E-03	2.999E-03	2.991E-03	2.984E-03
tel133m	1.208E-02	1.203E-02	1.198E-02	1.193E-02	1.188E-02	1.183E-02	1.179E-02	1.174E-02	1.170E-02	1.165E-02	1.161E-02
i133	5.668E-01	5.653E-01	5.646E-01	5.638E-01	5.630E-01	5.622E-01	5.614E-01	5.606E-01	5.598E-01	5.590E-01	5.582E-01
i133m	5.476E-06	5.488E-06	5.549E-06	5.605E-06	5.655E-06	5.700E-06	5.742E-06	5.780E-06	5.815E-06	5.847E-06	5.877E-06
xe133	3.429E+00	3.420E+00	3.417E+00	3.413E+00	3.408E+00	3.404E+00	3.400E+00	3.396E+00	3.391E+00	3.387E+00	3.383E+00
xe133m	4.360E-02	4.354E-02	4.362E-02	4.368E-02	4.374E-02	4.379E-02	4.383E-02	4.387E-02	4.391E-02	4.394E-02	4.397E-02
cs133	2.810E+02	3.075E+02	3.335E+02	3.591E+02	3.841E+02	4.087E+02	4.328E+02	4.564E+02	4.794E+02	5.020E+02	5.240E+02
ba133	4.444E-06	6.384E-06	8.909E-06	1.212E-05	1.615E-05	2.110E-05	2.711E-05	3.434E-05	4.294E-05	5.308E-05	6.492E-05
la133	7.587E-19	1.071E-18	1.451E-18	1.895E-18	2.400E-18	2.967E-18	3.600E-18	4.300E-18	5.070E-18	5.910E-18	6.820E-18
in134	3.217E-12	3.266E-12	3.330E-12	3.395E-12	3.461E-12	3.528E-12	3.595E-12	3.663E-12	3.731E-12	3.799E-12	3.867E-12
sn134	2.900E-08	2.906E-08	2.903E-08	2.903E-08	2.904E-08	2.908E-08	2.912E-08	2.918E-08	2.925E-08	2.933E-08	2.941E-08
sb134	3.850E-07	3.845E-07	3.833E-07	3.825E-07	3.819E-07	3.817E-07	3.817E-07	3.819E-07	3.822E-07	3.827E-07	3.833E-07
sb134m	4.481E-06	4.475E-06	4.460E-06	4.450E-06	4.443E-06	4.440E-06	4.439E-06	4.441E-06	4.445E-06	4.450E-06	4.456E-06
tel134	1.789E-02	1.779E-02	1.764E-02	1.750E-02	1.736E-02	1.723E-02	1.710E-02	1.698E-02	1.686E-02	1.674E-02	1.663E-02
i134	2.733E-02	2.724E-02	2.716E-02	2.708E-02	2.700E-02	2.692E-02	2.684E-02	2.677E-02	2.670E-02	2.663E-02	2.656E-02
i134m	1.494E-04	1.505E-04	1.540E-04	1.572E-04	1.603E-04	1.633E-04	1.661E-04	1.688E-04	1.714E-04	1.738E-04	1.762E-04
xe134	3.550E+02	3.901E+02	4.251E+02	4.600E+02	4.949E+02	5.296E+02	5.643E+02	5.990E+02	6.335E+02	6.680E+02	7.024E+02
xe134m	3.141E-08	3.240E-08	3.404E-08	3.565E-08	3.723E-08	3.880E-08	4.034E-08	4.188E-08	4.340E-08	4.493E-08	4.646E-08
cs134	1.449E+01	1.702E+01	1.977E+01	2.272E+01	2.586E+01	2.920E+01	3.271E+01	3.640E+01	4.024E+01	4.424E+01	4.838E+01
cs134m	7.705E-04	8.032E-04	8.921E-04	9.832E-04	1.077E-03	1.172E-03	1.269E-03	1.369E-03	1.469E-03	1.572E-03	1.675E-03
ba134	3.033E+00	3.982E+00	5.089E+00	6.367E+00	7.827E+00	9.481E+00	1.134E+01	1.341E+01	1.571E+01	1.824E+01	2.101E+01
sn135	8.193E-10	8.275E-10	8.368E-10	8.466E-10	8.568E-10	8.675E-10	8.784E-10	8.897E-10	9.011E-10	9.126E-10	9.241E-10
sb135	3.602E-07	3.608E-07	3.609E-07	3.613E-07	3.621E-07	3.630E-07	3.643E-07	3.656E-07	3.672E-07	3.688E-07	3.705E-07
tel135	6.883E-05	6.856E-05	6.815E-05	6.777E-05	6.744E-05	6.713E-05	6.685E-05	6.660E-05	6.637E-05	6.615E-05	6.594E-05
i135	1.720E-01	1.716E-01	1.715E-01	1.714E-01	1.713E-01	1.712E-01	1.711E-01	1.710E-01	1.710E-01	1.709E-01	1.708E-01
xe135	8.964E-02	8.569E-02	8.449E-02	8.331E-02	8.214E-02	8.099E-02	7.987E-02	7.877E-02	7.769E-02	7.664E-02	7.562E-02
xe135m	1.393E-03	1.394E-03	1.404E-03	1.412E-03	1.421E-03	1.428E-03	1.435E-03	1.442E-03	1.448E-03	1.455E-03	1.460E-03
cs135	1.112E+02	1.216E+02	1.318E+02	1.419E+02	1.519E+02	1.618E+02	1.716E+02	1.814E+02	1.910E+02	2.006E+02	2.101E+02
cs135m	1.266E-04	1.506E-04	1.768E-04	2.057E-04	2.374E-04	2.718E-04	3.090E-04	3.491E-04	3.919E-04	4.376E-04	4.861E-04
ba135	9.291E-03	1.359E-02	1.926E-02	2.659E-02	3.585E-02	4.738E-02	6.154E-02	7.870E-02	9.929E-02	1.238E-01	1.526E-01
ba135m	1.581E-05	2.095E-05	2.736E-05	3.497E-05	4.392E-05	5.436E-05	6.641E-05	8.022E-05	9.593E-05	1.137E-04	1.336E-04
la135	8.704E-12	8.915E-12	9.461E-12	9.976E-12	1.046E-11	1.093E-11	1.137E-11	1.180E-11	1.221E-11	1.261E-11	1.301E-11
ce135	2.222E-18	3.137E-18	4.252E-18	5.553E-18	7.033E-18	8.696E-18	1.055E-17	1.260E-17	1.486E-17	1.732E-17	1.999E-17
sn136	8.678E-11	8.803E-11	8.960E-11	9.120E-11	9.285E-11	9.452E-11	9.621E-11	9.792E-11	9.964E-11	1.014E-10	1.031E-10
sb136	2.343E-08	2.364E-08	2.388E-08	2.414E-08	2.444E-08	2.475E-08	2.508E-08	2.543E-08	2.578E-08	2.614E-08	2.650E-08
tel136	2.559E-05	2.548E-05	2.525E-05	2.505E-05	2.487E-05	2.472E-05	2.458E-05	2.446E-05	2.436E-05	2.426E-05	2.417E-05

Cycle 2 -DD Assembly

fission products

page

power= 11.49mw, burnup= 15103.mwd, flux= 3.58E+13n/cm**2-sec
nuclide concentrations, grams
basis = 0.3883 MTU

	charge	722.6 d	788.3 d	854.0 d	919.7 d	985.4 d	1051.1 d	1116.8 d	1182.5 d	1248.2 d	1313.9 d
i136	2.483E-04	2.476E-04	2.464E-04	2.455E-04	2.447E-04	2.441E-04	2.437E-04	2.433E-04	2.431E-04	2.429E-04	2.427E-04
i136m	7.486E-05	7.491E-05	7.533E-05	7.575E-05	7.620E-05	7.665E-05	7.712E-05	7.758E-05	7.805E-05	7.851E-05	7.896E-05
xe136	4.941E+02	5.448E+02	5.958E+02	6.469E+02	6.983E+02	7.498E+02	8.015E+02	8.534E+02	9.055E+02	9.577E+02	1.010E+03
cs136	1.322E-01	1.444E-01	1.580E-01	1.718E-01	1.858E-01	2.001E-01	2.147E-01	2.294E-01	2.445E-01	2.598E-01	2.754E-01
cs136m	3.407E-07	3.469E-07	3.639E-07	3.799E-07	3.948E-07	4.090E-07	4.223E-07	4.350E-07	4.471E-07	4.586E-07	4.697E-07
ba136	3.461E+00	4.101E+00	4.795E+00	5.544E+00	6.350E+00	7.211E+00	8.130E+00	9.105E+00	1.014E+01	1.123E+01	1.238E+01
ba136m	5.327E-09	5.729E-09	6.216E-09	6.708E-09	7.204E-09	7.705E-09					

sb137	2.646E-08	2.594E-08	2.496E-08	2.399E-08	2.302E-08	2.207E-08	2.112E-08	2.019E-08	1.927E-08	1.837E-08	1.749E-08
te137	1.772E-06	1.765E-06	1.747E-06	1.732E-06	1.718E-06	1.705E-06	1.694E-06	1.684E-06	1.674E-06	1.666E-06	1.658E-06
i137	8.634E-05	8.610E-05	8.584E-05	8.562E-05	8.544E-05	8.530E-05	8.520E-05	8.512E-05	8.506E-05	8.501E-05	8.498E-05
xe137	1.611E-03	1.607E-03	1.603E-03	1.600E-03	1.597E-03	1.595E-03	1.592E-03	1.589E-03	1.587E-03	1.584E-03	1.582E-03
cs137	2.836E+02	3.113E+02	3.389E+02	3.663E+02	3.936E+02	4.207E+02	4.478E+02	4.747E+02	5.014E+02	5.281E+02	5.546E+02
ba137	5.988E+00	7.231E+00	8.589E+00	1.006E+01	1.165E+01	1.334E+01	1.515E+01	1.707E+01	1.911E+01	2.125E+01	2.350E+01
ba137m	4.358E-05	4.782E-05	5.205E-05	5.626E-05	6.045E-05	6.462E-05	6.877E-05	7.289E-05	7.700E-05	8.109E-05	8.516E-05
la137	2.176E-05	2.528E-05	2.900E-05	3.291E-05	3.698E-05	4.120E-05	4.556E-05	5.004E-05	5.464E-05	5.934E-05	6.413E-05
ce137	1.850E-12	1.987E-12	2.173E-12	2.362E-12	2.553E-12	2.748E-12	2.947E-12	3.149E-12	3.355E-12	3.565E-12	3.780E-12
sb138	6.083E-11	6.176E-11	6.295E-11	6.418E-11	6.546E-11	6.676E-11	6.808E-11	6.942E-11	7.077E-11	7.213E-11	7.348E-11
te138	1.378E-07	1.380E-07	1.378E-07	1.377E-07	1.378E-07	1.381E-07	1.384E-07	1.389E-07	1.394E-07	1.400E-07	1.406E-07
i138	1.205E-05	1.204E-05	1.204E-05	1.205E-05	1.207E-05	1.209E-05	1.212E-05	1.214E-05	1.218E-05	1.221E-05	1.225E-05
xe138	5.811E-03	5.785E-03	5.753E-03	5.722E-03	5.692E-03	5.663E-03	5.636E-03	5.609E-03	5.583E-03	5.558E-03	5.533E-03
cs138	1.441E-02	1.435E-02	1.428E-02	1.422E-02	1.416E-02	1.410E-02	1.404E-02	1.399E-02	1.393E-02	1.388E-02	1.383E-02
cs138m	6.360E-05	6.388E-05	6.500E-05	6.602E-05	6.696E-05	6.784E-05	6.865E-05	6.941E-05	7.013E-05	7.080E-05	7.144E-05
ba138	3.071E+02	3.371E+02	3.669E+02	3.967E+02	4.263E+02	4.559E+02	4.853E+02	5.145E+02	5.437E+02	5.728E+02	6.017E+02
la138	1.557E-03	1.717E-03	1.876E-03	2.035E-03	2.194E-03	2.352E-03	2.508E-03	2.663E-03	2.817E-03	2.969E-03	3.120E-03
ce138	4.808E-04	5.315E-04	5.825E-04	6.338E-04	6.853E-04	7.370E-04	7.887E-04	8.404E-04	8.920E-04	9.436E-04	9.951E-04
sb139	5.636E-12	5.729E-12	5.851E-12	5.975E-12	6.102E-12	6.231E-12	6.363E-12	6.495E-12	6.628E-12	6.760E-12	6.893E-12
te139	8.888E-09	8.962E-09	9.039E-09	9.129E-09	9.233E-09	9.346E-09	9.468E-09	9.596E-09	9.729E-09	9.865E-09	1.000E-08
i139	2.008E-06	1.999E-06	1.982E-06	1.965E-06	1.951E-06	1.938E-06	1.926E-06	1.915E-06	1.905E-06	1.896E-06	1.888E-06
xe139	2.086E-04	2.074E-04	2.054E-04	2.035E-04	2.016E-04	1.999E-04	1.983E-04	1.967E-04	1.951E-04	1.937E-04	1.923E-04
cs139	3.915E-03	3.898E-03	3.879E-03	3.859E-03	3.841E-03	3.823E-03	3.805E-03	3.788E-03	3.772E-03	3.755E-03	3.740E-03
ba139	3.638E-02	3.623E-02	3.607E-02	3.591E-02	3.575E-02	3.560E-02	3.545E-02	3.530E-02	3.516E-02	3.502E-02	3.489E-02
la139	2.910E+02	3.192E+02	3.472E+02	3.750E+02	4.027E+02	4.301E+02	4.574E+02	4.846E+02	5.115E+02	5.384E+02	5.650E+02
ce139	4.169E-06	4.668E-06	5.178E-06	5.695E-06	6.214E-06	6.733E-06	7.249E-06	7.760E-06	8.265E-06	8.764E-06	9.254E-06
ce139m	4.353E-12	4.452E-12	4.714E-12	4.960E-12	5.191E-12	5.408E-12	5.615E-12	5.811E-12	5.998E-12	6.179E-12	6.353E-12
pr139	2.370E-10	2.657E-10	2.973E-10	3.300E-10	3.637E-10	3.985E-10	4.342E-10	4.710E-10	5.087E-10	5.474E-10	5.869E-10
te140	1.224E-08	1.203E-08	1.162E-08	1.122E-08	1.081E-08	1.042E-08	1.003E-08	9.643E-09	9.266E-09	8.896E-09	8.535E-09
i140	1.784E-07	1.784E-07	1.779E-07	1.776E-07	1.774E-07	1.774E-07	1.775E-07	1.777E-07	1.780E-07	1.783E-07	1.787E-07
xe140	5.034E-05	4.996E-05	4.930E-05	4.866E-05	4.805E-05	4.747E-05	4.692E-05	4.638E-05	4.587E-05	4.538E-05	4.491E-05
cs140	3.900E-04	3.879E-04	3.846E-04	3.815E-04	3.786E-04	3.758E-04	3.730E-04	3.704E-04	3.679E-04	3.655E-04	3.632E-04
ba140	7.730E+00	7.705E+00	7.667E+00	7.628E+00	7.590E+00	7.553E+00	7.516E+00	7.480E+00	7.445E+00	7.410E+00	7.377E+00
la140	1.035E+00	1.035E+00	1.030E+00	1.026E+00	1.023E+00	1.019E+00	1.016E+00	1.013E+00	1.011E+00	1.008E+00	1.006E+00
ce140	2.878E+02	3.168E+02	3.458E+02	3.746E+02	4.033E+02	4.319E+02	4.605E+02	4.889E+02	5.173E+02	5.455E+02	5.737E+02
pr140	9.556E-09	1.071E-08	1.199E-08	1.330E-08	1.466E-08	1.606E-08	1.750E-08	1.899E-08	2.051E-08	2.207E-08	2.366E-08
nd140	1.006E-16	1.298E-16	1.623E-16	1.994E-16	2.408E-16	2.866E-16	3.370E-16	3.921E-16	4.521E-16	5.169E-16	5.865E-16
te141	1.267E-10	1.287E-10	1.312E-10	1.337E-10	1.362E-10	1.388E-10	1.414E-10	1.440E-10	1.465E-10	1.491E-10	1.517E-10
i141	2.467E-08	2.462E-08	2.442E-08	2.424E-08	2.408E-08	2.394E-08	2.380E-08	2.369E-08	2.358E-08	2.348E-08	2.339E-08
xe141	2.387E-06	2.375E-06	2.352E-06	2.331E-06	2.312E-06	2.295E-06	2.279E-06	2.265E-06	2.252E-06	2.240E-06	2.229E-06
cs141	1.179E-04	1.175E-04	1.169E-04	1.163E-04	1.157E-04	1.152E-04	1.147E-04	1.143E-04	1.138E-04	1.134E-04	1.129E-04
ba141	7.223E-03	7.191E-03	7.155E-03	7.119E-03	7.082E-03	7.046E-03	7.010E-03	6.974E-03	6.938E-03	6.903E-03	6.868E-03
la141	9.352E-02	9.311E-02	9.267E-02	9.221E-02	9.175E-02	9.129E-02	9.083E-02	9.038E-02	8.993E-02	8.948E-02	8.904E-02

Cycle 2 -DD Assembly

fission products

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power= 11.49mw, burnup= 15103.mwd, flux= 3.58E+13n/cm**2-sec
nuclide concentrations, grams
basis = 0.3883 MTU

	charge	722.6 d	788.3 d	854.0 d	919.7 d	985.4 d	1051.1 d	1116.8 d	1182.5 d	1248.2 d	1313.9 d
ce141	1.876E+01	1.870E+01	1.862E+01	1.853E+01	1.844E+01	1.835E+01	1.826E+01	1.817E+01	1.808E+01	1.799E+01	1.790E+01
pr141	2.499E+02	2.758E+02	3.016E+02	3.272E+02	3.526E+02	3.779E+02	4.029E+02	4.277E+02	4.524E+02	4.768E+02	5.011E+02
nd141	4.682E-10	5.379E-10	5.898E-10	6.415E-10	6.930E-10	7.440E-10	7.945E-10	8.443E-10	8.933E-10	9.413E-10	9.883E-10
pml141	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
te142	5.460E-12	5.526E-12	5.607E-12	5.691E-12	5.778E-12	5.867E-12	5.959E-12	6.052E-12	6.146E-12	6.240E-12	6.334E-12
i142	1.769E-09	1.772E-09	1.771E-09	1.772E-09	1.774E-09	1.778E-09	1.783E-09	1.789E-09	1.796E-09	1.803E-09	1.810E-09
xe142	6.332E-07	6.309E-07	6.256E-07	6.209E-07	6.169E-07	6.133E-07	6.103E-07	6.077E-07	6.053E-07	6.033E-07	6.015E-07
cs142	5.028E-06	5.002E-06	4.959E-06	4.919E-06	4.884E-06	4.851E-06	4.821E-06	4.794E-06	4.768E-06	4.744E-06	4.721E-06
ba142	4.028E-03	4.006E-03	3.978E-03	3.950E-03	3.922E-03	3.895E-03	3.867E-03	3.840E-03	3.814E-03	3.788E-03	3.762E-03
la142	3.555E-02	3.537E-02	3.515E-02	3.492E-02	3.470E-02	3.447E-02	3.425E-02	3.403E-02	3.381E-02	3.360E-02	3.339E-02
ce142	2.687E+02	2.946E+02	3.204E+02	3.460E+02	3.714E+02	3.966E+02	4.217E+02	4.466E+02	4.713E+02	4.959E+02	5.203E+02
pr142	7.226E-03	8.201E-03	9.177E-03	1.019E-02	1.123E-02	1.230E-02	1.340E-02	1.454E-02	1.570E-02	1.689E-02	1.812E-02
pr142m	1.619E-10	1.656E-10	1.753E-10	1.844E-10	1.929E-10	2.010E-10	2.086E-10	2.159E-10	2.228E-10	2.295E-10	2.359E-10
nd142	1.870E+00	2.315E+00	2.815E+00	3.371E+00	3.985E+00	4.659E+00	5.394E+00	6.192E+00	7.055E+00	7.983E+00	8.979E+00
i143	2.480E-10	2.521E-10	2.575E-10	2.629E-10	2.684E-10	2.739E-10	2.795E-10	2.851E-10	2.907E-10	2.963E-10	3.018E-10
xe143	4.008E-08	4.018E-08	4.019E-08	4.026E-08	4.039E-08	4.056E-08	4.077E-08	4.102E-08	4.128E-08	4.157E-08	4.186E-08
xe143m	1.237E-08	1.240E-08	1.240E-08	1.242E-08	1.246E-08	1.251E-08	1.257E-08	1.264E-08	1.272E-08	1.281E-08	1.290E-08
cs143	2.869E-06	2.854E-06	2.827E-06	2.803E-06	2.780E-06	2.760E-06	2.742E-06	2.725E-06	2.709E-06	2.694E-06	2.680E-06
ba143	8.491E-05	8.433E-05	8.344E-05	8.256E-05	8.170E-05	8.087E-05	8.005E-05	7.924E-05	7.846E-05	7.769E-05	7.695E-05
la143	5.449E-03	5.416E-03	5.369E-03	5.323E-03	5.277E-03	5.231E-03	5.186E-03	5.142E-03	5.098E-03	5.056E-03	5.014E-03
ce143	7.677E-01	7.631E-01	7.567E-01	7.502E-01	7.439E-01	7.375E-01	7.313E-01	7.252E-01	7.192E-01	7.133E-01	7.075E-01
pr143	7.416E+00	7.379E+00	7.317E+00	7.254E+00	7.192E+00	7.130E+00	7.069E+00	7.009E+00	6.950E+00	6.892E+00	6.836E+00
nd143	2.289E+02	2.475E+02	2.652E+02	2.820E+02	2.979E+02	3.128E+02	3.268E+02	3.399E+02	3.522E+02	3.635E+02	3.741E+02
pml143	8.937E-15	1.391E-14	2.051E-14	2.892E-14	3.930E-14	5.174E-14	6.636E-14	8.328E-14	1.026E-13	1.244E-13	1.489E-13
sm143	2.192E-23	3.180E-23	4.514E-23	6.238E-23	8.418E-23	1.112E-22	1.443E-22	1.842E-22	2.315E-22	2.873E-22	3.521E-22
sm143m	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
i144	1.452E-12	1.473E-12	1.502E-12	1.531E-12	1.562E-12	1.595E-12	1.628E-12	1.661E-12	1.696E-12	1.730E-12	1.764E-12
xe144	1.678E-08	1.692E-08	1.706E-08	1.722E-08	1.739E-08	1.758E-08	1.779E-08	1.800E-08	1.822E-08	1.845E-08	1.868E-08
cs144	5.610E-07	5.602E-07	5.577E-07	5.558E-07	5.546E-07	5.539E-07	5.537E-07	5.539E-07	5.543E-07	5.550E-07	5.559E-07
ba144	5.199E-05	5.160E-05	5.094E-05	5.030E-05	4.968E-05	4.908E-05	4.850E-05	4.793E-05	4.738E-05	4.685E-05	4.633E-05
la144	2.391E-04	2.375E-04	2.351E-04	2.327E-04	2.303E-04	2.280E-04	2.257E-04	2.235E-04	2.213E-04	2.192E-04	2.171E-04
ce144	1.224E+02	1.260E+02	1.289E+02	1.311E+02	1.328E+02	1.340E+02	1.349E+02	1.354E+02	1.357E+02	1.357E+02	1.355E+02
pr144	5.181E-03	5.335E-03	5.456E-03	5.551E-03	5.623E-03	5.675E-03	5.711E-03	5.734E-03	5.745E-03	5.746E-03	5.739E-03

prl44m	3.012E-05	3.101E-05	3.172E-05	3.227E-05	3.269E-05	3.300E-05	3.321E-05	3.334E-05	3.340E-05	3.341E-05	3.337E-05
ndl44	1.602E+02	1.872E+02	2.154E+02	2.447E+02	2.751E+02	3.063E+02	3.384E+02	3.713E+02	4.049E+02	4.392E+02	4.741E+02
pm144	2.244E-11	2.795E-11	3.430E-11	4.150E-11	4.956E-11	5.849E-11	6.830E-11	7.898E-11	9.052E-11	1.029E-10	1.161E-10
sm144	9.844E-13	1.407E-12	1.951E-12	2.635E-12	3.478E-12	4.495E-12	5.706E-12	7.126E-12	8.773E-12	1.066E-11	1.281E-11
il145	1.886E-13	1.921E-13	1.968E-13	2.016E-13	2.065E-13	2.116E-13	2.167E-13	2.219E-13	2.271E-13	2.323E-13	2.375E-13
xe145	1.052E-09	1.071E-09	1.095E-09	1.121E-09	1.147E-09	1.175E-09	1.203E-09	1.231E-09	1.259E-09	1.288E-09	1.316E-09
cs145	7.070E-08	7.086E-08	7.092E-08	7.107E-08	7.131E-08	7.161E-08	7.198E-08	7.239E-08	7.284E-08	7.331E-08	7.380E-08
ba145	8.914E-06	8.855E-06	8.747E-06	8.646E-06	8.551E-06	8.462E-06	8.378E-06	8.298E-06	8.222E-06	8.150E-06	8.081E-06
la145	1.040E-04	1.033E-04	1.023E-04	1.013E-04	1.004E-04	9.945E-05	9.855E-05	9.767E-05	9.681E-05	9.597E-05	9.516E-05
ce145	7.986E-04	7.943E-04	7.826E-04	7.768E-04	7.711E-04	7.655E-04	7.600E-04	7.547E-04	7.494E-04	7.443E-04	7.390E-04
pr145	9.531E-02	9.480E-02	9.409E-02	9.340E-02	9.271E-02	9.203E-02	9.137E-02	9.072E-02	9.008E-02	8.946E-02	8.885E-02
nd145	1.744E+02	1.900E+02	2.053E+02	2.202E+02	2.348E+02	2.490E+02	2.629E+02	2.764E+02	2.896E+02	3.025E+02	3.149E+02
pm145	2.810E-06	3.337E-06	3.895E-06	4.481E-06	5.092E-06	5.723E-06	6.372E-06	7.036E-06	7.712E-06	8.398E-06	9.090E-06
sm145	1.424E-07	1.824E-07	2.270E-07	2.760E-07	3.292E-07	3.862E-07	4.467E-07	5.103E-07	5.767E-07	6.453E-07	7.158E-07
xe146	4.882E-11	4.955E-11	5.047E-11	5.143E-11	5.242E-11	5.343E-11	5.446E-11	5.551E-11	5.657E-11	5.762E-11	5.868E-11
cs146	5.912E-09	5.959E-09	6.012E-09	6.074E-09	6.145E-09	6.224E-09	6.308E-09	6.397E-09	6.489E-09	6.583E-09	6.678E-09
ba146	2.177E-06	2.162E-06	2.131E-06	2.102E-06	2.074E-06	2.049E-06	2.025E-06	2.003E-06	1.982E-06	1.962E-06	1.943E-06

1 Cycle 2 -DD Assembly fission products page

power=	11.49mw,	burnup=	15103.mwd,	flux=	3.58E+13n/cm**2-sec	nuclide concentrations, grams						
						basis = 0.3883 MTU						
	charge	722.6 d	788.3 d	854.0 d	919.7 d	985.4 d	1051.1 d	1116.8 d	1182.5 d	1248.2 d	1313.9 d	
la146	1.153E-05	1.146E-05	1.134E-05	1.122E-05	1.112E-05	1.101E-05	1.092E-05	1.083E-05	1.075E-05	1.066E-05	1.059E-05	
la146m	8.489E-06	8.448E-06	8.396E-06	8.346E-06	8.299E-06	8.253E-06	8.210E-06	8.169E-06	8.129E-06	8.090E-06	8.053E-06	
ce146	2.843E-03	2.830E-03	2.815E-03	2.799E-03	2.785E-03	2.770E-03	2.756E-03	2.742E-03	2.729E-03	2.716E-03	2.703E-03	
pr146	5.092E-03	5.070E-03	5.042E-03	5.015E-03	4.989E-03	4.964E-03	4.939E-03	4.915E-03	4.891E-03	4.868E-03	4.846E-03	
nd146	1.542E+02	1.702E+02	1.864E+02	2.027E+02	2.192E+02	2.358E+02	2.527E+02	2.697E+02	2.868E+02	3.042E+02	3.218E+02	
pm146	2.766E-04	2.977E-04	3.154E-04	3.302E-04	3.424E-04	3.525E-04	3.606E-04	3.669E-04	3.717E-04	3.751E-04	3.774E-04	
sm146	4.578E-04	6.022E-04	7.715E-04	9.668E-04	1.189E-03	1.439E-03	1.717E-03	2.024E-03	2.359E-03	2.724E-03	3.116E-03	
xe147	5.717E-13	5.730E-13	5.720E-13	5.719E-13	5.727E-13	5.743E-13	5.764E-13	5.791E-13	5.822E-13	5.856E-13	5.892E-13	
cs147	1.678E-09	1.676E-09	1.665E-09	1.657E-09	1.652E-09	1.648E-09	1.647E-09	1.647E-09	1.648E-09	1.651E-09	1.654E-09	
ba147	1.965E-07	1.954E-07	1.928E-07	1.905E-07	1.884E-07	1.865E-07	1.848E-07	1.832E-07	1.817E-07	1.804E-07	1.792E-07	
la147	5.133E-06	5.130E-06	5.128E-06	5.131E-06	5.140E-06	5.152E-06	5.169E-06	5.187E-06	5.208E-06	5.230E-06	5.254E-06	
ce147	1.352E-04	1.349E-04	1.348E-04	1.347E-04	1.347E-04	1.347E-04	1.347E-04	1.347E-04	1.347E-04	1.347E-04	1.348E-04	
pr147	2.217E-03	2.209E-03	2.201E-03	2.193E-03	2.186E-03	2.179E-03	2.172E-03	2.165E-03	2.159E-03	2.153E-03	2.147E-03	
nd147	2.585E+00	2.580E+00	2.572E+00	2.564E+00	2.556E+00	2.549E+00	2.542E+00	2.535E+00	2.529E+00	2.523E+00	2.518E+00	
pm147	6.287E+01	6.596E+01	6.856E+01	7.072E+01	7.249E+01	7.390E+01	7.499E+01	7.580E+01	7.636E+01	7.670E+01	7.685E+01	
sm147	1.585E+01	1.836E+01	2.090E+01	2.345E+01	2.599E+01	2.849E+01	3.094E+01	3.333E+01	3.563E+01	3.783E+01	3.994E+01	
eu147	3.492E-17	5.080E-17	7.012E-17	9.303E-17	1.194E-16	1.492E-16	1.824E-16	2.194E-16	2.601E-16	3.048E-16	3.532E-16	
gd147	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
cs148	4.512E-11	4.588E-11	4.687E-11	4.789E-11	4.895E-11	5.004E-11	5.114E-11	5.226E-11	5.339E-11	5.452E-11	5.565E-11	
ba148	2.493E-08	2.504E-08	2.511E-08	2.522E-08	2.537E-08	2.555E-08	2.575E-08	2.598E-08	2.622E-08	2.647E-08	2.672E-08	
la148	4.874E-07	4.871E-07	4.853E-07	4.844E-07	4.844E-07	4.851E-07	4.863E-07	4.880E-07	4.901E-07	4.925E-07	4.950E-07	
ce148	1.025E-04	1.020E-04	1.012E-04	1.005E-04	9.988E-05	9.929E-05	9.874E-05	9.823E-05	9.776E-05	9.731E-05	9.689E-05	
pr148	2.684E-04	2.674E-04	2.663E-04	2.653E-04	2.644E-04	2.635E-04	2.627E-04	2.620E-04	2.614E-04	2.608E-04	2.602E-04	
pr148m	1.681E-05	1.704E-05	1.770E-05	1.831E-05	1.888E-05	1.941E-05	1.990E-05	2.037E-05	2.082E-05	2.123E-05	2.163E-05	
nd148	8.493E+01	9.333E+01	1.017E+02	1.100E+02	1.184E+02	1.267E+02	1.350E+02	1.433E+02	1.515E+02	1.598E+02	1.680E+02	
pm148	2.557E-01	2.571E-01	2.725E-01	2.865E-01	2.992E-01	3.107E-01	3.211E-01	3.303E-01	3.386E-01	3.459E-01	3.524E-01	
pm148m	5.789E-01	5.603E-01	5.865E-01	6.099E-01	6.298E-01	6.466E-01	6.606E-01	6.720E-01	6.810E-01	6.880E-01	6.931E-01	
sm148	1.734E+01	2.059E+01	2.407E+01	2.780E+01	3.177E+01	3.596E+01	4.037E+01	4.497E+01	4.977E+01	5.475E+01	5.990E+01	
cs149	9.727E-13	9.889E-13	1.010E-12	1.032E-12	1.055E-12	1.080E-12	1.104E-12	1.129E-12	1.155E-12	1.180E-12	1.206E-12	
ba149	3.525E-09	3.574E-09	3.637E-09	3.705E-09	3.777E-09	3.853E-09	3.932E-09	4.013E-09	4.096E-09	4.179E-09	4.262E-09	
la149	3.533E-07	3.554E-07	3.578E-07	3.609E-07	3.646E-07	3.689E-07	3.735E-07	3.785E-07	3.838E-07	3.891E-07	3.946E-07	
ce149	5.198E-06	5.191E-06	5.183E-06	5.180E-06	5.181E-06	5.186E-06	5.194E-06	5.204E-06	5.215E-06	5.228E-06	5.242E-06	
pr149	1.957E-04	1.956E-04	1.959E-04	1.963E-04	1.967E-04	1.972E-04	1.977E-04	1.983E-04	1.988E-04	1.994E-04	1.999E-04	
nd149	9.246E-03	9.256E-03	9.295E-03	9.337E-03	9.381E-03	9.428E-03	9.476E-03	9.525E-03	9.576E-03	9.627E-03	9.679E-03	
pm149	3.814E-01	3.814E-01	3.897E-01	3.979E-01	4.058E-01	4.133E-01	4.205E-01	4.274E-01	4.340E-01	4.402E-01	4.462E-01	
sm149	1.123E+00	1.065E+00	1.064E+00	1.062E+00	1.060E+00	1.057E+00	1.053E+00	1.048E+00	1.043E+00	1.038E+00	1.032E+00	
eu149	1.574E-11	1.711E-11	1.824E-11	1.919E-11	2.005E-11	2.088E-11	2.172E-11	2.260E-11	2.353E-11	2.450E-11	2.551E-11	
gd149	1.594E-18	2.281E-18	3.113E-18	4.092E-18	5.209E-18	6.466E-18	7.869E-18	9.424E-18	1.114E-17	1.301E-17	1.503E-17	
cs150	5.052E-14	5.141E-14	5.256E-14	5.373E-14	5.492E-14	5.612E-14	5.733E-14	5.855E-14	5.976E-14	6.097E-14	6.218E-14	
ba150	4.977E-10	5.057E-10	5.163E-10	5.273E-10	5.389E-10	5.507E-10	5.629E-10	5.753E-10	5.878E-10	6.003E-10	6.129E-10	
la150	1.900E-08	1.924E-08	1.956E-08	1.992E-08	2.032E-08	2.075E-08	2.121E-08	2.168E-08	2.217E-08	2.267E-08	2.316E-08	
ce150	2.159E-06	2.158E-06	2.157E-06	2.159E-06	2.163E-06	2.169E-06	2.177E-06	2.186E-06	2.195E-06	2.206E-06	2.217E-06	
pr150	5.730E-06	5.742E-06	5.783E-06	5.826E-06	5.873E-06	5.921E-06	5.971E-06	6.022E-06	6.073E-06	6.124E-06	6.175E-06	
nd150	3.786E+01	4.187E+01	4.591E+01	4.998E+01	5.408E+01	5.822E+01	6.240E+01	6.661E+01	7.086E+01	7.514E+01	7.945E+01	
pm150	1.306E-04	1.352E-04	1.414E-04	1.477E-04	1.540E-04	1.604E-04	1.667E-04	1.731E-04	1.795E-04	1.858E-04	1.921E-04	
sm150	6.330E-07	7.042E-07	7.748E-07	8.457E-07	9.168E-07	9.879E-07	1.059E-06	1.130E-06	1.200E-06	1.270E-06	1.339E-06	
ba151	2.753E-11	2.801E-11	2.862E-11	2.924E-11	2.987E-11	3.051E-11	3.114E-11	3.178E-11	3.242E-11	3.305E-11	3.369E-11	
la151	3.713E-09	3.771E-09	3.850E-09	3.936E-09	4.028E-09	4.127E-09	4.229E-09	4.335E-09	4.442E-09	4.551E-09	4.660E-09	
ce151	1.613E-07	1.620E-07	1.629E-07	1.642E-07	1.658E-07	1.676E-07	1.697E-07	1.718E-07	1.741E-07	1.765E-07	1.789E-07	
pr151	9.941E-06	9.976E-06	1.007E-05	1.017E-05	1.028E-05	1.040E-05	1.052E-05	1.064E-05	1.077E-05	1.090E-05	1.102E-05	

sm151	5.546E+00	5.578E+00	5.671E+00	5.796E+00	5.938E+00	6.089E+00	6.245E+00	6.403E+00	6.563E+00	6.722E+00	6.881E+00
eu151	9.429E-03	9.573E-03	9.582E-03	9.571E-03	9.570E-03	9.585E-03	9.611E-03	9.643E-03	9.678E-03	9.713E-03	9.748E-03
gd151	2.540E-08	3.178E-08	3.852E-08	4.560E-08	5.300E-08	6.070E-08	6.871E-08	7.701E-08	8.561E-08	9.450E-08	1.037E-07
tb151	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba152	5.512E-13	5.611E-13	5.740E-13	5.872E-13	6.008E-13	6.146E-13	6.285E-13	6.426E-13	6.567E-13	6.708E-13	6.849E-13
la152	1.656E-10	1.687E-10	1.729E-10	1.774E-10	1.823E-10	1.873E-10	1.926E-10	1.979E-10	2.034E-10	2.089E-10	2.143E-10
ce152	3.170E-07	3.198E-07	3.237E-07	3.285E-07	3.341E-07	3.402E-07	3.469E-07	3.540E-07	3.613E-07	3.688E-07	3.763E-07
pr152	1.524E-06	1.536E-06	1.561E-06	1.589E-06	1.619E-06	1.652E-06	1.686E-06	1.721E-06	1.757E-06	1.794E-06	1.830E-06
nd152	3.303E-04	3.325E-04	3.383E-04	3.442E-04	3.502E-04	3.563E-04	3.624E-04	3.685E-04	3.745E-04	3.805E-04	3.864E-04
pm152	1.205E-04	1.213E-04	1.235E-04	1.257E-04	1.279E-04	1.302E-04	1.324E-04	1.347E-04	1.369E-04	1.391E-04	1.413E-04
pm152m	4.342E-06	4.413E-06	4.611E-06	4.796E-06	4.969E-06	5.132E-06	5.285E-06	5.431E-06	5.569E-06	5.701E-06	5.827E-06
sm152	3.012E+01	3.329E+01	3.630E+01	3.917E+01	4.192E+01	4.458E+01	4.715E+01	4.963E+01	5.204E+01	5.436E+01	5.662E+01
eu152	1.525E-02	1.653E-02	1.760E-02	1.846E-02	1.916E-02	1.973E-02	2.019E-02	2.059E-02	2.092E-02	2.121E-02	2.147E-02
eu152m	2.239E-05	2.306E-05	2.362E-05	2.413E-05	2.467E-05	2.526E-05	2.589E-05	2.653E-05	2.719E-05	2.785E-05	2.852E-05
gd152	1.112E-02	1.290E-02	1.471E-02	1.653E-02	1.836E-02	2.020E-02	2.205E-02	2.392E-02	2.579E-02	2.768E-02	2.958E-02
la153	1.936E-11	1.972E-11	2.021E-11	2.071E-11	2.124E-11	2.179E-11	2.234E-11	2.291E-11	2.348E-11	2.405E-11	2.462E-11
ce153	1.095E-08	1.114E-08	1.140E-08	1.169E-08	1.202E-08	1.237E-08	1.273E-08	1.311E-08	1.350E-08	1.390E-08	1.429E-08
pr153	3.881E-07	3.928E-07	4.010E-07	4.103E-07	4.206E-07	4.316E-07	4.433E-07	4.555E-07	4.679E-07	4.805E-07	4.930E-07
nd153	1.923E-05	1.939E-05	1.975E-05	2.013E-05	2.053E-05	2.095E-05	2.137E-05	2.180E-05	2.223E-05	2.265E-05	2.308E-05
pm153	1.029E-04	1.038E-04	1.060E-04	1.082E-04	1.105E-04	1.129E-04	1.153E-04	1.176E-04	1.200E-04	1.224E-04	1.247E-04
sm153	1.724E-01	1.818E-01	1.978E-01	2.130E-01	2.300E-01	2.464E-01	2.628E-01	2.794E-01	2.961E-01	3.129E-01	3.297E-01
eu153	1.868E+01	2.141E+01	2.429E+01	2.729E+01	3.039E+01	3.359E+01	3.687E+01	4.022E+01	4.361E+01	4.704E+01	5.050E+01
gd153	1.173E-04	1.370E-04	1.585E-04	1.806E-04	2.031E-04	2.258E-04	2.487E-04	2.720E-04	2.954E-04	3.191E-04	3.430E-04
tb153	1.273E-16	1.797E-16	2.436E-16	3.181E-16	4.030E-16	4.983E-16	6.045E-16	7.221E-16	8.514E-16	9.925E-16	1.145E-15
la154	3.787E-13	3.858E-13	3.953E-13	4.051E-13	4.153E-13	4.258E-13	4.364E-13	4.472E-13	4.581E-13	4.689E-13	4.798E-13
ce154	1.808E-09	1.845E-09	1.897E-09	1.955E-09	2.017E-09	2.083E-09	2.151E-09	2.222E-09	2.295E-09	2.367E-09	2.440E-09
pr154	2.106E-08	2.150E-08	2.222E-08	2.303E-08	2.393E-08	2.490E-08	2.591E-08	2.696E-08	2.804E-08	2.913E-08	3.021E-08
nd154	5.753E-06	5.823E-06	5.976E-06	6.139E-06	6.309E-06	6.484E-06	6.664E-06	6.846E-06	7.029E-06	7.211E-06	7.392E-06
pm154	1.713E-05	1.735E-05	1.784E-05	1.835E-05	1.888E-05	1.942E-05	1.997E-05	2.052E-05	2.107E-05	2.162E-05	2.216E-05
pm154m	3.560E-06	3.618E-06	3.770E-06	3.917E-06	4.059E-06	4.195E-06	4.327E-06	4.455E-06	4.579E-06	4.698E-06	4.815E-06
sm154	6.187E+00	6.959E+00	7.755E+00	8.575E+00	9.420E+00	1.029E+01	1.119E+01	1.211E+01	1.305E+01	1.402E+01	1.502E+01
eu154	2.712E+00	3.285E+00	3.902E+00	4.562E+00	5.264E+00	6.004E+00	6.780E+00	7.586E+00	8.420E+00	9.277E+00	1.015E+01
eu154m	1.430E-08	1.462E-08	1.546E-08	1.625E-08	1.700E-08	1.769E-08	1.835E-08	1.898E-08	1.958E-08	2.015E-08	2.071E-08
gd154	1.262E-01	1.675E-01	2.168E-01	2.744E-01	3.408E-01	4.164E-01	5.014E-01	5.962E-01	7.009E-01	8.156E-01	9.404E-01
la155	1.087E-14	1.109E-14	1.139E-14	1.172E-14	1.206E-14	1.242E-14	1.278E-14	1.316E-14	1.353E-14	1.391E-14	1.429E-14
ce155	4.440E-11	4.533E-11	4.663E-11	4.804E-11	4.954E-11	5.111E-11	5.274E-11	5.441E-11	5.611E-11	5.781E-11	5.952E-11
pr155	5.125E-09	5.244E-09	5.429E-09	5.637E-09	5.866E-09	6.111E-09	6.368E-09	6.634E-09	6.906E-09	7.181E-09	7.455E-09
nd155	9.674E-07	9.841E-07	1.017E-06	1.052E-06	1.090E-06	1.130E-06	1.171E-06	1.213E-06	1.256E-06	1.299E-06	1.341E-06
pm155	4.905E-06	4.989E-06	5.174E-06	5.365E-06	5.561E-06	5.759E-06	5.960E-06	6.160E-06	6.361E-06	6.559E-06	6.754E-06
sm155	1.527E-04	1.557E-04	1.621E-04	1.687E-04	1.753E-04	1.821E-04	1.890E-04	1.959E-04	2.027E-04	2.096E-04	2.164E-04
eu155	7.597E-01	8.943E-01	1.024E+00	1.158E+00	1.301E+00	1.452E+00	1.610E+00	1.774E+00	1.945E+00	2.121E+00	2.301E+00
gd155	8.706E-03	9.595E-03	1.095E-02	1.237E-02	1.386E-02	1.543E-02	1.708E-02	1.880E-02	2.058E-02	2.243E-02	2.433E-02
gd155m	2.368E-14	2.630E-14	3.071E-14	3.549E-14	4.067E-14	4.629E-14	5.236E-14	5.889E-14	6.586E-14	7.326E-14	8.109E-14
tb155	9.576E-13	1.043E-12	1.174E-12	1.317E-12	1.471E-12	1.637E-12	1.816E-12	2.010E-12	2.218E-12	2.443E-12	2.683E-12
dy155	1.176E-18	1.659E-18	2.249E-18	2.936E-18	3.718E-18	4.597E-18	5.577E-18	6.662E-18	7.854E-18	9.156E-18	1.056E-17
ce156	3.126E-12	3.191E-12	3.282E-12	3.379E-12	3.481E-12	3.589E-12	3.699E-12	3.812E-12	3.927E-12	4.042E-12	4.157E-12
pr156	2.610E-10	2.680E-10	2.787E-10	2.907E-10	3.040E-10	3.182E-10	3.332E-10	3.487E-10	3.645E-10	3.805E-10	3.965E-10
nd156	3.584E-07	3.663E-07	3.810E-07	3.973E-07	4.149E-07	4.335E-07	4.530E-07	4.730E-07	4.934E-07	5.138E-07	5.342E-07

Cycle 2 -DD Assembly

fission products

page

power= 11.49mw, burnup= 15103.mwd, flux= 3.58E+13n/cm**2-sec

nuclide concentrations, grams
basis = 0.3883 MTU

	charge	722.6 d	788.3 d	854.0 d	919.7 d	985.4 d	1051.1 d	1116.8 d	1182.5 d	1248.2 d	1313.9 d
pm156	6.992E-07	7.143E-07	7.464E-07	7.799E-07	8.146E-07	8.501E-07	8.862E-07	9.225E-07	9.589E-07	9.950E-07	1.031E-06
sm156	2.468E-03	2.519E-03	2.635E-03	2.752E-03	2.871E-03	2.990E-03	3.110E-03	3.229E-03	3.347E-03	3.464E-03	3.578E-03
eu156	4.215E-01	4.702E-01	5.404E-01	6.157E-01	6.972E-01	7.856E-01	8.808E-01	9.827E-01	1.091E+00	1.206E+00	1.326E+00
gd156	6.361E+00	7.684E+00	9.197E+00	1.092E+01	1.288E+01	1.509E+01	1.757E+01	2.033E+01	2.340E+01	2.680E+01	3.053E+01
tb156	4.770E-11	4.939E-11	5.306E-11	5.671E-11	6.036E-11	6.403E-11	6.775E-11	7.156E-11	7.548E-11	7.952E-11	8.371E-11
tb156m	2.127E-13	2.203E-13	2.366E-13	2.526E-13	2.686E-13	2.847E-13	3.010E-13	3.176E-13	3.346E-13	3.522E-13	3.704E-13
dy156	8.203E-15	1.308E-14	1.974E-14	2.849E-14	3.958E-14	5.326E-14	6.978E-14	8.938E-14	1.123E-13	1.388E-13	1.690E-13
ce157	4.436E-14	4.527E-14	4.653E-14	4.786E-14	4.927E-14	5.074E-14	5.225E-14	5.379E-14	5.535E-14	5.691E-14	5.848E-14
pr157	3.140E-11	3.226E-11	3.353E-11	3.497E-11	3.655E-11	3.824E-11	4.003E-11	4.187E-11	4.376E-11	4.567E-11	4.758E-11
nd157	1.002E-08	1.034E-08	1.088E-08	1.150E-08	1.218E-08	1.293E-08	1.371E-08	1.453E-08	1.537E-08	1.621E-08	1.706E-08
pm157	1.394E-06	1.433E-06	1.510E-06	1.593E-06	1.681E-06	1.774E-06	1.870E-06	1.968E-06	2.066E-06	2.165E-06	2.264E-06
sm157	2.032E-05	2.083E-05	2.192E-05	2.306E-05	2.423E-05	2.542E-05	2.662E-05	2.783E-05	2.904E-05	3.024E-05	3.142E-05
eu157	2.864E-03	2.994E-03	3.222E-03	3.465E-03	3.724E-03	3.999E-03	4.290E-03	4.597E-03	4.918E-03	5.254E-03	5.603E-03
gd157	2.302E-02	2.252E-02	2.414E-02	2.589E-02	2.778E-02	2.981E-02	3.199E-02	3.433E-02	3.682E-02	3.947E-02	4.228E-02
tb157	5.288E-08	5.941E-08	6.596E-08	7.246E-08	7.888E-08	8.515E-08	9.126E-08	9.718E-08	1.029E-07	1.084E-07	1.138E-07
dy157	1.951E-15	2.481E-15	3.113E-15	3.833E-15	4.642E-15	5.540E-15	6.532E-15	7.621E-15	8.811E-15	1.010E-14	1.150E-14
pr158	8.948E-13	9.197E-13	9.562E-13	9.976E-13	1.043E-12	1.092E-12	1.144E-12	1.197E-12	1.252E-12	1.307E-12	1.363E-12
nd158	1.875E-09	1.943E-09	2.051E-09	2.178E-09	2.321E-09	2.476E-09	2.641E-09	2.814E-09	2.991E-09	3.170E-09	3.350E-09
pm158	2.650E-08	2.744E-08	2.913E-08	3.105E-08	3.316E-08	3.543E-08	3.781E-08	4.027E-08	4.279E-08	4.532E-08	4.785E-08
sm158	7.428E-06	7.630E-06	8.054E-06	8.502E-06	8.971E-06	9.454E-06	9.948E-06	1.045E-05	1.095E-05	1.145E-05	1.195E-05
eu158	6.809E-05	6.992E-05	7.382E-05	7.790E-05	8.214E-05	8.649E-05	9.092E-05	9.540E-05	9.988E-05	1.043E-04	1.088E-04
gd158	2.018E+00	2.361E+00	2.731E+00	3.131E+00	3.566E+00	4.037E+00	4.547E+00	5.101E+00	5.700E+00	6.348E+00	7.049E+00
tb158	6.140E-07	6.773E-07	7.390E-07	7.985E-07	8.552E-07	9.088E-07	9.5				

sm159	1.435E-06	1.481E-06	1.571E-06	1.669E-06	1.772E-06	1.880E-06	1.990E-06	2.104E-06	2.218E-06	2.332E-06	2.445E-06
eu159	1.280E-05	1.317E-05	1.397E-05	1.481E-05	1.568E-05	1.657E-05	1.748E-05	1.840E-05	1.933E-05	2.025E-05	2.116E-05
gd159	8.849E-04	9.250E-04	9.935E-04	1.067E-03	1.144E-03	1.226E-03	1.312E-03	1.401E-03	1.494E-03	1.591E-03	1.691E-03
tb159	2.852E-01	3.325E-01	3.826E-01	4.357E-01	4.919E-01	5.515E-01	6.144E-01	6.808E-01	7.508E-01	8.244E-01	9.016E-01
dy159	3.335E-09	3.971E-09	4.668E-09	5.426E-09	6.244E-09	7.122E-09	8.059E-09	9.054E-09	1.011E-08	1.122E-08	1.239E-08
ho159	2.851E-18	4.037E-18	5.491E-18	7.197E-18	9.152E-18	1.136E-17	1.384E-17	1.660E-17	1.965E-17	2.300E-17	2.665E-17
ho159m	1.275E-21	1.805E-21	2.453E-21	3.214E-21	4.084E-21	5.065E-21	6.164E-21	7.385E-21	8.732E-21	1.021E-20	1.181E-20
nd160	4.072E-12	4.206E-12	4.410E-12	4.647E-12	4.911E-12	5.197E-12	5.500E-12	5.816E-12	6.140E-12	6.469E-12	6.798E-12
pm160	1.865E-10	1.943E-10	2.072E-10	2.223E-10	2.391E-10	2.574E-10	2.769E-10	2.972E-10	3.180E-10	3.391E-10	3.603E-10
sm160	2.103E-07	2.174E-07	2.312E-07	2.463E-07	2.623E-07	2.792E-07	2.966E-07	3.144E-07	3.325E-07	3.506E-07	3.687E-07
eu160	2.191E-07	2.258E-07	2.400E-07	2.548E-07	2.702E-07	2.860E-07	3.022E-07	3.185E-07	3.349E-07	3.513E-07	3.675E-07
gd160	1.259E-01	1.473E-01	1.700E-01	1.940E-01	2.195E-01	2.465E-01	2.750E-01	3.050E-01	3.366E-01	3.696E-01	4.042E-01
tb160	6.224E-03	7.502E-03	8.934E-03	1.052E-02	1.225E-02	1.414E-02	1.620E-02	1.843E-02	2.084E-02	2.344E-02	2.624E-02
dy160	1.138E-02	1.485E-02	1.890E-02	2.357E-02	2.891E-02	3.493E-02	4.168E-02	4.918E-02	5.747E-02	6.657E-02	7.650E-02
nd161	6.809E-14	7.020E-14	7.336E-14	7.699E-14	8.102E-14	8.538E-14	8.999E-14	9.479E-14	9.971E-14	1.047E-13	1.097E-13
pm161	2.323E-11	2.420E-11	2.576E-11	2.759E-11	2.965E-11	3.190E-11	3.429E-11	3.678E-11	3.935E-11	4.194E-11	4.455E-11
sm161	3.135E-09	3.255E-09	3.480E-09	3.730E-09	4.002E-09	4.291E-09	4.594E-09	4.906E-09	5.223E-09	5.543E-09	5.863E-09
eu161	8.293E-08	8.557E-08	9.113E-08	9.696E-08	1.030E-07	1.092E-07	1.155E-07	1.220E-07	1.284E-07	1.348E-07	1.412E-07
gd161	5.472E-07	5.642E-07	6.007E-07	6.382E-07	6.767E-07	7.159E-07	7.556E-07	7.956E-07	8.356E-07	8.756E-07	9.153E-07
tb161	1.539E-03	1.607E-03	1.724E-03	1.847E-03	1.975E-03	2.108E-03	2.246E-03	2.389E-03	2.535E-03	2.685E-03	2.838E-03
dy161	4.484E-02	5.186E-02	5.913E-02	6.673E-02	7.469E-02	8.305E-02	9.182E-02	1.010E-01	1.107E-01	1.209E-01	1.316E-01
ho161	1.280E-14	1.407E-14	1.600E-14	1.816E-14	2.055E-14	2.320E-14	2.614E-14	2.940E-14	3.299E-14	3.695E-14	4.129E-14

Cycle 2 -DD Assembly

fission products

page

power= 11.49mw, burnup= 15103.mwd, flux= 3.58E+13n/cm*2-sec

nuclide concentrations, grams

basis = 0.3883 MTU

	charge	722.6 d	788.3 d	854.0 d	919.7 d	985.4 d	1051.1 d	1116.8 d	1182.5 d	1248.2 d	1313.9 d
ho161m	2.189E-19	3.146E-19	4.353E-19	5.809E-19	7.523E-19	9.514E-19	1.180E-18	1.441E-18	1.736E-18	2.068E-18	2.437E-18
er161	5.350E-19	7.552E-19	1.023E-18	1.336E-18	1.692E-18	2.092E-18	2.538E-18	3.032E-18	3.575E-18	4.168E-18	4.809E-18
pm162	3.261E-13	3.322E-13	3.417E-13	3.511E-13	3.605E-13	3.697E-13	3.789E-13	3.881E-13	3.973E-13	4.064E-13	4.156E-13
sm162	3.177E-10	3.243E-10	3.398E-10	3.544E-10	3.684E-10	3.817E-10	3.945E-10	4.069E-10	4.190E-10	4.309E-10	4.426E-10
eu162	6.684E-08	6.832E-08	7.211E-08	7.566E-08	7.902E-08	8.220E-08	8.524E-08	8.817E-08	9.101E-08	9.379E-08	9.653E-08
gd162	4.417E-07	4.515E-07	4.772E-07	5.012E-07	5.239E-07	5.453E-07	5.657E-07	5.853E-07	6.043E-07	6.228E-07	6.410E-07
tb162	4.272E-07	4.369E-07	4.622E-07	4.859E-07	5.084E-07	5.298E-07	5.503E-07	5.701E-07	5.893E-07	6.082E-07	6.268E-07
dy162	2.763E-02	3.260E-02	3.796E-02	4.368E-02	4.976E-02	5.619E-02	6.296E-02	7.009E-02	7.758E-02	8.543E-02	9.367E-02
ho162	1.990E-14	2.091E-14	2.281E-14	2.482E-14	2.696E-14	2.927E-14	3.177E-14	3.450E-14	3.747E-14	4.073E-14	4.429E-14
ho162m	8.502E-14	8.941E-14	9.760E-14	1.063E-13	1.156E-13	1.255E-13	1.364E-13	1.482E-13	1.611E-13	1.752E-13	1.906E-13
er162	5.941E-15	5.589E-15	1.466E-14	2.145E-14	3.023E-14	4.129E-14	5.490E-14	7.138E-14	9.103E-14	1.142E-13	1.411E-13
sm163	9.854E-12	1.005E-11	1.042E-11	1.078E-11	1.114E-11	1.148E-11	1.182E-11	1.215E-11	1.248E-11	1.281E-11	1.314E-11
eu163	7.664E-10	7.833E-10	8.247E-10	8.637E-10	9.009E-10	9.364E-10	9.706E-10	1.004E-09	1.037E-09	1.069E-09	1.102E-09
gd163	3.138E-08	3.209E-08	3.391E-08	3.561E-08	3.722E-08	3.876E-08	4.023E-08	4.166E-08	4.305E-08	4.443E-08	4.580E-08
tb163	4.418E-07	4.517E-07	4.775E-07	5.016E-07	5.245E-07	5.463E-07	5.672E-07	5.874E-07	6.072E-07	6.267E-07	6.463E-07
dy163	1.591E-02	1.937E-02	2.328E-02	2.766E-02	3.252E-02	3.788E-02	4.377E-02	5.019E-02	5.718E-02	6.475E-02	7.292E-02
ho163	8.789E-09	1.011E-08	1.149E-08	1.293E-08	1.443E-08	1.599E-08	1.761E-08	1.929E-08	2.104E-08	2.286E-08	2.477E-08
ho163m	6.175E-17	6.399E-17	6.881E-17	7.374E-17	7.884E-17	8.419E-17	8.986E-17	9.593E-17	1.025E-16	1.096E-16	1.173E-16
er163	5.302E-17	7.325E-17	9.903E-17	1.304E-16	1.679E-16	2.120E-16	2.633E-16	3.226E-16	3.904E-16	4.674E-16	5.543E-16
sm164	1.633E-12	1.663E-12	1.709E-12	1.754E-12	1.799E-12	1.844E-12	1.889E-12	1.933E-12	1.977E-12	2.022E-12	2.067E-12
eu164	2.633E-11	2.689E-11	2.807E-11	2.921E-11	3.031E-11	3.137E-11	3.240E-11	3.343E-11	3.444E-11	3.546E-11	3.649E-11
gd164	1.420E-07	1.451E-07	1.531E-07	1.606E-07	1.677E-07	1.745E-07	1.810E-07	1.874E-07	1.937E-07	1.999E-07	2.061E-07
tb164	2.512E-08	2.568E-08	2.712E-08	2.847E-08	2.976E-08	3.099E-08	3.217E-08	3.333E-08	3.446E-08	3.560E-08	3.674E-08
dy164	3.880E-03	4.610E-03	5.435E-03	6.364E-03	7.402E-03	8.560E-03	9.844E-03	1.126E-02	1.283E-02	1.454E-02	1.642E-02
ho164	8.447E-12	9.560E-12	1.109E-11	1.284E-11	1.486E-11	1.718E-11	1.985E-11	2.293E-11	2.647E-11	3.054E-11	3.520E-11
ho164m	4.394E-12	4.540E-12	4.868E-12	5.199E-12	5.538E-12	5.891E-12	6.262E-12	6.657E-12	7.082E-12	7.543E-12	8.045E-12
er164	6.965E-08	8.318E-08	9.835E-08	1.153E-07	1.343E-07	1.556E-07	1.795E-07	2.062E-07	2.363E-07	2.701E-07	3.083E-07
sm165	6.328E-14	6.439E-14	6.591E-14	6.742E-14	6.894E-14	7.047E-14	7.199E-14	7.351E-14	7.504E-14	7.656E-14	7.807E-14
eu165	5.104E-12	5.201E-12	5.377E-12	5.549E-12	5.716E-12	5.880E-12	6.041E-12	6.201E-12	6.360E-12	6.519E-12	6.679E-12
gd165	1.341E-09	1.370E-09	1.439E-09	1.504E-09	1.566E-09	1.626E-09	1.684E-09	1.740E-09	1.795E-09	1.851E-09	1.906E-09
tb165	7.235E-09	7.395E-09	7.796E-09	8.175E-09	8.534E-09	8.879E-09	9.211E-09	9.536E-09	9.856E-09	1.018E-08	1.050E-08
dy165	2.020E-06	2.398E-06	2.815E-06	3.292E-06	3.835E-06	4.450E-06	5.146E-06	5.931E-06	6.813E-06	7.800E-06	8.900E-06
dy165m	1.403E-08	1.660E-08	1.944E-08	2.269E-08	2.637E-08	3.056E-08	3.528E-08	4.061E-08	4.659E-08	5.328E-08	6.074E-08
ho165	3.713E-03	4.642E-03	5.722E-03	6.973E-03	8.416E-03	1.008E-02	1.198E-02	1.415E-02	1.662E-02	1.942E-02	2.260E-02
er165	4.727E-12	5.669E-12	6.820E-12	8.143E-12	9.661E-12	1.140E-11	1.340E-11	1.569E-11	1.832E-11	2.134E-11	2.481E-11
tm165	2.439E-17	3.534E-17	4.928E-17	6.624E-17	8.639E-17	1.100E-16	1.372E-16	1.685E-16	2.041E-16	2.442E-16	2.891E-16
tb166	2.152E-09	2.199E-09	2.312E-09	2.419E-09	2.521E-09	2.619E-09	2.713E-09	2.804E-09	2.895E-09	2.984E-09	3.074E-09
dy166	9.384E-06	9.601E-06	1.012E-05	1.061E-05	1.108E-05	1.153E-05	1.197E-05	1.241E-05	1.284E-05	1.327E-05	1.371E-05
ho166	6.023E-06	6.879E-06	8.023E-06	9.344E-06	1.087E-05	1.264E-05	1.469E-05	1.705E-05	1.979E-05	2.293E-05	2.655E-05
ho166m	6.476E-06	8.574E-06	1.118E-05	1.439E-05	1.831E-05	2.304E-05	2.874E-05	3.554E-05	4.364E-05	5.321E-05	6.448E-05
er166	1.170E-03	1.423E-03	1.717E-03	2.058E-03	2.454E-03	2.914E-03	3.447E-03	4.065E-03	4.780E-03	5.607E-03	6.563E-03
tm166	6.120E-17	9.023E-17	1.282E-16	1.756E-16	2.333E-16	3.024E-16	3.840E-16	4.794E-16	5.900E-16	7.172E-16	8.620E-16
ybl66	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
dy167	3.795E-09	3.875E-09	4.045E-09	4.208E-09	4.367E-09	4.521E-09	4.674E-09	4.826E-09	4.980E-09	5.138E-09	5.300E-09
ho167	1.165E-07	1.191E-07	1.246E-07	1.300E-07	1.353E-07	1.406E-07	1.459E-07	1.514E-07	1.571E-07	1.631E-07	1.695E-07
er167	1.524E-04	1.643E-04	1.766E-04	1.895E-04	2.032E-04	2.179E-04	2.339E-04	2.516E-04	2.714E-04	2.936E-04	3.189E-04
er167m	2.007E-14	2.183E-14	2.401E-14	2.635E-14	2.889E-14	3.167E-14	3.474E-14	3.818E-14	4.204E-14	4.643E-14	5.145E-14
tm167	1.439E-14	2.187E-14	3.196E-14	4.498E-14	6.132E-14	8.140E-14	1.057E-13	1.347E-13	1.690E-13	2.091E-13	2.556E-13
ybl67	3.923E-21	5.536E-21	7.502E-21	9.794E-21	1.240E-20	1.533E-20	1.860E-20	2.222E-20	2.620E-20	3.054E-20	3.524E-20
dy168	2.530E-09	2.595E-09	2.711E-09	2.833E-09	2.961E-09	3.093E-09	3.230E-09	3.372E-09	3.518E-09	3.670E-09	3.828E-09


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0
nuclide concentrations, grams
basis = 0.3883 MTU
charge 722.6 d 788.3 d 854.0 d 919.7 d 985.4 d 1051.1 d 1116.8 d 1182.5 d 1248.2 d 1313.9 d
hol168 8.896E-10 9.127E-10 9.540E-10 9.974E-10 1.043E-09 1.090E-09 1.138E-09 1.189E-09 1.241E-09 1.295E-09 1.352E-09
erl168 3.334E-04 3.932E-04 4.578E-04 5.277E-04 6.031E-04 6.845E-04 7.725E-04 8.677E-04 9.709E-04 1.083E-03 1.205E-03
tml168 1.930E-10 2.194E-10 2.474E-10 2.767E-10 3.073E-10 3.391E-10 3.722E-10 4.066E-10 4.424E-10 4.797E-10 5.186E-10
ybl168 1.714E-14 2.005E-14 2.304E-14 2.614E-14 2.935E-14 3.266E-14 3.609E-14 3.964E-14 4.331E-14 4.713E-14 5.110E-14
dyl169 9.003E-11 9.225E-11 9.585E-11 9.966E-11 1.037E-10 1.079E-10 1.122E-10 1.167E-10 1.214E-10 1.262E-10 1.312E-10
hol169 6.928E-10 7.102E-10 7.391E-10 7.696E-10 8.016E-10 8.350E-10 8.697E-10 9.059E-10 9.435E-10 9.827E-10 1.024E-09
erl169 2.098E-06 2.175E-06 2.283E-06 2.400E-06 2.524E-06 2.656E-06 2.796E-06 2.944E-06 3.101E-06 3.268E-06 3.446E-06
tml169 5.938E-05 6.560E-05 7.178E-05 7.798E-05 8.420E-05 9.046E-05 9.677E-05 1.031E-04 1.096E-04 1.162E-04 1.228E-04
ybl169 7.439E-12 9.722E-12 1.248E-11 1.569E-11 1.940E-11 2.362E-11 2.839E-11 3.374E-11 3.970E-11 4.630E-11 5.359E-11
ybl169m 4.578E-21 6.940E-21 1.014E-20 1.426E-20 1.942E-20 2.573E-20 3.334E-20 4.239E-20 5.304E-20 6.543E-20 7.974E-20
dyl170 2.244E-11 2.295E-11 2.369E-11 2.448E-11 2.532E-11 2.620E-11 2.711E-11 2.807E-11 2.905E-11 3.007E-11 3.112E-11
hol170 1.906E-10 1.951E-10 2.016E-10 2.086E-10 2.160E-10 2.238E-10 2.320E-10 2.405E-10 2.494E-10 2.586E-10 2.682E-10
hol170m 2.067E-12 2.144E-12 2.277E-12 2.420E-12 2.574E-12 2.740E-12 2.922E-12 3.123E-12 3.345E-12 3.594E-12 3.875E-12
erl170 4.015E-05 4.489E-05 4.978E-05 5.484E-05 6.007E-05 6.549E-05 7.110E-05 7.691E-05 8.294E-05 8.918E-05 9.567E-05
tml170 7.427E-06 8.567E-06 9.775E-06 1.104E-05 1.237E-05 1.376E-05 1.521E-05 1.671E-05 1.828E-05 1.990E-05 2.160E-05
ybl170 9.763E-06 1.245E-05 1.551E-05 1.897E-05 2.283E-05 2.710E-05 3.181E-05 3.695E-05 4.255E-05 4.862E-05 5.516E-05
hol171 3.265E-11 3.332E-11 3.428E-11 3.528E-11 3.631E-11 3.738E-11 3.849E-11 3.965E-11 4.087E-11 4.216E-11 4.354E-11
erl171 1.762E-08 1.807E-08 1.868E-08 1.933E-08 1.999E-08 2.069E-08 2.143E-08 2.220E-08 2.302E-08 2.389E-08 2.482E-08
tml171 1.626E-05 1.770E-05 1.914E-05 2.058E-05 2.204E-05 2.352E-05 2.502E-05 2.654E-05 2.810E-05 2.971E-05 3.136E-05
ybl171 5.585E-06 6.732E-06 7.991E-06 9.366E-06 1.086E-05 1.249E-05 1.425E-05 1.614E-05 1.819E-05 2.039E-05 2.276E-05
hol172 2.566E-11 2.612E-11 2.672E-11 2.734E-11 2.796E-11 2.859E-11 2.923E-11 2.988E-11 3.054E-11 3.121E-11 3.188E-11
erl172 1.865E-07 1.899E-07 1.944E-07 1.990E-07 2.036E-07 2.084E-07 2.132E-07 2.181E-07 2.232E-07 2.283E-07 2.337E-07
tml172 2.569E-07 2.630E-07 2.708E-07 2.787E-07 2.868E-07 2.952E-07 3.037E-07 3.125E-07 3.216E-07 3.309E-07 3.406E-07
ybl172 3.959E-05 4.413E-05 4.882E-05 5.366E-05 5.866E-05 6.382E-05 6.916E-05 7.467E-05 8.037E-05 8.626E-05 9.236E-05
totals 7.927E+03 8.714E+03 9.500E+03 1.028E+04 1.107E+04 1.185E+04 1.263E+04 1.341E+04 1.419E+04 1.497E+04 1.574E+04
0 flux 3.236E+13 3.312E+13 3.388E+13 3.465E+13 3.542E+13 3.620E+13 3.699E+13 3.777E+13 3.856E+13 3.935E+13

```

3\$ array 33 entries read

0t

library information...

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

ORIGEN working library updated with 2D transport weighted cross-sections.

pass 2

pass 1

pass 0

```

0 *****
0 .other identification and sizes of library.
0 data set name: Bostelman.8796\ft33f001
0 3/18/2006 date library was produced
0 1946 total number of nuclides in library
0 698 number of light-element nuclides
0 129 number of actinide nuclides
0 1119 number of fission product nuclides
0 35013 number of nonzero off-diagonal matrix elements
0 *****

```

35\$ array 1 entries read

0t

56\$ array 20 entries read

57* array 5 entries read

95\$ array 1 entries read

0t

58* array 10 entries read

60* array 10 entries read

66\$ array 12 entries read

0t

```

totals 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
0 flux 4.013E+13 4.129E+13 4.240E+13 4.346E+13 4.446E+13 4.541E+13 4.631E+13 4.717E+13 4.799E+13 4.876E+13
1

```

49 Cycle 3 -DD Assembly

actinides

page

power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm**2-sec

0 nuclide concentrations, grams

basis = 0.3883 MTU

```

charge 1379.6 d 1445.3 d 1511.0 d 1576.7 d 1642.4 d 1708.1 d 1773.8 d 1839.5 d 1905.2 d 1970.9 d
he 4 1.494E-01 1.784E-01 2.107E-01 2.465E-01 2.857E-01 3.284E-01 3.747E-01 4.245E-01 4.778E-01 5.346E-01 5.950E-01
th226 1.235E-15 1.395E-15 1.612E-15 1.852E-15 2.111E-15 2.388E-15 2.682E-15 2.993E-15 3.319E-15 3.659E-15 4.013E-15
th227 8.869E-12 9.585E-12 1.045E-11 1.132E-11 1.222E-11 1.312E-11 1.405E-11 1.499E-11 1.594E-11 1.692E-11 1.791E-11

```


th228	1.163E-06	1.348E-06	1.551E-06	1.769E-06	2.004E-06	2.255E-06	2.522E-06	2.803E-06	3.098E-06	3.407E-06	3.728E-06
th229	3.198E-07	3.771E-07	4.433E-07	5.192E-07	6.052E-07	7.020E-07	8.097E-07	9.289E-07	1.060E-06	1.202E-06	1.357E-06
th230	8.409E-04	8.545E-04	8.655E-04	8.741E-04	8.803E-04	8.844E-04	8.863E-04	8.864E-04	8.846E-04	8.812E-04	8.762E-04
th231	7.335E-07	7.161E-07	7.443E-07	7.700E-07	7.930E-07	8.135E-07	8.314E-07	8.467E-07	8.596E-07	8.702E-07	8.784E-07
th232	1.339E-04	1.447E-04	1.557E-04	1.667E-04	1.779E-04	1.892E-04	2.006E-04	2.120E-04	2.234E-04	2.348E-04	2.462E-04
th233	2.216E-10	2.325E-10	2.573E-10	2.830E-10	3.096E-10	3.368E-10	3.646E-10	3.930E-10	4.218E-10	4.510E-10	4.805E-10
th234	5.241E-06	5.233E-06	5.224E-06	5.215E-06	5.206E-06	5.197E-06	5.188E-06	5.178E-06	5.169E-06	5.159E-06	5.149E-06
pa231	2.298E-04	2.413E-04	2.525E-04	2.633E-04	2.737E-04	2.836E-04	2.929E-04	3.015E-04	3.094E-04	3.166E-04	3.230E-04
pa232	5.136E-07	5.553E-07	5.980E-07	6.404E-07	6.822E-07	7.231E-07	7.627E-07	8.007E-07	8.370E-07	8.712E-07	9.031E-07
pa233	6.965E-06	7.414E-06	7.838E-06	8.260E-06	8.683E-06	9.105E-06	9.525E-06	9.939E-06	1.035E-05	1.074E-05	1.113E-05
pa234m	1.792E-10	1.790E-10	1.789E-10	1.788E-10	1.788E-10	1.787E-10	1.786E-10	1.785E-10	1.784E-10	1.783E-10	1.782E-10
pa234	8.864E-10	9.086E-10	9.815E-10	1.056E-09	1.131E-09	1.207E-09	1.285E-09	1.362E-09	1.439E-09	1.516E-09	1.591E-09
pa235	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
u230	1.201E-12	1.357E-12	1.567E-12	1.800E-12	2.051E-12	2.319E-12	2.604E-12	2.905E-12	3.222E-12	3.551E-12	3.894E-12
u231	7.296E-11	8.171E-11	9.438E-11	1.081E-10	1.228E-10	1.385E-10	1.552E-10	1.727E-10	1.911E-10	2.102E-10	2.300E-10
u232	1.824E-04	2.062E-04	2.316E-04	2.583E-04	2.864E-04	3.158E-04	3.464E-04	3.780E-04	4.107E-04	4.441E-04	4.783E-04
u233	1.090E-03	1.094E-03	1.094E-03	1.092E-03	1.087E-03	1.081E-03	1.072E-03	1.063E-03	1.051E-03	1.039E-03	1.026E-03
u234	8.800E+01	8.542E+01	8.285E+01	8.031E+01	7.779E+01	7.531E+01	7.288E+01	7.049E+01	6.816E+01	6.588E+01	6.367E+01
u235	4.644E+03	4.281E+03	3.937E+03	3.613E+03	3.308E+03	3.023E+03	2.758E+03	2.511E+03	2.283E+03	2.072E+03	1.877E+03
u236	2.154E+03	2.202E+03	2.245E+03	2.284E+03	2.317E+03	2.347E+03	2.372E+03	2.392E+03	2.409E+03	2.421E+03	2.430E+03
u237	3.660E+00	3.390E+00	3.547E+00	3.696E+00	3.837E+00	3.968E+00	4.090E+00	4.202E+00	4.305E+00	4.399E+00	4.484E+00
u238	3.616E+05	3.610E+05	3.604E+05	3.598E+05	3.592E+05	3.586E+05	3.580E+05	3.573E+05	3.567E+05	3.560E+05	3.553E+05
u239	1.823E-01	1.790E-01	1.839E-01	1.886E-01	1.929E-01	1.970E-01	2.009E-01	2.045E-01	2.079E-01	2.112E-01	2.142E-01
u240	8.331E-14	9.786E-14	1.151E-13	1.351E-13	1.582E-13	1.845E-13	2.142E-13	2.474E-13	2.844E-13	3.252E-13	3.701E-13
u241	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
np235	5.244E-06	5.808E-06	6.403E-06	7.029E-06	7.681E-06	8.359E-06	9.060E-06	9.779E-06	1.052E-05	1.126E-05	1.202E-05
np236m	2.487E-06	2.602E-06	2.818E-06	3.038E-06	3.262E-06	3.488E-06	3.714E-06	3.940E-06	4.164E-06	4.385E-06	4.601E-06
np236	9.250E-05	9.840E-05	1.045E-04	1.106E-04	1.169E-04	1.231E-04	1.294E-04	1.355E-04	1.416E-04	1.476E-04	1.534E-04
np237	2.064E+02	2.181E+02	2.295E+02	2.410E+02	2.525E+02	2.639E+02	2.751E+02	2.861E+02	2.969E+02	3.073E+02	3.173E+02
np238	5.087E-01	5.254E-01	5.689E-01	6.133E-01	6.583E-01	7.037E-01	7.492E-01	7.945E-01	8.394E-01	8.837E-01	9.272E-01
np239	2.631E+01	2.584E+01	2.655E+01	2.721E+01	2.784E+01	2.843E+01	2.899E+01	2.951E+01	3.001E+01	3.047E+01	3.090E+01
np240m	7.110E-16	8.352E-16	9.821E-16	1.153E-15	1.350E-15	1.574E-15	1.828E-15	2.111E-15	2.427E-15	2.775E-15	3.158E-15
np240	6.723E-04	6.506E-04	6.879E-04	7.241E-04	7.593E-04	7.933E-04	8.261E-04	8.577E-04	8.882E-04	9.175E-04	9.456E-04
np241	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pu236	2.846E-04	3.160E-04	3.488E-04	3.831E-04	4.188E-04	4.557E-04	4.937E-04	5.326E-04	5.723E-04	6.126E-04	6.533E-04
pu237	1.281E-04	1.427E-04	1.613E-04	1.819E-04	2.040E-04	2.275E-04	2.522E-04	2.779E-04	3.047E-04	3.323E-04	3.607E-04
pu238	7.034E+01	7.860E+01	8.731E+01	9.646E+01	1.060E+02	1.160E+02	1.263E+02	1.368E+02	1.477E+02	1.587E+02	1.697E+02
pu239	2.150E+03	2.146E+03	2.141E+03	2.136E+03	2.132E+03	2.129E+03	2.126E+03	2.123E+03	2.121E+03	2.118E+03	2.116E+03
pu240	8.721E+02	9.268E+02	9.752E+02	1.018E+03	1.055E+03	1.087E+03	1.115E+03	1.139E+03	1.159E+03	1.177E+03	1.192E+03
pu241	5.250E+02	5.266E+02	5.346E+02	5.472E+02	5.626E+02	5.796E+02	5.972E+02	6.146E+02	6.314E+02	6.471E+02	6.615E+02
pu242	1.902E+02	2.143E+02	2.383E+02	2.625E+02	2.871E+02	3.121E+02	3.377E+02	3.636E+02	3.900E+02	4.166E+02	4.433E+02
pu243	4.619E-02	4.342E-02	4.969E-02	5.620E-02	6.300E-02	7.007E-02	7.743E-02	8.505E-02	9.290E-02	1.010E-01	1.092E-01
pu244	4.218E-03	4.955E-03	5.826E-03	6.841E-03	8.010E-03	9.340E-03	1.084E-02	1.253E-02	1.440E-02	1.647E-02	1.874E-02
pu245	2.102E-07	2.390E-07	2.892E-07	3.487E-07	4.184E-07	4.991E-07	5.918E-07	6.972E-07	8.163E-07	9.497E-07	1.098E-06
pu246	1.420E-09	1.642E-09	2.042E-09	2.528E-09	3.110E-09	3.798E-09	4.602E-09	5.534E-09	6.605E-09	7.823E-09	9.200E-09
am239	1.341E-09	1.433E-09	1.559E-09	1.675E-09	1.782E-09	1.883E-09	1.979E-09	2.071E-09	2.159E-09	2.242E-09	2.321E-09
am240	5.908E-07	6.277E-07	6.826E-07	7.328E-07	7.794E-07	8.234E-07	8.652E-07	9.050E-07	9.430E-07	9.791E-07	1.013E-06

Cycle 3 -DD Assembly

actinides

page

power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm*2-sec
nuclide concentrations, grams
basis = 0.3883 MTU

charge	1379.6 d	1445.3 d	1511.0 d	1576.7 d	1642.4 d	1708.1 d	1773.8 d	1839.5 d	1905.2 d	1970.9 d
am241	1.933E+01	2.077E+01	2.195E+01	2.296E+01	2.384E+01	2.462E+01	2.534E+01	2.600E+01	2.660E+01	2.716E+01
am242m	4.013E-01	4.155E-01	4.388E-01	4.618E-01	4.824E-01	5.007E-01	5.171E-01	5.321E-01	5.457E-01	5.583E-01
am242	3.700E-02	3.928E-02	4.272E-02	4.588E-02	4.881E-02	5.158E-02	5.421E-02	5.672E-02	5.912E-02	6.140E-02
am243	4.192E+01	4.794E+01	5.477E+01	6.240E+01	7.080E+01	7.995E+01	8.983E+01	1.004E+02	1.117E+02	1.236E+02
am244m	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
am244	2.897E-02	3.045E-02	3.581E-02	4.189E-02	4.870E-02	5.627E-02	6.457E-02	7.362E-02	8.341E-02	9.391E-02
am245	4.105E-08	4.666E-08	5.646E-08	6.807E-08	8.168E-08	9.744E-08	1.155E-07	1.361E-07	1.594E-07	1.854E-07
am246	3.547E-12	4.103E-12	5.102E-12	6.317E-12	7.770E-12	9.488E-12	1.150E-11	1.383E-11	1.650E-11	1.955E-11
cm241	2.774E-07	3.066E-07	3.460E-07	3.888E-07	4.330E-07	4.776E-07	5.219E-07	5.657E-07	6.088E-07	6.510E-07
cm242	5.152E+00	5.716E+00	6.314E+00	6.921E+00	7.522E+00	8.108E+00	8.677E+00	9.225E+00	9.753E+00	1.026E+01
cm243	1.360E-01	1.583E-01	1.825E-01	2.085E-01	2.359E-01	2.645E-01	2.939E-01	3.238E-01	3.539E-01	3.838E-01
cm244	1.184E+01	1.458E+01	1.776E+01	2.146E+01	2.574E+01	3.066E+01	3.627E+01	4.263E+01	4.979E+01	5.780E+01
cm245	4.547E-01	5.775E-01	7.270E-01	9.067E-01	1.120E+00	1.372E+00	1.667E+00	2.008E+00	2.400E+00	2.848E+00
cm246	3.654E-02	5.202E-02	7.212E-02	9.794E-02	1.307E-01	1.719E-01	2.231E-01	2.862E-01	3.631E-01	4.562E-01
cm247	3.491E-04	5.162E-04	7.554E-04	1.089E-03	1.543E-03	2.151E-03	2.951E-03	3.990E-03	5.322E-03	7.011E-03
cm248	1.876E-05	2.939E-05	4.546E-05	6.938E-05	1.044E-04	1.545E-04	2.252E-04	3.232E-04	4.569E-04	6.368E-04
cm249	1.733E-10	2.628E-10	4.184E-10	6.558E-10	1.011E-09	1.531E-09	2.280E-09	3.336E-09	4.804E-09	6.811E-09
cm250	4.142E-12	6.932E-12	1.152E-11	1.896E-11	3.077E-11	4.918E-11	7.735E-11	1.196E-10	1.820E-10	2.725E-10
cm251	9.931E-18	1.738E-17	2.974E-17	5.024E-17	8.356E-17	1.366E-16	2.195E-16	3.463E-16	5.366E-16	8.171E-16
bk249	1.804E-07	2.918E-07	4.663E-07	7.348E-07	1.141E-06	1.743E-06	2.621E-06	3.875E-06	5.637E-06	8.072E-06
bk250	1.669E-10	2.683E-10	4.412E-10	7.140E-10	1.136E-09	1.776E-09	2.727E-09	4.113E-09	6.094E-09	8.877E-09
bk251	4.974E-15	8.317E-15	1.411E-14	2.353E-14	3.852E-14	6.186E-14	9.744E-14	1.506E-13	2.285E-13	3.407E-13
totals	3.726E+05	3.718E+05	3.710E+05	3.702E+05	3.695E+05	3.687E+05	3.679E+05	3.672E+05	3.664E+05	3.656E+05
flux	4.013E+13	4.129E+13	4.240E+13	4.346E+13	4.446E+13	4.541E+13	4.631E+13	4.717E+13	4.799E+13	4.876E+13

Cycle 3 -DD Assembly

fission products

page

power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm*2-sec
nuclide concentrations, grams

basis = 0.3883 MTU

	charge	1379.6 d	1445.3 d	1511.0 d	1576.7 d	1642.4 d	1708.1 d	1773.8 d	1839.5 d	1905.2 d	1970.9 d
h 1	2.097E-03	2.261E-03	2.432E-03	2.607E-03	2.789E-03	2.976E-03	3.169E-03	3.367E-03	3.570E-03	3.780E-03	3.994E-03
h 2	1.215E-03	1.277E-03	1.339E-03	1.400E-03	1.461E-03	1.523E-03	1.584E-03	1.644E-03	1.705E-03	1.765E-03	1.825E-03
h 3	2.591E-02	2.743E-02	2.895E-02	3.049E-02	3.203E-02	3.358E-02	3.514E-02	3.671E-02	3.828E-02	3.986E-02	4.144E-02
he 3	4.041E-04	4.164E-04	4.286E-04	4.409E-04	4.532E-04	4.656E-04	4.780E-04	4.905E-04	5.031E-04	5.158E-04	5.285E-04
he 4	5.291E-01	5.560E-01	5.829E-01	6.098E-01	6.367E-01	6.636E-01	6.905E-01	7.174E-01	7.443E-01	7.713E-01	7.982E-01
he 6	1.151E-10	1.147E-10	1.141E-10	1.134E-10	1.125E-10	1.116E-10	1.107E-10	1.098E-10	1.088E-10	1.079E-10	1.071E-10
li 6	5.271E-03	5.253E-03	5.217E-03	5.166E-03	5.103E-03	5.029E-03	4.947E-03	4.859E-03	4.765E-03	4.669E-03	4.571E-03
li 7	4.484E-04	4.716E-04	4.948E-04	5.179E-04	5.411E-04	5.642E-04	5.872E-04	6.102E-04	6.331E-04	6.559E-04	6.787E-04
be 7	9.368E-13	9.000E-13	8.291E-13	7.620E-13	6.987E-13	6.394E-13	5.839E-13	5.322E-13	4.843E-13	4.399E-13	3.990E-13
he 8	1.049E-12	1.045E-12	1.040E-12	1.033E-12	1.025E-12	1.017E-12	1.009E-12	1.000E-12	9.918E-13	9.836E-13	9.758E-13
li 8	9.454E-12	9.329E-12	9.134E-12	8.929E-12	8.718E-12	8.505E-12	8.293E-12	8.084E-12	7.883E-12	7.688E-12	7.503E-12
be 8	2.536E-17	2.508E-17	2.464E-17	2.417E-17	2.368E-17	2.318E-17	2.269E-17	2.220E-17	2.173E-17	2.128E-17	2.084E-17
li 9	5.648E-13	5.678E-13	5.722E-13	5.758E-13	5.789E-13	5.816E-13	5.839E-13	5.859E-13	5.877E-13	5.894E-13	5.909E-13
be 9	3.409E-04	3.599E-04	3.790E-04	3.981E-04	4.174E-04	4.367E-04	4.561E-04	4.754E-04	4.949E-04	5.143E-04	5.338E-04
be 10	4.241E-03	4.458E-03	4.674E-03	4.891E-03	5.107E-03	5.323E-03	5.537E-03	5.751E-03	5.964E-03	6.177E-03	6.389E-03
b 10	5.324E-10	5.526E-10	5.694E-10	5.842E-10	5.979E-10	6.111E-10	6.239E-10	6.366E-10	6.493E-10	6.620E-10	6.746E-10
be 11	5.683E-11	5.699E-11	5.720E-11	5.735E-11	5.745E-11	5.750E-11	5.752E-11	5.753E-11	5.752E-11	5.751E-11	5.749E-11
b 11	2.983E-04	3.143E-04	3.304E-04	3.465E-04	3.626E-04	3.787E-04	3.949E-04	4.110E-04	4.271E-04	4.432E-04	4.593E-04
be 12	4.456E-14	4.522E-14	4.621E-14	4.714E-14	4.802E-14	4.885E-14	4.964E-14	5.038E-14	5.108E-14	5.175E-14	5.239E-14
b 12	4.287E-14	4.347E-14	4.438E-14	4.523E-14	4.603E-14	4.679E-14	4.750E-14	4.818E-14	4.881E-14	4.942E-14	4.999E-14
c 12	1.206E-04	1.292E-04	1.379E-04	1.468E-04	1.558E-04	1.650E-04	1.743E-04	1.838E-04	1.934E-04	2.031E-04	2.129E-04
c 14	1.260E-03	1.334E-03	1.408E-03	1.484E-03	1.559E-03	1.635E-03	1.712E-03	1.788E-03	1.866E-03	1.943E-03	2.021E-03
n 14	2.532E-07	2.814E-07	3.111E-07	3.425E-07	3.755E-07	4.101E-07	4.464E-07	4.843E-07	5.239E-07	5.651E-07	6.080E-07
c 15	2.831E-12	2.736E-12	2.589E-12	2.440E-12	2.290E-12	2.141E-12	1.994E-12	1.852E-12	1.715E-12	1.583E-12	1.458E-12
n 15	1.529E-04	1.575E-04	1.618E-04	1.659E-04	1.698E-04	1.734E-04	1.767E-04	1.798E-04	1.827E-04	1.854E-04	1.879E-04
ne 21	2.110E-03	2.173E-03	2.233E-03	2.289E-03	2.342E-03	2.392E-03	2.438E-03	2.481E-03	2.520E-03	2.557E-03	2.591E-03
zn 66	1.599E-05	1.694E-05	1.791E-05	1.890E-05	1.991E-05	2.094E-05	2.199E-05	2.306E-05	2.415E-05	2.525E-05	2.637E-05
ga 66	1.781E-21	1.988E-21	2.297E-21	2.632E-21	2.992E-21	3.375E-21	3.782E-21	4.212E-21	4.663E-21	5.133E-21	5.622E-21
ge 66	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
zn 67	8.022E-05	8.466E-05	8.917E-05	9.377E-05	9.846E-05	1.032E-04	1.080E-04	1.129E-04	1.179E-04	1.229E-04	1.279E-04
ga 67	1.288E-17	1.479E-17	1.781E-17	2.128E-17	2.522E-17	2.970E-17	3.475E-17	4.042E-17	4.677E-17	5.383E-17	6.165E-17
ge 67	1.543E-31	1.730E-31	2.076E-31	2.476E-31	2.934E-31	3.451E-31	4.030E-31	4.673E-31	5.381E-31	6.157E-31	7.003E-31
zn 68	1.303E-04	1.379E-04	1.456E-04	1.536E-04	1.617E-04	1.699E-04	1.783E-04	1.868E-04	1.955E-04	2.043E-04	2.132E-04
ga 68	3.823E-14	3.892E-14	4.226E-14	4.571E-14	4.926E-14	5.291E-14	5.665E-14	6.048E-14	6.439E-14	6.838E-14	7.244E-14
ge 68	1.710E-19	1.998E-19	2.329E-19	2.706E-19	3.128E-19	3.596E-19	4.112E-19	4.674E-19	5.285E-19	5.944E-19	6.653E-19
zn 69	1.246E-08	1.232E-08	1.259E-08	1.284E-08	1.309E-08	1.333E-08	1.356E-08	1.378E-08	1.399E-08	1.418E-08	1.437E-08
zn 69m	9.118E-10	9.289E-10	9.548E-10	9.802E-10	1.005E-09	1.029E-09	1.052E-09	1.075E-09	1.097E-09	1.117E-09	1.137E-09
ga 69	2.342E-04	2.484E-04	2.629E-04	2.776E-04	2.926E-04	3.079E-04	3.234E-04	3.391E-04	3.550E-04	3.712E-04	3.875E-04
ge 69	3.718E-15	3.998E-15	4.595E-15	5.254E-15	5.977E-15	6.766E-15	7.624E-15	8.553E-15	9.556E-15	1.063E-14	1.179E-14
as 69	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
zn 70	5.163E-04	5.505E-04	5.855E-04	6.211E-04	6.575E-04	6.946E-04	7.324E-04	7.708E-04	8.099E-04	8.498E-04	8.898E-04
ga 70	8.143E-11	8.394E-11	9.126E-11	9.881E-11	1.066E-10	1.146E-10	1.228E-10	1.312E-10	1.398E-10	1.485E-10	1.574E-10
ge 70	2.086E-06	2.337E-06	2.611E-06	2.907E-06	3.226E-06	3.570E-06	3.939E-06	4.333E-06	4.752E-06	5.199E-06	5.672E-06
zn 71	2.155E-09	2.169E-09	2.216E-09	2.265E-09	2.315E-09	2.364E-09	2.413E-09	2.461E-09	2.507E-09	2.552E-09	2.594E-09
zn 71m	2.894E-08	2.952E-08	3.035E-08	3.121E-08	3.207E-08	3.293E-08	3.378E-08	3.461E-08	3.541E-08	3.617E-08	3.690E-08
ga 71	9.508E-04	1.015E-03	1.081E-03	1.148E-03	1.217E-03	1.287E-03	1.358E-03	1.430E-03	1.503E-03	1.578E-03	1.654E-03
ge 71	2.753E-10	3.125E-10	3.531E-10	3.977E-10	4.466E-10	4.998E-10	5.575E-10	6.199E-10	6.872E-10	7.594E-10	8.367E-10
ge 71m	5.272E-19	5.375E-19	5.528E-19	5.677E-19	5.823E-19	5.964E-19	6.101E-19	6.232E-19	6.359E-19	6.480E-19	6.595E-19
as 71	5.466E-20	6.093E-20	7.040E-20	8.068E-20	9.179E-20	1.038E-19	1.166E-19	1.303E-19	1.451E-19	1.609E-19	1.778E-19
zn 72	6.797E-06	6.845E-06	6.959E-06	7.068E-06	7.171E-06	7.269E-06	7.362E-06	7.451E-06	7.536E-06	7.617E-06	7.694E-06

Cycle 3 -DD Assembly

fission products

page

power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm**2-sec

nuclide concentrations, grams

basis = 0.3883 MTU

	charge	1379.6 d	1445.3 d	1511.0 d	1576.7 d	1642.4 d	1708.1 d	1773.8 d	1839.5 d	1905.2 d	1970.9 d
ga 72	2.119E-06	2.136E-06	2.174E-06	2.211E-06	2.246E-06	2.279E-06	2.311E-06	2.342E-06	2.372E-06	2.401E-06	2.428E-06
ga 72m	1.138E-14	1.158E-14	1.189E-14	1.219E-14	1.247E-14	1.275E-14	1.301E-14	1.327E-14	1.351E-14	1.374E-14	1.396E-14
ge 72	2.603E-03	2.769E-03	2.939E-03	3.111E-03	3.286E-03	3.464E-03	3.644E-03	3.826E-03	4.011E-03	4.197E-03	4.386E-03
as 72	3.805E-14	3.876E-14	3.982E-14	4.084E-14	4.180E-14	4.273E-14	4.362E-14	4.446E-14	4.527E-14	4.605E-14	4.679E-14
se 72	5.897E-29	6.332E-29	7.545E-29	8.902E-29	1.041E-28	1.206E-28	1.389E-28	1.588E-28	1.807E-28	2.046E-28	2.309E-28
zn 73	2.299E-09	2.300E-09	2.321E-09	2.341E-09	2.359E-09	2.376E-09	2.392E-09	2.406E-09	2.420E-09	2.433E-09	2.445E-09
ga 73	1.817E-06	1.819E-06	1.838E-06	1.855E-06	1.871E-06	1.886E-06	1.900E-06	1.913E-06	1.925E-06	1.936E-06	1.947E-06
ge 73	6.966E-03	7.346E-03	7.727E-03	8.108E-03	8.490E-03	8.873E-03	9.255E-03	9.637E-03	1.002E-02	1.040E-02	1.078E-02
ge 73m	5.123E-11	5.130E-11	5.184E-11	5.233E-11	5.279E-11	5.321E-11	5.360E-11	5.397E-11	5.432E-11	5.465E-11	5.497E-11
as 73	2.374E-10	2.438E-10	2.503E-10	2.569E-10	2.632E-10	2.694E-10	2.754E-10	2.811E-10	2.866E-10	2.919E-10	2.969E-10
se 73	1.827E-21	2.041E-21	2.362E-21	2.712E-21	3.090E-21	3.499E-21	3.940E-21	4.416E-21	4.930E-21	5.487E-21	6.092E-21
se 73m	3.408E-23	3.808E-23	4.407E-23	5.058E-23	5.764E-23	6.527E-23	7.350E-23	8.238E-23	9.196E-23	1.023E-22	1.136E-22
zn 74	2.190E-08	2.183E-08	2.186E-08	2.187E-08	2.187E-08	2.185E-08	2.183E-08	2.180E-08	2.176E-08	2.173E-08	2.170E-08
ga 74	1.057E-07	1.057E-07	1.061E-07	1.065E-07	1.067E-07	1.069E-07	1.071E-07	1.072E-07	1.073E-07	1.074E-07	1.075E-07
ga 74m	1.797E-09	1.795E-09	1.800E-09	1.805E-09	1.807E-09	1.809E-09	1.810E-09	1.811E-09	1.811E-09	1.811E-09	1.811E-09
ge 74	2.038E-02	2.148E-02	2.258E-02	2.369E-02	2.481E-02	2.593E-02	2.705E-02	2.818E-02	2.931E-02	3.044E-02	3.158E-02
as 74	2.629E-09	2.685E-09	2.756E-09	2.825E-09	2.892E-09	2.955E-09	3.016E-09	3.074E-09	3.129E-09	3.182E-09	3.232E-09
se 74	2.280E-08	2.432E-08	2.584E-08	2.733E-08	2.880E-08	3.026E-08	3.168E-08	3.308E-08	3.445E-08	3.579E-08	3.709E-08
zn 75	4.440E-09	4.398E-09	4.356E-09	4.310E-09	4.261E-09	4.212E-09	4.161E-09	4.112E-09	4.063E-09	4.017E-09	3.972E-09
ga 75	8.076E-08	8.040E-08	8.015E-08	7.983E-08	7.946E-08	7.906E-08	7.864E-08	7.821E-08	7.779E-08	7.738E-08	7.699E-08
ge 75	3.271E-06	3.259E-06	3.251E-06	3.241E-06	3.228E-06	3.214E-06	3.199E-06	3.184E-06	3.169E-06	3.154E-06	3.140E-06
ge 75m	2.190E-09	2.195E-09	2.207E-09	2.217E-09	2.226E-09	2.233E-09	2.239E-09	2.245E-09	2.250E-09	2.255E-09	2.259E-09
as 75	5.239E-02	5.483E-02	5.725E-02	5.965E-02	6.203E-02	6.438E-02	6.670E-02	6.899E-02	7.125E-02	7.349E-02	7.570E-02
se 75	1.097E-09	1.172E-09	1.259E-09	1.352E-09	1.451E-09	1.554E-09	1.658E-09	1.764E-09	1.870E-09	1.976E-09	2.082E-09

br 75 7.244E-23 8.112E-23 9.413E-23 1.085E-22 1.243E-22 1.417E-22 1.611E-22 1.828E-22 2.073E-22 2.352E-22 2.675E-22
zn 76 4.297E-09 4.228E-09 4.143E-09 4.055E-09 3.965E-09 3.874E-09 3.785E-09 3.697E-09 3.612E-09 3.531E-09 3.453E-09
ga 76 4.802E-08 4.761E-08 4.712E-08 4.660E-08 4.605E-08 4.550E-08 4.494E-08 4.439E-08 4.386E-08 4.335E-08 4.286E-08
ge 76 1.436E-01 1.502E-01 1.566E-01 1.631E-01 1.695E-01 1.758E-01 1.820E-01 1.882E-01 1.943E-01 2.003E-01 2.063E-01
as 76 4.664E-06 4.726E-06 5.071E-06 5.419E-06 5.768E-06 6.118E-06 6.468E-06 6.817E-06 7.166E-06 7.513E-06 7.858E-06
se 76 1.665E-03 1.838E-03 2.023E-03 2.220E-03 2.428E-03 2.648E-03 2.879E-03 3.121E-03 3.373E-03 3.636E-03 3.909E-03
zn 77 2.267E-09 2.212E-09 2.146E-09 2.079E-09 2.010E-09 1.942E-09 1.874E-09 1.808E-09 1.745E-09 1.684E-09 1.625E-09
ga 77 4.313E-08 4.257E-08 4.192E-08 4.124E-08 4.054E-08 3.983E-08 3.912E-08 3.843E-08 3.776E-08 3.711E-08 3.649E-08
ge 77 6.162E-05 6.155E-05 6.161E-05 6.163E-05 6.160E-05 6.154E-05 6.146E-05 6.137E-05 6.128E-05 6.119E-05 6.110E-05
ge 77m 1.792E-07 1.770E-07 1.745E-07 1.718E-07 1.691E-07 1.663E-07 1.636E-07 1.609E-07 1.582E-07 1.557E-07 1.533E-07
as 77 5.896E-04 5.849E-04 5.800E-04 5.746E-04 5.689E-04 5.630E-04 5.570E-04 5.511E-04 5.454E-04 5.399E-04 5.346E-04
se 77 3.536E-01 3.683E-01 3.827E-01 3.969E-01 4.106E-01 4.241E-01 4.373E-01 4.501E-01 4.626E-01 4.748E-01 4.867E-01
se 77m 3.373E-10 3.382E-10 3.449E-10 3.516E-10 3.584E-10 3.653E-10 3.724E-10 3.797E-10 3.873E-10 3.951E-10 4.031E-10
br 77 1.781E-12 1.814E-12 1.863E-12 1.911E-12 1.966E-12 2.019E-12 2.040E-12 2.079E-12 2.117E-12 2.152E-12 2.186E-12
br 77m 1.713E-15 1.745E-15 1.793E-15 1.838E-15 1.881E-15 1.923E-15 1.962E-15 2.000E-15 2.036E-15 2.070E-15 2.103E-15
kr 77 1.199E-23 1.251E-23 1.397E-23 1.557E-23 1.736E-23 1.939E-23 2.174E-23 2.454E-23 2.792E-23 3.210E-23 3.733E-23
zn 78 1.800E-09 1.750E-09 1.697E-09 1.642E-09 1.586E-09 1.531E-09 1.476E-09 1.423E-09 1.371E-09 1.321E-09 1.274E-09
ga 78 3.044E-08 2.996E-08 2.944E-08 2.891E-08 2.837E-08 2.783E-08 2.730E-08 2.679E-08 2.628E-08 2.580E-08 2.534E-08
ge 78 6.011E-05 5.967E-05 5.923E-05 5.877E-05 5.830E-05 5.781E-05 5.733E-05 5.685E-05 5.639E-05 5.594E-05 5.551E-05
as 78 6.369E-05 6.326E-05 6.285E-05 6.241E-05 6.196E-05 6.149E-05 6.102E-05 6.056E-05 6.011E-05 5.968E-05 5.926E-05
se 78 1.027E+00 1.075E+00 1.124E+00 1.172E+00 1.220E+00 1.267E+00 1.315E+00 1.362E+00 1.409E+00 1.456E+00 1.502E+00
br 78 3.570E-13 3.636E-13 3.736E-13 3.832E-13 3.924E-13 4.013E-13 4.098E-13 4.179E-13 4.257E-13 4.331E-13 4.401E-13
kr 78 4.558E-12 4.921E-12 5.294E-12 5.676E-12 6.066E-12 6.465E-12 6.871E-12 7.284E-12 7.705E-12 8.131E-12 8.564E-12
zn 79 6.382E-10 6.179E-10 6.027E-10 5.868E-10 5.705E-10 5.541E-10 5.379E-10 5.220E-10 5.065E-10 4.917E-10 4.775E-10
ga 79 2.309E-08 2.258E-08 2.210E-08 2.161E-08 2.111E-08 2.060E-08 2.010E-08 1.961E-08 1.913E-08 1.867E-08 1.824E-08
ge 79 2.917E-07 2.881E-07 2.849E-07 2.815E-07 2.779E-07 2.743E-07 2.707E-07 2.671E-07 2.636E-07 2.603E-07 2.571E-07

Cycle 3 -DD Assembly

fission products

page

power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm**2-sec
nuclide concentrations, grams
basis = 0.3883 MTU

	charge	1379.6 d	1445.3 d	1511.0 d	1576.7 d	1642.4 d	1708.1 d	1773.8 d	1839.5 d	1905.2 d	1970.9 d
ge 79m	3.128E-07	3.115E-07	3.106E-07	3.095E-07	3.081E-07	3.067E-07	3.053E-07	3.038E-07	3.023E-07	3.009E-07	2.995E-07
as 79	1.402E-05	1.391E-05	1.383E-05	1.373E-05	1.362E-05	1.352E-05	1.341E-05	1.330E-05	1.319E-05	1.308E-05	1.299E-05
se 79	2.195E+00	2.293E+00	2.390E+00	2.486E+00	2.581E+00	2.675E+00	2.767E+00	2.859E+00	2.948E+00	3.037E+00	3.125E+00
se 79m	6.038E-06	5.992E-06	5.956E-06	5.916E-06	5.872E-06	5.827E-06	5.781E-06	5.735E-06	5.690E-06	5.647E-06	5.606E-06
br 79	1.238E-05	1.350E-05	1.466E-05	1.586E-05	1.709E-05	1.835E-05	1.964E-05	2.097E-05	2.232E-05	2.370E-05	2.510E-05
br 79m	2.535E-13	2.581E-13	2.650E-13	2.717E-13	2.780E-13	2.841E-13	2.899E-13	2.954E-13	3.007E-13	3.058E-13	3.105E-13
kr 79	7.359E-13	7.502E-13	7.759E-13	8.011E-13	8.258E-13	8.500E-13	8.736E-13	8.968E-13	9.196E-13	9.419E-13	9.638E-13
kr 79m	1.312E-16	1.336E-16	1.372E-16	1.406E-16	1.439E-16	1.471E-16	1.501E-16	1.529E-16	1.556E-16	1.582E-16	1.607E-16
rb 79	1.146E-26	1.982E-26	3.345E-26	5.497E-26	8.847E-26	1.398E-25	2.171E-25	3.313E-25	4.970E-25	7.330E-25	1.064E-24
zn 80	7.029E-11	6.806E-11	6.734E-11	6.654E-11	6.569E-11	6.480E-11	6.390E-11	6.301E-11	6.213E-11	6.128E-11	6.046E-11
ga 80	8.473E-09	8.286E-09	8.122E-09	7.951E-09	7.777E-09	7.601E-09	7.428E-09	7.258E-09	7.093E-09	6.934E-09	6.783E-09
ge 80	1.453E-06	1.432E-06	1.404E-06	1.375E-06	1.346E-06	1.316E-06	1.287E-06	1.258E-06	1.230E-06	1.204E-06	1.178E-06
as 80	9.446E-07	9.344E-07	9.215E-07	9.078E-07	8.937E-07	8.794E-07	8.651E-07	8.511E-07	8.375E-07	8.245E-07	8.120E-07
se 80	5.917E+00	6.174E+00	6.428E+00	6.678E+00	6.925E+00	7.168E+00	7.408E+00	7.644E+00	7.877E+00	8.107E+00	8.334E+00
br 80	5.224E-10	5.316E-10	5.461E-10	5.605E-10	5.747E-10	5.887E-10	6.025E-10	6.161E-10	6.294E-10	6.425E-10	6.553E-10
br 80m	5.677E-09	5.768E-09	5.907E-09	6.043E-09	6.175E-09	6.304E-09	6.430E-09	6.552E-09	6.670E-09	6.784E-09	6.894E-09
kr 80	2.372E-05	2.543E-05	2.717E-05	2.895E-05	3.077E-05	3.262E-05	3.450E-05	3.642E-05	3.836E-05	4.034E-05	4.234E-05
zn 81	2.451E-12	2.364E-12	2.430E-12	2.492E-12	2.552E-12	2.608E-12	2.661E-12	2.711E-12	2.759E-12	2.803E-12	2.845E-12
ga 81	4.275E-09	4.160E-09	4.072E-09	3.981E-09	3.888E-09	3.794E-09	3.701E-09	3.610E-09	3.521E-09	3.436E-09	3.354E-09
ge 81	4.211E-07	4.140E-07	4.054E-07	3.965E-07	3.875E-07	3.784E-07	3.694E-07	3.606E-07	3.521E-07	3.440E-07	3.362E-07
ge 81m	1.083E-08	1.054E-08	1.032E-08	1.009E-08	9.849E-09	9.611E-09	9.375E-09	9.144E-09	8.920E-09	8.704E-09	8.498E-09
as 81	3.462E-06	3.431E-06	3.395E-06	3.356E-06	3.317E-06	3.276E-06	3.235E-06	3.195E-06	3.156E-06	3.119E-06	3.083E-06
se 81	1.253E-04	1.243E-04	1.233E-04	1.221E-04	1.209E-04	1.196E-04	1.183E-04	1.171E-04	1.159E-04	1.147E-04	1.136E-04
se 81m	3.779E-05	3.787E-05	3.803E-05	3.816E-05	3.826E-05	3.834E-05	3.841E-05	3.846E-05	3.850E-05	3.854E-05	3.858E-05
br 81	9.744E+00	1.017E+01	1.059E+01	1.100E+01	1.140E+01	1.180E+01	1.219E+01	1.257E+01	1.295E+01	1.332E+01	1.368E+01
kr 81	4.344E-06	4.475E-06	4.612E-06	4.752E-06	4.896E-06	5.044E-06	5.196E-06	5.352E-06	5.510E-06	5.671E-06	5.835E-06
kr 81m	2.990E-13	3.108E-13	3.334E-13	3.568E-13	3.807E-13	4.052E-13	4.302E-13	4.558E-13	4.819E-13	5.084E-13	5.355E-13
rb 81	3.109E-14	3.166E-14	3.252E-14	3.333E-14	3.411E-14	3.485E-14	3.556E-14	3.623E-14	3.687E-14	3.748E-14	3.806E-14
zn 82	1.030E-12	9.917E-13	9.909E-13	9.888E-13	9.857E-13	9.818E-13	9.774E-13	9.727E-13	9.678E-13	9.629E-13	9.581E-13
ga 82	1.423E-09	1.376E-09	1.337E-09	1.296E-09	1.255E-09	1.214E-09	1.173E-09	1.133E-09	1.094E-09	1.057E-09	1.021E-09
ge 82	2.394E-07	2.336E-07	2.278E-07	2.218E-07	2.158E-07	2.097E-07	2.038E-07	1.980E-07	1.923E-07	1.869E-07	1.818E-07
as 82	2.041E-06	2.002E-06	1.956E-06	1.910E-06	1.863E-06	1.816E-06	1.769E-06	1.724E-06	1.680E-06	1.638E-06	1.598E-06
as 82m	3.832E-07	3.843E-07	3.880E-07	3.916E-07	3.951E-07	3.986E-07	4.019E-07	4.050E-07	4.081E-07	4.110E-07	4.137E-07
se 82	1.559E+01	1.627E+01	1.695E+01	1.761E+01	1.827E+01	1.892E+01	1.956E+01	2.019E+01	2.082E+01	2.144E+01	2.205E+01
br 82	9.638E-04	9.707E-04	1.038E-03	1.105E-03	1.172E-03	1.238E-03	1.305E-03	1.371E-03	1.436E-03	1.501E-03	1.565E-03
br 82m	2.531E-06	2.548E-06	2.728E-06	2.908E-06	3.088E-06	3.268E-06	3.446E-06	3.624E-06	3.800E-06	3.975E-06	4.148E-06
kr 82	2.683E-01	2.953E-01	3.239E-01	3.542E-01	3.861E-01	4.197E-01	4.547E-01	4.913E-01	5.293E-01	5.688E-01	6.096E-01
zn 83	4.590E-14	4.411E-14	4.521E-14	4.625E-14	4.722E-14	4.813E-14	4.899E-14	4.979E-14	5.055E-14	5.125E-14	5.192E-14
ga 83	8.857E-11	8.538E-11	8.651E-11	8.754E-11	8.847E-11	8.932E-11	9.009E-11	9.079E-11	9.144E-11	9.203E-11	9.259E-11
ge 83	4.469E-08	4.347E-08	4.269E-08	4.187E-08	4.103E-08	4.019E-08	3.935E-08	3.853E-08	3.774E-08	3.697E-08	3.623E-08
as 83	2.092E-06	2.052E-06	2.015E-06	1.976E-06	1.937E-06	1.898E-06	1.859E-06	1.821E-06	1.785E-06	1.749E-06	1.716E-06
se 83	1.679E-04	1.660E-04	1.639E-04	1.617E-04	1.594E-04	1.572E-04	1.549E-04	1.528E-04	1.506E-04	1.486E-04	1.466E-04
se 83m	9.131E-06	8.981E-06	8.837E-06	8.688E-06	8.536E-06	8.383E-06	8.232E-06	8.084E-06	7.941E-06	7.804E-06	7.672E-06
br 83	2.299E-03	2.267E-03	2.235E-03	2.201E-03	2.167E-03	2.132E-03	2.098E-03	2.064E-03	2.032E-03	2.000E-03	1.970E-03
kr 83	1.988E+01	2.039E+01	2.085E+01	2.127E+01	2.164E+01	2.197E+01	2.227E+01	2.252E+01	2.274E+01	2.293E+01	2.308E+01
kr 83m	1.770E-03	1.745E-03	1.722E-03	1.697E-03	1.671E-03	1.646E-03	1.620E-03	1.595E-03	1.571E-03	1.548E-03	1.526E-03
rb 83	9.913E-08	1.018E-07	1.044E-07	1.070E-07	1.096E-07	1.121E-07	1.144E-07	1.167E-07	1.189E-07	1.209E-07	1.229E-07
sr 83	3.845E-14	3.917E-14	4.023E-14	4.125E-14	4.222E-14	4.314E-14	4.402E-14	4.486E-14	4.566E-14	4.642E-14	4.715E-14
ga 84	2.973E-10	2.872E-10	2.722E-10	2.569E-10	2.415E-10	2.262E-10	2.113E-10	1.967E-10	1.826E-10	1.691E-10	1.562E-10
ge 84	1.560E-08	1.510E-08	1.485E-08	1.457E-08	1.429E-08	1.400E-08	1.372E-08	1.344E-08	1.316E-08	1.290E-08	1.265E-08

Fort Calhoun Station	CALCULATION SHEET Attachment 10.5	FC08514 Revision 0 Page 51
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1	Cycle 3 -DD Assembly	fission products	page
54	power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm**2-sec		
0	nuclide concentrations, grams basis = 0.3883 MTU		
	charge 1379.6 d 1445.3 d 1511.0 d 1576.7 d 1642.4 d 1708.1 d 1773.8 d 1839.5 d 1905.2 d 1970.9 d		
as 84	3.422E-07 3.346E-07 3.299E-07 3.251E-07 3.201E-07 3.152E-07 3.102E-07 3.054E-07 3.006E-07 2.961E-07 2.918E-07		
as 84m	3.004E-08 2.944E-08 2.905E-08 2.864E-08 2.822E-08 2.781E-08 2.740E-08 2.699E-08 2.660E-08 2.622E-08 2.586E-08		
se 84	9.091E-05 8.930E-05 8.765E-05 8.594E-05 8.421E-05 8.248E-05 8.076E-05 7.909E-05 7.747E-05 7.591E-05 7.443E-05		
br 84	9.294E-04 9.133E-04 8.969E-04 8.799E-04 8.626E-04 8.454E-04 8.283E-04 8.116E-04 7.954E-04 7.799E-04 7.651E-04		
br 84m	7.133E-06 7.183E-06 7.259E-06 7.331E-06 7.399E-06 7.463E-06 7.523E-06 7.581E-06 7.635E-06 7.687E-06 7.735E-06		
kr 84	5.486E+01 5.744E+01 6.001E+01 6.257E+01 6.512E+01 6.766E+01 7.018E+01 7.270E+01 7.520E+01 7.768E+01 8.015E+01		
rb 84	7.865E-06 7.991E-06 8.444E-06 8.977E-06 9.529E-06 1.008E-05 1.064E-05 1.119E-05 1.173E-05 1.227E-05 1.281E-05		
sr 84	3.913E-06 4.349E-06 4.802E-06 5.283E-06 5.793E-06 6.333E-06 6.904E-06 7.505E-06 8.135E-06 8.795E-06 9.484E-06		
ga 85	5.027E-13 4.830E-13 4.952E-13 5.067E-13 5.175E-13 5.276E-13 5.371E-13 5.460E-13 5.544E-13 5.622E-13 5.696E-13		
ge 85	5.769E-10 5.562E-10 5.604E-10 5.639E-10 5.669E-10 5.693E-10 5.714E-10 5.731E-10 5.747E-10 5.760E-10 5.771E-10		
as 85	2.072E-07 2.009E-07 1.952E-07 1.895E-07 1.836E-07 1.778E-07 1.720E-07 1.663E-07 1.609E-07 1.557E-07 1.507E-07		
se 85	1.458E-05 1.433E-05 1.404E-05 1.375E-05 1.344E-05 1.314E-05 1.284E-05 1.255E-05 1.227E-05 1.200E-05 1.174E-05		
br 85	9.931E-05 9.775E-05 9.589E-05 9.397E-05 9.202E-05 9.007E-05 8.815E-05 8.627E-05 8.446E-05 8.271E-05 8.105E-05		
kr 85	1.171E+01 1.210E+01 1.247E+01 1.283E+01 1.318E+01 1.351E+01 1.382E+01 1.413E+01 1.441E+01 1.469E+01 1.495E+01		
kr 85m	9.355E-03 9.209E-03 9.036E-03 8.858E-03 8.678E-03 8.497E-03 8.319E-03 8.145E-03 7.977E-03 7.816E-03 7.662E-03		
rb 85	4.678E+01 4.873E+01 5.064E+01 5.252E+01 5.436E+01 5.617E+01 5.795E+01 5.969E+01 6.140E+01 6.308E+01 6.473E+01		
sr 85	1.972E-08 2.047E-08 2.133E-08 2.226E-08 2.322E-08 2.422E-08 2.525E-08 2.632E-08 2.741E-08 2.853E-08 2.967E-08		
sr 85m	8.757E-12 9.031E-12 9.512E-12 1.001E-11 1.052E-11 1.106E-11 1.161E-11 1.218E-11 1.277E-11 1.339E-11 1.402E-11		
y 85	2.667E-18 2.939E-18 3.341E-18 3.761E-18 4.189E-18 4.620E-18 5.050E-18 5.477E-18 5.898E-18 6.312E-18 6.718E-18		
ge 86	4.273E-08 4.129E-08 3.909E-08 3.684E-08 3.458E-08 3.234E-08 3.013E-08 2.799E-08 2.593E-08 2.395E-08 2.206E-08		
as 86	1.412E-07 1.366E-07 1.304E-07 1.242E-07 1.179E-07 1.116E-07 1.055E-07 9.946E-08 9.367E-08 8.812E-08 8.282E-08		
se 86	8.178E-06 7.993E-06 7.788E-06 7.578E-06 7.365E-06 7.153E-06 6.945E-06 6.741E-06 6.544E-06 6.355E-06 6.175E-06		
br 86	4.428E-05 4.351E-05 4.264E-05 4.176E-05 4.086E-05 3.996E-05 3.907E-05 3.821E-05 3.737E-05 3.657E-05 3.580E-05		
kr 86	8.722E+01 9.068E+01 9.408E+01 9.741E+01 1.007E+02 1.039E+02 1.070E+02 1.100E+02 1.130E+02 1.159E+02 1.187E+02		
rb 86	7.979E-03 8.083E-03 8.606E-03 9.166E-03 9.728E-03 1.029E-02 1.085E-02 1.140E-02 1.195E-02 1.249E-02 1.303E-02		
rb 86m	2.623E-08 2.645E-08 2.820E-08 2.996E-08 3.171E-08 3.345E-08 3.518E-08 3.690E-08 3.860E-08 4.028E-08 4.194E-08		
sr 86	1.781E-01 1.976E-01 2.179E-01 2.396E-01 2.627E-01 2.871E-01 3.128E-01 3.399E-01 3.683E-01 3.980E-01 4.290E-01		
ge 87	8.482E-11 8.195E-11 7.780E-11 7.356E-11 6.929E-11 6.506E-11 6.091E-11 5.686E-11 5.296E-11 4.921E-11 4.565E-11		
as 87	5.450E-09 5.272E-09 5.075E-09 4.874E-09 4.671E-09 4.468E-09 4.268E-09 4.073E-09 3.885E-09 3.704E-09 3.532E-09		
se 87	1.832E-06 1.786E-06 1.741E-06 1.695E-06 1.648E-06 1.602E-06 1.556E-06 1.511E-06 1.467E-06 1.425E-06 1.386E-06		
br 87	5.125E-05 5.029E-05 4.922E-05 4.813E-05 4.702E-05 4.591E-05 4.482E-05 4.376E-05 4.273E-05 4.174E-05 4.080E-05		
kr 87	5.354E-03 5.260E-03 5.152E-03 5.040E-03 4.928E-03 4.815E-03 4.704E-03 4.596E-03 4.491E-03 4.390E-03 4.294E-03		
rb 87	1.181E+02 1.227E+02 1.273E+02 1.317E+02 1.360E+02 1.403E+02 1.444E+02 1.485E+02 1.524E+02 1.563E+02 1.600E+02		
sr 87	1.053E-03 1.191E-03 1.344E-03 1.512E-03 1.697E-03 1.900E-03 2.121E-03 2.363E-03 2.625E-03 2.910E-03 3.219E-03		
sr 87m	2.783E-07 3.095E-07 3.493E-07 3.923E-07 4.388E-07 4.886E-07 5.419E-07 5.987E-07 6.589E-07 7.226E-07 7.897E-07		
y 87	2.501E-10 2.547E-10 2.616E-10 2.682E-10 2.745E-10 2.806E-10 2.863E-10 2.918E-10 2.970E-10 3.020E-10 3.067E-10		
zr 87	6.076E-19 6.696E-19 7.612E-19 8.568E-19 9.543E-19 1.052E-18 1.150E-18 1.247E-18 1.343E-18 1.437E-18 1.530E-18		
ge 88	2.210E-12 2.134E-12 2.045E-12 1.953E-12 1.861E-12 1.769E-12 1.678E-12 1.590E-12 1.504E-12 1.422E-12 1.344E-12		
as 88	4.856E-09 4.692E-09 4.452E-09 4.207E-09 3.960E-09 3.716E-09 3.475E-09 3.242E-09 3.016E-09 2.800E-09 2.594E-09		
se 88	2.332E-07 2.267E-07 2.209E-07 2.150E-07 2.090E-07 2.030E-07 1.970E-07 1.912E-07 1.856E-07 1.802E-07 1.751E-07		
br 88	1.290E-05 1.264E-05 1.236E-05 1.207E-05 1.179E-05 1.150E-05 1.122E-05 1.094E-05 1.068E-05 1.042E-05 1.018E-05		
kr 88	1.613E-02 1.584E-02 1.549E-02 1.514E-02 1.478E-02 1.442E-02 1.406E-02 1.372E-02 1.338E-02 1.306E-02 1.276E-02		
rb 88	1.714E-03 1.684E-03 1.649E-03 1.612E-03 1.575E-03 1.538E-03 1.502E-03 1.466E-03 1.432E-03 1.399E-03 1.367E-03		
sr 88	1.630E+02 1.693E+02 1.756E+02 1.817E+02 1.876E+02 1.935E+02 1.991E+02 2.047E+02 2.101E+02 2.153E+02 2.205E+02		
y 88	4.115E-05 4.300E-05 4.534E-05 4.799E-05 5.084E-05 5.381E-05 5.684E-05 5.991E-05 6.297E-05 6.603E-05 6.906E-05		
zr 88	1.015E-11 1.043E-11 1.071E-11 1.100E-11 1.128E-11 1.156E-11 1.182E-11 1.207E-11 1.232E-11 1.255E-11 1.277E-11		
as 89	3.132E-11 3.014E-11 3.056E-11 3.093E-11 3.127E-11 3.158E-11 3.186E-11 3.212E-11 3.235E-11 3.257E-11 3.277E-11		
se 89	1.536E-08 1.487E-08 1.485E-08 1.481E-08 1.477E-08 1.471E-08 1.465E-08 1.459E-08 1.453E-08 1.446E-08 1.440E-08		
br 89	2.488E-06 2.436E-06 2.400E-06 2.362E-06 2.324E-06 2.285E-06 2.247E-06 2.210E-06 2.173E-06 2.138E-06 2.105E-06		
kr 89	3.768E-04 3.696E-04 3.609E-04 3.521E-04 3.431E-04 3.341E-04 3.253E-04 3.167E-04 3.084E-04 3.004E-04 2.927E-04		

1	Cycle 3 -DD Assembly	fission products	page
55	power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm**2-sec		
0	nuclide concentrations, grams basis = 0.3883 MTU		
	charge 1379.6 d 1445.3 d 1511.0 d 1576.7 d 1642.4 d 1708.1 d 1773.8 d 1839.5 d 1905.2 d 1970.9 d		
rb 89	1.942E-03 1.906E-03 1.865E-03 1.822E-03 1.778E-03 1.735E-03 1.692E-03 1.650E-03 1.609E-03 1.570E-03 1.533E-03		
sr 89	9.703E+00 9.513E+00 9.312E+00 9.104E+00 8.890E+00 8.674E+00 8.459E+00 8.247E+00 8.040E+00 7.840E+00 7.647E+00		
y 89	2.085E+02 2.172E+02 2.256E+02 2.339E+02 2.420E+02 2.499E+02 2.576E+02 2.651E+02 2.724E+02 2.795E+02 2.864E+02		
y 89m	4.153E-08 4.145E-08 4.402E-08 4.659E-08 4.913E-08 5.166E-08 5.415E-08 5.662E-08 5.906E-08 6.146E-08 6.383E-08		
zr 89	5.504E-08 5.776E-08 6.470E-08 7.203E-08 7.973E-08 8.779E-08 9.620E-08 1.050E-07 1.141E-07 1.235E-07 1.332E-07		
nb 89	1.866E-19 2.056E-19 2.338E-19 2.631E-19 2.931E-19 3.232E-19 3.533E-19 3.831E-19 4.125E-19 4.414E-19 4.697E-19		
as 90	6.518E-13 6.314E-13 6.428E-13 6.537E-13 6.642E-13 6.741E-13 6.835E-13 6.923E-13 7.007E-13 7.086E-13 7.159E-13		
se 90	4.853E-09 4.705E-09 4.718E-09 4.728E-09 4.736E-09 4.741E-09 4.745E-09 4.747E-09 4.748E-09 4.748E-09 4.748E-09		
br 90	6.497E-07 6.363E-07 6.301E-07 6.235E-07 6.167E-07 6.098E-07 6.029E-07 5.960E-07 5.894E-07 5.829E-07 5.767E-07		
kr 90	6.709E-05 6.567E-05 6.400E-05 6.228E-05 6.055E-05 5.883E-05 5.713E-05 5.547E-05 5.387E-05 5.234E-05 5.087E-05		
rb 90	2.956E-04 2.896E-04 2.825E-04 2.752E-04 2.679E-04 2.605E-04 2.533E-04 2.463E-04 2.395E-04 2.329E-04 2.267E-04		
rb 90m	1.723E-04 1.702E-04 1.675E-04 1.647E-04 1.618E-04 1.590E-04 1.561E-04 1.533E-04 1.506E-04 1.481E-04 1.456E-04		
sr 90	2.566E+02 2.659E+02 2.749E+02 2.836E+02 2.921E+02 3.002E+02 3.081E+02 3.157E+02 3.230E+02 3.301E+02 3.370E+02		
y 90	6.887E-02 7.145E-02 7.395E-02 7.638E-02 7.873E-02 8.101E-02 8.321E-02 8.535E-02 8.741E-02 8.940E-02 9.133E-02		
y 90m	5.240E-07 5.375E-07 5.580E-07 5.780E-07 5.975E-07 6.166E-07 6.351E-07 6.531E-07 6.706E-07 6.876E-07 7.041E-07		
zr 90	1.279E+01 1.399E+01 1.523E+01 1.651E+01 1.784E+01 1.920E+01 2.060E+01 2.204E+01 2.351E+01 2.502E+01 2.656E+01		
zr 90m	1.021E-10 1.071E-10 1.200E-10 1.336E-10 1.479E-10 1.628E-10 1.785E-10 1.947E-10 2.116E-10 2.291E-10 2.471E-10		
nb 90	1.590E-16 1.754E-16 1.996E-16 2.249E-16 2.508E-16 2.770E-16 3.032E-16 3.293E-16 3.553E-16 3.810E-16 4.063E-16		
mo 90	0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00		

se 91	3.741E-10	3.600E-10	3.659E-10	3.714E-10	3.764E-10	3.810E-10	3.852E-10	3.892E-10	3.929E-10	3.963E-10	3.994E-10
br 91	7.467E-08	7.238E-08	7.136E-08	7.028E-08	6.915E-08	6.801E-08	6.688E-08	6.575E-08	6.466E-08	6.360E-08	6.258E-08
kr 91	1.282E-05	1.253E-05	1.223E-05	1.192E-05	1.161E-05	1.130E-05	1.100E-05	1.070E-05	1.042E-05	1.014E-05	9.878E-06
rb 91	1.568E-04	1.540E-04	1.510E-04	1.478E-04	1.447E-04	1.415E-04	1.383E-04	1.353E-04	1.323E-04	1.295E-04	1.268E-04
sr 91	9.911E-02	9.750E-02	9.572E-02	9.388E-02	9.201E-02	9.014E-02	8.830E-02	8.649E-02	8.475E-02	8.307E-02	8.147E-02
y 91	1.515E+01	1.489E+01	1.462E+01	1.434E+01	1.406E+01	1.378E+01	1.349E+01	1.321E+01	1.294E+01	1.267E+01	1.242E+01
y 91m	5.004E-03	4.923E-03	4.833E-03	4.740E-03	4.646E-03	4.552E-03	4.459E-03	4.368E-03	4.280E-03	4.195E-03	4.114E-03
zr 91	2.694E+02	2.811E+02	2.925E+02	3.037E+02	3.147E+02	3.254E+02	3.359E+02	3.462E+02	3.563E+02	3.661E+02	3.758E+02
nb 91	1.281E-09	1.383E-09	1.489E-09	1.597E-09	1.708E-09	1.821E-09	1.936E-09	2.054E-09	2.174E-09	2.296E-09	2.420E-09
mo 91	6.099E-21	6.722E-21	7.641E-21	8.601E-21	9.580E-21	1.056E-20	1.155E-20	1.252E-20	1.348E-20	1.443E-20	1.535E-20
se 92	2.335E-11	2.246E-11	2.292E-11	2.335E-11	2.375E-11	2.412E-11	2.447E-11	2.479E-11	2.509E-11	2.538E-11	2.564E-11
br 92	8.962E-09	8.670E-09	8.691E-09	8.703E-09	8.709E-09	8.710E-09	8.707E-09	8.701E-09	8.692E-09	8.683E-09	8.672E-09
kr 92	1.510E-06	1.473E-06	1.444E-06	1.414E-06	1.384E-06	1.354E-06	1.324E-06	1.295E-06	1.267E-06	1.240E-06	1.214E-06
rb 92	1.105E-05	1.086E-05	1.067E-05	1.048E-05	1.028E-05	1.009E-05	9.897E-06	9.709E-06	9.528E-06	9.353E-06	9.186E-06
sr 92	3.075E-02	3.030E-02	2.983E-02	2.934E-02	2.885E-02	2.835E-02	2.787E-02	2.739E-02	2.692E-02	2.648E-02	2.605E-02
y 92	4.062E-02	4.004E-02	3.941E-02	3.877E-02	3.811E-02	3.746E-02	3.681E-02	3.617E-02	3.556E-02	3.497E-02	3.440E-02
zr 92	3.070E+02	3.197E+02	3.323E+02	3.447E+02	3.568E+02	3.688E+02	3.805E+02	3.920E+02	4.034E+02	4.145E+02	4.255E+02
nb 92	1.137E-07	1.226E-07	1.318E-07	1.412E-07	1.508E-07	1.607E-07	1.706E-07	1.808E-07	1.916E-07	2.016E-07	2.123E-07
mo 92	1.625E-14	1.963E-14	2.349E-14	2.785E-14	3.272E-14	3.812E-14	4.404E-14	5.048E-14	5.743E-14	6.488E-14	7.283E-14
se 93	4.772E-13	4.726E-13	4.705E-13	4.782E-13	4.856E-13	4.926E-13	4.993E-13	5.056E-13	5.116E-13	5.173E-13	5.226E-13
br 93	1.171E-09	1.153E-09	1.173E-09	1.193E-09	1.211E-09	1.229E-09	1.246E-09	1.262E-09	1.277E-09	1.291E-09	1.305E-09
kr 93	3.580E-07	3.483E-07	3.437E-07	3.388E-07	3.338E-07	3.288E-07	3.238E-07	3.189E-07	3.142E-07	3.096E-07	3.051E-07
rb 93	1.092E-05	1.074E-05	1.058E-05	1.041E-05	1.025E-05	1.008E-05	9.914E-06	9.753E-06	9.597E-06	9.447E-06	9.304E-06
sr 93	1.591E-03	1.571E-03	1.552E-03	1.531E-03	1.511E-03	1.490E-03	1.469E-03	1.449E-03	1.430E-03	1.411E-03	1.393E-03
y 93	1.332E-01	1.316E-01	1.300E-01	1.283E-01	1.266E-01	1.249E-01	1.232E-01	1.215E-01	1.199E-01	1.184E-01	1.169E-01
y 93m	1.051E-06	1.038E-06	1.025E-06	1.012E-06	9.992E-07	9.858E-07	9.726E-07	9.597E-07	9.471E-07	9.351E-07	9.235E-07
zr 93	3.338E+02	3.478E+02	3.616E+02	3.752E+02	3.886E+02	4.017E+02	4.145E+02	4.272E+02	4.396E+02	4.518E+02	4.638E+02
nb 93	2.153E-05	2.427E-05	2.723E-05	3.041E-05	3.381E-05	3.745E-05	4.132E-05	4.544E-05	4.981E-05	5.442E-05	5.930E-05
nb 93m	2.737E-04	2.994E-04	3.259E-04	3.534E-04	3.818E-04	4.110E-04	4.410E-04	4.718E-04	5.034E-04	5.358E-04	5.688E-04
mo 93	1.321E-08	1.565E-08	1.843E-08	2.160E-08	2.518E-08	2.920E-08	3.371E-08	3.873E-08	4.429E-08	5.043E-08	5.718E-08
mo 93m	4.596E-14	4.687E-14	4.823E-14	4.954E-14	5.080E-14	5.201E-14	5.316E-14	5.427E-14	5.533E-14	5.634E-14	5.731E-14

Cycle 3 -DD Assembly

fission products

page

power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm**2-sec

nuclide concentrations, grams
basis = 0.3883 MTU

	charge	1379.6 d	1445.3 d	1511.0 d	1576.7 d	1642.4 d	1708.1 d	1773.8 d	1839.5 d	1905.2 d	1970.9 d
tc 93	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
br 94	1.586E-10	1.580E-10	1.618E-10	1.655E-10	1.689E-10	1.722E-10	1.753E-10	1.782E-10	1.810E-10	1.836E-10	1.861E-10
kr 94	1.817E-08	1.766E-08	1.773E-08	1.780E-08	1.785E-08	1.789E-08	1.793E-08	1.796E-08	1.798E-08	1.800E-08	1.802E-08
rb 94	2.812E-06	2.767E-06	2.743E-06	2.718E-06	2.694E-06	2.669E-06	2.645E-06	2.621E-06	2.598E-06	2.575E-06	2.554E-06
sr 94	2.673E-04	2.641E-04	2.610E-04	2.578E-04	2.545E-04	2.513E-04	2.480E-04	2.449E-04	2.418E-04	2.388E-04	2.360E-04
y 94	4.384E-03	4.337E-03	4.292E-03	4.244E-03	4.196E-03	4.147E-03	4.099E-03	4.052E-03	4.006E-03	3.961E-03	3.919E-03
zr 94	3.609E+02	3.771E+02	3.931E+02	4.090E+02	4.247E+02	4.403E+02	4.558E+02	4.711E+02	4.863E+02	5.014E+02	5.163E+02
nb 94	2.608E-04	2.804E-04	3.004E-04	3.208E-04	3.415E-04	3.625E-04	3.837E-04	4.052E-04	4.269E-04	4.488E-04	4.708E-04
nb 94m	8.163E-10	8.308E-10	8.525E-10	8.733E-10	8.931E-10	9.121E-10	9.302E-10	9.474E-10	9.639E-10	9.796E-10	9.945E-10
mo 94	5.665E-03	6.315E-03	7.014E-03	7.761E-03	8.557E-03	9.401E-03	1.029E-02	1.123E-02	1.222E-02	1.326E-02	1.434E-02
br 95	9.649E-13	9.336E-13	9.539E-13	9.734E-13	9.920E-13	1.010E-12	1.027E-12	1.043E-12	1.058E-12	1.072E-12	1.085E-12
kr 95	9.060E-09	8.778E-09	8.898E-09	9.013E-09	9.122E-09	9.224E-09	9.321E-09	9.411E-09	9.496E-09	9.576E-09	9.650E-09
rb 95	2.056E-07	2.026E-07	2.014E-07	2.002E-07	1.989E-07	1.976E-07	1.963E-07	1.950E-07	1.938E-07	1.926E-07	1.914E-07
sr 95	7.994E-05	7.898E-05	7.813E-05	7.725E-05	7.637E-05	7.549E-05	7.462E-05	7.377E-05	7.294E-05	7.215E-05	7.139E-05
y 95	2.606E-03	2.582E-03	2.561E-03	2.540E-03	2.517E-03	2.495E-03	2.472E-03	2.450E-03	2.429E-03	2.408E-03	2.388E-03
zr 95	2.393E+01	2.373E+01	2.354E+01	2.333E+01	2.312E+01	2.290E+01	2.268E+01	2.247E+01	2.226E+01	2.205E+01	2.185E+01
nb 95	1.317E+01	1.305E+01	1.294E+01	1.283E+01	1.271E+01	1.260E+01	1.248E+01	1.236E+01	1.224E+01	1.213E+01	1.201E+01
nb 95m	1.543E-02	1.531E-02	1.518E-02	1.505E-02	1.491E-02	1.477E-02	1.463E-02	1.449E-02	1.436E-02	1.423E-02	1.410E-02
mo 95	3.182E+02	3.334E+02	3.482E+02	3.628E+02	3.771E+02	3.910E+02	4.047E+02	4.181E+02	4.311E+02	4.439E+02	4.564E+02
tc 95	1.054E-15	1.162E-15	1.322E-15	1.490E-15	1.661E-15	1.834E-15	2.007E-15	2.180E-15	2.351E-15	2.520E-15	2.686E-15
tc 95m	1.305E-14	1.480E-14	1.684E-14	1.909E-14	2.147E-14	2.393E-14	2.644E-14	2.896E-14	3.148E-14	3.398E-14	3.646E-14
ru 95	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
br 96	2.758E-13	2.663E-13	2.696E-13	2.725E-13	2.750E-13	2.773E-13	2.793E-13	2.811E-13	2.828E-13	2.843E-13	2.857E-13
kr 96	4.862E-09	4.736E-09	4.600E-09	4.459E-09	4.314E-09	4.170E-09	4.027E-09	3.887E-09	3.752E-09	3.622E-09	3.498E-09
rb 96	3.423E-08	3.336E-08	3.336E-08	3.335E-08	3.333E-08	3.330E-08	3.326E-08	3.322E-08	3.317E-08	3.312E-08	3.307E-08
sr 96	2.478E-06	2.443E-06	2.419E-06	2.395E-06	2.370E-06	2.345E-06	2.321E-06	2.297E-06	2.274E-06	2.252E-06	2.231E-06
y 96	1.479E-05	1.460E-05	1.446E-05	1.432E-05	1.418E-05	1.404E-05	1.390E-05	1.376E-05	1.363E-05	1.350E-05	1.338E-05
y 96m	1.472E-05	1.468E-05	1.464E-05	1.459E-05	1.454E-05	1.449E-05	1.444E-05	1.438E-05	1.433E-05	1.428E-05	1.423E-05
zr 96	3.753E+02	3.924E+02	4.094E+02	4.263E+02	4.430E+02	4.596E+02	4.761E+02	4.924E+02	5.086E+02	5.246E+02	5.406E+02
nb 96	6.056E-04	5.934E-04	6.075E-04	6.214E-04	6.350E-04	6.480E-04	6.604E-04	6.721E-04	6.831E-04	6.934E-04	7.029E-04
mo 96	1.754E+01	1.951E+01	2.163E+01	2.389E+01	2.630E+01	2.886E+01	3.156E+01	3.441E+01	3.740E+01	4.053E+01	4.380E+01
tc 96	3.972E-15	4.167E-15	4.673E-15	5.214E-15	5.792E-15	6.407E-15	7.061E-15	7.755E-15	8.489E-15	9.265E-15	1.008E-14
ru 96	2.834E-21	3.442E-21	4.153E-21	4.979E-21	5.925E-21	6.997E-21	8.198E-21	9.530E-21	1.099E-20	1.259E-20	1.432E-20
kr 97	5.970E-11	6.044E-11	6.199E-11	6.348E-11	6.489E-11	6.624E-11	6.752E-11	6.873E-11	6.989E-11	7.099E-11	7.202E-11
rb 97	3.975E-09	3.893E-09	3.851E-09	3.810E-09	3.769E-09	3.729E-09	3.691E-09	3.653E-09	3.617E-09	3.582E-09	3.549E-09
sr 97	4.769E-07	4.701E-07	4.661E-07	4.622E-07	4.584E-07	4.545E-07	4.508E-07	4.471E-07	4.436E-07	4.402E-07	4.369E-07
y 97	7.521E-06	7.451E-06	7.410E-06	7.368E-06	7.327E-06	7.285E-06	7.244E-06	7.204E-06	7.165E-06	7.127E-06	7.091E-06
y 97m	1.663E-06	1.653E-06	1.646E-06	1.640E-06	1.633E-06	1.626E-06	1.620E-06	1.613E-06	1.607E-06	1.600E-06	1.594E-06
zr 97	2.729E-01	2.712E-01	2.702E-01	2.693E-01	2.682E-01	2.672E-01	2.662E-01	2.652E-01	2.642E-01	2.632E-01	2.623E-01
nb 97	1.955E-02	1.942E-02	1.936E-02	1.929E-02	1.922E-02	1.915E-02					

Fort Calhoun Station	CALCULATION SHEET Attachment 10.5	FC08514 Revision 0 Page 53
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kr 98 8.475E-11 8.188E-11 7.771E-11 7.346E-11 6.918E-11 6.493E-11 6.076E-11 5.670E-11 5.278E-11 4.903E-11 4.545E-11
rb 98 8.523E-10 8.241E-10 8.368E-10 8.487E-10 8.599E-10 8.704E-10 8.802E-10 8.893E-10 8.979E-10 9.059E-10 9.134E-10
sr 98 3.720E-07 3.649E-07 3.626E-07 3.601E-07 3.576E-07 3.551E-07 3.525E-07 3.500E-07 3.475E-07 3.451E-07 3.428E-07
y 98 9.879E-07 9.786E-07 9.774E-07 9.762E-07 9.749E-07 9.736E-07 9.722E-07 9.708E-07 9.694E-07 9.680E-07 9.666E-07
y 98m 1.946E-06 1.938E-06 1.942E-06 1.945E-06 1.949E-06 1.953E-06 1.956E-06 1.960E-06 1.963E-06 1.966E-06 1.969E-06

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	Cycle 3 -DD Assembly	fission products										page
57	power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm**2-sec											
0	nuclide concentrations, grams											
	basis = 0.3883 MTU											
	charge	1379.6 d	1445.3 d	1511.0 d	1576.7 d	1642.4 d	1708.1 d	1773.8 d	1839.5 d	1905.2 d	1970.9 d	
zr 98	1.370E-04	1.363E-04	1.361E-04	1.358E-04	1.355E-04	1.353E-04	1.350E-04	1.347E-04	1.344E-04	1.341E-04	1.338E-04	
nb 98	1.301E-05	1.294E-05	1.291E-05	1.289E-05	1.286E-05	1.283E-05	1.280E-05	1.277E-05	1.274E-05	1.271E-05	1.269E-05	
nb 98m	8.571E-05	8.539E-05	8.485E-05	8.424E-05	8.358E-05	8.289E-05	8.219E-05	8.149E-05	8.081E-05	8.015E-05	7.952E-05	
mo 98	3.775E+02	3.960E+02	4.145E+02	4.330E+02	4.514E+02	4.698E+02	4.881E+02	5.065E+02	5.248E+02	5.430E+02	5.613E+02	
tc 98	2.885E-03	3.193E-03	3.520E-03	3.867E-03	4.233E-03	4.618E-03	5.020E-03	5.441E-03	5.878E-03	6.332E-03	6.802E-03	
ru 98	4.334E-05	4.495E-05	4.652E-05	4.803E-05	4.950E-05	5.092E-05	5.229E-05	5.361E-05	5.488E-05	5.611E-05	5.730E-05	
rb 99	6.993E-11	6.725E-11	6.905E-11	7.075E-11	7.235E-11	7.386E-11	7.528E-11	7.662E-11	7.788E-11	7.907E-11	8.018E-11	
sr 99	3.708E-08	3.618E-08	3.634E-08	3.649E-08	3.663E-08	3.676E-08	3.688E-08	3.699E-08	3.708E-08	3.717E-08	3.725E-08	
y 99	2.501E-06	2.475E-06	2.473E-06	2.471E-06	2.469E-06	2.467E-06	2.466E-06	2.464E-06	2.462E-06	2.460E-06	2.458E-06	
zr 99	9.434E-06	9.382E-06	9.365E-06	9.348E-06	9.330E-06	9.313E-06	9.295E-06	9.278E-06	9.261E-06	9.244E-06	9.227E-06	
nb 99	4.368E-05	4.344E-05	4.337E-05	4.329E-05	4.322E-05	4.314E-05	4.306E-05	4.299E-05	4.291E-05	4.284E-05	4.276E-05	
nb 99m	3.222E-04	3.211E-04	3.210E-04	3.209E-04	3.207E-04	3.205E-04	3.203E-04	3.200E-04	3.197E-04	3.195E-04	3.192E-04	
mo 99	1.196E+00	1.191E+00	1.190E+00	1.190E+00	1.189E+00	1.188E+00	1.187E+00	1.186E+00	1.185E+00	1.184E+00	1.183E+00	
tc 99	3.627E+02	3.783E+02	3.936E+02	4.085E+02	4.231E+02	4.374E+02	4.513E+02	4.648E+02	4.780E+02	4.909E+02	5.035E+02	
tc 99m	9.668E-02	9.623E-02	9.623E-02	9.622E-02	9.620E-02	9.618E-02	9.615E-02	9.612E-02	9.609E-02	9.606E-02	9.603E-02	
ru 99	1.466E-02	1.544E-02	1.622E-02	1.700E-02	1.778E-02	1.856E-02	1.934E-02	2.011E-02	2.089E-02	2.166E-02	2.244E-02	
rh 99	4.124E-16	4.579E-16	5.206E-16	5.875E-16	6.562E-16	7.256E-16	7.950E-16	8.639E-16	9.320E-16	9.989E-16	1.065E-15	
pd 99	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
rb100	1.102E-09	1.065E-09	1.008E-09	9.509E-09	8.931E-10	8.358E-10	7.795E-10	7.248E-10	6.719E-10	6.213E-10	5.730E-10	
sr100	7.795E-09	7.564E-09	7.572E-09	7.574E-09	7.572E-09	7.567E-09	7.558E-09	7.548E-09	7.536E-09	7.523E-09	7.510E-09	
y100	4.683E-07	4.614E-07	4.642E-07	4.673E-07	4.703E-07	4.734E-07	4.764E-07	4.793E-07	4.821E-07	4.847E-07	4.872E-07	
zr100	3.181E-05	3.162E-05	3.155E-05	3.149E-05	3.142E-05	3.135E-05	3.128E-05	3.121E-05	3.114E-05	3.107E-05	3.101E-05	
nb100	7.327E-06	7.290E-06	7.282E-06	7.274E-06	7.264E-06	7.255E-06	7.245E-06	7.235E-06	7.225E-06	7.215E-06	7.205E-06	
nb100m	1.204E-06	1.211E-06	1.223E-06	1.234E-06	1.245E-06	1.255E-06	1.265E-06	1.275E-06	1.284E-06	1.292E-06	1.301E-06	
mol100	4.298E+02	4.511E+02	4.724E+02	4.936E+02	5.147E+02	5.359E+02	5.570E+02	5.781E+02	5.991E+02	6.201E+02	6.411E+02	
tc100	1.974E-05	1.921E-05	2.057E-05	2.192E-05	2.327E-05	2.461E-05	2.593E-05	2.724E-05	2.854E-05	2.981E-05	3.107E-05	
ru100	4.601E+01	5.065E+01	5.562E+01	6.093E+01	6.656E+01	7.252E+01	7.880E+01	8.539E+01	9.230E+01	9.952E+01	1.070E+02	
rb101	3.402E-13	3.280E-13	3.336E-13	3.387E-13	3.436E-13	3.481E-13	3.523E-13	3.562E-13	3.599E-13	3.633E-13	3.665E-13	
sr101	9.876E-10	9.546E-10	9.596E-10	9.638E-10	9.672E-10	9.700E-10	9.722E-10	9.740E-10	9.755E-10	9.768E-10	9.778E-10	
y101	1.281E-07	1.254E-07	1.256E-07	1.257E-07	1.259E-07	1.261E-07	1.262E-07	1.263E-07	1.264E-07	1.265E-07	1.265E-07	
zr101	5.179E-06	5.140E-06	5.139E-06	5.140E-06	5.141E-06	5.143E-06	5.145E-06	5.147E-06	5.149E-06	5.151E-06	5.152E-06	
nb101	3.290E-05	3.281E-05	3.288E-05	3.296E-05	3.303E-05	3.310E-05	3.317E-05	3.324E-05	3.330E-05	3.336E-05	3.341E-05	
mol101	4.187E-03	4.175E-03	4.185E-03	4.195E-03	4.205E-03	4.214E-03	4.224E-03	4.233E-03	4.241E-03	4.249E-03	4.257E-03	
tc101	4.076E-03	4.064E-03	4.074E-03	4.084E-03	4.093E-03	4.103E-03	4.112E-03	4.121E-03	4.129E-03	4.137E-03	4.145E-03	
ru101	3.568E+02	3.741E+02	3.914E+02	4.085E+02	4.255E+02	4.424E+02	4.592E+02	4.759E+02	4.925E+02	5.090E+02	5.254E+02	
rh101	1.276E-09	1.326E-09	1.378E-09	1.431E-09	1.487E-09	1.546E-09	1.607E-09	1.671E-09	1.739E-09	1.809E-09	1.883E-09	
rh101m	5.331E-12	5.459E-12	5.649E-12	5.836E-12	6.018E-12	6.195E-12	6.368E-12	6.535E-12	6.698E-12	6.855E-12	7.008E-12	
pd101	1.129E-13	1.232E-13	1.431E-13	1.648E-13	1.883E-13	2.138E-13	2.412E-13	2.705E-13	3.018E-13	3.350E-13	3.701E-13	
rb102	2.505E-14	2.406E-14	2.472E-14	2.534E-14	2.592E-14	2.647E-14	2.699E-14	2.748E-14	2.793E-14	2.836E-14	2.877E-14	
sr102	1.474E-10	1.421E-10	1.448E-10	1.473E-10	1.498E-10	1.520E-10	1.541E-10	1.561E-10	1.580E-10	1.597E-10	1.613E-10	
y102	1.205E-07	1.169E-07	1.140E-07	1.111E-07	1.082E-07	1.053E-07	1.024E-07	9.961E-08	9.689E-08	9.428E-08	9.178E-08	
zr102	4.801E-06	4.749E-06	4.741E-06	4.735E-06	4.730E-06	4.725E-06	4.721E-06	4.717E-06	4.713E-06	4.708E-06	4.704E-06	
nb102	3.477E-06	3.460E-06	3.471E-06	3.483E-06	3.495E-06	3.508E-06	3.521E-06	3.533E-06	3.545E-06	3.556E-06	3.567E-06	
nb102m	4.382E-06	4.403E-06	4.450E-06	4.498E-06	4.547E-06	4.596E-06	4.645E-06	4.692E-06	4.737E-06	4.781E-06	4.822E-06	
mol102	3.101E-03	3.099E-03	3.117E-03	3.137E-03	3.156E-03	3.175E-03	3.193E-03	3.211E-03	3.229E-03	3.245E-03	3.261E-03	
tc102	2.423E-05	2.421E-05	2.436E-05	2.451E-05	2.466E-05	2.481E-05	2.495E-05	2.509E-05	2.523E-05	2.536E-05	2.548E-05	
tc102m	3.900E-06	3.929E-06	3.972E-06	4.011E-06	4.046E-06	4.078E-06	4.108E-06	4.135E-06	4.160E-06	4.184E-06	4.207E-06	
ru102	3.561E+02	3.762E+02	3.965E+02	4.169E+02	4.377E+02	4.586E+02	4.798E+02	5.012E+02	5.229E+02	5.447E+02	5.668E+02	
rh102	2.233E-04	2.386E-04	2.548E-04	2.718E-04	2.891E-04	3.066E-04	3.240E-04	3.414E-04	3.584E-04	3.751E-04	3.914E-04	
rh102m	3.398E-08	3.528E-08	3.653E-08	3.773E-08	3.888E-08	3.998E-08	4.104E-08	4.205E-08	4.301E-08	4.393E-08	4.481E-08	

1	Cycle 3 -DD Assembly	fission products										page
58	power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm**2-sec											
0	nuclide concentrations, grams											
	basis = 0.3883 MTU											
	charge	1379.6 d	1445.3 d	1511.0 d	1576.7 d	1642.4 d	1708.1 d	1773.8 d	1839.5 d	1905.2 d	1970.9 d	
pd102	8.103E-05	9.211E-05	1.039E-04	1.166E-04	1.300E-04	1.442E-04	1.593E-04	1.752E-04	1.919E-04	2.094E-04	2.277E-04	
sr103	1.526E-12	1.478E-12	1.514E-12	1.549E-12	1.583E-12	1.615E-12	1.646E-12	1.676E-12	1.703E-12	1.730E-12	1.754E-12	
y103	3.002E-09	2.909E-09	2.977E-09	3.042E-09	3.106E-09	3.167E-09	3.225E-09	3.280E-09	3.333E-09	3.383E-09	3.429E-09	
zr103	6.986E-07	6.880E-07	6.925E-07	6.973E-07	7.024E-07	7.076E-07	7.127E-07	7.176E-07	7.224E-07	7.270E-07	7.312E-07	
nb103	3.824E-06	3.822E-06	3.866E-06	3.912E-06	3.960E-06	4.008E-06	4.055E-06	4.101E-06	4.145E-06	4.188E-06	4.228E-06	
mol103	2.986E-04	2.997E-04	3.036E-04	3.075E-04	3.114E-04	3.152E-04	3.190E-04	3.226E-04	3.261E-04	3.295E-04	3.326E-04	
tc103	2.462E-04	2.472E-04	2.503E-04	2.535E-04	2.567E-04	2.598E-04	2.629E-04	2.658E-04	2.687E-04	2.714E-04	2.740E-04	
ru103	1.543E+01	1.560E+01	1.579E+01	1.598E+01	1.618E+01	1.637E+01	1.657E+01	1.676E+01	1.695E+01	1.713E+01	1.730E+01	
rh103	1.945E+02	2.026E+02	2.102E+02	2.174E+02	2.242E+02	2.305E+02	2.365E+02	2.420E+02	2.472E+02	2.521E+02	2.567E+02	
rh103m	1.530E-02	1.547E-02	1.565E-02	1.584E-02	1.604E-02	1.624E-02	1.643E-02	1.662E-02	1.681E-02	1.699E-02	1.716E-02	
pd103	1.306E-05	1.395E-05	1.576E-05	1.777E-05	1.994E-05	2.226E-05	2.474E-05	2.736E-05	3.013E-05	3.304E-05	3.609E-05	
ag103	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
sr104	2.435E-13	2.341E-13	2.400E-13	2.456E-13	2.508E-13	2.558E-13	2.604E-13	2.648E-13	2.689E-13	2.727E-13	2.763E-13	
v104	1.860E-10	1.798E-10	1.830E-10	1.861E-10	1.890E-10	1.917E-10	1.943E-10	1.967E-10	1.990E-10	2.011E-10	2.031E-10	

zrl04	3.828E-07	3.765E-07	3.825E-07	3.886E-07	3.948E-07	4.010E-07	4.070E-07	4.128E-07	4.184E-07	4.237E-07	4.287E-07
nb104	3.357E-06	3.355E-06	3.416E-06	3.481E-06	3.548E-06	3.616E-06	3.683E-06	3.749E-06	3.813E-06	3.874E-06	3.932E-06
nb104m	5.500E-07	5.520E-07	5.624E-07	5.735E-07	5.851E-07	5.969E-07	6.086E-07	6.202E-07	6.313E-07	6.420E-07	6.521E-07
mo104	2.146E-04	2.161E-04	2.200E-04	2.240E-04	2.280E-04	2.320E-04	2.360E-04	2.398E-04	2.435E-04	2.471E-04	2.505E-04
tc104	4.194E-03	4.227E-03	4.302E-03	4.380E-03	4.458E-03	4.537E-03	4.614E-03	4.689E-03	4.761E-03	4.830E-03	4.896E-03
ru104	2.365E+02	2.518E+02	2.674E+02	2.832E+02	2.993E+02	3.157E+02	3.324E+02	3.493E+02	3.664E+02	3.838E+02	4.015E+02
rh104	1.121E-04	1.102E-04	1.177E-04	1.250E-04	1.321E-04	1.390E-04	1.456E-04	1.520E-04	1.581E-04	1.641E-04	1.697E-04
rh104m	5.037E-05	4.955E-05	5.291E-05	5.619E-05	5.937E-05	6.245E-05	6.544E-05	6.831E-05	7.108E-05	7.374E-05	7.628E-05
pd104	9.530E+01	1.052E+02	1.158E+02	1.270E+02	1.389E+02	1.514E+02	1.646E+02	1.783E+02	1.925E+02	2.073E+02	2.226E+02
y105	3.884E-11	3.735E-11	3.838E-11	3.935E-11	4.028E-11	4.115E-11	4.197E-11	4.274E-11	4.347E-11	4.415E-11	4.479E-11
zrl05	2.959E-08	2.874E-08	2.807E-08	2.737E-08	2.668E-08	2.598E-08	2.530E-08	2.463E-08	2.398E-08	2.336E-08	2.276E-08
nb105	1.583E-06	1.582E-06	1.612E-06	1.645E-06	1.678E-06	1.712E-06	1.745E-06	1.778E-06	1.809E-06	1.839E-06	1.868E-06
mo105	9.101E-05	9.187E-05	9.387E-05	9.593E-05	9.803E-05	1.001E-04	1.022E-04	1.042E-04	1.061E-04	1.080E-04	1.098E-04
tc105	1.464E-03	1.480E-03	1.514E-03	1.548E-03	1.583E-03	1.618E-03	1.652E-03	1.685E-03	1.716E-03	1.747E-03	1.776E-03
ru105	5.200E-02	5.259E-02	5.382E-02	5.508E-02	5.635E-02	5.761E-02	5.885E-02	6.006E-02	6.123E-02	6.235E-02	6.342E-02
rh105	3.873E-01	3.912E-01	3.996E-01	4.082E-01	4.169E-01	4.255E-01	4.340E-01	4.423E-01	4.502E-01	4.579E-01	4.651E-01
rh105m	4.157E-05	4.205E-05	4.303E-05	4.404E-05	4.505E-05	4.606E-05	4.706E-05	4.802E-05	4.896E-05	4.985E-05	5.071E-05
pd105	1.658E+02	1.771E+02	1.886E+02	2.003E+02	2.122E+02	2.242E+02	2.364E+02	2.488E+02	2.613E+02	2.740E+02	2.868E+02
ag105	4.508E-14	5.118E-14	5.859E-14	6.680E-14	7.554E-14	8.463E-14	9.395E-14	1.034E-13	1.130E-13	1.227E-13	1.324E-13
ag105m	5.551E-18	6.173E-18	7.078E-18	8.037E-18	9.034E-18	1.006E-17	1.110E-17	1.215E-17	1.321E-17	1.428E-17	1.534E-17
cd105	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
y106	2.169E-14	2.250E-14	2.352E-14	2.472E-14	2.606E-14	2.747E-14	2.891E-14	3.035E-14	3.176E-14	3.311E-14	3.441E-14
zrl06	4.681E-10	4.807E-10	5.007E-10	5.236E-10	5.485E-10	5.746E-10	6.011E-10	6.274E-10	6.532E-10	6.779E-10	7.016E-10
nb106	1.042E-07	1.041E-07	1.074E-07	1.109E-07	1.146E-07	1.184E-07	1.222E-07	1.259E-07	1.296E-07	1.330E-07	1.363E-07
mo106	1.276E-05	1.292E-05	1.326E-05	1.361E-05	1.397E-05	1.434E-05	1.471E-05	1.506E-05	1.541E-05	1.574E-05	1.605E-05
tc106	8.483E-05	8.616E-05	8.852E-05	9.098E-05	9.349E-05	9.601E-05	9.850E-05	1.009E-04	1.033E-04	1.055E-04	1.077E-04
ru106	5.754E+01	6.028E+01	6.294E+01	6.555E+01	6.812E+01	7.066E+01	7.318E+01	7.566E+01	7.812E+01	8.053E+01	8.290E+01
rh106	5.779E-05	6.047E-05	6.317E-05	6.582E-05	6.844E-05	7.103E-05	7.360E-05	7.613E-05	7.862E-05	8.107E-05	8.347E-05
rh106m	5.126E-04	5.294E-04	5.565E-04	5.837E-04	6.109E-04	6.380E-04	6.646E-04	6.907E-04	7.162E-04	7.410E-04	7.649E-04
pd106	8.696E+01	9.599E+01	1.055E+02	1.155E+02	1.259E+02	1.367E+02	1.481E+02	1.598E+02	1.721E+02	1.847E+02	1.979E+02
ag106	4.015E-15	4.249E-15	4.679E-15	5.141E-15	5.636E-15	6.163E-15	6.723E-15	7.316E-15	7.944E-15	8.605E-15	9.301E-15
ag106m	2.448E-12	2.536E-12	2.658E-12	2.782E-12	2.908E-12	3.034E-12	3.161E-12	3.288E-12	3.415E-12	3.541E-12	3.667E-12
cd106	2.801E-16	3.384E-16	4.048E-16	4.798E-16	5.636E-16	6.564E-16	7.582E-16	8.688E-16	9.882E-16	1.116E-15	1.253E-15
y107	8.219E-17	8.670E-17	9.487E-17	1.034E-16	1.124E-16	1.216E-16	1.312E-16	1.410E-16	1.511E-16	1.613E-16	1.716E-16
zrl07	3.519E-12	3.606E-12	3.756E-12	3.920E-12	4.093E-12	4.272E-12	4.453E-12	4.634E-12	4.811E-12	4.983E-12	5.150E-12
nb107	1.754E-08	1.748E-08	1.802E-08	1.860E-08	1.921E-08	1.982E-08	2.042E-08	2.102E-08	2.159E-08	2.214E-08	2.267E-08

Cycle 3 -DD Assembly

fission products

page

power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm**2-sec
nuclide concentrations, grams
basis = 0.3883 MTU

	charge	1379.6 d	1445.3 d	1511.0 d	1576.7 d	1642.4 d	1708.1 d	1773.8 d	1839.5 d	1905.2 d	1970.9 d
mo107	1.998E-06	2.020E-06	2.078E-06	2.140E-06	2.205E-06	2.272E-06	2.338E-06	2.404E-06	2.467E-06	2.528E-06	2.586E-06
tc107	3.153E-05	3.211E-05	3.308E-05	3.411E-05	3.517E-05	3.623E-05	3.729E-05	3.833E-05	3.934E-05	4.030E-05	4.122E-05
ru107	4.106E-04	4.182E-04	4.308E-04	4.439E-04	4.573E-04	4.708E-04	4.841E-04	4.971E-04	5.097E-04	5.217E-04	5.333E-04
rh107	2.412E-03	2.457E-03	2.531E-03	2.608E-03	2.686E-03	2.765E-03	2.843E-03	2.919E-03	2.992E-03	3.063E-03	3.130E-03
pd107	8.679E+01	9.388E+01	1.011E+02	1.086E+02	1.162E+02	1.240E+02	1.320E+02	1.402E+02	1.486E+02	1.571E+02	1.658E+02
pd107m	2.955E-07	3.124E-07	3.527E-07	3.957E-07	4.414E-07	4.898E-07	5.410E-07	5.949E-07	6.515E-07	7.107E-07	7.726E-07
ag107	1.241E-05	1.404E-05	1.579E-05	1.765E-05	1.965E-05	2.177E-05	2.401E-05	2.639E-05	2.890E-05	3.154E-05	3.431E-05
ag107m	3.002E-14	3.169E-14	3.487E-14	3.830E-14	4.198E-14	4.592E-14	5.011E-14	5.457E-14	5.930E-14	6.431E-14	6.959E-14
cd107	1.561E-13	1.717E-13	2.016E-13	2.352E-13	2.725E-13	3.138E-13	3.592E-13	4.088E-13	4.628E-13	5.212E-13	5.842E-13
in107	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
zrl08	3.369E-13	3.465E-13	3.608E-13	3.772E-13	3.950E-13	4.135E-13	4.324E-13	4.511E-13	4.695E-13	4.871E-13	5.040E-13
nb108	5.989E-10	5.953E-10	6.147E-10	6.353E-10	6.565E-10	6.779E-10	6.991E-10	7.198E-10	7.398E-10	7.590E-10	7.772E-10
mo108	2.956E-07	2.988E-07	3.076E-07	3.171E-07	3.270E-07	3.370E-07	3.469E-07	3.567E-07	3.662E-07	3.753E-07	3.839E-07
tc108	3.437E-06	3.511E-06	3.628E-06	3.755E-06	3.889E-06	4.027E-06	4.165E-06	4.301E-06	4.433E-06	4.561E-06	4.683E-06
ru108	3.343E-04	3.415E-04	3.523E-04	3.638E-04	3.756E-04	3.875E-04	3.993E-04	4.109E-04	4.221E-04	4.329E-04	4.432E-04
rh108	2.071E-05	2.115E-05	2.182E-05	2.253E-05	2.326E-05	2.399E-05	2.472E-05	2.544E-05	2.614E-05	2.680E-05	2.744E-05
rh108m	2.856E-06	2.914E-06	2.998E-06	3.082E-06	3.164E-06	3.243E-06	3.321E-06	3.396E-06	3.469E-06	3.539E-06	3.606E-06
pd108	5.558E+01	6.035E+01	6.524E+01	7.025E+01	7.540E+01	8.069E+01	8.612E+01	9.168E+01	9.736E+01	1.032E+02	1.091E+02
ag108	6.672E-10	7.162E-10	7.909E-10	8.676E-10	9.463E-10	1.027E-09	1.109E-09	1.193E-09	1.279E-09	1.366E-09	1.453E-09
ag108m	3.290E-07	3.525E-07	3.763E-07	4.002E-07	4.243E-07	4.485E-07	4.728E-07	4.972E-07	5.216E-07	5.461E-07	5.706E-07
cd108	1.270E-04	1.456E-04	1.662E-04	1.888E-04	2.134E-04	2.402E-04	2.692E-04	3.004E-04	3.339E-04	3.697E-04	4.078E-04
zrl09	2.452E-14	2.405E-14	2.344E-14	2.285E-14	2.229E-14	2.175E-14	2.124E-14	2.074E-14	2.027E-14	1.981E-14	1.938E-14
nb109	1.026E-10	9.995E-11	9.878E-11	9.763E-11	9.650E-11	9.539E-11	9.431E-11	9.326E-11	9.224E-11	9.126E-11	9.032E-11
mo109	4.590E-08	4.563E-08	4.659E-08	4.767E-08	4.881E-08	4.999E-08	5.118E-08	5.235E-08	5.349E-08	5.459E-08	5.563E-08
tc109	4.368E-07	4.461E-07	4.605E-07	4.763E-07	4.929E-07	5.098E-07	5.268E-07	5.435E-07	5.598E-07	5.755E-07	5.904E-07
ru109	1.945E-05	1.988E-05	2.052E-05	2.120E-05	2.191E-05	2.263E-05	2.334E-05	2.404E-05	2.472E-05	2.538E-05	2.600E-05
ru109m	3.215E-06	3.289E-06	3.394E-06	3.503E-06	3.613E-06	3.724E-06	3.833E-06	3.940E-06	4.043E-06	4.143E-06	4.238E-06
rh109	6.684E-05	6.833E-05	7.052E-05	7.284E-05	7.522E-05	7.763E-05	8.002E-05	8.237E-05	8.464E-05	8.683E-05	8.893E-05
rh109m	1.471E-05	1.503E-05	1.551E-05	1.603E-05	1.656E-05	1.710E-05	1.763E-05	1.816E-05	1.867E-05	1.916E-05	1.963E-05
pd109	4.956E-02	5.089E-02	5.322E-02	5.568E-02	5.823E-02	6.083E-02	6.348E-02	6.613E-02	6.879E-02	7.144E-02	7.406E-02
pd109m	1.005E-06	1.054E-06	1.172E-06	1.296E-06	1.426E-06	1.561E-06	1.701E-06	1.847E-06	1.998E-06	2.154E-06	2.314E-06
ag109	3.027E+01	3.265E+01	3.502E+01	3.741E+01	3.981E+01	4.222E+01	4.464E+01	4.707E+01	4.951E+01	5.195E+01	5.440E+01
ag109m	3.980E-05	4.087E-05	4.274E-05	4.472E-05	4.676E-05	4.886E-05	5.098E-05	5.312E-05	5.526E-05	5.738E-05	5.949E-05
cd109	1.216E-05	1.418E-05	1.651E-05	1.915E-05	2.214E-05	2.548E-05	2.921E-05	3.333E-05	3.786E-05	4.281E-05	4.819E-05
in109	1.882E-18	2.098E-18	2.409E-18	2.739E-18	3.081E-18	3.432E-18	3.789E-18	4.			

rh110m	1.110E-05	1.135E-05	1.171E-05	1.210E-05	1.251E-05	1.292E-05	1.333E-05	1.373E-05	1.413E-05	1.451E-05	1.488E-05
pd110	1.810E+01	1.970E+01	2.134E+01	2.304E+01	2.479E+01	2.660E+01	2.847E+01	3.039E+01	3.236E+01	3.439E+01	3.648E+01
ag110	1.043E-05	1.052E-05	1.162E-05	1.274E-05	1.390E-05	1.508E-05	1.628E-05	1.751E-05	1.876E-05	2.003E-05	2.131E-05
ag110m	2.077E-01	2.267E-01	2.481E-01	2.717E-01	2.971E-01	3.242E-01	3.528E-01	3.827E-01	4.137E-01	4.458E-01	4.788E-01
cd110	1.198E+01	1.360E+01	1.538E+01	1.734E+01	1.948E+01	2.180E+01	2.431E+01	2.700E+01	2.989E+01	3.297E+01	3.624E+01
nb111	3.874E-12	3.721E-12	3.822E-12	3.918E-12	4.008E-12	4.093E-12	4.173E-12	4.248E-12	4.319E-12	4.385E-12	4.447E-12
mol11	6.539E-10	6.282E-10	6.425E-10	6.559E-10	6.684E-10	6.800E-10	6.909E-10	7.010E-10	7.106E-10	7.195E-10	7.278E-10
tc111	2.552E-08	2.546E-08	2.606E-08	2.671E-08	2.738E-08	2.808E-08	2.877E-08	2.946E-08	3.012E-08	3.077E-08	3.138E-08
ru111	2.597E-07	2.653E-07	2.736E-07	2.824E-07	2.917E-07	3.010E-07	3.104E-07	3.197E-07	3.287E-07	3.374E-07	3.458E-07
rh111	2.021E-06	2.065E-06	2.130E-06	2.200E-06	2.272E-06	2.346E-06	2.419E-06	2.492E-06	2.564E-06	2.634E-06	2.701E-06

Cycle 3 -DD Assembly

fission products

page

power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm**2-sec
nuclide concentrations, grams
basis = 0.3883 MTU

	charge	1379.6 d	1445.3 d	1511.0 d	1576.7 d	1642.4 d	1708.1 d	1773.8 d	1839.5 d	1905.2 d	1970.9 d
pd111	2.609E-04	2.667E-04	2.754E-04	2.847E-04	2.943E-04	3.042E-04	3.141E-04	3.239E-04	3.335E-04	3.429E-04	3.521E-04
pd111m	7.667E-06	8.149E-06	9.189E-06	1.031E-05	1.153E-05	1.284E-05	1.426E-05	1.578E-05	1.742E-05	1.917E-05	2.106E-05
ag111	1.192E-01	1.224E-01	1.264E-01	1.307E-01	1.352E-01	1.398E-01	1.444E-01	1.490E-01	1.536E-01	1.581E-01	1.625E-01
ag111m	1.205E-05	1.232E-05	1.273E-05	1.317E-05	1.363E-05	1.410E-05	1.457E-05	1.504E-05	1.550E-05	1.595E-05	1.639E-05
cd111	8.480E+00	9.229E+00	1.000E+01	1.080E+01	1.164E+01	1.250E+01	1.339E+01	1.432E+01	1.528E+01	1.628E+01	1.731E+01
cd111m	1.657E-06	1.802E-06	2.061E-06	2.344E-06	2.653E-06	2.989E-06	3.353E-06	3.745E-06	4.166E-06	4.617E-06	5.097E-06
in111	1.973E-13	2.222E-13	2.586E-13	2.983E-13	3.408E-13	3.859E-13	4.336E-13	4.838E-13	5.364E-13	5.913E-13	6.485E-13
sn111	4.257E-20	4.716E-20	5.400E-20	6.128E-20	6.890E-20	7.681E-20	8.502E-20	9.352E-20	1.024E-19	1.116E-19	1.212E-19
nb112	1.241E-14	1.192E-14	1.224E-14	1.254E-14	1.283E-14	1.310E-14	1.335E-14	1.359E-14	1.381E-14	1.402E-14	1.421E-14
mol12	1.707E-10	1.639E-10	1.682E-10	1.722E-10	1.759E-10	1.795E-10	1.828E-10	1.859E-10	1.888E-10	1.915E-10	1.941E-10
tc112	1.241E-09	1.213E-09	1.242E-09	1.270E-09	1.299E-09	1.327E-09	1.355E-09	1.381E-09	1.406E-09	1.430E-09	1.453E-09
ru112	2.228E-07	2.266E-07	2.331E-07	2.399E-07	2.469E-07	2.540E-07	2.611E-07	2.681E-07	2.748E-07	2.814E-07	2.876E-07
rh112	1.213E-07	1.236E-07	1.272E-07	1.310E-07	1.349E-07	1.389E-07	1.430E-07	1.469E-07	1.508E-07	1.547E-07	1.584E-07
pd112	6.148E-03	6.265E-03	6.451E-03	6.648E-03	6.853E-03	7.062E-03	7.272E-03	7.482E-03	7.690E-03	7.895E-03	8.097E-03
ag112	9.192E-04	9.367E-04	9.646E-04	9.942E-04	1.025E-03	1.056E-03	1.088E-03	1.120E-03	1.151E-03	1.182E-03	1.212E-03
cd112	4.327E+00	4.696E+00	5.078E+00	5.475E+00	5.888E+00	6.317E+00	6.763E+00	7.226E+00	7.706E+00	8.204E+00	8.720E+00
in112	3.477E-15	4.181E-15	5.265E-15	6.561E-15	8.098E-15	9.966E-15	1.202E-14	1.446E-14	1.726E-14	2.045E-14	2.406E-14
in112m	3.869E-15	4.652E-15	5.858E-15	7.300E-15	9.011E-15	1.102E-14	1.337E-14	1.609E-14	1.920E-14	2.276E-14	2.677E-14
sn112	4.261E-11	5.707E-11	7.536E-11	9.823E-11	1.265E-10	1.613E-10	2.035E-10	2.545E-10	3.155E-10	3.879E-10	4.734E-10
mol13	2.976E-12	2.859E-12	2.937E-12	3.010E-12	3.079E-12	3.144E-12	3.206E-12	3.263E-12	3.317E-12	3.368E-12	3.416E-12
tc113	4.826E-10	4.676E-10	4.786E-10	4.893E-10	4.996E-10	5.095E-10	5.189E-10	5.279E-10	5.364E-10	5.444E-10	5.520E-10
ru113	8.891E-08	9.024E-08	9.273E-08	9.541E-08	9.820E-08	1.010E-07	1.039E-07	1.066E-07	1.093E-07	1.119E-07	1.144E-07
rh113	4.994E-08	5.075E-08	5.210E-08	5.354E-08	5.503E-08	5.655E-08	5.806E-08	5.956E-08	6.103E-08	6.247E-08	6.385E-08
pd113	5.231E-06	5.317E-06	5.460E-06	5.613E-06	5.772E-06	5.935E-06	6.100E-06	6.264E-06	6.428E-06	6.589E-06	6.748E-06
ag113	1.047E-03	1.065E-03	1.093E-03	1.124E-03	1.156E-03	1.189E-03	1.222E-03	1.255E-03	1.288E-03	1.320E-03	1.352E-03
ag113m	7.154E-07	7.275E-07	7.472E-07	7.683E-07	7.903E-07	8.130E-07	8.359E-07	8.590E-07	8.819E-07	9.047E-07	9.272E-07
cd113	4.437E-02	4.257E-02	4.249E-02	4.257E-02	4.275E-02	4.301E-02	4.333E-02	4.368E-02	4.406E-02	4.446E-02	4.487E-02
cd113m	9.798E-04	9.505E-04	9.704E-04	9.938E-04	1.020E-03	1.048E-03	1.078E-03	1.110E-03	1.142E-03	1.177E-03	1.212E-03
in113	1.085E-04	1.158E-04	1.229E-04	1.302E-04	1.376E-04	1.450E-04	1.527E-04	1.604E-04	1.683E-04	1.763E-04	1.846E-04
in113m	8.281E-13	8.538E-13	9.392E-13	1.029E-12	1.123E-12	1.222E-12	1.326E-12	1.436E-12	1.552E-12	1.675E-12	1.804E-12
sn113	1.120E-12	1.309E-12	1.543E-12	1.821E-12	2.149E-12	2.530E-12	2.970E-12	3.476E-12	4.055E-12	4.715E-12	5.465E-12
sn113m	2.650E-19	3.553E-19	4.603E-19	5.895E-19	7.466E-19	9.355E-19	1.161E-18	1.426E-18	1.736E-18	2.096E-18	2.510E-18
sb113	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
mol14	3.236E-13	3.154E-13	3.240E-13	3.322E-13	3.399E-13	3.472E-13	3.540E-13	3.605E-13	3.666E-13	3.723E-13	3.777E-13
tc114	4.431E-11	4.383E-11	4.501E-11	4.613E-11	4.719E-11	4.821E-11	4.917E-11	5.008E-11	5.094E-11	5.175E-11	5.252E-11
ru114	9.318E-08	9.425E-08	9.685E-08	9.956E-08	1.023E-07	1.051E-07	1.078E-07	1.105E-07	1.130E-07	1.155E-07	1.178E-07
rh114	5.363E-08	5.436E-08	5.576E-08	5.722E-08	5.872E-08	6.022E-08	6.170E-08	6.316E-08	6.457E-08	6.593E-08	6.723E-08
pd114	5.613E-06	5.686E-06	5.822E-06	5.965E-06	6.110E-06	6.257E-06	6.404E-06	6.550E-06	6.695E-06	6.837E-06	6.977E-06
ag114	1.775E-07	1.797E-07	1.839E-07	1.883E-07	1.928E-07	1.973E-07	2.018E-07	2.064E-07	2.108E-07	2.152E-07	2.196E-07
cd114	5.137E+00	5.520E+00	5.911E+00	6.311E+00	6.721E+00	7.142E+00	7.574E+00	8.016E+00	8.468E+00	8.932E+00	9.405E+00
in114	2.015E-11	2.114E-11	2.291E-11	2.488E-11	2.697E-11	2.913E-11	3.136E-11	3.365E-11	3.601E-11	3.844E-11	4.092E-11
in114m	8.762E-07	9.261E-07	1.000E-06	1.086E-06	1.177E-06	1.272E-06	1.371E-06	1.472E-06	1.576E-06	1.683E-06	1.792E-06
sn114	8.417E-06	9.572E-06	1.082E-05	1.217E-05	1.363E-05	1.522E-05	1.692E-05	1.876E-05	2.072E-05	2.282E-05	2.505E-05
mol15	3.385E-15	3.364E-15	3.484E-15	3.614E-15	3.749E-15	3.887E-15	4.025E-15	4.160E-15	4.290E-15	4.415E-15	4.538E-15
tc115	7.265E-12	7.256E-12	7.519E-12	7.806E-12	8.108E-12	8.418E-12	8.728E-12	9.032E-12	9.327E-12	9.609E-12	9.877E-12
ru115	2.237E-09	2.251E-09	2.322E-09	2.399E-09	2.479E-09	2.560E-09	2.641E-09	2.721E-09	2.798E-09	2.872E-09	2.942E-09
rh115	1.254E-07	1.264E-07	1.295E-07	1.327E-07	1.359E-07	1.392E-07	1.424E-07	1.455E-07	1.486E-07	1.515E-07	1.542E-07
pd115	1.035E-06	1.043E-06	1.064E-06	1.084E-06	1.105E-06	1.126E-06	1.147E-06	1.167E-06	1.187E-06	1.207E-06	1.226E-06
ag115	2.430E-05	2.449E-05	2.497E-05	2.545E-05	2.594E-05	2.643E-05	2.691E-05	2.739E-05	2.786E-05	2.832E-05	2.878E-05
ag115m	1.467E-07	1.476E-07	1.499E-07	1.522E-07	1.546E-07	1.569E-07	1.593E-07	1.616E-07	1.639E-07	1.662E-07	1.684E-07

Cycle 3 -DD Assembly

fission products

page

power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm**2-sec
nuclide concentrations, grams
basis = 0.3883 MTU

	charge	1379.6 d	1445.3 d	1511.0 d	1576.7 d	1642.4 d	1708.1 d	1773.8 d	1839.5 d	1905.2 d	1970.9 d
cd115	5.501E-03	5.547E-03	5.670E-03	5.796E-03	5.925E-03	6.054E-03	6.185E-03	6.315E-03	6.444E-03	6.574E-03	6.703E-03
cd115m	4.957E-03	5.060E-03	5.190E-03	5.334E-03	5.485E-03	5.641E-03	5.800E-03	5.962E-03	6.126E-03	6.291E-03	6.458E-03
in115	6.733E-01	6.899E-01	7.038E-01	7.155E-01	7.254E-01	7.340E-01	7.414E-01	7.480E-01	7.540E-01	7.594E-01	7.645E-01
in115m	4.617E-04	4.656E-04	4.759E-04	4.865E-04	4.973E-04	5.082E-04	5.191E-04	5.300E-04	5.409E-04	5.518E-04	5.626E-04
sn115	8.241E-02	8.755E-02	9.274E-02	9.801E-02	1.033E-01	1.087E-01	1.142E-01	1.198E-01	1.254E-01	1.311E-01	1.368E-01
sb115	1.378E-24	2.383E-24	4.022E-24	6.609E-24	1.064E-23	1.681E-23	2.611E-23	3.984E-23	5.976E-23	8.812E-23	1.279E-22
te115	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
tc116	2.667E-13	2.598E-13	2.679E-13	2.759E-13	2.839E-13	2.917E-13	2.994E-13	3.067E-13	3.137E-13	3.204E-13	3.268E-13
ru116	8.075E-10	7.984E-10	8.230E-10	8.484E-10	8.741E-10	8.997E-10	9.248E-				

rh116	6.042E-09	6.057E-09	6.223E-09	6.394E-09	6.567E-09	6.740E-09	6.909E-09	7.074E-09	7.232E-09	7.384E-09	7.528E-09
pd116	3.291E-07	3.317E-07	3.387E-07	3.456E-07	3.525E-07	3.592E-07	3.658E-07	3.722E-07	3.783E-07	3.842E-07	3.899E-07
ag116	4.704E-06	4.732E-06	4.813E-06	4.893E-06	4.972E-06	5.049E-06	5.123E-06	5.196E-06	5.266E-06	5.334E-06	5.399E-06
ag116m	1.940E-08	1.960E-08	1.992E-08	2.023E-08	2.052E-08	2.079E-08	2.105E-08	2.131E-08	2.156E-08	2.179E-08	2.203E-08
cd116	1.963E+00	2.088E+00	2.214E+00	2.343E+00	2.473E+00	2.606E+00	2.740E+00	2.876E+00	3.014E+00	3.153E+00	3.295E+00
in116	7.488E-08	7.457E-08	7.828E-08	8.172E-08	8.492E-08	8.790E-08	9.069E-08	9.332E-08	9.580E-08	9.817E-08	1.004E-07
in116m	6.491E-05	6.465E-05	6.787E-05	7.085E-05	7.362E-05	7.621E-05	7.863E-05	8.090E-05	8.306E-05	8.511E-05	8.706E-05
sn116	1.059E+00	1.157E+00	1.261E+00	1.369E+00	1.481E+00	1.597E+00	1.717E+00	1.841E+00	1.968E+00	2.098E+00	2.231E+00
tc117	6.683E-15	6.474E-15	6.665E-15	6.852E-15	7.035E-15	7.213E-15	7.384E-15	7.549E-15	7.706E-15	7.855E-15	7.996E-15
ru117	1.888E-11	1.840E-11	1.893E-11	1.946E-11	1.999E-11	2.050E-11	2.100E-11	2.147E-11	2.193E-11	2.236E-11	2.277E-11
rh117	2.554E-09	2.531E-09	2.593E-09	2.656E-09	2.719E-09	2.781E-09	2.843E-09	2.902E-09	2.959E-09	3.013E-09	3.064E-09
pd117	8.873E-08	8.887E-08	9.016E-08	9.146E-08	9.274E-08	9.399E-08	9.522E-08	9.640E-08	9.755E-08	9.866E-08	9.972E-08
ag117	9.855E-07	9.904E-07	1.006E-06	1.022E-06	1.037E-06	1.052E-06	1.066E-06	1.080E-06	1.094E-06	1.107E-06	1.119E-06
ag117m	7.231E-08	7.267E-08	7.383E-08	7.498E-08	7.610E-08	7.719E-08	7.824E-08	7.926E-08	8.025E-08	8.119E-08	8.210E-08
cd117	2.107E-04	2.118E-04	2.152E-04	2.186E-04	2.219E-04	2.251E-04	2.282E-04	2.312E-04	2.341E-04	2.369E-04	2.396E-04
cd117m	5.618E-05	5.651E-05	5.742E-05	5.831E-05	5.918E-05	6.002E-05	6.083E-05	6.162E-05	6.238E-05	6.311E-05	6.382E-05
in117	4.416E-05	4.439E-05	4.511E-05	4.581E-05	4.650E-05	4.717E-05	4.782E-05	4.845E-05	4.906E-05	4.964E-05	5.020E-05
in117m	1.500E-04	1.508E-04	1.532E-04	1.557E-04	1.580E-04	1.603E-04	1.625E-04	1.647E-04	1.667E-04	1.687E-04	1.706E-04
sn117	1.792E+00	1.903E+00	2.016E+00	2.131E+00	2.247E+00	2.365E+00	2.484E+00	2.604E+00	2.727E+00	2.850E+00	2.975E+00
sn117m	3.998E-04	4.138E-04	4.522E-04	4.935E-04	5.369E-04	5.821E-04	6.290E-04	6.778E-04	7.281E-04	7.800E-04	8.334E-04
sb117	2.511E-16	2.798E-16	3.198E-16	3.628E-16	4.087E-16	4.574E-16	5.086E-16	5.622E-16	6.180E-16	6.756E-16	7.349E-16
tel17	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
tc118	4.920E-16	4.727E-16	4.858E-16	4.983E-16	5.100E-16	5.211E-16	5.316E-16	5.415E-16	5.508E-16	5.596E-16	5.679E-16
ru118	5.092E-12	4.911E-12	5.050E-12	5.183E-12	5.311E-12	5.433E-12	5.549E-12	5.659E-12	5.763E-12	5.862E-12	5.955E-12
rh118	1.766E-10	1.723E-10	1.772E-10	1.821E-10	1.868E-10	1.915E-10	1.960E-10	2.003E-10	2.044E-10	2.084E-10	2.121E-10
pd118	2.747E-08	2.737E-08	2.791E-08	2.846E-08	2.901E-08	2.955E-08	3.008E-08	3.059E-08	3.109E-08	3.157E-08	3.202E-08
ag118	5.595E-08	5.606E-08	5.695E-08	5.784E-08	5.872E-08	5.958E-08	6.041E-08	6.122E-08	6.199E-08	6.274E-08	6.345E-08
ag118m	2.088E-08	2.093E-08	2.128E-08	2.163E-08	2.197E-08	2.230E-08	2.263E-08	2.295E-08	2.325E-08	2.354E-08	2.382E-08
cd118	7.060E-05	7.076E-05	7.184E-05	7.291E-05	7.396E-05	7.499E-05	7.599E-05	7.695E-05	7.788E-05	7.876E-05	7.961E-05
in118	1.171E-07	1.174E-07	1.192E-07	1.209E-07	1.227E-07	1.244E-07	1.260E-07	1.276E-07	1.292E-07	1.306E-07	1.321E-07
in118m	2.306E-09	2.344E-09	2.401E-09	2.455E-09	2.508E-09	2.559E-09	2.608E-09	2.655E-09	2.702E-09	2.746E-09	2.790E-09
sn118	1.549E+00	1.644E+00	1.741E+00	1.839E+00	1.939E+00	2.040E+00	2.142E+00	2.246E+00	2.352E+00	2.458E+00	2.567E+00
sb118	3.094E-16	3.271E-16	3.521E-16	3.784E-16	4.059E-16	4.346E-16	4.644E-16	4.951E-16	5.268E-16	5.592E-16	5.922E-16
sb118m	3.986E-14	4.229E-14	4.573E-14	4.936E-14	5.316E-14	5.713E-14	6.126E-14	6.553E-14	6.994E-14	7.445E-14	7.906E-14
tel18	8.845E-23	1.135E-22	1.616E-22	2.345E-22	3.450E-22	5.123E-22	7.635E-22	1.136E-21	1.680E-21	2.462E-21	3.568E-21
ru119	8.086E-14	7.783E-14	8.002E-14	8.212E-14	8.412E-14	8.601E-14	8.782E-14	8.953E-14	9.116E-14	9.271E-14	9.417E-14
rh119	4.827E-11	4.677E-11	4.812E-11	4.944E-11	5.073E-11	5.197E-11	5.317E-11	5.432E-11	5.542E-11	5.647E-11	5.747E-11
pd119	5.267E-09	5.206E-09	5.347E-09	5.490E-09	5.634E-09	5.776E-09	5.916E-09	6.052E-09	6.183E-09	6.308E-09	6.428E-09
ag119	3.071E-08	3.066E-08	3.111E-08	3.156E-08	3.201E-08	3.245E-08	3.288E-08	3.330E-08	3.371E-08	3.409E-08	3.446E-08
cd119	2.545E-06	2.547E-06	2.582E-06	2.617E-06	2.651E-06	2.684E-06	2.717E-06	2.748E-06	2.779E-06	2.808E-06	2.835E-06
cd119m	9.900E-07	9.938E-07	1.007E-06	1.020E-06	1.033E-06	1.046E-06	1.058E-06	1.069E-06	1.080E-06	1.090E-06	1.100E-06

Cycle 3 -DD Assembly

fission products

page

power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm**2-sec
nuclide concentrations, grams
basis = 0.3883 MTU

	charge	1379.6 d	1445.3 d	1511.0 d	1576.7 d	1642.4 d	1708.1 d	1773.8 d	1839.5 d	1905.2 d	1970.9 d
in119	1.428E-06	1.432E-06	1.450E-06	1.468E-06	1.486E-06	1.503E-06	1.519E-06	1.535E-06	1.550E-06	1.564E-06	1.578E-06
in119m	1.541E-05	1.542E-05	1.563E-05	1.585E-05	1.605E-05	1.626E-05	1.645E-05	1.665E-05	1.683E-05	1.700E-05	1.717E-05
sn119	1.598E+00	1.693E+00	1.789E+00	1.886E+00	1.985E+00	2.085E+00	2.185E+00	2.287E+00	2.390E+00	2.494E+00	2.599E+00
sn119m	7.107E-03	7.578E-03	8.088E-03	8.635E-03	9.216E-03	9.829E-03	1.047E-02	1.114E-02	1.184E-02	1.256E-02	1.331E-02
sb119	5.856E-11	6.049E-11	6.326E-11	6.609E-11	6.895E-11	7.185E-11	7.479E-11	7.777E-11	8.076E-11	8.378E-11	8.681E-11
tel19	2.673E-16	2.978E-16	3.404E-16	3.862E-16	4.350E-16	4.866E-16	5.410E-16	5.979E-16	6.570E-16	7.182E-16	7.810E-16
ru120	5.509E-15	5.295E-15	5.439E-15	5.575E-15	5.703E-15	5.824E-15	5.938E-15	6.046E-15	6.148E-15	6.243E-15	6.333E-15
rh120	2.899E-12	2.208E-12	2.258E-12	2.306E-12	2.351E-12	2.394E-12	2.435E-12	2.473E-12	2.510E-12	2.544E-12	2.576E-12
pd120	7.733E-09	7.516E-09	7.415E-09	7.310E-09	7.203E-09	7.095E-09	6.989E-09	6.884E-09	6.782E-09	6.684E-09	6.591E-09
ag120	6.994E-09	6.934E-09	7.031E-09	7.132E-09	7.233E-09	7.334E-09	7.433E-09	7.530E-09	7.622E-09	7.711E-09	7.795E-09
ag120m	9.339E-10	9.349E-10	9.604E-10	9.866E-10	1.013E-09	1.040E-09	1.066E-09	1.092E-09	1.116E-09	1.140E-09	1.162E-09
cd120	1.106E-06	1.107E-06	1.122E-06	1.136E-06	1.151E-06	1.165E-06	1.179E-06	1.193E-06	1.206E-06	1.218E-06	1.230E-06
in120	6.871E-08	6.881E-08	6.973E-08	7.065E-08	7.156E-08	7.245E-08	7.332E-08	7.416E-08	7.497E-08	7.574E-08	7.647E-08
in120m	5.035E-08	5.092E-08	5.178E-08	5.260E-08	5.339E-08	5.413E-08	5.485E-08	5.553E-08	5.619E-08	5.682E-08	5.742E-08
sn120	1.575E+00	1.669E+00	1.764E+00	1.861E+00	1.958E+00	2.057E+00	2.158E+00	2.259E+00	2.361E+00	2.465E+00	2.570E+00
sb120	7.285E-12	7.473E-12	7.749E-12	8.025E-12	8.299E-12	8.572E-12	8.845E-12	9.116E-12	9.387E-12	9.656E-12	9.923E-12
sb120m	5.671E-09	5.827E-09	6.053E-09	6.279E-09	6.505E-09	6.731E-09	6.957E-09	7.183E-09	7.408E-09	7.633E-09	7.857E-09
tel20	6.182E-11	6.797E-11	7.453E-11	8.152E-11	8.895E-11	9.684E-11	1.052E-10	1.141E-10	1.234E-10	1.333E-10	1.437E-10
rh121	2.271E-13	2.185E-13	2.245E-13	2.302E-13	2.356E-13	2.407E-13	2.455E-13	2.500E-13	2.543E-13	2.584E-13	2.622E-13
pd121	1.380E-10	1.339E-10	1.369E-10	1.398E-10	1.426E-10	1.454E-10	1.479E-10	1.504E-10	1.528E-10	1.550E-10	1.570E-10
ag121	3.442E-09	3.396E-09	3.435E-09	3.474E-09	3.514E-09	3.553E-09	3.591E-09	3.628E-09	3.663E-09	3.696E-09	3.728E-09
cd121	1.619E-07	1.618E-07	1.641E-07	1.664E-07	1.686E-07	1.709E-07	1.730E-07	1.751E-07	1.771E-07	1.790E-07	1.809E-07
cd121m	3.694E-08	3.717E-08	3.774E-08	3.832E-08	3.888E-08	3.944E-08	3.998E-08	4.051E-08	4.101E-08	4.149E-08	4.195E-08
in121	3.043E-07	3.065E-07	3.111E-07	3.156E-07	3.200E-07	3.243E-07	3.284E-07	3.323E-07	3.361E-07	3.397E-07	3.431E-07
in121m	3.060E-06	3.061E-06	3.105E-06	3.150E-06	3.194E-06	3.237E-06	3.279E-06	3.320E-06	3.358E-06	3.395E-06	3.431E-06
sn121	2.435E-03	2.444E-03	2.480E-03	2.515E-03	2.550E-03	2.584E-03	2.617E-03	2.648E-03	2.679E-03	2.708E-03	2.735E-03
sn121m	1.028E-01	1.090E-01	1.153E-01	1.216E-01	1.280E-01	1.345E-01	1.409E-01	1.474E-01	1.540E-01	1.605E-01	1.671E-01
sb121	1.533E+00	1.620E+00	1.708E+00	1.796E+00	1.884E+00	1.972E+00	2.060E+00	2.149E+00	2.237E+00	2.325E+00	2.414E+00
tel21	2.268E-10	2.366E-10	2.480E-10	2.599E-10	2.722E-10	2.847E-10	2.976E-10	3.107E-10	3.241E-10	3.377E-10	3.515E-10
tel121m	1.015E-09	1.064E-09	1.115E-09	1.169E-09	1.224E-09	1.281E-09	1.339E-09	1.399E-09	1.460E-09	1.523E-09	1.586E-09
i121	1.445E-17	1.609E-17	1.845E-17	2.098E-17	2.364E-17	2.641E-17	2.927E-17	3.222E-17	3.525E-17	3.834E-17	4.149E-17
rh122	5.559E-15	5.341E-15	5.488E-15	5.626E-15	5.757E-15	5.881E-15	5.997E-15	6.106E-15	6.209E-15	6.306E-15	6.397E-15
pd122	5.465E-11	5.272E-11	5.400E-11	5.523E-11	5.639E-11	5.750E-11	5.855E-11	5.953E-11	6.047E-11	6.134E-11	6.217E-11
ag122	3.749E-10	3.665E-10	3.725E-10	3.783E-10	3.841E-10	3.897E-10	3.950E-10	4.002E-10	4.050E-10	4.096E-10	4.140E-10
ag122m	1.114E-09	1.090E-09	1.107E-09	1.124E-09	1.141E-09	1.157E-09	1.172E-09	1.187E-09	1.202E-09	1.215E-09	1.228E-09

cd122	9.070E-08	9.026E-08	9.090E-08	9.154E-08	9.217E-08	9.277E-08	9.335E-08	9.391E-08	9.444E-08	9.494E-08	9.541E-08
in122	3.164E-08	3.159E-08	3.190E-08	3.221E-08	3.251E-08	3.280E-08	3.308E-08	3.335E-08	3.360E-08	3.385E-08	3.408E-08
in122m	7.792E-08	7.899E-08	8.073E-08	8.244E-08	8.410E-08	8.571E-08	8.727E-08	8.877E-08	9.020E-08	9.158E-08	9.289E-08
sn122	2.061E+00	2.185E+00	2.312E+00	2.439E+00	2.569E+00	2.700E+00	2.833E+00	2.967E+00	3.102E+00	3.239E+00	3.378E+00
sb122	7.690E-04	7.828E-04	8.488E-04	9.161E-04	9.846E-04	1.054E-03	1.125E-03	1.196E-03	1.268E-03	1.341E-03	1.414E-03
sb122m	8.524E-08	8.676E-08	9.398E-08	1.013E-07	1.088E-07	1.164E-07	1.241E-07	1.319E-07	1.398E-07	1.477E-07	1.557E-07
tel22	1.044E-01	1.166E-01	1.298E-01	1.440E-01	1.592E-01	1.755E-01	1.929E-01	2.113E-01	2.308E-01	2.514E-01	2.731E-01
rh123	2.961E-16	2.844E-16	2.922E-16	2.996E-16	3.065E-16	3.130E-16	3.191E-16	3.249E-16	3.303E-16	3.354E-16	3.402E-16
pd123	1.425E-12	1.371E-12	1.405E-12	1.438E-12	1.469E-12	1.497E-12	1.525E-12	1.550E-12	1.574E-12	1.597E-12	1.618E-12
ag123	2.059E-10	1.995E-10	2.019E-10	2.042E-10	2.063E-10	2.083E-10	2.101E-10	2.118E-10	2.134E-10	2.149E-10	2.163E-10
cd123	8.974E-08	8.827E-08	8.804E-08	8.780E-08	8.755E-08	8.730E-08	8.705E-08	8.679E-08	8.654E-08	8.629E-08	8.604E-08
in123	1.175E-07	1.174E-07	1.187E-07	1.199E-07	1.212E-07	1.224E-07	1.236E-07	1.247E-07	1.258E-07	1.268E-07	1.278E-07
in123m	2.303E-07	2.302E-07	2.331E-07	2.361E-07	2.390E-07	2.418E-07	2.445E-07	2.472E-07	2.497E-07	2.521E-07	2.544E-07
sn123	5.834E-02	5.973E-02	6.110E-02	6.245E-02	6.377E-02	6.506E-02	6.631E-02	6.752E-02	6.870E-02	6.983E-02	7.091E-02
sn123m	6.219E-05	6.224E-05	6.300E-05	6.376E-05	6.450E-05	6.523E-05	6.592E-05	6.660E-05	6.724E-05	6.786E-05	6.845E-05

Cycle 3 -DD Assembly

fission products

page

power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm**2-sec

nuclide concentrations, grams
basis = 0.3883 MTU

charge	1379.6 d	1445.3 d	1511.0 d	1576.7 d	1642.4 d	1708.1 d	1773.8 d	1839.5 d	1905.2 d	1970.9 d
sb123	1.936E+00	2.049E+00	2.163E+00	2.277E+00	2.391E+00	2.507E+00	2.622E+00	2.738E+00	2.855E+00	2.972E+00
tel23	8.261E-04	9.431E-04	1.070E-03	1.207E-03	1.356E-03	1.517E-03	1.691E-03	1.877E-03	2.076E-03	2.287E-03
tel23m	1.795E-04	2.007E-04	2.260E-04	2.549E-04	2.869E-04	3.219E-04	3.597E-04	4.005E-04	4.441E-04	4.907E-04
i123	2.327E-12	2.370E-12	2.435E-12	2.496E-12	2.555E-12	2.612E-12	2.666E-12	2.718E-12	2.768E-12	2.816E-12
pd124	2.415E-13	2.323E-13	2.344E-13	2.361E-13	2.375E-13	2.387E-13	2.397E-13	2.406E-13	2.413E-13	2.420E-13
ag124	7.705E-11	7.438E-11	7.216E-11	6.986E-11	6.752E-11	6.517E-11	6.285E-11	6.058E-11	5.838E-11	5.627E-11
cd124	6.679E-09	6.476E-09	6.306E-09	6.133E-09	5.958E-09	5.784E-09	5.613E-09	5.445E-09	5.283E-09	5.127E-09
in124	5.525E-08	5.489E-08	5.506E-08	5.522E-08	5.535E-08	5.547E-08	5.558E-08	5.567E-08	5.576E-08	5.584E-08
in124m	2.402E-08	2.429E-08	2.487E-08	2.545E-08	2.602E-08	2.657E-08	2.711E-08	2.763E-08	2.813E-08	2.860E-08
sn124	3.447E+00	3.652E+00	3.860E+00	4.069E+00	4.281E+00	4.495E+00	4.711E+00	4.928E+00	5.148E+00	5.369E+00
sb124	1.466E-02	1.538E-02	1.645E-02	1.770E-02	1.905E-02	2.046E-02	2.191E-02	2.340E-02	2.491E-02	2.643E-02
sb124m	8.328E-09	8.505E-09	8.986E-09	9.488E-09	1.000E-08	1.053E-08	1.106E-08	1.159E-08	1.212E-08	1.265E-08
tel24	8.889E-02	1.005E-01	1.129E-01	1.261E-01	1.405E-01	1.559E-01	1.724E-01	1.901E-01	2.090E-01	2.292E-01
i124	7.187E-15	7.072E-15	7.481E-15	7.882E-15	8.275E-15	8.660E-15	9.037E-15	9.405E-15	9.765E-15	1.012E-14
xel24	2.468E-14	2.860E-14	3.297E-14	3.780E-14	4.312E-14	4.894E-14	5.528E-14	6.215E-14	6.956E-14	7.752E-14
pd125	2.928E-15	2.812E-15	2.889E-15	2.962E-15	3.030E-15	3.095E-15	3.156E-15	3.213E-15	3.266E-15	3.317E-15
ag125	4.980E-12	4.782E-12	4.913E-12	5.037E-12	5.153E-12	5.263E-12	5.366E-12	5.463E-12	5.554E-12	5.640E-12
cd125	4.846E-09	4.682E-09	4.543E-09	4.399E-09	4.252E-09	4.106E-09	3.961E-09	3.819E-09	3.682E-09	3.549E-09
in125	3.319E-08	3.320E-08	3.355E-08	3.390E-08	3.424E-08	3.457E-08	3.489E-08	3.520E-08	3.550E-08	3.578E-08
in125m	1.585E-07	1.591E-07	1.613E-07	1.636E-07	1.659E-07	1.681E-07	1.702E-07	1.723E-07	1.743E-07	1.761E-07
sn125	2.543E-02	2.576E-02	2.623E-02	2.669E-02	2.714E-02	2.756E-02	2.797E-02	2.836E-02	2.873E-02	2.909E-02
sn125m	2.314E-05	2.320E-05	2.344E-05	2.368E-05	2.392E-05	2.414E-05	2.436E-05	2.456E-05	2.476E-05	2.495E-05
sb125	3.134E+00	3.269E+00	3.402E+00	3.532E+00	3.660E+00	3.785E+00	3.908E+00	4.028E+00	4.146E+00	4.261E+00
tel25	1.416E+00	1.559E+00	1.708E+00	1.862E+00	2.023E+00	2.188E+00	2.360E+00	2.536E+00	2.718E+00	2.905E+00
in125m	4.006E-02	4.198E-02	4.388E-02	4.575E-02	4.759E-02	4.941E-02	5.120E-02	5.297E-02	5.471E-02	5.642E-02
i125	4.890E-11	5.200E-11	5.701E-11	6.327E-11	7.033E-11	7.801E-11	8.623E-11	9.498E-11	1.042E-10	1.140E-10
xel25	3.931E-13	4.226E-13	4.845E-13	5.524E-13	6.265E-13	7.069E-13	7.937E-13	8.871E-13	9.871E-13	1.094E-12
pd126	4.787E-17	5.147E-17	5.901E-17	6.728E-17	7.631E-17	8.610E-17	9.667E-17	1.080E-16	1.202E-16	1.332E-16
ag126	7.250E-28	1.254E-27	2.116E-27	3.477E-27	5.597E-27	8.846E-27	1.374E-26	2.096E-26	3.144E-26	4.637E-26
cd126	1.433E-16	1.380E-16	1.398E-16	1.413E-16	1.428E-16	1.441E-16	1.452E-16	1.463E-16	1.473E-16	1.482E-16
in126	1.694E-09	1.637E-09	1.553E-09	1.468E-09	1.382E-09	1.297E-09	1.213E-09	1.132E-09	1.053E-09	9.780E-10
in126m	1.524E-08	1.539E-08	1.579E-08	1.619E-08	1.660E-08	1.700E-08	1.740E-08	1.778E-08	1.815E-08	1.851E-08
in126m	2.079E-08	2.077E-08	2.093E-08	2.110E-08	2.127E-08	2.143E-08	2.159E-08	2.175E-08	2.190E-08	2.204E-08
sn126	7.913E+00	8.405E+00	8.903E+00	9.407E+00	9.918E+00	1.044E+01	1.096E+01	1.149E+01	1.202E+01	1.256E+01
sb126	1.743E-03	1.751E-03	1.793E-03	1.833E-03	1.873E-03	1.912E-03	1.950E-03	1.987E-03	2.024E-03	2.061E-03
sb126m	2.482E-06	2.481E-06	2.510E-06	2.537E-06	2.563E-06	2.587E-06	2.611E-06	2.634E-06	2.657E-06	2.680E-06
tel26	2.504E-01	2.663E-01	2.826E-01	2.995E-01	3.168E-01	3.347E-01	3.531E-01	3.721E-01	3.916E-01	4.117E-01
i126	3.815E-06	3.851E-06	4.162E-06	4.483E-06	4.807E-06	5.136E-06	5.467E-06	5.801E-06	6.138E-06	6.476E-06
xel26	4.718E-05	5.285E-05	5.889E-05	6.538E-05	7.235E-05	7.980E-05	8.772E-05	9.613E-05	1.050E-04	1.144E-04
ag127	2.959E-17	2.850E-17	2.841E-17	2.828E-17	2.812E-17	2.795E-17	2.776E-17	2.757E-17	2.737E-17	2.718E-17
cd127	1.918E-09	1.854E-09	1.756E-09	1.657E-09	1.558E-09	1.459E-09	1.362E-09	1.267E-09	1.176E-09	1.089E-09
in127	3.981E-08	3.930E-08	3.878E-08	3.825E-08	3.771E-08	3.717E-08	3.665E-08	3.613E-08	3.563E-08	3.515E-08
in127m	7.686E-08	7.699E-08	7.805E-08	7.912E-08	8.019E-08	8.124E-08	8.226E-08	8.325E-08	8.420E-08	8.511E-08
sn127	1.448E-03	1.460E-03	1.479E-03	1.498E-03	1.516E-03	1.534E-03	1.551E-03	1.567E-03	1.582E-03	1.597E-03
sn127m	2.861E-05	2.879E-05	2.919E-05	2.957E-05	2.995E-05	3.031E-05	3.067E-05	3.100E-05	3.133E-05	3.163E-05
sb127	1.072E-01	1.080E-01	1.095E-01	1.109E-01	1.122E-01	1.135E-01	1.148E-01	1.160E-01	1.172E-01	1.183E-01
tel27	1.070E-02	1.079E-02	1.094E-02	1.108E-02	1.122E-02	1.135E-02	1.147E-02	1.159E-02	1.171E-02	1.182E-02
tel27m	5.107E-01	5.181E-01	5.252E-01	5.321E-01	5.389E-01	5.455E-01	5.519E-01	5.581E-01	5.641E-01	5.699E-01
i127	1.922E+01	2.035E+01	2.148E+01	2.261E+01	2.375E+01	2.488E+01	2.602E+01	2.716E+01	2.829E+01	2.942E+01
xel27	8.552E-07	9.413E-07	1.071E-06	1.223E-06	1.393E-06	1.580E-06	1.783E-06	2.003E-06	2.240E-06	2.494E-06

Cycle 3 -DD Assembly

fission products

page

power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm**2-sec

nuclide concentrations, grams
basis = 0.3883 MTU

charge	1379.6 d	1445.3 d	1511.0 d	1576.7 d	1642.4 d	1708.1 d	1773.8 d	1839.5 d	1905.2 d	1970.9 d
xe127m	7.236E-23	1.252E-22	2.112E-22	3.471E-22	5.587E-22	8.829E-22	1.371E-21	2.092E-21	3.138E-21	4.628E-21
cs127	2.929E-24	5.067E-24	8.551E-24	1.405E-23	2.262E-23	3.575E-23	5.551E-23	8.471E-23	1.271E-22	2.719E-22
ag128	1.067E-18	1.027E-18	1.018E-18	1.007E-18	9.947E-19	9.822E-19	9.695E-19	9.566E-19	9.440E-19	9.317E-19
cd128	1.545E-09	1.493E-09	1.414E-09	1.333E-09	1.253E-09	1.172E-09	1.094E-09	1.017E-09	9.433E-10	8.725E-10

FC08514
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Cycle 3 --DD Assembly
power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm**2-sec
nuclide concentrations, grams
basis = 0.3883 MTU
charge 1379.6 d 1445.3 d 1511.0 d 1576.7 d 1642.4 d 1708.1 d 1773.8 d 1839.5 d 1905.2 d 1970.9 d
cd132 2.293E-12 2.207E-12 2.268E-12 2.326E-12 2.381E-12 2.433E-12 2.482E-12 2.529E-12 2.573E-12 2.614E-12 2.652E-12
in132 1.797E-09 1.743E-09 1.755E-09 1.764E-09 1.773E-09 1.780E-09 1.787E-09 1.792E-09 1.797E-09 1.802E-09 1.806E-09
sn132 2.846E-05 2.809E-05 2.812E-05 2.813E-05 2.814E-05 2.814E-05 2.814E-05 2.813E-05 2.812E-05 2.810E-05 2.809E-05
sb132 4.274E-04 4.269E-04 4.285E-04 4.301E-04 4.316E-04 4.330E-04 4.343E-04 4.356E-04 4.367E-04 4.379E-04 4.389E-04
sb132m 2.635E-04 2.608E-04 2.604E-04 2.601E-04 2.597E-04 2.594E-04 2.590E-04 2.587E-04 2.583E-04 2.580E-04 2.577E-04
tel132 1.452E+00 1.448E+00 1.450E+00 1.453E+00 1.455E+00 1.456E+00 1.458E+00 1.460E+00 1.461E+00 1.462E+00 1.464E+00
i132 4.347E-02 4.336E-02 4.345E-02 4.355E-02 4.363E-02 4.371E-02 4.378E-02 4.385E-02 4.391E-02 4.396E-02 4.402E-02
i132m 3.420E-04 3.474E-04 3.556E-04 3.636E-04 3.713E-04 3.787E-04 3.858E-04 3.927E-04 3.992E-04 4.055E-04 4.114E-04
xel132 4.967E+02 5.261E+02 5.560E+02 5.864E+02 6.172E+02 6.486E+02 6.804E+02 7.126E+02 7.452E+02 7.782E+02 8.115E+02
cs132 8.561E-05 8.879E-05 9.497E-05 1.011E-04 1.072E-04 1.132E-04 1.192E-04 1.251E-04 1.309E-04 1.366E-04 1.421E-04
ba132 9.162E-05 1.010E-04 1.109E-04 1.214E-04 1.323E-04 1.437E-04 1.555E-04 1.677E-04 1.804E-04 1.933E-04 2.067E-04
in133 8.966E-11 8.662E-11 8.845E-11 9.020E-11 9.186E-11 9.344E-11 9.493E-11 9.634E-11 9.767E-11 9.891E-11 1.001E-10
sn133 2.241E-07 2.192E-07 2.191E-07 2.191E-07 2.190E-07 2.189E-07 2.188E-07 2.187E-07 2.185E-07 2.184E-07 2.182E-07
sb133 3.365E-04 3.326E-04 3.307E-04 3.288E-04 3.270E-04 3.253E-04 3.236E-04 3.221E-04 3.205E-04 3.190E-04 3.176E-04
tel133 2.984E-03 2.966E-03 2.961E-03 2.955E-03 2.950E-03 2.944E-03 2.939E-03 2.934E-03 2.929E-03 2.924E-03 2.919E-03
tel133m 1.161E-02 1.155E-02 1.152E-02 1.148E-02 1.145E-02 1.141E-02 1.138E-02 1.134E-02 1.131E-02 1.128E-02 1.125E-02
i133 5.582E-01 5.558E-01 5.554E-01 5.550E-01 5.545E-01 5.540E-01 5.534E-01 5.529E-01 5.523E-01 5.518E-01 5.512E-01
i133m 5.877E-06 5.890E-06 5.929E-06 5.965E-06 5.998E-06 6.029E-06 6.057E-06 6.084E-06 6.109E-06 6.132E-06 6.155E-06
xel133 3.383E+00 3.369E+00 3.367E+00 3.365E+00 3.363E+00 3.361E+00 3.358E+00 3.356E+00 3.353E+00 3.351E+00 3.349E+00
xel133m 4.397E-02 4.386E-02 4.393E-02 4.400E-02 4.406E-02 4.411E-02 4.416E-02 4.421E-02 4.425E-02 4.430E-02 4.434E-02
cs133 5.240E-02 5.462E+02 5.678E+02 5.888E+02 6.092E+02 6.291E+02 6.484E+02 6.672E+02 6.854E+02 7.030E+02 7.202E+02
ba133 6.492E-05 7.793E-05 9.305E-05 1.105E-04 1.303E-04 1.529E-04 1.783E-04 2.068E-04 2.386E-04 2.738E-04 3.127E-04
la133 6.820E-18 7.517E-18 8.545E-18 9.618E-18 1.071E-17 1.181E-17 1.291E-17 1.400E-17 1.508E-17 1.614E-17 1.718E-17
in134 3.867E-12 3.724E-12 3.818E-12 3.908E-12 3.993E-12 4.073E-12 4.149E-12 4.221E-12 4.288E-12 4.351E-12 4.411E-12
sn134 2.941E-08 2.858E-08 2.879E-08 2.898E-08 2.916E-08 2.933E-08 2.948E-08 2.962E-08 2.975E-08 2.986E-08 2.997E-08
sb134 3.833E-07 3.778E-07 3.786E-07 3.795E-07 3.804E-07 3.813E-07 3.822E-07 3.831E-07 3.839E-07 3.846E-07 3.853E-07
sb134m 4.456E-06 4.396E-06 4.404E-06 4.413E-06 4.423E-06 4.433E-06 4.442E-06 4.452E-06 4.461E-06 4.469E-06 4.477E-06
tel134 1.663E-02 1.649E-02 1.639E-02 1.629E-02 1.620E-02 1.610E-02 1.601E-02 1.592E-02 1.583E-02 1.574E-02 1.566E-02
i134 2.656E-02 2.642E-02 2.637E-02 2.632E-02 2.627E-02 2.622E-02 2.617E-02 2.611E-02 2.606E-02 2.601E-02 2.597E-02
i134m 1.762E-04 1.776E-04 1.800E-04 1.823E-04 1.846E-04 1.868E-04 1.889E-04 1.909E-04 1.929E-04 1.947E-04 1.965E-04

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xe134	7.024E+02	7.368E+02	7.711E+02	8.054E+02	8.396E+02	8.737E+02	9.078E+02	9.418E+02	9.757E+02	1.010E+03	1.043E+03
xe134m	4.646E-08	4.693E-08	4.864E-08	5.033E-08	5.202E-08	5.368E-08	5.534E-08	5.698E-08	5.860E-08	6.022E-08	6.181E-08
cs134	4.838E+01	5.202E+01	5.587E+01	5.990E+01	6.410E+01	6.844E+01	7.290E+01	7.746E+01	8.211E+01	8.682E+01	9.158E+01
cs134m	1.675E-03	1.644E-03	1.760E-03	1.875E-03	1.990E-03	2.104E-03	2.216E-03	2.327E-03	2.437E-03	2.545E-03	2.651E-03
ba134	2.101E+01	2.402E+01	2.724E+01	3.070E+01	3.440E+01	3.835E+01	4.256E+01	4.703E+01	5.177E+01	5.679E+01	6.208E+01
sn135	9.241E-10	8.936E-10	9.103E-10	9.261E-10	9.411E-10	9.553E-10	9.687E-10	9.814E-10	9.932E-10	1.004E-09	1.015E-09
sb135	3.705E-07	3.631E-07	3.655E-07	3.679E-07	3.702E-07	3.725E-07	3.747E-07	3.767E-07	3.787E-07	3.805E-07	3.822E-07
te135	6.594E-05	6.534E-05	6.516E-05	6.499E-05	6.483E-05	6.468E-05	6.454E-05	6.440E-05	6.426E-05	6.413E-05	6.400E-05
i135	1.708E-01	1.701E-01	1.701E-01	1.701E-01	1.702E-01	1.702E-01	1.701E-01	1.701E-01	1.701E-01	1.701E-01	1.701E-01
xe135	7.562E-02	7.142E-02	7.004E-02	6.878E-02	6.763E-02	6.658E-02	6.561E-02	6.471E-02	6.388E-02	6.311E-02	6.239E-02
xe135m	1.460E-03	1.461E-03	1.468E-03	1.474E-03	1.481E-03	1.487E-03	1.493E-03	1.498E-03	1.504E-03	1.509E-03	1.514E-03
cs135	2.101E+02	2.193E+02	2.283E+02	2.373E+02	2.462E+02	2.550E+02	2.639E+02	2.727E+02	2.815E+02	2.904E+02	2.992E+02
cs135m	4.861E-04	5.301E-04	5.841E-04	6.412E-04	7.013E-04	7.641E-04	8.293E-04	8.969E-04	9.664E-04	1.038E-03	1.110E-03
ba135	1.526E-01	1.846E-01	2.220E-01	2.654E-01	3.153E-01	3.722E-01	4.367E-01	5.094E-01	5.909E-01	6.819E-01	7.828E-01
ba135m	1.336E-04	1.482E-04	1.729E-04	2.001E-04	2.298E-04	2.621E-04	2.971E-04	3.349E-04	3.756E-04	4.192E-04	4.657E-04
la135	1.301E-11	1.329E-11	1.372E-11	1.414E-11	1.454E-11	1.493E-11	1.532E-11	1.569E-11	1.604E-11	1.639E-11	1.673E-11
ce135	1.999E-17	2.203E-17	2.504E-17	2.819E-17	3.140E-17	3.463E-17	3.785E-17	4.105E-17	4.420E-17	4.730E-17	5.034E-17
sn136	1.031E-10	9.930E-11	1.017E-10	1.040E-10	1.062E-10	1.082E-10	1.101E-10	1.120E-10	1.137E-10	1.153E-10	1.168E-10
sb136	2.650E-08	2.577E-08	2.621E-08	2.665E-08	2.708E-08	2.749E-08	2.788E-08	2.826E-08	2.862E-08	2.896E-08	2.927E-08
te136	2.417E-05	2.380E-05	2.373E-05	2.366E-05	2.360E-05	2.354E-05	2.349E-05	2.343E-05	2.338E-05	2.333E-05	2.328E-05

Cycle 3 -DD Assembly

fission products

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power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm**2-sec

nuclide concentrations, grams
basis = 0.3883 MTU

	charge	1379.6 d	1445.3 d	1511.0 d	1576.7 d	1642.4 d	1708.1 d	1773.8 d	1839.5 d	1905.2 d	1970.9 d
i136	2.427E-04	2.406E-04	2.404E-04	2.403E-04	2.402E-04	2.402E-04	2.402E-04	2.402E-04	2.402E-04	2.402E-04	2.402E-04
i136m	7.896E-05	7.896E-05	7.934E-05	7.974E-05	8.015E-05	8.057E-05	8.098E-05	8.138E-05	8.176E-05	8.213E-05	8.247E-05
xe136	1.010E+03	1.063E+03	1.116E+03	1.170E+03	1.223E+03	1.277E+03	1.330E+03	1.384E+03	1.438E+03	1.492E+03	1.547E+03
cs136	2.754E-01	2.836E-01	3.010E-01	3.187E-01	3.365E-01	3.543E-01	3.722E-01	3.901E-01	4.081E-01	4.261E-01	4.441E-01
cs136m	4.697E-07	4.774E-07	4.889E-07	5.000E-07	5.106E-07	5.209E-07	5.308E-07	5.402E-07	5.492E-07	5.579E-07	5.661E-07
ba136	1.238E+01	1.357E+01	1.482E+01	1.614E+01	1.752E+01	1.897E+01	2.048E+01	2.206E+01	2.371E+01	2.543E+01	2.721E+01
ba136m	1.032E-08	1.060E-08	1.120E-08	1.181E-08	1.242E-08	1.303E-08	1.365E-08	1.426E-08	1.488E-08	1.550E-08	1.612E-08
sb137	1.749E-08	1.691E-08	1.616E-08	1.539E-08	1.462E-08	1.385E-08	1.310E-08	1.236E-08	1.165E-08	1.097E-08	1.032E-08
te137	1.658E-06	1.626E-06	1.621E-06	1.616E-06	1.611E-06	1.606E-06	1.601E-06	1.596E-06	1.591E-06	1.587E-06	1.582E-06
i137	8.498E-05	8.437E-05	8.433E-05	8.431E-05	8.431E-05	8.431E-05	8.432E-05	8.433E-05	8.433E-05	8.433E-05	8.433E-05
xe137	1.582E-03	1.575E-03	1.573E-03	1.572E-03	1.570E-03	1.569E-03	1.567E-03	1.566E-03	1.564E-03	1.563E-03	1.561E-03
cs137	5.546E+02	5.810E+02	6.073E+02	6.335E+02	6.595E+02	6.854E+02	7.111E+02	7.368E+02	7.623E+02	7.876E+02	8.129E+02
ba137	2.350E+01	2.586E+01	2.833E+01	3.091E+01	3.359E+01	3.638E+01	3.927E+01	4.227E+01	4.537E+01	4.858E+01	5.189E+01
ba137m	8.516E-05	8.921E-05	9.326E-05	9.728E-05	1.013E-04	1.053E-04	1.092E-04	1.132E-04	1.171E-04	1.210E-04	1.249E-04
la137	6.413E-05	6.902E-05	7.399E-05	7.905E-05	8.418E-05	8.939E-05	9.465E-05	9.996E-05	1.053E-04	1.107E-04	1.162E-04
ce137	3.780E-12	3.840E-12	4.082E-12	4.328E-12	4.574E-12	4.822E-12	5.070E-12	5.319E-12	5.567E-12	5.816E-12	6.064E-12
sb138	7.348E-11	7.089E-11	7.267E-11	7.438E-11	7.602E-11	7.757E-11	7.905E-11	8.045E-11	8.177E-11	8.302E-11	8.419E-11
te138	1.406E-07	1.372E-07	1.381E-07	1.390E-07	1.399E-07	1.408E-07	1.416E-07	1.424E-07	1.432E-07	1.445E-07	
i138	1.225E-05	1.215E-05	1.219E-05	1.222E-05	1.226E-05	1.230E-05	1.234E-05	1.237E-05	1.241E-05	1.244E-05	1.247E-05
xe138	5.533E-03	5.498E-03	5.477E-03	5.457E-03	5.436E-03	5.416E-03	5.396E-03	5.376E-03	5.358E-03	5.339E-03	5.322E-03
cs138	1.383E-02	1.375E-02	1.371E-02	1.367E-02	1.363E-02	1.358E-02	1.354E-02	1.350E-02	1.346E-02	1.342E-02	1.339E-02
cs138m	7.144E-05	7.192E-05	7.262E-05	7.329E-05	7.392E-05	7.452E-05	7.509E-05	7.563E-05	7.615E-05	7.664E-05	7.710E-05
ba138	6.017E+02	6.307E+02	6.595E+02	6.882E+02	7.168E+02	7.454E+02	7.738E+02	8.021E+02	8.303E+02	8.585E+02	8.865E+02
la138	3.120E-03	3.269E-03	3.417E-03	3.563E-03	3.708E-03	3.851E-03	3.991E-03	4.130E-03	4.266E-03	4.401E-03	4.534E-03
ce138	9.951E-04	1.047E-03	1.099E-03	1.150E-03	1.202E-03	1.254E-03	1.305E-03	1.357E-03	1.408E-03	1.460E-03	1.511E-03
sb139	6.893E-12	6.641E-12	6.817E-12	6.986E-12	7.147E-12	7.299E-12	7.444E-12	7.581E-12	7.711E-12	7.832E-12	7.947E-12
te139	1.000E-08	9.737E-09	9.895E-09	1.005E-08	1.021E-08	1.036E-08	1.051E-08	1.065E-08	1.079E-08	1.091E-08	1.103E-08
i139	1.888E-06	1.858E-06	1.852E-06	1.845E-06	1.839E-06	1.834E-06	1.828E-06	1.823E-06	1.817E-06	1.812E-06	1.807E-06
xe139	1.923E-04	1.904E-04	1.892E-04	1.879E-04	1.867E-04	1.855E-04	1.843E-04	1.832E-04	1.821E-04	1.810E-04	1.800E-04
cs139	3.740E-03	3.717E-03	3.704E-03	3.691E-03	3.678E-03	3.665E-03	3.653E-03	3.640E-03	3.628E-03	3.617E-03	3.606E-03
ba139	3.489E-02	3.469E-02	3.458E-02	3.448E-02	3.437E-02	3.426E-02	3.415E-02	3.405E-02	3.395E-02	3.385E-02	3.376E-02
la139	5.650E+02	5.916E+02	6.180E+02	6.442E+02	6.702E+02	6.961E+02	7.218E+02	7.474E+02	7.727E+02	7.980E+02	8.230E+02
ce139	9.254E-06	9.569E-06	9.942E-06	1.035E-05	1.077E-05	1.120E-05	1.162E-05	1.203E-05	1.242E-05	1.280E-05	1.316E-05
ce139m	6.353E-12	6.478E-12	6.666E-12	6.847E-12	7.021E-12	7.189E-12	7.351E-12	7.507E-12	7.657E-12	7.801E-12	7.940E-12
pr139	5.869E-10	5.905E-10	6.353E-10	6.806E-10	7.262E-10	7.720E-10	8.179E-10	8.640E-10	9.101E-10	9.562E-10	1.002E-09
te140	8.535E-09	8.250E-09	7.949E-09	7.640E-09	7.328E-09	7.016E-09	6.710E-09	6.411E-09	6.121E-09	5.844E-09	5.579E-09
i140	1.787E-07	1.751E-07	1.758E-07	1.765E-07	1.771E-07	1.778E-07	1.784E-07	1.790E-07	1.795E-07	1.800E-07	1.805E-07
xe140	4.491E-05	4.430E-05	4.388E-05	4.347E-05	4.306E-05	4.265E-05	4.226E-05	4.188E-05	4.152E-05	4.117E-05	4.083E-05
cs140	3.632E-04	3.601E-04	3.580E-04	3.560E-04	3.540E-04	3.520E-04	3.501E-04	3.483E-04	3.465E-04	3.447E-04	3.431E-04
ba140	7.377E+00	7.347E+00	7.318E+00	7.288E+00	7.258E+00	7.228E+00	7.200E+00	7.171E+00	7.144E+00	7.118E+00	7.092E+00
la140	1.006E+00	1.004E+00	1.002E+00	1.001E+00	9.991E-01	9.977E-01	9.963E-01	9.950E-01	9.938E-01	9.928E-01	9.919E-01
ce140	5.737E+02	6.019E+02	6.301E+02	6.581E+02	6.861E+02	7.141E+02	7.420E+02	7.698E+02	7.976E+02	8.254E+02	8.531E+02
pr140	2.366E-08	2.380E-08	2.561E-08	2.744E-08	2.928E-08	3.112E-08	3.297E-08	3.483E-08	3.669E-08	3.855E-08	4.040E-08
nd140	5.865E-16	6.305E-16	7.098E-16	7.920E-16	8.755E-16	9.591E-16	1.042E-15	1.124E-15	1.205E-15	1.284E-15	1.362E-15
te141	1.517E-10	1.458E-10	1.495E-10	1.530E-10	1.563E-10	1.594E-10	1.623E-10	1.651E-10	1.676E-10	1.700E-10	1.723E-10
i141	2.339E-08	2.276E-08	2.276E-08	2.275E-08	2.273E-08	2.271E-08	2.268E-08	2.265E-08	2.261E-08	2.257E-08	2.254E-08
xe141	2.229E-06	2.195E-06	2.185E-06	2.176E-06	2.168E-06	2.160E-06	2.152E-06	2.145E-06	2.137E-06	2.130E-06	2.123E-06
cs141	1.129E-04	1.121E-04	1.118E-04	1.114E-04	1.111E-04	1.108E-04	1.105E-04	1.101E-04	1.098E-04	1.095E-04	1.092E-04
ba141	6.868E-03	6.825E-03	6.799E-03	6.772E-03	6.744E-03	6.716E-03	6.689E-03	6.661E-03	6.635E-03	6.609E-03	6.584E-03
la141	8.904E-02	8.849E-02	8.816E-02	8.782E-02	8.748E-02	8.712E-02	8.677E-02	8.642E-02	8.608E-02	8.576E-02	8.544E-02

Cycle 3 -DD Assembly

fission products

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power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm**2-sec

	charge	1379.6 d	1445.3 d	1511.0 d	1576.7 d	1642.4 d	1708.1 d	1773.8 d	1839.5 d	1905.2 d	1970.9 d
ce141	1.790E+01	1.784E+01	1.777E+01	1.769E+01	1.761E+01	1.753E+01	1.746E+01	1.738E+01	1.731E+01	1.723E+01	1.717E+01
pr141	5.011E+02	5.252E+02	5.491E+02	5.729E+02	5.964E+02	6.198E+02	6.429E+02	6.659E+02	6.886E+02	7.112E+02	7.336E+02
nd141	9.883E-10	1.008E-09	1.060E-09	1.110E-09	1.157E-09	1.201E-09	1.241E-09	1.280E-09	1.315E-09	1.347E-09	1.377E-09
pm141	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
te142	6.334E-12	6.120E-12	6.251E-12	6.375E-12	6.493E-12	6.605E-12	6.712E-12	6.812E-12	6.906E-12	6.995E-12	7.078E-12
i142	1.810E-09	1.773E-09	1.784E-09	1.795E-09	1.806E-09	1.816E-09	1.826E-09	1.835E-09	1.844E-09	1.852E-09	1.859E-09
xe142	6.015E-07	5.907E-07	5.895E-07	5.885E-07	5.875E-07	5.865E-07	5.856E-07	5.848E-07	5.839E-07	5.830E-07	5.821E-07
cs142	4.721E-06	4.675E-06	4.653E-06	4.632E-06	4.612E-06	4.593E-06	4.575E-06	4.558E-06	4.542E-06	4.526E-06	4.510E-06
ba142	3.762E-03	3.736E-03	3.715E-03	3.694E-03	3.673E-03	3.652E-03	3.631E-03	3.610E-03	3.590E-03	3.571E-03	3.552E-03
la142	3.339E-02	3.317E-02	3.300E-02	3.283E-02	3.266E-02	3.248E-02	3.231E-02	3.214E-02	3.198E-02	3.182E-02	3.166E-02
ce142	5.203E+02	5.447E+02	5.689E+02	5.929E+02	6.169E+02	6.406E+02	6.642E+02	6.877E+02	7.110E+02	7.342E+02	7.573E+02
pr142	1.812E-02	1.926E-02	2.072E-02	2.220E-02	2.369E-02	2.518E-02	2.668E-02	2.818E-02	2.969E-02	3.119E-02	3.269E-02
pr142m	2.359E-10	2.406E-10	2.475E-10	2.543E-10	2.607E-10	2.670E-10	2.730E-10	2.787E-10	2.843E-10	2.897E-10	2.948E-10
nd142	8.979E+00	1.004E+01	1.117E+01	1.239E+01	1.369E+01	1.507E+01	1.654E+01	1.808E+01	1.970E+01	2.141E+01	2.319E+01
i143	3.018E-10	2.903E-10	2.981E-10	3.054E-10	3.124E-10	3.190E-10	3.252E-10	3.310E-10	3.365E-10	3.417E-10	3.466E-10
xe143	4.186E-08	4.094E-08	4.128E-08	4.163E-08	4.198E-08	4.232E-08	4.266E-08	4.299E-08	4.330E-08	4.359E-08	4.387E-08
xe143m	1.290E-08	1.261E-08	1.272E-08	1.282E-08	1.293E-08	1.303E-08	1.313E-08	1.323E-08	1.332E-08	1.341E-08	1.349E-08
cs143	2.680E-06	2.647E-06	2.634E-06	2.622E-06	2.611E-06	2.600E-06	2.589E-06	2.579E-06	2.570E-06	2.561E-06	2.551E-06
ba143	7.695E-05	7.622E-05	7.559E-05	7.494E-05	7.430E-05	7.366E-05	7.304E-05	7.243E-05	7.184E-05	7.127E-05	7.073E-05
la143	5.014E-03	4.973E-03	4.939E-03	4.904E-03	4.868E-03	4.833E-03	4.798E-03	4.764E-03	4.731E-03	4.699E-03	4.669E-03
ce143	7.075E-01	7.020E-01	6.973E-01	6.925E-01	6.877E-01	6.829E-01	6.781E-01	6.735E-01	6.690E-01	6.647E-01	6.606E-01
pr143	6.836E+00	6.797E+00	6.749E+00	6.699E+00	6.649E+00	6.600E+00	6.552E+00	6.504E+00	6.459E+00	6.415E+00	6.373E+00
nd143	3.741E+02	3.835E+02	3.920E+02	3.996E+02	4.063E+02	4.122E+02	4.173E+02	4.217E+02	4.255E+02	4.286E+02	4.311E+02
pm143	1.489E-13	1.743E-13	2.025E-13	2.335E-13	2.671E-13	3.028E-13	3.405E-13	3.797E-13	4.201E-13	4.614E-13	5.034E-13
sm143	3.521E-22	3.978E-22	4.785E-22	5.706E-22	6.748E-22	7.918E-22	9.223E-22	1.067E-21	1.225E-21	1.398E-21	1.586E-21
sm143m	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
i144	1.764E-12	1.709E-12	1.751E-12	1.792E-12	1.831E-12	1.869E-12	1.905E-12	1.940E-12	1.973E-12	2.004E-12	2.033E-12
xe144	1.868E-08	1.813E-08	1.842E-08	1.871E-08	1.899E-08	1.925E-08	1.951E-08	1.975E-08	1.998E-08	2.020E-08	2.040E-08
cs144	5.559E-07	5.466E-07	5.477E-07	5.489E-07	5.503E-07	5.518E-07	5.532E-07	5.547E-07	5.560E-07	5.572E-07	5.584E-07
ba144	4.633E-05	4.580E-05	4.534E-05	4.489E-05	4.444E-05	4.400E-05	4.357E-05	4.314E-05	4.274E-05	4.235E-05	4.197E-05
la144	2.171E-04	2.151E-04	2.134E-04	2.116E-04	2.098E-04	2.081E-04	2.063E-04	2.046E-04	2.030E-04	2.014E-04	1.999E-04
ce144	1.355E+02	1.353E+02	1.349E+02	1.344E+02	1.338E+02	1.331E+02	1.323E+02	1.315E+02	1.307E+02	1.298E+02	1.290E+02
pr144	5.739E-03	5.729E-03	5.713E-03	5.693E-03	5.668E-03	5.640E-03	5.609E-03	5.575E-03	5.540E-03	5.504E-03	5.467E-03
pr144m	3.337E-05	3.331E-05	3.322E-05	3.310E-05	3.295E-05	3.279E-05	3.260E-05	3.241E-05	3.220E-05	3.199E-05	3.177E-05
nd144	4.741E+02	5.099E+02	5.464E+02	5.836E+02	6.213E+02	6.595E+02	6.982E+02	7.373E+02	7.767E+02	8.164E+02	8.564E+02
pm144	1.161E-10	1.287E-10	1.423E-10	1.570E-10	1.726E-10	1.890E-10	2.062E-10	2.241E-10	2.425E-10	2.614E-10	2.808E-10
sm144	1.281E-11	1.508E-11	1.762E-11	2.046E-11	2.361E-11	2.709E-11	3.089E-11	3.503E-11	3.950E-11	4.431E-11	4.946E-11
i145	2.375E-13	2.292E-13	2.357E-13	2.420E-13	2.481E-13	2.539E-13	2.594E-13	2.647E-13	2.696E-13	2.743E-13	2.787E-13
xe145	1.316E-09	1.273E-09	1.308E-09	1.342E-09	1.374E-09	1.405E-09	1.435E-09	1.464E-09	1.491E-09	1.516E-09	1.540E-09
cs145	7.380E-08	7.234E-08	7.291E-08	7.349E-08	7.407E-08	7.464E-08	7.521E-08	7.574E-08	7.626E-08	7.674E-08	7.719E-08
ba145	8.081E-06	7.973E-06	7.911E-06	7.850E-06	7.791E-06	7.733E-06	7.678E-06	7.624E-06	7.572E-06	7.522E-06	7.474E-06
la145	9.516E-05	9.426E-05	9.357E-05	9.288E-05	9.218E-05	9.150E-05	9.083E-05	9.017E-05	8.953E-05	8.892E-05	8.834E-05
ce145	7.443E-04	7.383E-04	7.342E-04	7.300E-04	7.257E-04	7.215E-04	7.173E-04	7.132E-04	7.092E-04	7.054E-04	7.017E-04
pr145	8.885E-02	8.813E-02	8.764E-02	8.714E-02	8.664E-02	8.613E-02	8.563E-02	8.514E-02	8.467E-02	8.421E-02	8.378E-02
nd145	3.149E+02	3.273E+02	3.394E+02	3.510E+02	3.623E+02	3.733E+02	3.838E+02	3.941E+02	4.040E+02	4.136E+02	4.229E+02
pm145	9.090E-06	9.778E-06	1.048E-05	1.119E-05	1.190E-05	1.261E-05	1.332E-05	1.403E-05	1.473E-05	1.542E-05	1.610E-05
sm145	7.158E-07	7.829E-07	8.532E-07	9.260E-07	1.000E-06	1.076E-06	1.151E-06	1.226E-06	1.300E-06	1.373E-06	1.444E-06
xe146	5.868E-11	5.663E-11	5.802E-11	5.936E-11	6.064E-11	6.186E-11	6.302E-11	6.412E-11	6.515E-11	6.613E-11	6.704E-11
cs146	6.678E-09	6.522E-09	6.625E-09	6.729E-09	6.833E-09	6.935E-09	7.034E-09	7.130E-09	7.221E-09	7.307E-09	7.388E-09
ba146	1.943E-06	1.908E-06	1.891E-06	1.875E-06	1.859E-06	1.844E-06	1.829E-06	1.814E-06	1.800E-06	1.787E-06	1.774E-06

Cycle 3 -DD Assembly

fission products

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power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm*2-sec
nuclide concentrations, grams
basis = 0.3883 MTU

	charge	1379.6 d	1445.3 d	1511.0 d	1576.7 d	1642.4 d	1708.1 d	1773.8 d	1839.5 d	1905.2 d	1970.9 d
la146	1.059E-05	1.045E-05	1.039E-05	1.032E-05	1.025E-05	1.019E-05	1.013E-05	1.007E-05	1.001E-05	9.956E-06	9.903E-06
la146m	8.053E-06	8.002E-06	7.969E-06	7.936E-06	7.904E-06	7.873E-06	7.842E-06	7.813E-06	7.785E-06	7.758E-06	7.732E-06
ce146	2.703E-03	2.683E-03	2.673E-03	2.663E-03	2.653E-03	2.643E-03	2.634E-03	2.624E-03	2.614E-03	2.605E-03	2.596E-03
pr146	4.846E-03	4.810E-03	4.793E-03	4.775E-03	4.758E-03	4.740E-03	4.723E-03	4.705E-03	4.689E-03	4.673E-03	4.657E-03
nd146	3.218E+02	3.393E+02	3.571E+02	3.752E+02	3.934E+02	4.119E+02	4.306E+02	4.495E+02	4.686E+02	4.880E+02	5.075E+02
pm146	3.774E-04	3.656E-04	3.618E-04	3.606E-04	3.598E-04	3.588E-04	3.572E-04	3.551E-04	3.526E-04	3.498E-04	3.468E-04
sm146	3.116E-03	3.524E-03	3.963E-03	4.434E-03	4.934E-03	5.462E-03	6.018E-03	6.600E-03	7.206E-03	7.835E-03	8.484E-03
xe147	5.892E-13	5.740E-13	5.785E-13	5.831E-13	5.878E-13	5.924E-13	5.969E-13	6.013E-13	6.054E-13	6.093E-13	6.130E-13
cs147	1.654E-09	1.614E-09	1.618E-09	1.624E-09	1.629E-09	1.635E-09	1.641E-09	1.647E-09	1.652E-09	1.657E-09	1.661E-09
ba147	1.792E-07	1.753E-07	1.743E-07	1.734E-07	1.725E-07	1.716E-07	1.707E-07	1.699E-07	1.691E-07	1.683E-07	1.675E-07
la147	5.254E-06	5.213E-06	5.229E-06	5.250E-06	5.272E-06	5.295E-06	5.318E-06	5.341E-06	5.364E-06	5.385E-06	5.405E-06
ce147	1.348E-04	1.341E-04	1.342E-04	1.343E-04	1.344E-04	1.345E-04	1.346E-04	1.346E-04	1.347E-04	1.348E-04	1.349E-04
pr147	2.147E-03	2.134E-03	2.129E-03	2.125E-03	2.120E-03	2.116E-03	2.112E-03	2.107E-03	2.103E-03	2.099E-03	2.095E-03
nd147	2.518E+02	2.509E+02	2.505E+02	2.501E+02	2.496E+02	2.493E+02	2.489E+02	2.485E+02	2.482E+02	2.479E+02	2.476E+02
pm147	7.685E+01	7.727E+01	7.743E+01	7.739E+01	7.717E+01	7.681E+01	7.633E+01	7.577E+01	7.514E+01	7.446E+01	7.375E+01
sm147	3.994E+01	4.201E+01	4.398E+01	4.582E+01	4.753E+01	4.912E+01	5.058E+01	5.190E+01	5.310E+01	5.417E+01	5.512E+01
eu147	3.532E-16	3.940E-16	4.473E-16	5.050E-16	5.647E-16	6.250E-16	6.855E-16	7.455E-16	8.048E-16	8.632E-16	9.204E-16
gd147	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs148	5.565E-11	5.370E-11	5.514E-11	5.652E-11	5.785E-11	5.912E-11	6.033E-11	6.148E-11	6.257E-11	6.360E-11	6.456E-11
ba148	2.672E-08	2.607E-08	2.636E-08	2.666E-08	2.696E-08	2.726E-08	2.754E-08	2.782E-08	2.808E-08	2.833E-08	2.856E-08
la148	4.950E-07	4.887E-07	4.902E-07	4.922E-07	4.946E-07	4.972E-07	4.998E-07	5.025E-07	5.051E-07	5.076E-07	5.099E-07
ce148	9.689E-05	9.605E-05	9.564E-05	9.526E-05	9.490E-05	9.456E-05	9.424E-05	9.393E-05	9.363E-05	9.334E-05	9.307E-05
pr148	2.602E-04	2.585E-04	2.580E-04	2.575E-04	2.571E-04	2.567E-04	2.563E-04	2.559E-04	2.556E-04	2.552E-04	2.549E-04
pr148m	2.163E-05	2.192E-05	2.235E-05	2.276E-05	2.315E-05	2.353E-05	2.388E-05	2.422E-05	2.454E-05	2.484E-05	2.513E-05
nd148	1.680E+02	1.762E+02	1.844E+02	1.926E+02	2.007E+02	2.089E+02	2.170E+02	2.251E+02	2.332E+02	2.412E+02	2.492E+02

pm148	3.524E-01	3.422E-01	3.511E-01	3.586E-01	3.648E-01	3.699E-01	3.740E-01	3.772E-01	3.796E-01	3.814E-01	3.826E-01
pm148m	6.931E-01	6.361E-01	6.414E-01	6.452E-01	6.470E-01	6.473E-01	6.464E-01	6.443E-01	6.415E-01	6.379E-01	6.339E-01
sm148	5.990E+01	6.495E+01	7.018E+01	7.559E+01	8.117E+01	8.690E+01	9.276E+01	9.874E+01	1.048E+02	1.110E+02	1.173E+02
cs149	1.206E-12	1.167E-12	1.197E-12	1.228E-12	1.257E-12	1.285E-12	1.312E-12	1.338E-12	1.362E-12	1.385E-12	1.407E-12
ba149	4.262E-09	4.139E-09	4.235E-09	4.330E-09	4.423E-09	4.513E-09	4.600E-09	4.684E-09	4.763E-09	4.838E-09	4.909E-09
la149	3.946E-07	3.884E-07	3.934E-07	3.986E-07	4.040E-07	4.095E-07	4.149E-07	4.201E-07	4.252E-07	4.301E-07	4.346E-07
ce149	5.242E-06	5.207E-06	5.216E-06	5.228E-06	5.241E-06	5.255E-06	5.270E-06	5.285E-06	5.299E-06	5.313E-06	5.326E-06
pr149	1.999E-04	1.992E-04	1.997E-04	2.003E-04	2.009E-04	2.015E-04	2.020E-04	2.026E-04	2.031E-04	2.036E-04	2.041E-04
nd149	9.679E-03	9.653E-03	9.708E-03	9.764E-03	9.821E-03	9.878E-03	9.935E-03	9.991E-03	1.005E-02	1.010E-02	1.015E-02
pm149	4.462E-01	4.389E-01	4.464E-01	4.534E-01	4.598E-01	4.657E-01	4.710E-01	4.759E-01	4.803E-01	4.842E-01	4.879E-01
sm149	1.032E+00	9.516E-01	9.415E-01	9.324E-01	9.239E-01	9.158E-01	9.081E-01	9.009E-01	8.939E-01	8.874E-01	8.811E-01
eu149	2.551E-11	2.622E-11	2.692E-11	2.761E-11	2.834E-11	2.914E-11	3.002E-11	3.095E-11	3.193E-11	3.293E-11	3.395E-11
gd149	1.503E-17	1.663E-17	1.892E-17	2.132E-17	2.378E-17	2.627E-17	2.874E-17	3.120E-17	3.363E-17	3.601E-17	3.835E-17
cs150	6.218E-14	5.980E-14	6.145E-14	6.302E-14	6.451E-14	6.592E-14	6.725E-14	6.851E-14	6.970E-14	7.081E-14	7.186E-14
ba150	6.129E-10	5.928E-10	6.081E-10	6.231E-10	6.376E-10	6.515E-10	6.648E-10	6.774E-10	6.894E-10	7.008E-10	7.115E-10
la150	2.316E-08	2.273E-08	2.320E-08	2.369E-08	2.419E-08	2.469E-08	2.517E-08	2.565E-08	2.610E-08	2.653E-08	2.694E-08
ce150	2.217E-06	2.200E-06	2.207E-06	2.216E-06	2.227E-06	2.237E-06	2.248E-06	2.259E-06	2.270E-06	2.280E-06	2.289E-06
pr150	6.175E-06	6.165E-06	6.209E-06	6.255E-06	6.302E-06	6.350E-06	6.397E-06	6.444E-06	6.489E-06	6.531E-06	6.572E-06
nd150	7.945E+01	8.378E+01	8.814E+01	9.253E+01	9.694E+01	1.014E+02	1.058E+02	1.103E+02	1.149E+02	1.194E+02	1.240E+02
pm150	1.921E-04	1.967E-04	2.058E-04	2.145E-04	2.228E-04	2.308E-04	2.383E-04	2.455E-04	2.523E-04	2.587E-04	2.648E-04
sm150	1.339E+02	1.407E+02	1.473E+02	1.538E+02	1.603E+02	1.666E+02	1.729E+02	1.790E+02	1.850E+02	1.908E+02	1.965E+02
ba151	3.369E-11	3.238E-11	3.327E-11	3.410E-11	3.490E-11	3.564E-11	3.635E-11	3.701E-11	3.763E-11	3.822E-11	3.877E-11
la151	4.660E-09	4.550E-09	4.662E-09	4.775E-09	4.888E-09	5.000E-09	5.108E-09	5.213E-09	5.313E-09	5.409E-09	5.499E-09
ce151	1.789E-07	1.774E-07	1.792E-07	1.813E-07	1.834E-07	1.857E-07	1.879E-07	1.901E-07	1.923E-07	1.943E-07	1.963E-07
pr151	1.102E-05	1.102E-05	1.112E-05	1.123E-05	1.134E-05	1.145E-05	1.157E-05	1.168E-05	1.179E-05	1.190E-05	1.199E-05

Cycle 3 -DD Assembly

fission products

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power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm**2-sec

nuclide concentrations, grams

basis = 0.3883 MTU

	charge	1379.6 d	1445.3 d	1511.0 d	1576.7 d	1642.4 d	1708.1 d	1773.8 d	1839.5 d	1905.2 d	1970.9 d
nd151	6.012E-04	6.027E-04	6.099E-04	6.175E-04	6.251E-04	6.328E-04	6.404E-04	6.478E-04	6.551E-04	6.621E-04	6.688E-04
pm151	8.262E-02	8.283E-02	8.383E-02	8.486E-02	8.591E-02	8.696E-02	8.800E-02	8.902E-02	9.001E-02	9.097E-02	9.190E-02
sm151	6.881E+00	6.745E+00	6.751E+00	6.821E+00	6.918E+00	7.029E+00	7.146E+00	7.266E+00	7.387E+00	7.508E+00	7.628E+00
eu151	9.748E-03	9.590E-03	9.321E-03	9.108E-03	8.964E-03	8.870E-03	8.809E-03	8.770E-03	8.747E-03	8.735E-03	8.731E-03
gd151	1.037E-07	1.118E-07	1.210E-07	1.308E-07	1.409E-07	1.513E-07	1.617E-07	1.722E-07	1.827E-07	1.932E-07	2.037E-07
tb151	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba152	6.849E-13	6.599E-13	6.782E-13	6.959E-13	7.127E-13	7.287E-13	7.439E-13	7.584E-13	7.720E-13	7.848E-13	7.969E-13
la152	2.143E-10	2.086E-10	2.144E-10	2.203E-10	2.261E-10	2.317E-10	2.372E-10	2.425E-10	2.476E-10	2.524E-10	2.569E-10
ce152	3.763E-07	3.724E-07	3.785E-07	3.851E-07	3.921E-07	3.991E-07	4.062E-07	4.131E-07	4.198E-07	4.262E-07	4.323E-07
pr152	1.830E-06	1.832E-06	1.860E-06	1.890E-06	1.921E-06	1.954E-06	1.986E-06	2.018E-06	2.049E-06	2.079E-06	2.107E-06
nd152	3.864E-04	3.881E-04	3.931E-04	3.983E-04	4.037E-04	4.090E-04	4.143E-04	4.194E-04	4.244E-04	4.292E-04	4.338E-04
pm152	1.413E-04	1.419E-04	1.438E-04	1.458E-04	1.478E-04	1.497E-04	1.517E-04	1.536E-04	1.555E-04	1.572E-04	1.589E-04
pm152m	5.827E-06	5.916E-06	6.050E-06	6.178E-06	6.301E-06	6.419E-06	6.532E-06	6.640E-06	6.744E-06	6.843E-06	6.938E-06
sm152	5.662E+01	5.939E+01	6.186E+01	6.415E+01	6.631E+01	6.835E+01	7.031E+01	7.218E+01	7.398E+01	7.572E+01	7.739E+01
eu152	2.147E-02	2.174E-02	2.182E-02	2.175E-02	2.160E-02	2.143E-02	2.127E-02	2.113E-02	2.102E-02	2.094E-02	2.089E-02
eu152m	2.852E-05	2.873E-05	2.873E-05	2.882E-05	2.906E-05	2.942E-05	2.983E-05	3.029E-05	3.076E-05	3.125E-05	3.174E-05
gd152	2.958E-02	3.150E-02	3.338E-02	3.521E-02	3.699E-02	3.874E-02	4.047E-02	4.218E-02	4.387E-02	4.555E-02	4.721E-02
la153	2.462E-11	2.381E-11	2.449E-11	2.515E-11	2.579E-11	2.641E-11	2.701E-11	2.757E-11	2.811E-11	2.862E-11	2.910E-11
ce153	1.429E-08	1.406E-08	1.442E-08	1.479E-08	1.517E-08	1.555E-08	1.593E-08	1.630E-08	1.665E-08	1.699E-08	1.731E-08
pr153	4.930E-07	4.924E-07	5.021E-07	5.127E-07	5.238E-07	5.352E-07	5.465E-07	5.577E-07	5.686E-07	5.791E-07	5.891E-07
nd153	2.308E-05	2.317E-05	2.352E-05	2.388E-05	2.426E-05	2.464E-05	2.502E-05	2.540E-05	2.576E-05	2.611E-05	2.644E-05
pm153	1.247E-04	1.253E-04	1.273E-04	1.293E-04	1.314E-04	1.335E-04	1.356E-04	1.376E-04	1.396E-04	1.415E-04	1.433E-04
sm153	3.297E-01	3.288E-01	3.488E-01	3.682E-01	3.872E-01	4.057E-01	4.238E-01	4.415E-01	4.588E-01	4.757E-01	4.922E-01
eu153	5.050E+01	5.373E+01	5.702E+01	6.034E+01	6.367E+01	6.700E+01	7.031E+01	7.359E+01	7.682E+01	8.000E+01	8.312E+01
gd153	3.430E-04	3.436E-04	3.623E-04	3.838E-04	4.053E-04	4.265E-04	4.474E-04	4.681E-04	4.885E-04	5.088E-04	5.288E-04
tb153	1.145E-15	1.262E-15	1.434E-15	1.614E-15	1.798E-15	1.983E-15	2.167E-15	2.350E-15	2.530E-15	2.707E-15	2.880E-15
la154	4.798E-13	4.634E-13	4.767E-13	4.896E-13	5.020E-13	5.139E-13	5.254E-13	5.362E-13	5.465E-13	5.563E-13	5.654E-13
ce154	2.440E-09	2.392E-09	2.461E-09	2.532E-09	2.604E-09	2.676E-09	2.746E-09	2.814E-09	2.879E-09	2.941E-09	3.000E-09
pr154	3.021E-08	3.022E-08	3.105E-08	3.196E-08	3.291E-08	3.388E-08	3.486E-08	3.581E-08	3.674E-08	3.764E-08	3.849E-08
nd154	7.392E-06	7.448E-06	7.590E-06	7.742E-06	7.900E-06	8.060E-06	8.220E-06	8.377E-06	8.529E-06	8.676E-06	8.816E-06
pm154	2.216E-05	2.235E-05	2.279E-05	2.325E-05	2.373E-05	2.421E-05	2.469E-05	2.516E-05	2.562E-05	2.606E-05	2.647E-05
pm154m	4.815E-06	4.888E-06	4.999E-06	5.109E-06	5.217E-06	5.324E-06	5.427E-06	5.528E-06	5.625E-06	5.718E-06	5.807E-06
sm154	1.502E+01	1.603E+01	1.706E+01	1.811E+01	1.918E+01	2.027E+01	2.139E+01	2.252E+01	2.368E+01	2.485E+01	2.604E+01
eu154	1.015E+01	1.087E+01	1.162E+01	1.241E+01	1.322E+01	1.405E+01	1.489E+01	1.573E+01	1.657E+01	1.740E+01	1.822E+01
eu154m	2.071E-08	2.111E-08	2.171E-08	2.228E-08	2.284E-08	2.338E-08	2.390E-08	2.440E-08	2.489E-08	2.536E-08	2.582E-08
gd154	9.404E-01	1.074E+00	1.215E+00	1.364E+00	1.521E+00	1.685E+00	1.858E+00	2.038E+00	2.225E+00	2.419E+00	2.620E+00
la155	1.429E-14	1.387E-14	1.428E-14	1.470E-14	1.510E-14	1.550E-14	1.588E-14	1.625E-14	1.660E-14	1.693E-14	1.724E-14
ce155	5.952E-11	5.803E-11	5.977E-11	6.153E-11	6.328E-11	6.500E-11	6.668E-11	6.830E-11	6.985E-11	7.132E-11	7.272E-11
pr155	7.455E-09	7.413E-09	7.635E-09	7.874E-09	8.122E-09	8.374E-09	8.624E-09	8.870E-09	9.108E-09	9.336E-09	9.552E-09
nd155	1.341E-06	1.352E-06	1.384E-06	1.419E-06	1.456E-06	1.494E-06	1.531E-06	1.568E-06	1.604E-06	1.639E-06	1.672E-06
pm155	6.754E-06	6.831E-06	6.992E-06	7.162E-06	7.335E-06	7.510E-06	7.684E-06	7.854E-06	8.019E-06	8.178E-06	8.331E-06
sm155	2.164E+00	2.194E+00	2.254E+00	2.317E+00	2.382E+00	2.447E+00	2.512E+00	2.576E+00	2.640E+00	2.701E+00	2.761E+00
eu155	2.301E+00	2.586E+00	2.772E+00	2.945E+00	3.120E+00	3.299E+00	3.482E+00	3.666E+00	3.850E+00	4.033E+00	4.214E+00
gd155	2.433E-02	2.518E-02	2.689E-02	2.865E-02	3.006E-02	3.173E-02	3.345E-02	3.522E-02	3.703E-02	3.887E-02	4.074E-02
gd155m	8.109E-14	8.010E-14	8.805E-14	9.569E-14	1.036E-13	1.118E-13	1.204E-13	1.294E-13	1.385E-13	1.479E-13	1.575E-13
tb155	2.683E-12	2.868E-12	3.140E-12	3.423E-12	3.714E-12	4.008E-12	4.305E-12	4.603E-12	4.901E-12	5.199E-12	5.495E-12
dy155	1.056E-17	1.164E-17	1.323E-17	1.489E-17	1.659E-17	1.829E-17	1.999E-17	2.168E-17	2.334E-17	2.498E-17	2.658E-17
ce156	4.157E-12	4.044E-12	4.166E-12	4.288E-12	4.409E-12	4.527E-12	4.642E-12	4.752E-12	4.857E-12	4.957E-12	5.052E-12
pr156	3.965E-10	3.938E-10	4.068E-10	4.207E-10	4.351E-10	4.497E-10	4.643E-10	4.786E-10	4.924E-10	5.056E-10	5.182E-10
nd156	5.342E-07	5.393E-07	5.544E-07	5.709E-07	5.882E-07	6.060E-07	6.239E-07	6.415E-07	6.586E-07	6.751E-07	6.907E-07

Cycle 3 -DD Assembly

fission products

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power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm**2-sec
nuclide concentrations, grams
basis = 0.3883 MTU

0

	charge	1379.6 d	1445.3 d	1511.0 d	1576.7 d	1642.4 d	1708.1 d	1773.8 d	1839.5 d	1905.2 d	1970.9 d
pm156	1.031E-06	1.045E-06	1.074E-06	1.104E-06	1.135E-06	1.166E-06	1.198E-06	1.228E-06	1.258E-06	1.287E-06	1.314E-06
sm156	3.578E-03	3.632E-03	3.727E-03	3.827E-03	3.929E-03	4.031E-03	4.132E-03	4.231E-03	4.327E-03	4.419E-03	4.507E-03
eu156	1.326E+00	1.427E+00	1.571E+00	1.706E+00	1.844E+00	1.986E+00	2.133E+00	2.283E+00	2.434E+00	2.587E+00	2.741E+00
gd156	3.053E+01	3.455E+01	3.897E+01	4.379E+01	4.898E+01	5.457E+01	6.057E+01	6.697E+01	7.378E+01	8.101E+01	8.866E+01
tb156	8.371E-11	8.672E-11	9.134E-11	9.607E-11	1.009E-10	1.057E-10	1.105E-10	1.154E-10	1.202E-10	1.251E-10	1.300E-10
tb156m	3.704E-13	3.841E-13	4.045E-13	4.253E-13	4.464E-13	4.676E-13	4.890E-13	5.104E-13	5.320E-13	5.536E-13	5.753E-13
dy156	1.690E-13	2.023E-13	2.396E-13	2.811E-13	3.266E-13	3.761E-13	4.292E-13	4.857E-13	5.453E-13	6.078E-13	6.728E-13
ce157	5.848E-14	5.678E-14	5.848E-14	6.018E-14	6.185E-14	6.348E-14	6.505E-14	6.656E-14	6.801E-14	6.937E-14	7.066E-14
pr157	4.758E-11	4.710E-11	4.868E-11	5.036E-11	5.211E-11	5.388E-11	5.563E-11	5.735E-11	5.900E-11	6.059E-11	6.209E-11
nd157	1.706E-08	1.725E-08	1.785E-08	1.851E-08	1.922E-08	1.995E-08	2.068E-08	2.141E-08	2.212E-08	2.281E-08	2.346E-08
pm157	2.264E-06	2.303E-06	2.376E-06	2.455E-06	2.539E-06	2.624E-06	2.710E-06	2.794E-06	2.877E-06	2.957E-06	3.033E-06
sm157	3.142E-05	3.199E-05	3.293E-05	3.393E-05	3.496E-05	3.601E-05	3.705E-05	3.808E-05	3.907E-05	4.004E-05	4.096E-05
eu157	5.603E-03	5.824E-03	6.213E-03	6.605E-03	7.010E-03	7.432E-03	7.866E-03	8.310E-03	8.761E-03	9.216E-03	9.672E-03
gd157	4.228E-02	4.068E-02	4.331E-02	4.606E-02	4.901E-02	5.215E-02	5.547E-02	5.898E-02	6.264E-02	6.646E-02	7.042E-02
tb157	1.138E-07	1.186E-07	1.233E-07	1.277E-07	1.319E-07	1.359E-07	1.398E-07	1.436E-07	1.473E-07	1.509E-07	1.544E-07
dy157	1.150E-14	1.241E-14	1.401E-14	1.569E-14	1.743E-14	1.922E-14	2.104E-14	2.288E-14	2.476E-14	2.665E-14	2.855E-14
pr158	1.363E-12	1.348E-12	1.394E-12	1.442E-12	1.493E-12	1.544E-12	1.595E-12	1.645E-12	1.693E-12	1.739E-12	1.782E-12
nd158	3.350E-09	3.388E-09	3.512E-09	3.652E-09	3.801E-09	3.956E-09	4.112E-09	4.267E-09	4.418E-09	4.563E-09	4.701E-09
pm158	4.785E-08	4.884E-08	5.058E-08	5.253E-08	5.461E-08	5.677E-08	5.896E-08	6.113E-08	6.325E-08	6.530E-08	6.725E-08
sm158	1.195E-05	1.219E-05	1.256E-05	1.297E-05	1.340E-05	1.383E-05	1.426E-05	1.469E-05	1.511E-05	1.552E-05	1.591E-05
eu158	1.088E-04	1.109E-04	1.144E-04	1.181E-04	1.219E-04	1.258E-04	1.297E-04	1.335E-04	1.373E-04	1.409E-04	1.444E-04
gd158	7.049E+00	7.790E+00	8.586E+00	9.443E+00	1.037E+01	1.136E+01	1.243E+01	1.358E+01	1.481E+01	1.613E+01	1.753E+01
tb158	1.129E-06	1.161E-06	1.190E-06	1.217E-06	1.241E-06	1.265E-06	1.287E-06	1.308E-06	1.329E-06	1.350E-06	1.371E-06
tb158m	6.812E-14	6.985E-14	7.241E-14	7.497E-14	7.754E-14	8.012E-14	8.271E-14	8.532E-14	8.795E-14	9.061E-14	9.329E-14
dy158	4.582E-07	4.939E-07	5.304E-07	5.678E-07	6.060E-07	6.451E-07	6.850E-07	7.256E-07	7.670E-07	8.092E-07	8.522E-07
pr159	6.015E-14	5.910E-14	6.103E-14	6.305E-14	6.510E-14	6.716E-14	6.919E-14	7.127E-14	7.307E-14	7.489E-14	7.660E-14
nd159	8.306E-11	8.369E-11	8.683E-11	9.034E-11	9.408E-11	9.795E-11	1.018E-10	1.057E-10	1.095E-10	1.131E-10	1.165E-10
pm159	9.463E-09	9.655E-09	1.002E-08	1.043E-08	1.086E-08	1.132E-08	1.178E-08	1.224E-08	1.269E-08	1.312E-08	1.354E-08
sm159	2.445E-06	2.499E-06	2.583E-06	2.674E-06	2.771E-06	2.869E-06	2.969E-06	3.067E-06	3.164E-06	3.257E-06	3.347E-06
eu159	2.116E-05	2.162E-05	2.233E-05	2.308E-05	2.387E-05	2.468E-05	2.549E-05	2.629E-05	2.707E-05	2.783E-05	2.856E-05
gd159	1.691E-03	1.747E-03	1.844E-03	1.950E-03	2.063E-03	2.183E-03	2.309E-03	2.441E-03	2.578E-03	2.721E-03	2.871E-03
tb159	9.016E-01	9.819E-01	1.065E+00	1.152E+00	1.241E+00	1.335E+00	1.433E+00	1.535E+00	1.641E+00	1.752E+00	1.868E+00
dy159	1.239E-08	1.344E-08	1.464E-08	1.594E-08	1.733E-08	1.880E-08	2.032E-08	2.191E-08	2.355E-08	2.523E-08	2.696E-08
ho159	2.665E-17	2.948E-17	3.364E-17	3.801E-17	4.252E-17	4.710E-17	5.172E-17	5.636E-17	6.099E-17	6.561E-17	7.018E-17
ho159m	1.181E-20	1.305E-20	1.487E-20	1.678E-20	1.874E-20	2.072E-20	2.270E-20	2.468E-20	2.664E-20	2.857E-20	3.046E-20
nd160	6.798E-12	6.797E-12	7.044E-12	7.315E-12	7.601E-12	7.895E-12	8.189E-12	8.479E-12	8.760E-12	9.031E-12	9.288E-12
pm160	3.603E-10	3.670E-10	3.813E-10	3.974E-10	4.149E-10	4.330E-10	4.514E-10	4.697E-10	4.875E-10	5.048E-10	5.213E-10
sm160	3.687E-07	3.771E-07	3.902E-07	4.047E-07	4.201E-07	4.359E-07	4.519E-07	4.677E-07	4.833E-07	4.985E-07	5.131E-07
eu160	3.675E-07	3.758E-07	3.885E-07	4.021E-07	4.164E-07	4.310E-07	4.457E-07	4.602E-07	4.746E-07	4.887E-07	5.023E-07
gd160	4.042E-01	4.400E-01	4.768E-01	5.149E-01	5.542E-01	5.949E-01	6.368E-01	6.802E-01	7.248E-01	7.707E-01	8.179E-01
tb160	2.624E-02	2.839E-02	3.121E-02	3.447E-02	3.804E-02	4.186E-02	4.591E-02	5.019E-02	5.470E-02	5.944E-02	6.442E-02
dy160	7.650E-02	8.737E-02	9.876E-02	1.109E-01	1.240E-01	1.379E-01	1.529E-01	1.689E-01	1.858E-01	2.038E-01	2.228E-01
nd161	1.097E-13	1.092E-13	1.131E-13	1.173E-13	1.217E-13	1.262E-13	1.308E-13	1.352E-13	1.395E-13	1.437E-13	1.476E-13
pm161	4.455E-11	4.526E-11	4.704E-11	4.905E-11	5.121E-11	5.346E-11	5.573E-11	5.800E-11	6.021E-11	6.235E-11	6.439E-11
sm161	5.863E-09	6.006E-09	6.231E-09	6.482E-09	6.751E-09	7.029E-09	7.312E-09	7.594E-09	7.871E-09	8.141E-09	8.403E-09
eu161	1.412E-07	1.446E-07	1.496E-07	1.550E-07	1.607E-07	1.665E-07	1.724E-07	1.782E-07	1.840E-07	1.897E-07	1.953E-07
gd161	9.153E-07	9.372E-07	9.702E-07	1.005E-06	1.042E-06	1.079E-06	1.117E-06	1.154E-06	1.192E-06	1.229E-06	1.265E-06
tb161	2.838E-03	2.943E-03	3.083E-03	3.238E-03	3.403E-03	3.577E-03	3.758E-03	3.945E-03	4.137E-03	4.334E-03	4.536E-03
dy161	1.316E-01	1.425E-01	1.536E-01	1.652E-01	1.773E-01	1.899E-01	2.032E-01	2.171E-01	2.318E-01	2.472E-01	2.635E-01
ho161	4.129E-14	4.477E-14	4.983E-14	5.523E-14	6.092E-14	6.686E-14	7.301E-14	7.935E-14	8.588E-14	9.257E-14	9.940E-14

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Cycle 3 -DD Assembly

fission products

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power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm**2-sec
nuclide concentrations, grams
basis = 0.3883 MTU

0

	charge	1379.6 d	1445.3 d	1511.0 d	1576.7 d	1642.4 d	1708.1 d	1773.8 d	1839.5 d	1905.2 d	1970.9 d
ho161m	2.437E-18	2.738E-18	3.173E-18	3.642E-18	4.140E-18	4.665E-18	5.212E-18	5.780E-18	6.367E-18	6.972E-18	7.594E-18
er161	4.809E-18	5.300E-18	6.025E-18	6.781E-18	7.553E-18	8.329E-18	9.104E-18	9.872E-18	1.063E-17	1.138E-17	1.210E-17
pm162	4.156E-13	4.048E-13	4.169E-13	4.286E-13	4.399E-13	4.508E-13	4.615E-13	4.719E-13	4.821E-13	4.921E-13	5.020E-13
sm162	4.426E-10	4.462E-10	4.598E-10	4.733E-10	4.867E-10	5.000E-10	5.133E-10	5.267E-10	5.403E-10	5.541E-10	5.683E-10
eu162	9.653E-08	9.834E-08	1.014E-07	1.045E-07	1.076E-07	1.106E-07	1.137E-07	1.169E-07	1.201E-07	1.235E-07	1.269E-07
gd162	6.410E-07	6.539E-07	6.742E-07	6.943E-07	7.143E-07	7.343E-07	7.545E-07	7.749E-07	7.958E-07	8.172E-07	8.391E-07
tb162	6.268E-07	6.392E-07	6.599E-07	6.806E-07	7.013E-07	7.221E-07	7.431E-07	7.644E-07	7.862E-07	8.086E-07	8.316E-07
dy162	9.367E-02	1.026E-01	1.120E-01	1.218E-01	1.320E-01	1.426E-01	1.536E-01	1.652E-01	1.772E-01	1.898E-01	2.029E-01
ho162	4.429E-14	4.724E-14	5.145E-14	5.598E-14	6.081E-14	6.592E-14	7.130E-14	7.694E-14	8.284E-14	8.897E-14	9.534E-14
ho162m	1.906E-13	2.034E-13	2.216E-13	2.412E-13	2.621E-13	2.841E-13	3.074E-13	3.317E-13	3.571E-13	3.836E-13	4.110E-13
er162	1.411E-13	1.713E-13	2.058E-13	2.449E-13	2.887E-13	3.374E-13	3.908E-13	4.491E-13	5.121E-13	5.797E-13	6.519E-13
sm163	1.314E-11	1.303E-11	1.344E-11	1.385E-11	1.426E-11	1.466E-11	1.507E-11	1.548E-11	1.590E-11	1.633E-11	1.677E-11
eu163	1.102E-09	1.120E-09	1.158E-09	1.196E-09	1.234E-09	1.274E-09	1.315E-09	1.357E-09	1.401E-09	1.448E-09	1.497E-09
gd163	4.580E-08	4.678E-08	4.834E-08	4.992E-08	5.152E-08	5.315E-08	5.483E-08	5.658E-08	5.839E-08	6.030E-08	6.230E-08
tb163	6.463E-07	6.604E-07	6.826E-07	7.050E-07	7.278E-07	7.511E-07	7.751E-07	7.999E-07	8.258E-07	8.530E-07	8.817E-07
dy163	7.292E-02	8.142E-02	9.066E-02	1.007E-01	1.114E-01	1.230E-01	1.353E-01	1.485E-01	1.625E-01	1.773E-01	1.930E-01
ho163	2.477E-08	2.681E-08	2.893E-08	3.117E-08	3.352E-08	3.599E-08	3.860E-08	4.135E-08	4.425E-08	4.730E-08	5.052E-08
ho163m	1.173E-16	1.239E-16	1.331E-16	1.431E-16	1.538E-16	1.652E-16	1.773E-16	1.902E-16	2.037E-16	2.180E-16	

eul64	3.649E-11	3.663E-11	3.789E-11	3.916E-11	4.045E-11	4.178E-11	4.315E-11	4.457E-11	4.606E-11	4.763E-11	4.930E-11
gd164	2.061E-07	2.102E-07	2.174E-07	2.248E-07	2.323E-07	2.400E-07	2.480E-07	2.564E-07	2.652E-07	2.746E-07	2.845E-07
tb164	3.674E-08	3.753E-08	3.885E-08	4.019E-08	4.157E-08	4.299E-08	4.447E-08	4.602E-08	4.766E-08	4.940E-08	5.124E-08
dyl64	1.642E-02	1.810E-02	1.999E-02	2.209E-02	2.440E-02	2.693E-02	2.969E-02	3.267E-02	3.588E-02	3.933E-02	4.301E-02
ho164	3.520E-11	3.874E-11	4.497E-11	5.200E-11	5.992E-11	6.881E-11	7.877E-11	8.988E-11	1.022E-10	1.159E-10	1.311E-10
ho164m	8.045E-12	8.473E-12	9.075E-12	9.726E-12	1.043E-11	1.118E-11	1.199E-11	1.286E-11	1.379E-11	1.477E-11	1.582E-11
er164	3.083E-07	3.497E-07	3.969E-07	4.504E-07	5.110E-07	5.796E-07	6.570E-07	7.442E-07	8.423E-07	9.524E-07	1.076E-06
sm165	7.807E-14	7.526E-14	7.738E-14	7.940E-14	8.133E-14	8.316E-14	8.491E-14	8.659E-14	8.820E-14	8.974E-14	9.123E-14
eul65	6.679E-12	6.582E-12	6.789E-12	6.993E-12	7.195E-12	7.397E-12	7.600E-12	7.806E-12	8.016E-12	8.232E-12	8.455E-12
gd165	1.906E-09	1.933E-09	1.999E-09	2.065E-09	2.133E-09	2.203E-09	2.275E-09	2.351E-09	2.430E-09	2.514E-09	2.603E-09
tb165	1.050E-08	1.071E-08	1.108E-08	1.147E-08	1.186E-08	1.227E-08	1.270E-08	1.315E-08	1.362E-08	1.412E-08	1.466E-08
dy165	8.900E-06	1.029E-05	1.162E-05	1.310E-05	1.476E-05	1.659E-05	1.860E-05	2.080E-05	2.319E-05	2.578E-05	2.858E-05
dy165m	6.074E-08	7.013E-08	7.914E-08	8.922E-08	1.004E-07	1.128E-07	1.265E-07	1.414E-07	1.576E-07	1.751E-07	1.941E-07
ho165	2.260E-02	2.633E-02	3.047E-02	3.508E-02	4.020E-02	4.588E-02	5.217E-02	5.913E-02	6.681E-02	7.525E-02	8.450E-02
er165	2.481E-11	2.735E-11	3.189E-11	3.711E-11	4.309E-11	4.992E-11	5.772E-11	6.661E-11	7.669E-11	8.811E-11	1.010E-10
tm165	2.891E-16	3.259E-16	3.791E-16	4.368E-16	4.984E-16	5.635E-16	6.317E-16	7.029E-16	7.768E-16	8.531E-16	9.317E-16
tb166	3.074E-09	3.118E-09	3.223E-09	3.329E-09	3.436E-09	3.547E-09	3.660E-09	3.778E-09	3.901E-09	4.030E-09	4.166E-09
dy166	1.371E-05	1.398E-05	1.450E-05	1.503E-05	1.557E-05	1.614E-05	1.672E-05	1.734E-05	1.799E-05	1.867E-05	1.940E-05
ho166	2.655E-05	2.958E-05	3.453E-05	4.012E-05	4.643E-05	5.355E-05	6.153E-05	7.048E-05	8.045E-05	9.155E-05	1.038E-04
ho166m	6.448E-05	7.715E-05	9.217E-05	1.098E-04	1.304E-04	1.543E-04	1.818E-04	2.134E-04	2.496E-04	2.906E-04	3.372E-04
er166	6.563E-03	7.626E-03	8.864E-03	1.030E-02	1.197E-02	1.388E-02	1.608E-02	1.859E-02	2.146E-02	2.471E-02	2.840E-02
tm166	8.620E-16	9.834E-16	1.159E-15	1.353E-15	1.564E-15	1.793E-15	2.039E-15	2.301E-15	2.579E-15	2.873E-15	3.183E-15
ybl66	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
dy167	5.300E-09	5.340E-09	5.542E-09	5.751E-09	5.968E-09	6.196E-09	6.437E-09	6.693E-09	6.967E-09	7.262E-09	7.580E-09
ho167	1.695E-07	1.719E-07	1.801E-07	1.889E-07	1.983E-07	2.085E-07	2.197E-07	2.320E-07	2.455E-07	2.603E-07	2.767E-07
er167	3.189E-04	3.430E-04	3.718E-04	4.059E-04	4.461E-04	4.931E-04	5.479E-04	6.113E-04	6.845E-04	7.684E-04	8.644E-04
er167m	5.145E-14	5.291E-14	5.901E-14	6.615E-14	7.449E-14	8.423E-14	9.557E-14	1.087E-13	1.240E-13	1.416E-13	1.618E-13
tm167	2.556E-13	2.966E-13	3.540E-13	4.187E-13	4.907E-13	5.700E-13	6.566E-13	7.506E-13	8.521E-13	9.611E-13	1.078E-12
ybl67	3.524E-20	3.884E-20	4.414E-20	4.969E-20	5.534E-20	6.103E-20	6.671E-20	7.234E-20	7.789E-20	8.335E-20	8.870E-20
dy168	3.828E-09	3.853E-09	4.016E-09	4.192E-09	4.379E-09	4.579E-09	4.791E-09	5.016E-09	5.254E-09	5.508E-09	5.778E-09

Cycle 3 -DD Assembly

fission products

page

power= 11.49mw, burnup= 22655.mwd, flux= 4.47E+13n/cm**2-sec
nuclide concentrations, grams
basis = 0.3883 MTU

	charge	1379.6 d	1445.3 d	1511.0 d	1576.7 d	1642.4 d	1708.1 d	1773.8 d	1839.5 d	1905.2 d	1970.9 d
ho168	1.352E-09	1.362E-09	1.421E-09	1.485E-09	1.553E-09	1.625E-09	1.702E-09	1.785E-09	1.872E-09	1.965E-09	2.065E-09
er168	1.205E-03	1.339E-03	1.486E-03	1.648E-03	1.827E-03	2.026E-03	2.248E-03	2.498E-03	2.778E-03	3.094E-03	3.451E-03
tm168	5.186E-10	5.414E-10	5.752E-10	6.152E-10	6.593E-10	7.064E-10	7.562E-10	8.086E-10	8.639E-10	9.224E-10	9.845E-10
ybl68	5.110E-14	5.430E-14	5.732E-14	6.057E-14	6.417E-14	6.813E-14	7.242E-14	7.701E-14	8.189E-14	8.705E-14	9.249E-14
dy169	1.312E-10	1.308E-10	1.361E-10	1.418E-10	1.477E-10	1.540E-10	1.606E-10	1.675E-10	1.748E-10	1.825E-10	1.906E-10
ho169	1.024E-09	1.025E-09	1.068E-09	1.115E-09	1.165E-09	1.218E-09	1.275E-09	1.334E-09	1.398E-09	1.465E-09	1.537E-09
er169	3.446E-06	3.496E-06	3.697E-06	3.917E-06	4.156E-06	4.416E-06	4.699E-06	5.008E-06	5.345E-06	5.715E-06	6.122E-06
tm169	1.228E-04	1.297E-04	1.365E-04	1.434E-04	1.506E-04	1.581E-04	1.659E-04	1.741E-04	1.829E-04	1.922E-04	2.021E-04
ybl69	5.359E-11	5.822E-11	6.626E-11	7.542E-11	8.537E-11	9.609E-11	1.076E-10	1.200E-10	1.333E-10	1.474E-10	1.626E-10
ybl69m	7.974E-20	9.192E-20	1.095E-19	1.292E-19	1.509E-19	1.747E-19	2.005E-19	2.283E-19	2.581E-19	2.898E-19	3.236E-19
dy170	3.112E-11	3.064E-11	3.180E-11	3.301E-11	3.428E-11	3.559E-11	3.695E-11	3.837E-11	3.985E-11	4.139E-11	4.300E-11
ho170	2.682E-10	2.651E-10	2.759E-10	2.872E-10	2.992E-10	3.117E-10	3.249E-10	3.389E-10	3.535E-10	3.690E-10	3.855E-10
ho170m	3.875E-12	4.087E-12	4.422E-12	4.803E-12	5.234E-12	5.719E-12	6.265E-12	6.878E-12	7.565E-12	8.332E-12	9.187E-12
er170	9.567E-05	1.021E-04	1.088E-04	1.158E-04	1.231E-04	1.307E-04	1.386E-04	1.469E-04	1.555E-04	1.646E-04	1.741E-04
tm170	2.160E-05	2.295E-05	2.455E-05	2.634E-05	2.827E-05	3.033E-05	3.250E-05	3.480E-05	3.722E-05	3.977E-05	4.248E-05
ybl70	5.516E-05	6.216E-05	6.955E-05	7.740E-05	8.574E-05	9.462E-05	1.041E-04	1.141E-04	1.247E-04	1.360E-04	1.480E-04
ho171	4.354E-11	4.283E-11	4.461E-11	4.648E-11	4.844E-11	5.051E-11	5.272E-11	5.509E-11	5.764E-11	6.039E-11	6.336E-11
er171	2.482E-08	2.460E-08	2.578E-08	2.703E-08	2.835E-08	2.976E-08	3.126E-08	3.288E-08	3.462E-08	3.649E-08	3.852E-08
tm171	3.136E-05	3.290E-05	3.452E-05	3.624E-05	3.806E-05	3.999E-05	4.203E-05	4.421E-05	4.653E-05	4.900E-05	5.164E-05
ybl71	2.276E-05	2.527E-05	2.795E-05	3.082E-05	3.388E-05	3.716E-05	4.066E-05	4.441E-05	4.842E-05	5.270E-05	5.727E-05
ho172	3.188E-11	3.077E-11	3.172E-11	3.263E-11	3.353E-11	3.442E-11	3.529E-11	3.616E-11	3.703E-11	3.790E-11	3.879E-11
er172	2.337E-07	2.261E-07	2.334E-07	2.406E-07	2.478E-07	2.550E-07	2.623E-07	2.696E-07	2.771E-07	2.848E-07	2.927E-07
tm172	3.406E-07	3.320E-07	3.447E-07	3.575E-07	3.704E-07	3.835E-07	3.969E-07	4.107E-07	4.250E-07	4.398E-07	4.552E-07
ybl72	9.236E-05	9.838E-05	1.046E-04	1.112E-04	1.180E-04	1.251E-04	1.324E-04	1.401E-04	1.482E-04	1.565E-04	1.653E-04
totals	1.574E+04	1.652E+04	1.729E+04	1.807E+04	1.884E+04	1.961E+04	2.038E+04	2.115E+04	2.192E+04	2.269E+04	2.345E+04
flux		4.013E+13	4.129E+13	4.240E+13	4.346E+13	4.446E+13	4.541E+13	4.631E+13	4.717E+13	4.799E+13	4.876E+13

54\$ array 12 entries read

56\$ array 20 entries read

57* array 5 entries read

95\$ array 1 entries read

0t

60* array 7 entries read

61* array 7 entries read

gram-atoms grams curies watts-all watts-gamma

65\$ array 63 entries read

81\$ array 7 entries read

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82\$ array 7 entries read

83* array 19 entries read

84* array 45 entries read

0t

1 Cycle 3 Down - DD Assembly light elements page

73 decay, following irradiation identified by: power= 11.49mw, burnup= 22655.mwd, flux= 3.69E+13n/cm**2-sec
0 nuclide concentrations, grams

basis =0.3883 MTU

	charge	discharge	1E-03 y	3E-03 y	2E-02 y	7E-02 y	0.2 y	0.7 y	1.0 y
total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

1 Cycle 3 Down - DD Assembly actinides page

74 decay, following irradiation identified by: power= 11.49mw, burnup= 22655.mwd, flux= 3.69E+13n/cm**2-sec
0 nuclide concentrations, grams

basis =0.3883 MTU

	charge	discharge	1E-03 y	3E-03 y	2E-02 y	7E-02 y	0.2 y	0.7 y	1.0 y
u235	4.644E+03	1.877E+03	1.877E+03	1.877E+03	1.877E+03	1.877E+03	1.877E+03	1.877E+03	1.877E+03
u236	2.154E+03	2.430E+03	2.430E+03	2.430E+03	2.430E+03	2.430E+03	2.430E+03	2.430E+03	2.430E+03
u238	3.616E+05	3.553E+05	3.553E+05	3.553E+05	3.553E+05	3.553E+05	3.553E+05	3.553E+05	3.553E+05
np237	2.064E+02	3.173E+02	3.175E+02	3.178E+02	3.200E+02	3.215E+02	3.218E+02	3.218E+02	3.219E+02
pu239	2.150E+03	2.116E+03	2.119E+03	2.125E+03	2.145E+03	2.147E+03	2.147E+03	2.147E+03	2.147E+03
pu240	8.721E+02	1.192E+03	1.192E+03	1.192E+03	1.192E+03	1.192E+03	1.192E+03	1.193E+03	1.194E+03
pu241	5.250E+02	6.615E+02	6.615E+02	6.614E+02	6.607E+02	6.592E+02	6.545E+02	6.406E+02	6.303E+02
pu242	1.902E+02	4.433E+02	4.433E+02	4.433E+02	4.433E+02	4.433E+02	4.433E+02	4.433E+02	4.433E+02
total	3.726E+05	3.649E+05	3.649E+05	3.649E+05	3.649E+05	3.649E+05	3.649E+05	3.649E+05	3.649E+05

1 Cycle 3 Down - DD Assembly fission products page

75 decay, following irradiation identified by: power= 11.49mw, burnup= 22655.mwd, flux= 3.69E+13n/cm**2-sec
0 nuclide concentrations, grams

basis =0.3883 MTU

	charge	discharge	1E-03 y	3E-03 y	2E-02 y	7E-02 y	0.2 y	0.7 y	1.0 y
br 81	9.744E+00	1.368E+01	1.368E+01	1.368E+01	1.368E+01	1.368E+01	1.368E+01	1.368E+01	1.368E+01
se 82	1.559E+01	2.205E+01	2.205E+01	2.205E+01	2.205E+01	2.205E+01	2.205E+01	2.205E+01	2.205E+01
kr 83	1.988E+01	2.308E+01	2.308E+01	2.308E+01	2.308E+01	2.308E+01	2.308E+01	2.308E+01	2.308E+01
kr 84	5.486E+01	8.015E+01	8.016E+01	8.016E+01	8.016E+01	8.016E+01	8.016E+01	8.016E+01	8.016E+01
kr 85	1.171E+01	1.495E+01	1.495E+01	1.495E+01	1.493E+01	1.488E+01	1.474E+01	1.432E+01	1.402E+01
rb 85	4.678E+01	6.473E+01	6.473E+01	6.474E+01	6.476E+01	6.481E+01	6.495E+01	6.537E+01	6.567E+01
kr 86	8.722E+01	1.187E+02	1.187E+02	1.187E+02	1.187E+02	1.187E+02	1.187E+02	1.187E+02	1.187E+02
rb 87	1.181E+02	1.600E+02	1.600E+02	1.600E+02	1.600E+02	1.600E+02	1.600E+02	1.600E+02	1.600E+02
sr 88	1.630E+02	2.205E+02	2.205E+02	2.205E+02	2.205E+02	2.205E+02	2.205E+02	2.205E+02	2.205E+02
y 89	2.085E+02	2.864E+02	2.865E+02	2.866E+02	2.873E+02	2.888E+02	2.916E+02	2.938E+02	2.940E+02
sr 90	2.566E+02	3.370E+02	3.370E+02	3.369E+02	3.368E+02	3.364E+02	3.351E+02	3.315E+02	3.288E+02
zr 90	1.279E+01	2.656E+01	2.657E+01	2.658E+01	2.677E+01	2.718E+01	2.840E+01	3.205E+01	3.476E+01
y 91	1.515E+01	1.242E+01	1.240E+01	1.233E+01	1.124E+01	9.074E+00	4.780E+00	6.974E-01	1.651E-01
zr 91	2.694E+02	3.758E+02	3.758E+02	3.759E+02	3.770E+02	3.792E+02	3.835E+02	3.876E+02	3.881E+02
zr 92	3.070E+02	4.255E+02	4.255E+02	4.255E+02	4.255E+02	4.255E+02	4.255E+02	4.255E+02	4.255E+02
zr 93	3.338E+02	4.638E+02	4.639E+02	4.639E+02	4.639E+02	4.639E+02	4.639E+02	4.639E+02	4.639E+02
zr 94	3.609E+02	5.163E+02	5.163E+02	5.163E+02	5.163E+02	5.163E+02	5.163E+02	5.163E+02	5.163E+02
zr 95	2.393E+01	2.185E+01	2.177E+01	2.160E+01	1.982E+01	1.631E+01	9.077E+00	1.563E+00	4.188E-01
nb 95	1.317E+01	1.201E+01	1.201E+01	1.201E+01	1.191E+01	1.127E+01	8.063E+00	1.766E+00	4.936E-01
mo 95	3.182E+02	4.564E+02	4.565E+02	4.566E+02	4.585E+02	4.627E+02	4.731E+02	4.869E+02	4.893E+02
zr 96	3.753E+02	5.406E+02	5.406E+02	5.406E+02	5.406E+02	5.406E+02	5.406E+02	5.406E+02	5.406E+02
mo 96	1.754E+01	4.380E+01	4.380E+01	4.380E+01	4.380E+01	4.380E+01	4.380E+01	4.380E+01	4.380E+01
mo 97	3.738E+02	5.451E+02	5.452E+02	5.453E+02	5.454E+02	5.454E+02	5.454E+02	5.454E+02	5.454E+02
mo 98	3.775E+02	5.613E+02	5.613E+02	5.613E+02	5.613E+02	5.613E+02	5.613E+02	5.613E+02	5.613E+02
tc 99	3.627E+02	5.035E+02	5.036E+02	5.038E+02	5.047E+02	5.048E+02	5.048E+02	5.048E+02	5.048E+02
mo100	4.298E+02	6.411E+02	6.411E+02	6.411E+02	6.411E+02	6.411E+02	6.411E+02	6.411E+02	6.411E+02
ru100	4.601E+01	1.070E+02	1.070E+02	1.070E+02	1.070E+02	1.070E+02	1.070E+02	1.070E+02	1.070E+02
ru101	3.568E+02	5.254E+02	5.254E+02	5.254E+02	5.254E+02	5.254E+02	5.254E+02	5.254E+02	5.254E+02
ru102	3.561E+02	5.668E+02	5.668E+02	5.668E+02	5.668E+02	5.668E+02	5.668E+02	5.668E+02	5.668E+02
ru103	1.543E+01	1.730E+01	1.719E+01	1.697E+01	1.476E+01	1.073E+01	4.129E+00	2.344E-01	2.737E-02
rh103	1.945E+02	2.567E+02	2.568E+02	2.570E+02	2.592E+02	2.633E+02	2.699E+02	2.738E+02	2.740E+02
ru104	2.365E+02	4.015E+02	4.015E+02	4.015E+02	4.015E+02	4.015E+02	4.015E+02	4.015E+02	4.015E+02
pd104	9.530E+01	2.226E+02	2.226E+02	2.226E+02	2.226E+02	2.226E+02	2.226E+02	2.226E+02	2.226E+02
pd105	1.658E+02	2.868E+02	2.869E+02	2.870E+02	2.873E+02	2.873E+02	2.873E+02	2.873E+02	2.873E+02
ru106	5.754E+01	8.290E+01	8.284E+01	8.273E+01	8.151E+01	7.881E+01	7.125E+01	5.261E+01	4.193E+01
pd106	8.696E+01	1.979E+02	1.979E+02	1.980E+02	1.992E+02	2.019E+02	2.095E+02	2.281E+02	2.388E+02
pd107	8.679E+01	1.658E+02	1.658E+02	1.658E+02	1.658E+02	1.658E+02	1.658E+02	1.658E+02	1.658E+02
pd108	5.558E+01	1.091E+02	1.091E+02	1.091E+02	1.091E+02	1.091E+02	1.091E+02	1.091E+02	1.091E+02
ag109	3.027E+01	5.440E+01	5.442E+01	5.445E+01	5.447E+01	5.447E+01	5.447E+01	5.447E+01	5.447E+01
pd110	1.810E+01	3.648E+01	3.648E+01	3.648E+01	3.648E+01	3.648E+01	3.648E+01	3.648E+01	3.648E+01
cd110	1.198E+01	3.624E+01	3.624E+01	3.624E+01	3.626E+01	3.628E+01	3.634E+01	3.648E+01	3.655E+01
cd111	8.480E+00	1.731E+01	1.731E+01	1.732E+01	1.740E+01	1.746E+01	1.747E+01	1.747E+01	1.747E+01
sn126	7.913E+00	1.310E+01	1.310E+01	1.310E+01	1.310E+01	1.310E+01	1.310E+01	1.310E+01	1.310E+01
i127	1.922E+01	3.055E+01	3.056E+01	3.058E+01	3.067E+01	3.076E+01	3.090E+01	3.113E+01	3.120E+01
te128	3.819E+01	6.030E+01	6.030E+01	6.030E+01	6.030E+01	6.030E+01	6.030E+01	6.030E+01	6.030E+01


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i129 6.615E+01 1.044E+02 1.044E+02 1.044E+02 1.045E+02 1.047E+02 1.049E+02 1.050E+02 1.050E+02
tel30 1.700E+02 2.575E+02 2.576E+02 2.576E+02 2.576E+02 2.576E+02 2.576E+02 2.576E+02 2.576E+02
xel31 1.899E+02 2.328E+02 2.329E+02 2.330E+02 2.342E+02 2.352E+02 2.355E+02 2.355E+02 2.355E+02
xel32 4.967E+02 8.115E+02 8.116E+02 8.118E+02 8.128E+02 8.130E+02 8.130E+02 8.130E+02 8.130E+02
csl33 5.240E+02 7.202E+02 7.203E+02 7.206E+02 7.229E+02 7.240E+02 7.241E+02 7.241E+02 7.241E+02
xel34 7.024E+02 1.043E+03 1.043E+03 1.043E+03 1.043E+03 1.043E+03 1.043E+03 1.043E+03 1.043E+03
xel34 4.838E+01 9.158E+01 9.155E+01 9.149E+01 9.082E+01 8.933E+01 8.499E+01 7.319E+01 6.543E+01

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1 Cycle 3 Down - DD Assembly fission products page 76

decay, following irradiation identified by: power= 11.49mw, burnup= 22655.mwd, flux= 3.69E+13n/cm**2-sec
nuclide concentrations, grams
basis =0.3883 MTU

	charge	discharge	1E-03 y	3E-03 y	2E-02 y	7E-02 y	0.2 y	0.7 y	1.0 y
ba134	2.101E+01	6.208E+01	6.211E+01	6.217E+01	6.284E+01	6.433E+01	6.867E+01	8.048E+01	8.823E+01
cs135	2.101E+02	2.992E+02	2.993E+02	2.994E+02	2.995E+02	2.995E+02	2.995E+02	2.995E+02	2.995E+02
xel36	1.010E+03	1.547E+03	1.547E+03	1.547E+03	1.547E+03	1.547E+03	1.547E+03	1.547E+03	1.547E+03
ba136	1.238E+01	2.721E+01	2.722E+01	2.723E+01	2.738E+01	2.755E+01	2.765E+01	2.765E+01	2.765E+01
cs137	5.546E+02	8.129E+02	8.129E+02	8.128E+02	8.124E+02	8.115E+02	8.087E+02	8.004E+02	7.943E+02
ba137	2.350E+01	5.189E+01	5.191E+01	5.194E+01	5.235E+01	5.328E+01	5.605E+01	6.432E+01	7.046E+01
ba138	6.017E+02	8.865E+02	8.865E+02	8.865E+02	8.865E+02	8.865E+02	8.865E+02	8.865E+02	8.865E+02
la139	5.650E+02	8.230E+02	8.231E+02	8.231E+02	8.231E+02	8.231E+02	8.231E+02	8.231E+02	8.231E+02
ce140	5.737E+02	8.531E+02	8.532E+02	8.535E+02	8.562E+02	8.593E+02	8.611E+02	8.612E+02	8.612E+02
ce141	1.790E+01	1.717E+01	1.711E+01	1.686E+01	1.424E+01	9.692E+00	3.056E+00	9.556E-02	7.139E-03
pr141	5.011E+02	7.336E+02	7.337E+02	7.340E+02	7.366E+02	7.412E+02	7.478E+02	7.508E+02	7.509E+02
ce142	5.203E+02	7.573E+02	7.573E+02	7.573E+02	7.573E+02	7.573E+02	7.573E+02	7.573E+02	7.573E+02
nd142	8.979E+00	2.319E+01	2.320E+01	2.321E+01	2.322E+01	2.322E+01	2.322E+01	2.322E+01	2.322E+01
nd143	3.741E+02	4.311E+02	4.312E+02	4.314E+02	4.336E+02	4.363E+02	4.380E+02	4.381E+02	4.381E+02
ce144	1.355E+02	1.290E+02	1.288E+02	1.286E+02	1.262E+02	1.207E+02	1.058E+02	7.128E+01	5.302E+01
nd144	4.741E+02	8.564E+02	8.566E+02	8.568E+02	8.592E+02	8.647E+02	8.796E+02	9.141E+02	9.324E+02
nd145	3.149E+02	4.229E+02	4.230E+02	4.230E+02	4.230E+02	4.230E+02	4.230E+02	4.230E+02	4.230E+02
nd146	3.218E+02	5.075E+02	5.075E+02	5.075E+02	5.075E+02	5.075E+02	5.075E+02	5.075E+02	5.075E+02
pml47	7.685E+01	7.375E+01	7.379E+01	7.386E+01	7.435E+01	7.433E+01	7.190E+01	6.394E+01	5.855E+01
sm147	3.994E+01	5.512E+01	5.514E+01	5.518E+01	5.560E+01	5.657E+01	5.944E+01	6.742E+01	7.280E+01
nd148	1.680E+02	2.492E+02	2.492E+02	2.492E+02	2.492E+02	2.492E+02	2.492E+02	2.492E+02	2.492E+02
sm148	5.990E+01	1.173E+02	1.173E+02	1.173E+02	1.176E+02	1.179E+02	1.181E+02	1.183E+02	1.183E+02
nd150	7.945E+01	1.240E+02	1.240E+02	1.240E+02	1.240E+02	1.240E+02	1.240E+02	1.240E+02	1.240E+02
sm150	1.339E+02	1.965E+02	1.965E+02	1.965E+02	1.965E+02	1.965E+02	1.965E+02	1.965E+02	1.965E+02
sm152	5.662E+01	7.739E+01	7.739E+01	7.739E+01	7.739E+01	7.739E+01	7.739E+01	7.739E+01	7.739E+01
eul53	5.050E+01	8.312E+01	8.318E+01	8.328E+01	8.360E+01	8.362E+01	8.362E+01	8.362E+01	8.362E+01
sm154	1.502E+01	2.604E+01	2.604E+01	2.604E+01	2.604E+01	2.604E+01	2.604E+01	2.604E+01	2.604E+01
eul54	1.015E+01	1.822E+01	1.822E+01	1.822E+01	1.819E+01	1.811E+01	1.790E+01	1.727E+01	1.681E+01
gd156	3.053E+01	8.866E+01	8.870E+01	8.879E+01	8.958E+01	9.061E+01	9.134E+01	9.140E+01	9.140E+01
gd158	7.049E+00	1.753E+01	1.753E+01	1.753E+01	1.753E+01	1.753E+01	1.753E+01	1.753E+01	1.753E+01
total	1.574E+04	2.345E+04	2.345E+04	2.345E+04	2.345E+04	2.345E+04	2.345E+04	2.345E+04	2.345E+04

1 title: Cycle 3 Down - DD Assembly
0 * neutron sources determined *
0 case applies the following for alpha,n neutron source
uranium dioxide matrix

elemental constituents:

z-value	atom fraction
8	0.666667
92	0.333333
total	1.000000

number of target nuclides to be used: 2
200 alpha energy groups used.

target nuclides:

nuclid	zaid	atom fraction
o 17	80170	0.000253330
o 18	80180	0.001333300

number of source nuclides to be evaluated: 91

neutron source types	
alpha decay	81
spontaneous fission	34
delayed neutron	0
total:	115

1 neutron source intensity as a function of time page 77

0 Cycle 3 Down - DD Assembly
alpha-n neutron source, neutrons/sec/basis

basis = 0.3883 MTU

	initial	1E-03 y	3E-03 y	2E-02 y	7E-02 y	0.2 y	0.7 y	1.0 y
pu238	2.318E+06	2.319E+06	2.322E+06	2.334E+06	2.345E+06	2.368E+06	2.411E+06	2.425E+06
pu239	8.163E+04	8.175E+04	8.196E+04	8.274E+04	8.283E+04	8.283E+04	8.283E+04	8.283E+04
pu240	1.696E+05	1.696E+05	1.696E+05	1.696E+05	1.696E+05	1.697E+05	1.698E+05	1.699E+05
pu241	8.875E+02	8.874E+02	8.874E+02	8.864E+02	8.843E+02	8.780E+02	8.593E+02	8.456E+02
pu242	9.232E+02	9.232E+02	9.232E+02	9.232E+02	9.232E+02	9.232E+02	9.232E+02	9.232E+02
am241	7.489E+04	7.498E+04	7.515E+04	7.702E+04	8.128E+04	9.399E+04	1.316E+05	1.592E+05
am243	1.847E+04	1.848E+04	1.849E+04	1.849E+04	1.849E+04	1.849E+04	1.849E+04	1.848E+04
cm242	4.040E+07	4.040E+07	4.034E+07	3.907E+07	3.618E+07	2.875E+07	1.441E+07	8.589E+06
cm243	2.072E+04	2.071E+04	2.071E+04	2.070E+04	2.068E+04	2.060E+04	2.038E+04	2.022E+04
cm244	5.220E+06	5.224E+06	5.226E+06	5.223E+06	5.213E+06	5.184E+06	5.096E+06	5.032E+06
cm245	4.187E+02	4.187E+02	4.187E+02	4.187E+02	4.187E+02	4.187E+02	4.187E+02	4.187E+02
totals	4.830E+07	4.831E+07	4.826E+07	4.700E+07	4.412E+07	3.669E+07	2.234E+07	1.650E+07

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neutron source intensity as a function of time

Cycle 3 Down - DD Assembly

spontaneous fission neutron source, neutrons/sec/basis

basis = 0.3883 MTU

	initial	1E-03 y	3E-03 y	2E-02 y	7E-02 y	0.2 y	0.7 y	1.0 y
th230	5.437E-08	5.438E-08	5.440E-08	5.464E-08	5.518E-08	5.681E-08	6.172E-08	6.544E-08
th232	3.848E-11	3.849E-11	3.851E-11	3.875E-11	3.930E-11	4.094E-11	4.585E-11	4.953E-11
pa231	1.743E-07	1.744E-07	1.746E-07	1.748E-07	1.749E-07	1.750E-07	1.755E-07	1.758E-07
u233	3.864E-07	3.865E-07	3.865E-07	3.874E-07	3.893E-07	3.951E-07	4.122E-07	4.251E-07
u234	4.348E-01	4.349E-01	4.349E-01	4.351E-01	4.355E-01	4.369E-01	4.410E-01	4.441E-01
u235	1.955E-02	1.955E-02	1.955E-02	1.955E-02	1.955E-02	1.955E-02	1.955E-02	1.955E-02
u236	1.044E+01	1.044E+01	1.044E+01	1.044E+01	1.044E+01	1.044E+01	1.044E+01	1.044E+01
u238	4.842E+03	4.842E+03	4.842E+03	4.842E+03	4.842E+03	4.842E+03	4.842E+03	4.842E+03
np237	3.563E-02	3.565E-02	3.569E-02	3.594E-02	3.611E-02	3.614E-02	3.614E-02	3.614E-02
pu236	3.685E+01	3.687E+01	3.689E+01	3.675E+01	3.632E+01	3.506E+01	3.152E+01	2.911E+01
pu238	4.421E+05	4.425E+05	4.430E+05	4.454E+05	4.473E+05	4.518E+05	4.600E+05	4.627E+05
pu239	3.149E+01	3.153E+01	3.161E+01	3.192E+01	3.195E+01	3.195E+01	3.195E+01	3.195E+01
pu240	1.243E+06	1.243E+06	1.243E+06	1.243E+06	1.243E+06	1.244E+06	1.245E+06	1.246E+06
pu241	1.367E+00	1.367E+00	1.366E+00	1.365E+00	1.362E+00	1.352E+00	1.323E+00	1.302E+00
pu242	7.727E+05	7.727E+05	7.727E+05	7.727E+05	7.727E+05	7.727E+05	7.727E+05	7.727E+05
pu244	3.533E+01	3.533E+01	3.533E+01	3.533E+01	3.533E+01	3.533E+01	3.533E+01	3.533E+01
am241	3.427E+01	3.431E+01	3.439E+01	3.524E+01	3.719E+01	4.301E+01	6.020E+01	7.283E+01
am242m	2.429E+01	2.429E+01	2.429E+01	2.429E+01	2.428E+01	2.426E+01	2.421E+01	2.417E+01
am243	9.006E+01	9.011E+01	9.013E+01	9.013E+01	9.013E+01	9.013E+01	9.013E+01	9.013E+01
cm242	2.113E+08	2.113E+08	2.110E+08	2.043E+08	1.893E+08	1.504E+08	7.535E+07	4.492E+07
cm243	1.122E+02	1.122E+02	1.122E+02	1.121E+02	1.120E+02	1.116E+02	1.104E+02	1.095E+02
cm244	7.369E+08	7.374E+08	7.378E+08	7.374E+08	7.360E+08	7.318E+08	7.195E+08	7.104E+08
cm245	3.732E+02	3.732E+02	3.732E+02	3.732E+02	3.732E+02	3.732E+02	3.732E+02	3.732E+02
cm246	5.398E+06	5.398E+06	5.398E+06	5.398E+06	5.398E+06	5.398E+06	5.398E+06	5.397E+06
cm248	3.584E+04	3.584E+04	3.584E+04	3.584E+04	3.584E+04	3.584E+04	3.585E+04	3.586E+04
cm250	3.476E+00	3.476E+00	3.476E+00	3.476E+00	3.477E+00	3.478E+00	3.479E+00	3.480E+00
bk249	1.183E+00	1.183E+00	1.181E+00	1.161E+00	1.117E+00	9.937E-01	6.990E-01	5.371E-01
cf249	5.769E-03	5.792E-03	5.839E-03	6.341E-03	7.451E-03	1.053E-02	1.788E-02	2.191E-02
cf250	3.584E+04	3.595E+04	3.597E+04	3.593E+04	3.584E+04	3.556E+04	3.473E+04	3.412E+04
cf252	4.127E+06	4.126E+06	4.123E+06	4.100E+06	4.047E+06	3.893E+06	3.465E+06	3.175E+06
cf254	1.878E+05	1.870E+05	1.855E+05	1.694E+05	1.377E+05	7.411E+04	1.152E+04	2.859E+03
es253	7.836E-01	7.865E-01	7.918E-01	8.044E-01	6.671E-01	1.993E-01	1.486E-03	2.813E-05
es254	5.548E-03	5.543E-03	5.533E-03	5.424E-03	5.183E-03	4.524E-03	3.007E-03	2.215E-03
es255	2.223E+00	2.208E+00	2.180E+00	1.893E+00	1.374E+00	5.252E-01	2.926E-02	3.368E-03
totals	9.605E+08	9.610E+08	9.611E+08	9.539E+08	9.374E+08	8.941E+08	8.063E+08	7.664E+08

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neutron source intensity as a function of time

Cycle 3 Down - DD Assembly

delayed neutron source, neutrons/sec/basis

basis = 0.3883 MTU

	initial	1E-03 y	3E-03 y	2E-02 y	7E-02 y	0.2 y	0.7 y	1.0 y
totals	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

grand total 1.009E+09 1.009E+09 1.009E+09 1.001E+09 9.815E+08 9.308E+08 8.286E+08 7.829E+08

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

Cycle 3 Down - DD Assembly

alpha-n neutron spectra, neutrons/sec/basis

basis = 0.3883 MTU

grp	boundaries, mev	initial	1E-03 y	3E-03 y	2E-02 y	7E-02 y	0.2 y	0.7 y	1.0 y
1	1.00E-11 - 3.00E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
group 2 thru group 10 are zero									
11	1.50E-07 - 2.00E-07	9.466E-06	9.480E-06	9.504E-06	9.595E-06	9.605E-06	9.605E-06	9.605E-06	9.605E-06
12	2.00E-07 - 2.25E-07	5.113E-06	5.120E-06	5.133E-06	5.183E-06	5.188E-06	5.188E-06	5.188E-06	5.188E-06
13	2.25E-07 - 2.50E-07	5.113E-06	5.120E-06	5.133E-06	5.183E-06	5.188E-06	5.188E-06	5.188E-06	5.188E-06


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14 2.50E-07 - 2.75E-07 5.113E-06 5.120E-06 5.133E-06 5.183E-06 5.188E-06 5.188E-06 5.188E-06 5.188E-06
15 2.75E-07 - 3.25E-07 1.023E-05 1.024E-05 1.027E-05 1.037E-05 1.038E-05 1.038E-05 1.038E-05 1.038E-05
16 3.25E-07 - 3.50E-07 5.113E-06 5.120E-06 5.133E-06 5.183E-06 5.188E-06 5.188E-06 5.188E-06 5.188E-06
17 3.50E-07 - 3.75E-07 5.113E-06 5.120E-06 5.133E-06 5.183E-06 5.188E-06 5.188E-06 5.188E-06 5.188E-06
18 3.75E-07 - 4.00E-07 1.535E-04 1.535E-04 1.534E-04 1.487E-04 1.381E-04 1.108E-04 5.812E-05 3.675E-05
19 4.00E-07 - 6.25E-07 1.394E-03 1.394E-03 1.392E-03 1.350E-03 1.254E-03 1.006E-03 5.274E-04 3.333E-04
20 6.25E-07 - 1.00E-06 2.323E-03 2.324E-03 2.321E-03 2.251E-03 2.090E-03 1.677E-03 8.790E-04 5.555E-04
21 1.00E-06 - 1.77E-06 4.771E-03 4.771E-03 4.765E-03 4.621E-03 4.292E-03 3.443E-03 1.805E-03 1.141E-03
22 1.77E-06 - 3.00E-06 7.629E-03 7.629E-03 7.620E-03 7.390E-03 6.864E-03 5.507E-03 2.891E-03 1.830E-03
23 3.00E-06 - 4.75E-06 1.087E-02 1.087E-02 1.086E-02 1.053E-02 9.781E-03 7.850E-03 4.128E-03 2.619E-03
24 4.75E-06 - 6.00E-06 7.765E-03 7.765E-03 7.756E-03 7.522E-03 6.987E-03 5.608E-03 2.950E-03 1.871E-03
25 6.00E-06 - 8.10E-06 1.307E-02 1.307E-02 1.306E-02 1.267E-02 1.177E-02 9.450E-03 4.984E-03 3.172E-03
26 8.10E-06 - 1.00E-05 1.183E-02 1.183E-02 1.181E-02 1.146E-02 1.065E-02 8.551E-03 4.509E-03 2.870E-03
27 1.00E-05 - 3.00E-05 3.563E-01 3.564E-01 3.561E-01 3.475E-01 3.280E-01 2.775E-01 1.798E-01 1.397E-01
28 3.00E-05 - 1.00E-04 5.236E+00 5.236E+00 5.231E+00 5.100E+00 4.801E+00 4.029E+00 2.537E+00 1.930E+00
29 1.00E-04 - 5.50E-04 6.777E+01 6.778E+01 6.772E+01 6.599E+01 6.204E+01 5.186E+01 3.219E+01 2.419E+01
30 5.50E-04 - 3.00E-03 7.352E+02 7.353E+02 7.347E+02 7.165E+02 6.750E+02 5.678E+02 3.608E+02 2.765E+02
31 3.00E-03 - 1.70E-02 1.162E+04 1.162E+04 1.161E+04 1.132E+04 1.066E+04 8.955E+03 5.660E+03 4.318E+03
32 1.70E-02 - 2.50E-02 1.073E+04 1.073E+04 1.072E+04 1.045E+04 9.838E+03 8.253E+03 5.191E+03 3.945E+03
33 2.50E-02 - 1.00E-01 1.674E+05 1.674E+05 1.673E+05 1.630E+05 1.534E+05 1.285E+05 8.035E+04 6.076E+04
34 1.00E-01 - 4.00E-01 1.144E+06 1.144E+06 1.143E+06 1.113E+06 1.046E+06 8.719E+05 5.362E+05 3.996E+05
35 4.00E-01 - 9.00E-01 2.387E+06 2.388E+06 2.385E+06 2.323E+06 2.182E+06 1.816E+06 1.110E+06 8.229E+05
36 9.00E-01 - 1.40E+00 3.312E+06 3.313E+06 3.309E+06 3.223E+06 3.027E+06 2.519E+06 1.540E+06 1.141E+06
37 1.40E+00 - 1.85E+00 4.731E+06 4.731E+06 4.726E+06 4.605E+06 4.326E+06 3.608E+06 2.222E+06 1.658E+06
38 1.85E+00 - 2.35E+00 7.824E+06 7.825E+06 7.818E+06 7.618E+06 7.164E+06 5.990E+06 3.725E+06 2.802E+06
39 2.35E+00 - 2.48E+00 2.241E+06 2.241E+06 2.239E+06 2.182E+06 2.053E+06 1.718E+06 1.071E+06 8.079E+05
40 2.48E+00 - 3.00E+00 9.669E+06 9.670E+06 9.661E+06 9.414E+06 8.848E+06 7.391E+06 4.576E+06 3.430E+06
41 3.00E+00 - 4.80E+00 1.652E+07 1.653E+07 1.651E+07 1.606E+07 1.504E+07 1.242E+07 7.354E+06 5.292E+06
42 4.80E+00 - 6.43E+00 2.760E+05 2.760E+05 2.757E+05 2.676E+05 2.494E+05 2.023E+05 1.116E+05 7.468E+04
43 6.43E+00 - 8.19E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
group 44 thru group 44 are zero
totals 4.830E+07 4.830E+07 4.826E+07 4.699E+07 4.411E+07 3.668E+07 2.234E+07 1.650E+07

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1

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spontaneous fission neutron source spectrum as a function of time

0

Cycle 3 Down - DD Assembly

spontaneous fission neutron spectra, neutrons/sec/basis

basis = 0.3883 MTU

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grp boundaries, mev initial 1E-03 y 3E-03 y 2E-02 y 7E-02 y 0.2 y 0.7 y 1.0 y
1 1.00E-11 - 3.00E-09 9.761E-06 9.761E-06 9.761E-06 9.761E-06 9.761E-06 9.760E-06 9.760E-06
2 3.00E-09 - 7.50E-09 6.951E-06 6.951E-06 6.951E-06 6.951E-06 6.951E-06 6.951E-06 6.950E-06
3 7.50E-09 - 1.00E-08 4.523E-06 4.523E-06 4.523E-06 4.523E-06 4.523E-06 4.523E-06 4.523E-06
4 1.00E-08 - 2.53E-08 1.681E-05 1.681E-05 1.681E-05 1.681E-05 1.681E-05 1.681E-05 1.681E-05
5 2.53E-08 - 3.00E-08 5.904E-06 5.904E-06 5.904E-06 5.904E-06 5.904E-06 5.904E-06 5.904E-06
6 3.00E-08 - 4.00E-08 1.678E-05 1.678E-05 1.678E-05 1.678E-05 1.678E-05 1.678E-05 1.678E-05
7 4.00E-08 - 5.00E-08 1.393E-05 1.393E-05 1.393E-05 1.393E-05 1.393E-05 1.393E-05 1.393E-05
8 5.00E-08 - 7.00E-08 3.146E-05 3.145E-05 3.144E-05 3.131E-05 3.104E-05 3.051E-05 2.998E-05
9 7.00E-08 - 1.00E-07 5.169E-05 5.168E-05 5.165E-05 5.143E-05 5.099E-05 5.009E-05 4.921E-05
10 1.00E-07 - 1.50E-07 9.775E-05 9.773E-05 9.769E-05 9.726E-05 9.641E-05 9.470E-05 9.300E-05
11 1.50E-07 - 2.00E-07 1.022E-04 1.022E-04 1.022E-04 1.017E-04 1.007E-04 9.873E-05 9.678E-05
12 2.00E-07 - 2.25E-07 5.928E-05 5.927E-05 5.924E-05 5.897E-05 5.845E-05 5.738E-05 5.633E-05
13 2.25E-07 - 2.50E-07 7.186E-05 7.185E-05 7.182E-05 7.154E-05 7.099E-05 6.987E-05 6.878E-05
14 2.50E-07 - 2.75E-07 6.541E-05 6.539E-05 6.537E-05 6.507E-05 6.449E-05 6.333E-05 6.217E-05
15 2.75E-07 - 3.25E-07 2.152E-02 2.153E-02 2.153E-02 2.143E-02 2.117E-02 2.049E-02 1.907E-02
16 3.25E-07 - 3.50E-07 7.990E-03 7.994E-03 7.995E-03 7.939E-03 7.808E-03 7.465E-03 6.767E-03
17 3.50E-07 - 3.75E-07 1.033E-02 1.033E-02 1.033E-02 1.021E-02 9.922E-03 9.180E-03 7.713E-03
18 3.75E-07 - 4.00E-07 8.625E-03 8.629E-03 8.630E-03 8.567E-03 8.421E-03 8.039E-03 7.263E-03
19 4.00E-07 - 6.25E-07 7.623E-02 7.627E-02 7.627E-02 7.571E-02 7.441E-02 7.102E-02 6.413E-02
20 6.25E-07 - 1.00E-06 1.820E-01 1.821E-01 1.821E-01 1.808E-01 1.777E-01 1.695E-01 1.530E-01
21 1.00E-06 - 1.77E-06 5.109E-01 5.112E-01 5.113E-01 5.075E-01 4.987E-01 4.757E-01 4.292E-01
22 1.77E-06 - 3.00E-06 1.016E+00 1.016E+00 1.016E+00 1.009E+00 9.907E-01 9.441E-01 8.498E-01
23 3.00E-06 - 4.75E-06 1.875E+00 1.876E+00 1.876E+00 1.862E+00 1.830E+00 1.745E+00 1.573E+00
24 4.75E-06 - 6.00E-06 1.611E+00 1.612E+00 1.612E+00 1.600E+00 1.573E+00 1.501E+00 1.356E+00
25 6.00E-06 - 8.10E-06 3.046E+00 3.047E+00 3.047E+00 3.025E+00 2.972E+00 2.835E+00 2.556E+00
26 8.10E-06 - 1.00E-05 3.112E+00 3.113E+00 3.114E+00 3.091E+00 3.037E+00 2.899E+00 2.617E+00
27 1.00E-05 - 3.00E-05 4.836E+01 4.838E+01 4.839E+01 4.802E+01 4.719E+01 4.500E+01 4.057E+01
28 3.00E-05 - 1.00E-04 3.042E+02 3.044E+02 3.044E+02 3.022E+02 2.969E+02 2.832E+02 2.553E+02
29 1.00E-04 - 5.50E-04 4.333E+03 4.335E+03 4.336E+03 4.303E+03 4.229E+03 4.033E+03 3.636E+03
30 5.50E-04 - 3.00E-03 5.510E+04 5.513E+04 5.513E+04 5.472E+04 5.377E+04 5.128E+04 4.624E+04
31 3.00E-03 - 1.70E-02 7.435E+05 7.439E+05 7.440E+05 7.385E+05 7.256E+05 6.920E+05 6.239E+05
32 1.70E-02 - 2.50E-02 6.259E+05 6.263E+05 6.263E+05 6.217E+05 6.108E+05 5.826E+05 5.252E+05
33 2.50E-02 - 1.00E-01 9.755E+06 9.760E+06 9.761E+06 9.688E+06 9.519E+06 9.079E+06 8.185E+06
34 1.00E-01 - 4.00E-01 7.052E+07 7.056E+07 7.057E+07 7.004E+07 6.882E+07 6.563E+07 5.917E+07
35 4.00E-01 - 9.00E-01 1.539E+08 1.540E+08 1.540E+08 1.529E+08 1.502E+08 1.433E+08 1.291E+08
36 9.00E-01 - 1.40E+00 1.536E+08 1.537E+08 1.537E+08 1.525E+08 1.499E+08 1.429E+08 1.288E+08
37 1.40E+00 - 1.85E+00 1.221E+08 1.222E+08 1.222E+08 1.213E+08 1.192E+08 1.136E+08 1.024E+08
38 1.85E+00 - 2.35E+00 1.135E+08 1.136E+08 1.136E+08 1.127E+08 1.108E+08 1.057E+08 9.526E+07
39 2.35E+00 - 2.48E+00 2.433E+07 2.435E+07 2.435E+07 2.417E+07 2.375E+07 2.265E+07 2.042E+07
40 2.48E+00 - 3.00E+00 8.629E+07 8.633E+07 8.634E+07 8.570E+07 8.422E+07 8.033E+07 7.244E+07
41 3.00E+00 - 4.80E+00 1.589E+08 1.589E+08 1.589E+08 1.578E+08 1.551E+08 1.479E+08 1.335E+08
42 4.80E+00 - 6.43E+00 4.635E+07 4.637E+07 4.638E+07 4.604E+07 4.525E+07 4.320E+07 3.901E+07
43 6.43E+00 - 8.19E+00 1.472E+07 1.472E+07 1.473E+07 1.462E+07 1.437E+07 1.373E+07 1.241E+07

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44 8.19E+00 - 2.00E+01 5.056E+06 5.058E+06 5.059E+06 5.023E+06 4.940E+06 4.722E+06 4.277E+06 4.074E+06
totals 9.605E+08 9.610E+08 9.611E+08 9.539E+08 9.374E+08 8.941E+08 8.063E+08 7.664E+08

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delayed neutron source spectrum as a function of time

Cycle 3 Down - DD Assembly

delayed neutron spectra, neutrons/sec/basis
basis = 0.3883 MTU

grp	boundaries, mev	initial	1E-03 y	3E-03 y	2E-02 y	7E-02 y	0.2 y	0.7 y	1.0 y
1	1.00E-11 - 3.00E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
group 2 thru group 44 are zero									
totals		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

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total (alpha-n/s.f./delayed) neutron source spectrum as a function of time
(neutron spectra for uranium dioxide matrix)

Cycle 3 Down - DD Assembly

total neutron spectra, neutrons/sec/basis
basis = 0.3883 MTU

grp	boundaries, mev	initial	1E-03 y	3E-03 y	2E-02 y	7E-02 y	0.2 y	0.7 y	1.0 y
1	1.00E-11 - 3.00E-09	9.761E-06	9.761E-06	9.761E-06	9.761E-06	9.761E-06	9.760E-06	9.760E-06	9.760E-06
2	3.00E-09 - 7.50E-09	6.951E-06	6.951E-06	6.951E-06	6.951E-06	6.951E-06	6.951E-06	6.951E-06	6.950E-06
3	7.50E-09 - 1.00E-08	4.523E-06	4.523E-06	4.523E-06	4.523E-06	4.523E-06	4.523E-06	4.523E-06	4.523E-06
4	1.00E-08 - 2.53E-08	1.681E-05	1.681E-05	1.681E-05	1.681E-05	1.681E-05	1.681E-05	1.681E-05	1.681E-05
5	2.53E-08 - 3.00E-08	5.904E-06	5.904E-06	5.904E-06	5.904E-06	5.904E-06	5.904E-06	5.904E-06	5.904E-06
6	3.00E-08 - 4.00E-08	1.678E-05	1.678E-05	1.678E-05	1.678E-05	1.678E-05	1.678E-05	1.678E-05	1.678E-05
7	4.00E-08 - 5.00E-08	1.393E-05	1.393E-05	1.393E-05	1.393E-05	1.393E-05	1.393E-05	1.393E-05	1.393E-05
8	5.00E-08 - 7.00E-08	3.146E-05	3.145E-05	3.144E-05	3.131E-05	3.104E-05	3.051E-05	2.998E-05	2.990E-05
9	7.00E-08 - 1.00E-07	5.169E-05	5.168E-05	5.165E-05	5.143E-05	5.099E-05	5.009E-05	4.921E-05	4.908E-05
10	1.00E-07 - 1.50E-07	9.775E-05	9.773E-05	9.769E-05	9.726E-05	9.641E-05	9.470E-05	9.300E-05	9.276E-05
11	1.50E-07 - 2.00E-07	1.117E-04	1.117E-04	1.117E-04	1.113E-04	1.103E-04	1.083E-04	1.064E-04	1.061E-04
12	2.00E-07 - 2.25E-07	6.439E-05	6.439E-05	6.438E-05	6.416E-05	6.363E-05	6.257E-05	6.152E-05	6.137E-05
13	2.25E-07 - 2.50E-07	7.697E-05	7.697E-05	7.696E-05	7.672E-05	7.618E-05	7.506E-05	7.397E-05	7.381E-05
14	2.50E-07 - 2.75E-07	7.052E-05	7.051E-05	7.050E-05	7.025E-05	6.968E-05	6.851E-05	6.736E-05	6.720E-05
15	2.75E-07 - 3.25E-07	2.153E-02	2.154E-02	2.155E-02	2.144E-02	2.118E-02	2.050E-02	1.908E-02	1.840E-02
16	3.25E-07 - 3.50E-07	7.995E-03	7.999E-03	8.000E-03	7.944E-03	7.813E-03	7.470E-03	6.772E-03	6.454E-03
17	3.50E-07 - 3.75E-07	1.033E-02	1.034E-02	1.034E-02	1.021E-02	9.927E-03	9.185E-03	7.718E-03	7.087E-03
18	3.75E-07 - 4.00E-07	8.778E-03	8.783E-03	8.783E-03	8.716E-03	8.559E-03	8.150E-03	7.321E-03	6.948E-03
19	4.00E-07 - 6.25E-07	7.762E-02	7.766E-02	7.767E-02	7.706E-02	7.567E-02	7.202E-02	6.466E-02	6.133E-02
20	6.25E-07 - 1.00E-06	1.843E-01	1.844E-01	1.845E-01	1.830E-01	1.798E-01	1.712E-01	1.539E-01	1.460E-01
21	1.00E-06 - 1.77E-06	5.157E-01	5.160E-01	5.160E-01	5.121E-01	5.030E-01	4.792E-01	4.310E-01	4.092E-01
22	1.77E-06 - 3.00E-06	1.023E+00	1.024E+00	1.024E+00	1.016E+00	9.975E-01	9.496E-01	8.527E-01	8.090E-01
23	3.00E-06 - 4.75E-06	1.886E+00	1.887E+00	1.887E+00	1.873E+00	1.839E+00	1.753E+00	1.577E+00	1.498E+00
24	4.75E-06 - 6.00E-06	1.619E+00	1.619E+00	1.620E+00	1.608E+00	1.580E+00	1.507E+00	1.359E+00	1.292E+00
25	6.00E-06 - 8.10E-06	3.059E+00	3.060E+00	3.061E+00	3.037E+00	2.984E+00	2.844E+00	2.561E+00	2.433E+00
26	8.10E-06 - 1.00E-05	3.123E+00	3.125E+00	3.125E+00	3.102E+00	3.048E+00	2.907E+00	2.621E+00	2.492E+00
27	1.00E-05 - 3.00E-05	4.871E+01	4.874E+01	4.874E+01	4.837E+01	4.752E+01	4.528E+01	4.075E+01	3.871E+01
28	3.00E-05 - 1.00E-04	3.095E+02	3.096E+02	3.097E+02	3.073E+02	3.017E+02	2.872E+02	2.578E+02	2.446E+02
29	1.00E-04 - 5.50E-04	4.401E+03	4.403E+03	4.403E+03	4.369E+03	4.291E+03	4.085E+03	3.668E+03	3.480E+03
30	5.50E-04 - 3.00E-03	5.583E+04	5.586E+04	5.587E+04	5.544E+04	5.445E+04	5.185E+04	4.660E+04	4.423E+04
31	3.00E-03 - 1.70E-02	7.552E+05	7.555E+05	7.556E+05	7.498E+05	7.363E+05	7.010E+05	6.296E+05	5.974E+05
32	1.70E-02 - 2.50E-02	6.370E+05	6.371E+05	6.371E+05	6.321E+05	6.207E+05	5.908E+05	5.304E+05	5.032E+05
33	2.50E-02 - 1.00E-01	9.922E+06	9.927E+06	9.928E+06	9.851E+06	9.673E+06	9.207E+06	8.266E+06	7.841E+06
34	1.00E-01 - 4.00E-01	7.170E+07	7.170E+07	7.171E+07	7.115E+07	6.987E+07	6.650E+07	5.970E+07	5.664E+07
35	4.00E-01 - 9.00E-01	1.563E+08	1.564E+08	1.564E+08	1.552E+08	1.524E+08	1.451E+08	1.302E+08	1.236E+08
36	9.00E-01 - 1.40E+00	1.569E+08	1.570E+08	1.570E+08	1.558E+08	1.529E+08	1.455E+08	1.304E+08	1.236E+08
37	1.40E+00 - 1.85E+00	1.268E+08	1.269E+08	1.269E+08	1.259E+08	1.235E+08	1.172E+08	1.047E+08	9.902E+07
38	1.85E+00 - 2.35E+00	1.213E+08	1.214E+08	1.214E+08	1.204E+08	1.179E+08	1.116E+08	9.898E+07	9.334E+07
39	2.35E+00 - 2.48E+00	2.657E+07	2.659E+07	2.659E+07	2.635E+07	2.580E+07	2.437E+07	2.149E+07	2.022E+07
40	2.48E+00 - 3.00E+00	9.596E+07	9.600E+07	9.600E+07	9.512E+07	9.306E+07	8.772E+07	7.701E+07	7.229E+07
41	3.00E+00 - 4.80E+00	1.754E+08	1.755E+08	1.755E+08	1.739E+08	1.701E+08	1.604E+08	1.408E+08	1.322E+08
42	4.80E+00 - 6.43E+00	4.663E+07	4.665E+07	4.665E+07	4.631E+07	4.550E+07	4.340E+07	3.912E+07	3.718E+07
43	6.43E+00 - 8.19E+00	1.472E+07	1.472E+07	1.473E+07	1.462E+07	1.437E+07	1.373E+07	1.241E+07	1.181E+07
44	8.19E+00 - 2.00E+01	5.056E+06	5.058E+06	5.059E+06	5.023E+06	4.940E+06	4.722E+06	4.277E+06	4.074E+06
totals		1.009E+09	1.009E+09	1.009E+09	1.001E+09	9.815E+08	9.308E+08	8.286E+08	7.829E+08

* gamma sources determined *

Ocase applies the following photon data base
master photon library
in binary mode

the sources include photons for the following nuclide groups

light elements
actinides
fission products

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gamma source intensity as a function of time

Cycle 3 Down - DD Assembly

gamma spectra, photons/sec/basis
basis = 0.3883 MTU

Fort Calhoun Station	CALCULATION SHEET Attachment 10.5	FC08514 Revision 0 Page 69
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grp boundaries, mev 1E-03 y 3E-03 y 2E-02 y 7E-02 y 0.2 y 0.7 y 1.0 y
1 0.00E+00 - 2.00E-02 3.420E+17 2.642E+17 6.773E+16 3.445E+16 2.282E+16 1.391E+16 1.078E+16
2 2.00E-02 - 3.00E-02 5.252E+16 4.007E+16 1.423E+16 7.884E+15 5.006E+15 3.003E+15 2.333E+15
3 3.00E-02 - 4.50E-02 5.483E+16 4.431E+16 1.904E+16 1.001E+16 5.600E+15 3.302E+15 2.579E+15
4 4.50E-02 - 7.00E-02 3.371E+16 2.577E+16 1.041E+16 5.938E+15 3.976E+15 2.523E+15 1.964E+15
5 7.00E-02 - 1.00E-01 4.632E+16 3.743E+16 1.250E+16 5.029E+15 2.970E+15 1.902E+15 1.479E+15
6 1.00E-01 - 1.50E-01 1.811E+17 1.477E+17 2.880E+16 1.102E+16 5.685E+15 2.631E+15 1.988E+15
7 1.50E-01 - 3.00E-01 1.360E+17 1.042E+17 1.627E+16 4.473E+15 2.838E+15 1.824E+15 1.417E+15
8 3.00E-01 - 4.50E-01 3.628E+16 2.932E+16 1.208E+16 4.514E+15 1.544E+15 9.484E+14 7.422E+14
9 4.50E-01 - 7.00E-01 1.177E+17 8.836E+16 4.227E+16 2.724E+16 1.597E+16 9.822E+15 8.570E+15
10 7.00E-01 - 1.00E+00 9.471E+16 7.550E+16 4.475E+16 3.350E+16 2.123E+16 6.936E+15 4.067E+15
11 1.00E+00 - 1.50E+00 2.314E+16 1.199E+16 3.881E+15 1.747E+15 7.828E+14 5.492E+14 4.664E+14
12 1.50E+00 - 2.00E+00 2.183E+16 1.874E+16 1.226E+16 4.673E+15 3.299E+14 5.877E+13 4.593E+13
13 2.00E+00 - 2.50E+00 2.175E+15 1.329E+15 8.114E+14 3.974E+14 1.244E+14 6.959E+13 5.234E+13
14 2.50E+00 - 3.00E+00 7.921E+14 6.715E+14 4.543E+14 1.721E+14 1.094E+13 1.461E+12 1.161E+12
15 3.00E+00 - 4.00E+00 3.549E+13 5.384E+12 3.678E+12 1.507E+12 2.485E+11 1.326E+11 1.057E+11
16 4.00E+00 - 6.00E+00 1.565E+12 2.127E+10 4.353E+07 4.273E+07 4.064E+07 3.641E+07 3.451E+07
17 6.00E+00 - 8.00E+00 5.050E+06 5.051E+06 5.011E+06 4.919E+06 4.679E+06 4.193E+06 3.975E+06
18 8.00E+00 - 1.10E+01 5.807E+05 5.808E+05 5.762E+05 5.657E+05 5.381E+05 4.823E+05 4.572E+05
totals 1.143E+18 8.896E+17 2.855E+17 1.510E+17 8.889E+16 4.748E+16 3.648E+16

```

1

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gamma energy release rate as a function of time

```

0 Cycle 3 Down - DD Assembly
gamma energy release rates, MeV/sec/basis
basis = 0.3883 MTU

```

```

grp boundaries, mev 1E-03 y 3E-03 y 2E-02 y 7E-02 y 0.2 y 0.7 y 1.0 y
1 0.00E+00 - 2.00E-02 3.420E+15 2.642E+15 6.773E+14 3.445E+14 2.282E+14 1.391E+14 1.078E+14
2 2.00E-02 - 3.00E-02 1.313E+15 1.002E+15 3.557E+14 1.971E+14 1.251E+14 7.507E+13 5.832E+13
3 3.00E-02 - 4.50E-02 2.056E+15 1.662E+15 7.141E+14 3.752E+14 2.100E+14 1.238E+14 9.669E+13
4 4.50E-02 - 7.00E-02 1.938E+15 1.482E+15 5.986E+14 3.414E+14 2.286E+14 1.451E+14 1.129E+14
5 7.00E-02 - 1.00E-01 3.937E+15 3.181E+15 1.063E+15 4.275E+14 2.525E+14 1.617E+14 1.257E+14
6 1.00E-01 - 1.50E-01 2.264E+16 1.846E+16 3.599E+15 1.377E+15 7.106E+14 3.289E+14 2.485E+14
7 1.50E-01 - 3.00E-01 3.060E+16 2.344E+16 3.660E+15 1.006E+15 6.386E+14 4.103E+14 3.188E+14
8 3.00E-01 - 4.50E-01 1.361E+16 1.100E+16 4.528E+15 1.693E+15 5.788E+14 3.557E+14 2.783E+14
9 4.50E-01 - 7.00E-01 6.767E+16 5.081E+16 2.430E+16 1.567E+16 9.184E+15 5.647E+15 4.928E+15
10 7.00E-01 - 1.00E+00 8.051E+16 6.418E+16 3.804E+16 2.847E+16 1.804E+16 5.896E+15 3.457E+15
11 1.00E+00 - 1.50E+00 2.892E+16 1.499E+16 4.851E+15 2.184E+15 9.785E+14 6.864E+14 5.830E+14
12 1.50E+00 - 2.00E+00 3.820E+16 3.280E+16 2.146E+16 8.178E+15 5.773E+14 1.029E+14 8.037E+13
13 2.00E+00 - 2.50E+00 4.894E+15 2.991E+15 1.826E+15 8.942E+14 2.798E+14 1.566E+14 1.178E+14
14 2.50E+00 - 3.00E+00 2.178E+15 1.847E+15 1.249E+15 4.732E+14 3.007E+13 4.019E+12 3.192E+12
15 3.00E+00 - 4.00E+00 1.242E+14 1.884E+13 1.287E+13 5.274E+12 8.698E+11 4.642E+11 3.700E+11
16 4.00E+00 - 6.00E+00 7.824E+12 1.063E+11 2.177E+08 2.136E+08 2.032E+08 1.821E+08 1.726E+08
17 6.00E+00 - 8.00E+00 3.535E+07 3.535E+07 3.508E+07 3.443E+07 3.275E+07 2.935E+07 2.782E+07
18 8.00E+00 - 1.10E+01 5.517E+06 5.517E+06 5.474E+06 5.374E+06 5.112E+06 4.582E+06 4.343E+06
totals 3.020E+17 2.305E+17 1.069E+17 6.163E+16 3.207E+16 1.423E+16 1.052E+16

```

1

56\$ array 20 entries read

0t

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

56\$ array 20 entries read

0t

0 results saved on logical unit no. 71, position 2, for time step 2, subcase 4. (run position 1, case position 1)

56\$ array 20 entries read

0t

0 results saved on logical unit no. 71, position 3, for time step 3, subcase 4. (run position 1, case position 1)

56\$ array 20 entries read

0t

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

56\$ array 20 entries read

0t

0 results saved on logical unit no. 71, position 5, for time step 5, subcase 4. (run position 1, case position 1)

56\$ array 20 entries read

0t

0 results saved on logical unit no. 71, position 6, for time step 6, subcase 4. (run position 1, case position 1)

56\$ array 20 entries read

0t

0 results saved on logical unit no. 71, position 7, for time step 7, subcase 4. (run position 1, case position 1)

```
56$ array      20 entries read
```

 $0t$

```
0      terminated logical unit no. 71 with zero flag record.
```

```
1  * normal termination of execution *
```

table of contents for material tables	
case or subcase printed	page

1	1
2	25
3	49
4	73

1

[illegible]

1

```

time 0.10E-02 years
Cycle 3 Down - DD Assembly
photon energy (mev)      intensity (photons/sec/mev)
0.000E+00 to 2.000E-02      1.7099E+19
2.000E-02 to 3.000E-02      5.2521E+18
3.000E-02 to 4.500E-02      3.6552E+18
4.500E-02 to 7.000E-02      1.3482E+18
7.000E-02 to 1.000E-01      1.5439E+18
1.000E-01 to 1.500E-01      3.6220E+18
1.500E-01 to 3.000E-01      9.0663E+17
3.000E-01 to 4.500E-01      2.4190E+17
4.500E-01 to 7.000E-01      4.7073E+17
7.000E-01 to 1.000E+00      3.1571E+17
1.000E+00 to 1.500E+00      4.6279E+16
1.500E+00 to 2.000E+00      4.3659E+16
2.000E+00 to 2.500E+00      4.3500E+15
2.500E+00 to 3.000E+00      1.5842E+15
3.000E+00 to 4.000E+00      3.5492E+13
4.000E+00 to 6.000E+00      7.8245E+11
6.000E+00 to 8.000E+00      2.5250E+06
8.000E+00 to 1.100E+01      1.9358E+05

time 0.30E-02 years
Cycle 3 Down - DD Assembly
photon energy (mev)      intensity (photons/sec/mev)
0.000E+00 to 2.000E-02      1.3211E+19
2.000E-02 to 3.000E-02      4.0073E+18
3.000E-02 to 4.500E-02      2.9540E+18

```


4.500E-02 to 7.000E-02	1.0308E+18
7.000E-02 to 1.000E-01	1.2476E+18
1.000E-01 to 1.500E-01	2.9531E+18
1.500E-01 to 3.000E-01	6.9455E+17
3.000E-01 to 4.500E-01	1.9550E+17
4.500E-01 to 7.000E-01	3.5345E+17
7.000E-01 to 1.000E+00	2.5167E+17
1.000E+00 to 1.500E+00	2.3985E+16
1.500E+00 to 2.000E+00	3.7485E+16
2.000E+00 to 2.500E+00	2.6590E+15
2.500E+00 to 3.000E+00	1.3430E+15
3.000E+00 to 4.000E+00	5.3841E+12
4.000E+00 to 6.000E+00	1.0635E+10
6.000E+00 to 8.000E+00	2.5253E+06
8.000E+00 to 1.100E+01	1.9359E+05
time 0.25E-01 years	
Cycle 3 Down - DD Assembly	
photon energy (mev)	intensity (photons/sec/mev)
0.000E+00 to 2.000E-02	3.3866E+18
2.000E-02 to 3.000E-02	1.4227E+18
3.000E-02 to 4.500E-02	1.2695E+18
4.500E-02 to 7.000E-02	4.1639E+17
7.000E-02 to 1.000E-01	4.1671E+17
1.000E-01 to 1.500E-01	5.7591E+17
1.500E-01 to 3.000E-01	1.0844E+17
3.000E-01 to 4.500E-01	8.0507E+16
4.500E-01 to 7.000E-01	1.6907E+17
7.000E-01 to 1.000E+00	1.4917E+17
1.000E+00 to 1.500E+00	7.7620E+15
1.500E+00 to 2.000E+00	2.4525E+16
2.000E+00 to 2.500E+00	1.6229E+15
2.500E+00 to 3.000E+00	9.0853E+14
3.000E+00 to 4.000E+00	3.6777E+12
4.000E+00 to 6.000E+00	2.1765E+07
6.000E+00 to 8.000E+00	2.5054E+06
8.000E+00 to 1.100E+01	1.9208E+05
time 0.74E-01 years	
Cycle 3 Down - DD Assembly	
photon energy (mev)	intensity (photons/sec/mev)
0.000E+00 to 2.000E-02	1.7227E+18
2.000E-02 to 3.000E-02	7.8840E+17
3.000E-02 to 4.500E-02	6.6710E+17
4.500E-02 to 7.000E-02	2.3752E+17
7.000E-02 to 1.000E-01	1.6765E+17
1.000E-01 to 1.500E-01	2.2031E+17
1.500E-01 to 3.000E-01	2.9817E+16
3.000E-01 to 4.500E-01	3.0090E+16
4.500E-01 to 7.000E-01	1.0898E+17
7.000E-01 to 1.000E+00	1.1165E+17
1.000E+00 to 1.500E+00	3.4947E+15
1.500E+00 to 2.000E+00	9.3463E+15
2.000E+00 to 2.500E+00	7.9480E+14
2.500E+00 to 3.000E+00	3.4414E+14
3.000E+00 to 4.000E+00	1.5069E+12
4.000E+00 to 6.000E+00	2.1365E+07
6.000E+00 to 8.000E+00	2.4594E+06
8.000E+00 to 1.100E+01	1.8855E+05
time 0.22 years	
Cycle 3 Down - DD Assembly	
photon energy (mev)	intensity (photons/sec/mev)
0.000E+00 to 2.000E-02	1.1412E+18
2.000E-02 to 3.000E-02	5.0060E+17
3.000E-02 to 4.500E-02	3.7336E+17
4.500E-02 to 7.000E-02	1.5906E+17
7.000E-02 to 1.000E-01	9.9011E+16
1.000E-01 to 1.500E-01	1.1369E+17
1.500E-01 to 3.000E-01	1.8922E+16
3.000E-01 to 4.500E-01	1.0290E+16
4.500E-01 to 7.000E-01	6.3888E+16
7.000E-01 to 1.000E+00	7.0753E+16
1.000E+00 to 1.500E+00	1.5656E+15
1.500E+00 to 2.000E+00	6.5981E+14
2.000E+00 to 2.500E+00	2.4873E+14
2.500E+00 to 3.000E+00	2.1872E+13
3.000E+00 to 4.000E+00	2.4852E+11
4.000E+00 to 6.000E+00	2.0320E+07
6.000E+00 to 8.000E+00	2.3394E+06
8.000E+00 to 1.100E+01	1.7936E+05
time 0.67 years	
Cycle 3 Down - DD Assembly	
photon energy (mev)	intensity (photons/sec/mev)
0.000E+00 to 2.000E-02	6.9570E+17
2.000E-02 to 3.000E-02	3.0027E+17

3.000E-02 to 4.500E-02	2.2015E+17
4.500E-02 to 7.000E-02	1.0094E+17
7.000E-02 to 1.000E-01	6.3403E+16
1.000E-01 to 1.500E-01	5.2622E+16
1.500E-01 to 3.000E-01	1.2157E+16
3.000E-01 to 4.500E-01	6.3230E+15
4.500E-01 to 7.000E-01	3.9286E+16
7.000E-01 to 1.000E+00	2.3121E+16
1.000E+00 to 1.500E+00	1.0983E+15
1.500E+00 to 2.000E+00	1.1755E+14
2.000E+00 to 2.500E+00	1.3918E+14
2.500E+00 to 3.000E+00	2.9229E+12
3.000E+00 to 4.000E+00	1.3263E+11
4.000E+00 to 6.000E+00	1.8207E+07
6.000E+00 to 8.000E+00	2.0966E+06
8.000E+00 to 1.100E+01	1.6076E+05
time 1.0 years	
Cycle 3 Down - DD Assembly	
photon energy (mev)	intensity (photons/sec/mev)
0.000E+00 to 2.000E-02	5.3898E+17
2.000E-02 to 3.000E-02	2.3329E+17
3.000E-02 to 4.500E-02	1.7190E+17
4.500E-02 to 7.000E-02	7.8542E+16
7.000E-02 to 1.000E-01	4.9295E+16
1.000E-01 to 1.500E-01	3.9763E+16
1.500E-01 to 3.000E-01	9.4455E+15
3.000E-01 to 4.500E-01	4.9478E+15
4.500E-01 to 7.000E-01	3.4279E+16
7.000E-01 to 1.000E+00	1.3556E+16
1.000E+00 to 1.500E+00	9.3282E+14
1.500E+00 to 2.000E+00	9.1852E+13
2.000E+00 to 2.500E+00	1.0468E+14
2.500E+00 to 3.000E+00	2.3217E+12
3.000E+00 to 4.000E+00	1.0570E+11
4.000E+00 to 6.000E+00	1.7257E+07
6.000E+00 to 8.000E+00	1.9873E+06
8.000E+00 to 1.100E+01	1.5240E+05

An independent check was performed using the USAR Section 14.1 core equilibrium source term and decaying for 18-months the following gamma fluxes was calculated by MicroShield version 9.05.

Table 1: MicroShield Calculated Flux 18-month decay

Energy (MeV)	Activity (Photons/sec)	Photons/sec/MeV	Group
0.015	1.96E+16	1.30E+18	1.0
0.02	3.17E+13	1.58E+15	2.0
0.03	2.00E+16	6.65E+17	3.0
0.04	5.51E+16	1.38E+18	4.0
0.05	7.58E+14	1.52E+16	5.0
0.06	1.05E+15	1.75E+16	6.0
0.08	9.64E+15	1.20E+17	7.0
0.1	7.68E+15	7.68E+16	8.0
0.15	5.73E+16	3.82E+17	9.0
0.2	1.41E+15	7.07E+15	10.0
0.3	1.06E+14	3.54E+14	11.0
0.4	3.03E+15	7.59E+15	12.0
0.5	6.76E+16	1.35E+17	13.0
0.6	3.97E+17	6.62E+17	14.0
0.8	1.77E+17	2.22E+17	15.0
1	1.47E+16	1.47E+16	16.0
1.5	1.32E+16	8.77E+15	17.0
2	4.05E+15	2.03E+15	18.0
3	1.22E+09	4.06E+08	19.0
Totals	8.49E+17	5.02E+18	

Table 2: ORGIN Calculated 18-month Gamma Flux

18 Month	Decay		
Energy	Old Fuel	Core Offload	Total Gamma Spectrum
Output Group	811 Assemblies	133 Assemblies	Core Offload and Old Fuel
	photons/s/mev	photons/s/mev	photons/s/mev
1	8.40E+17	8.29E+17	1.67E+18
2	1.71E+17	1.80E+17	3.51E+17
3	2.21E+17	2.04E+17	4.25E+17
4	1.49E+17	1.51E+17	3.00E+17
5	9.56E+16	1.14E+17	2.10E+17
6	9.78E+16	1.57E+17	2.55E+17
7	8.45E+16	1.08E+17	1.93E+17
8	3.84E+16	5.67E+16	9.51E+16
9	1.43E+18	6.07E+17	2.04E+18
10	1.30E+17	2.16E+17	3.46E+17
11	3.08E+16	3.11E+16	6.19E+16
12	1.40E+15	3.25E+15	4.65E+15
13	4.29E+14	4.24E+15	4.67E+15
14	1.38E+13	7.72E+13	9.10E+13
15	1.28E+12	6.96E+12	8.24E+12
16	8.96E+09	1.46E+09	1.04E+10
17	1.03E+09	1.68E+08	1.20E+09
18	1.19E+08	1.93E+07	1.38E+08
Total	3.29E+18	2.66E+18	5.95E+18

Note MicroShield uses 19 energy groups, however, the total gamma flux is comparable.

Using an average decay heat see attached for 18-months, an average decay heat per assembly was calculated based on NRC Branch Technical Paper ASB 2-2 and MicroShield heat calculations:

NRC

$$P = \frac{(.351 \cdot MW \times 10^6 \cdot \text{watt}/MW)}{133} = 2,639 \cdot \text{watt}$$

MicroShield

$$P = \frac{(3.2482 \times 10^5 \cdot \text{watts})}{133} = 2,442 \cdot \text{watt}$$

The average value also is comparable with the decay heat is slightly less that then maximum as one would assume.

The independent check suggests the calculations is a good estimate of decay heat and gamma flux.

Independent check of Spent Fuel Decay Heat.

Steve Gebers, CHP

The following fission and activation product decay heat calculations is based on NRC Branch Technical Position ASB 2-2. This decay heat model is used for evaluation of long term cooling.

Power operations ($t_0 = 38,149$ -hrs) $t_0 := 1.4201 \cdot 10^8$ s $P_0 := 1500$ Power MWt

$t_s := 1,3.16 \cdot 10^7 \dots 1.6 \cdot 10^8$ Decay time (seconds)

Fission Product Decay Terms (ASB 9-2)

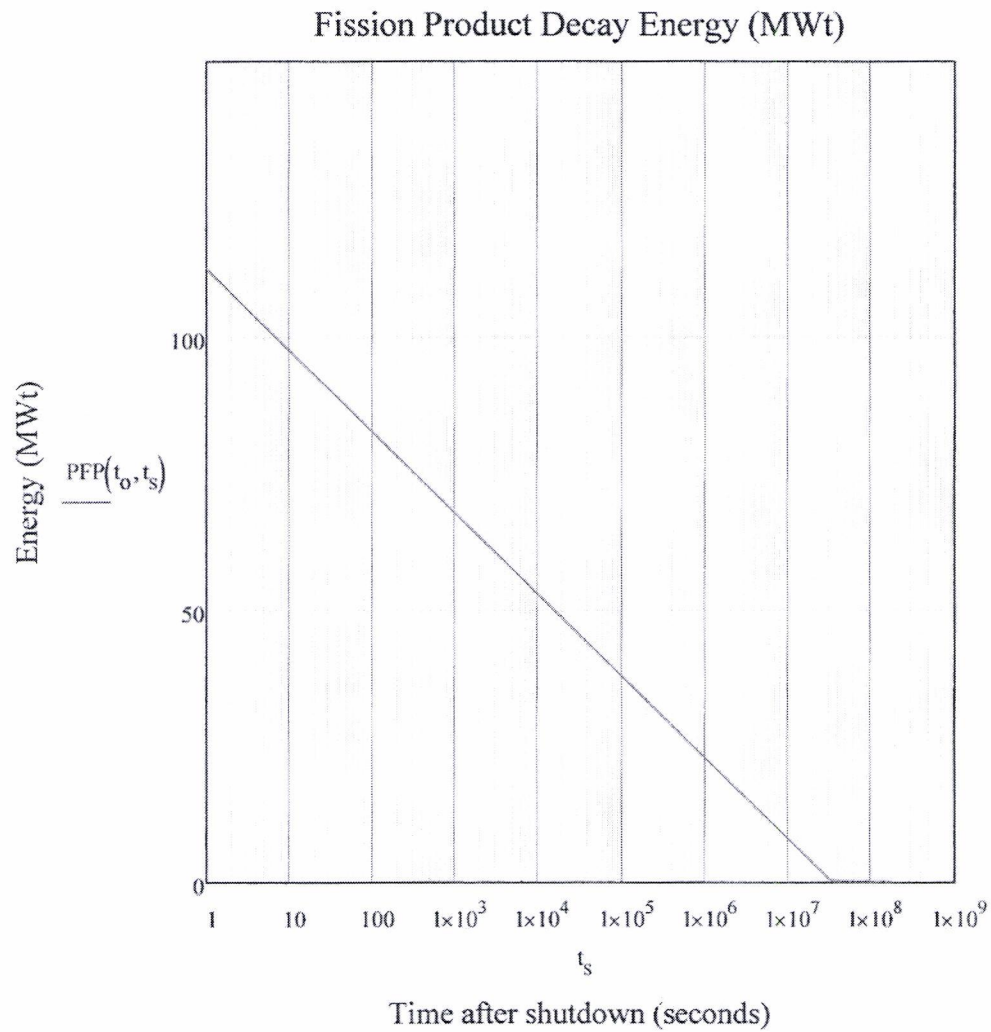
$$k := \begin{pmatrix} .5980 \\ 1.6500 \\ 3.100 \\ 3.8700 \\ 2.3300 \\ 1.2900 \\ 0.4620 \\ 0.3280 \\ 0.1700 \\ 0.0865 \\ 0.1140 \end{pmatrix} \quad \lambda := \begin{pmatrix} 1.77 \cdot 10^0 \\ 5.774 \cdot 10^{-1} \\ 6.743 \cdot 10^{-2} \\ 6.214 \cdot 10^{-3} \\ 4.739 \cdot 10^{-4} \\ 4.810 \cdot 10^{-5} \\ 5.344 \cdot 10^{-6} \\ 5.716 \cdot 10^{-7} \\ 1.036 \cdot 10^{-7} \\ 2.959 \cdot 10^{-8} \\ 7.585 \cdot 10^{-10} \end{pmatrix} \quad s^{-1}$$

$$P(t_s) := \frac{P_0}{200} \cdot \sum_{i=0}^{10} \left(k_i \cdot e^{-\lambda_i t_s} \right)$$

$$K(t_s) := \begin{cases} 0.2 & \text{if } 0 \leq t_s < 10^3 \\ 0.1 & \text{if } 10^3 \leq t_s < 10^7 \\ 0.1 & \text{otherwise} \end{cases}$$

Cooling time uncertainty factor adjustment per NRC Branch Technical Position 9-2.

$$PFP(t_o, t_s) := (1 + K(t_s)) \cdot P(t_s) - P(t_o + t_s) \quad \text{Adjusted fission product decay heat accounting for uncertainties.}$$



$$PFP(t_o, 1) = 112.184 \quad \text{Decay heat 1-second after shutdown.}$$

$$PFP(t_o, 2.59 \cdot 10^5) = 5.525 \quad \text{Decay Heat 3-day after shutdown}$$

Heavy Metal Decay Heat:

U-239 Term:

Conversion ratio, atoms of Pu-239 produced per atom U-235 consumed multiplied by: $\Sigma a \text{ U-235} / \Sigma f \text{ U-235}$, suggested value in BTP 9-2 (C = 0.7).

$$C := 0.7$$

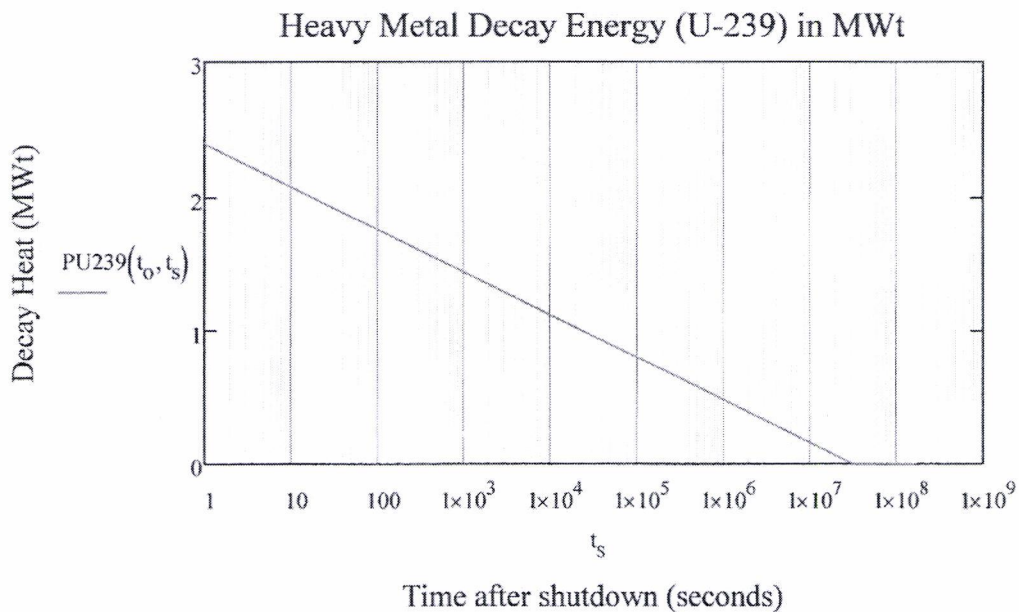
$$PU239(t_0, t_s) := P_0 \cdot \left[2.28 \cdot 10^{-3} \cdot C \cdot \left(1 - e^{-4.91 \cdot 10^{-4} \cdot t_0} \right) \cdot \left(e^{-4.91 \cdot 10^{-4} \cdot t_s} \right) \right]$$

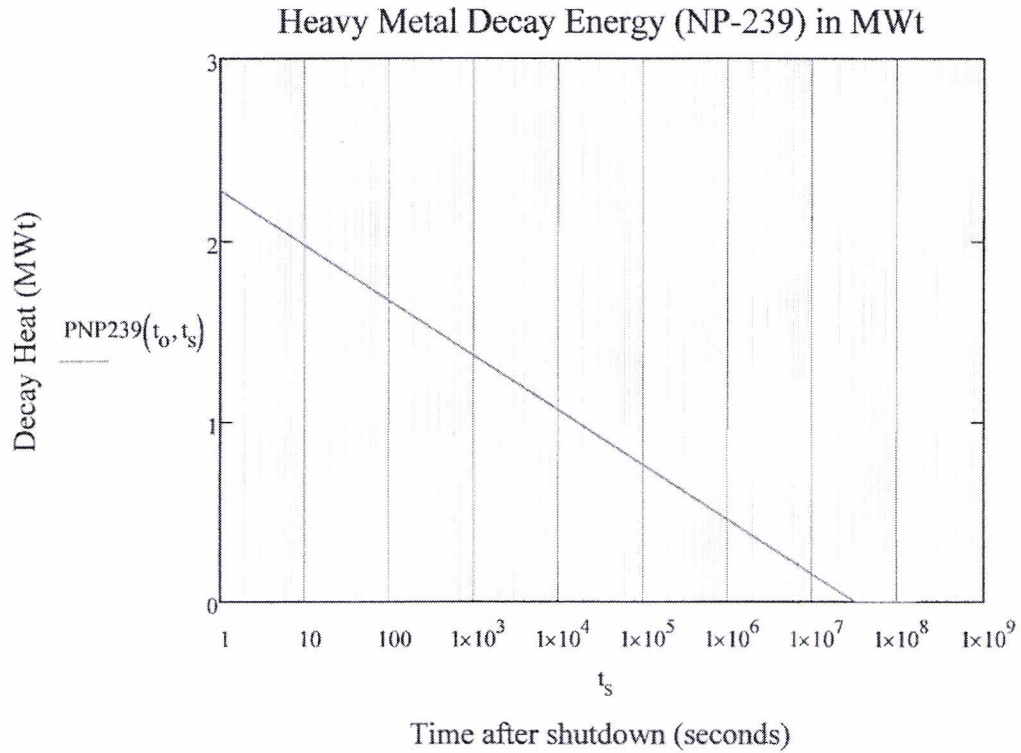
NP-239 Term:

$$F(t_0, t_s) := 1.007 \cdot \left(1 - e^{-3.41 \cdot 10^{-6} \cdot t_0} \right) \cdot \left(e^{-3.41 \cdot 10^{-6} \cdot t_s} \right)$$

$$G(t_0, t_s) := 0.007 \cdot \left(1 - e^{-4.91 \cdot 10^{-4} \cdot t_0} \right) \cdot \left(e^{-4.91 \cdot 10^{-4} \cdot t_s} \right)$$

$$PNP239(t_0, t_s) := P_0 \cdot \left(2.17 \cdot 10^{-3} \cdot C \right) \cdot \left(F(t_0, t_s) - G(t_0, t_s) \right)$$





Calculation of the total decay heat from fission and heavy metal decay energy:

$$PT(t_o, t_s) := PFP(t_o, t_s) + PU239(t_o, t_s) + PNP239(t_o, t_s)$$

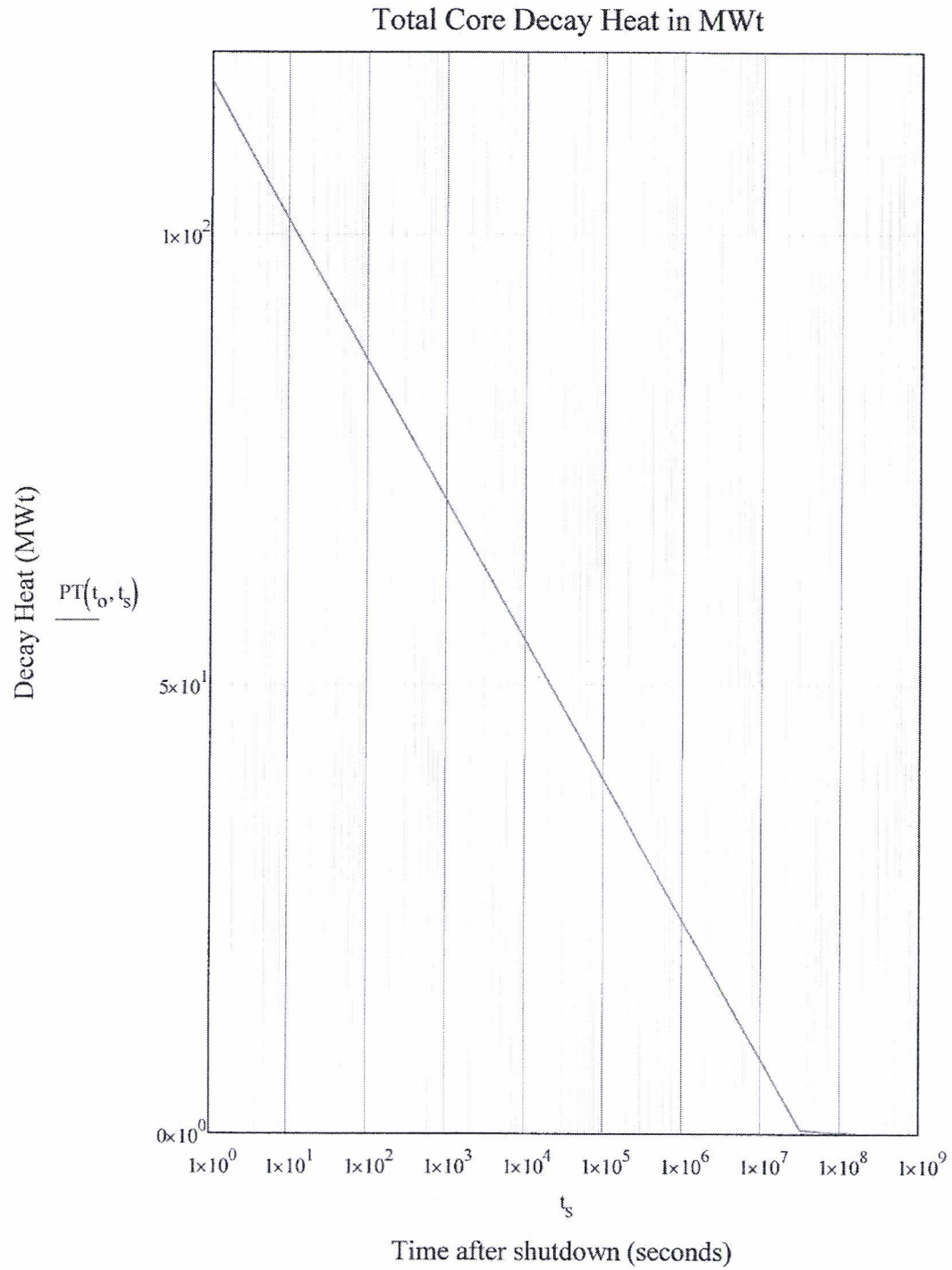
$$PT(t_o, 1) = 116.856 \quad \text{Total decay heat 1-second after reactor shutdown (MWt)}$$

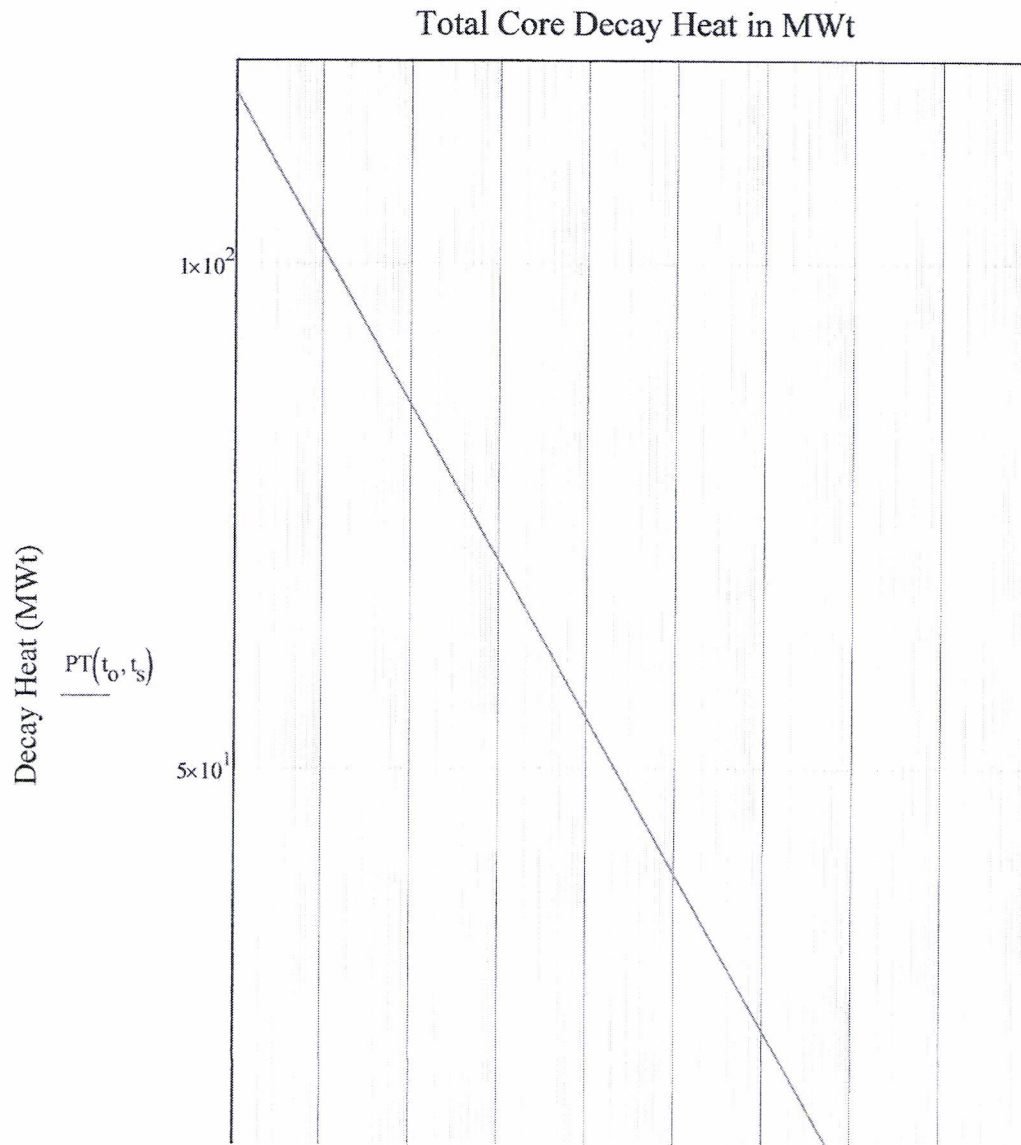
$$PT(t_o, 3.16 \cdot 10^7) = 0.498 \quad \text{Total decay heat 365-days after reactor shutdown (MWt)}$$

$$PT(t_o, 3.68 \cdot 10^7) = 0.436 \quad \text{Total decay heat 14-months after reactor shutdown (MWt)}$$

$$PT(t_o, 4.20 \cdot 10^7) = 0.389 \quad \text{Total decay heat 16-months after reactor shutdown (MWt)}$$

$$PT(t_o, 4.73 \cdot 10^7) = 0.351 \quad \text{Total decay heat 18-months after reactor shutdown (MWt)}$$





Independent Check

MicroShield 9.05 (9.05-0000)

Quantum Nuclear Services

Source File Heat Generation

Source File: Core Inventory USAR 365-day Decay.mxd

Isotope	Activity Curies	Activity Bequerels	Heat Generation Watts/Curie	Heat Generation Watts
Ac-225	4.5213e-013	1.6729e-002	3.4574e-002	1.5632e-014
Ac-227	1.9692e-012	7.2861e-002	4.7208e-004	9.2962e-016
Ac-228	6.6879e-016	2.4745e-005	8.0395e-003	5.3767e-018
Ag-109m	1.5086e-189	5.5819e-179	5.1551e-004	7.7771e-193
Ag-110	8.2619e+002	3.0569e+013	7.1853e-003	5.9364e+000
Ag-110m	6.2120e+004	2.2984e+015	1.6651e-002	1.0343e+003
Ag-111	4.6881e-009	1.7346e+002	2.2329e-003	1.0468e-011
Am-241	1.6749e+004	6.1971e+014	3.2813e-002	5.4958e+002
Am-242	4.6564e+002	1.7229e+013	1.1352e-003	5.2862e-001
Am-242m	4.6786e+002	1.7311e+013	3.8924e-004	1.8211e-001
Am-243	1.2511e+003	4.6292e+013	3.1704e-002	3.9666e+001
Am-244	5.0076e-255	1.8528e-244	6.7217e-003	3.3659e-257
As-76	5.4324e-098	2.0100e-087	8.8616e-003	4.8140e-100
As-77	1.2887e-064	4.7681e-054	1.4053e-003	1.8110e-067
At-217	3.7518e-013	1.3882e-002	4.1888e-002	1.5715e-014
Ba-137m	4.8723e+006	1.8027e+017	3.9212e-003	1.9105e+004
Ba-139	0.0000e+000	0.0000e+000	5.5588e-003	0.0000e+000
Ba-140	1.9368e-001	7.1661e+009	2.9338e-003	5.6821e-004
Ba-142	0.0000e+000	0.0000e+000	8.1533e-003	0.0000e+000
Bi-210	1.7708e-012	6.5519e-002	2.3060e-003	4.0835e-015
Bi-211	1.3859e-012	5.1277e-002	3.9163e-002	5.4275e-014
Bi-212	1.0996e-001	4.0684e+009	1.6753e-002	1.8422e-003
Bi-213	3.7414e-013	1.3843e-002	4.1771e-003	1.5628e-015
Bi-214	2.5255e-010	9.3445e+000	1.2767e-002	3.2244e-012
Bk-249	4.7869e-008	1.7711e+003	1.9563e-004	9.3643e-012
Br-82	2.4956e-070	9.2337e-060	1.6488e-002	4.1147e-072
Br-83	0.0000e+000	0.0000e+000	1.9419e-003	0.0000e+000
Br-85	0.0000e+000	0.0000e+000	6.3353e-003	0.0000e+000
Cd-115	1.6059e-044	5.9420e-034	3.0688e-003	4.9284e-047
Ce-141	2.9148e+004	1.0785e+015	1.4623e-003	4.2625e+001
Ce-143	8.0869e-073	2.9922e-062	4.2104e-003	3.4049e-075
Ce-144	2.2095e+007	8.1753e+017	6.6284e-004	1.4646e+004
Cf-249	1.4391e-010	5.3248e+000	3.6765e-002	5.2909e-012
Cm-242	4.3994e+005	1.6278e+016	3.6240e-002	1.5943e+004
Cm-244	1.9191e+005	7.1007e+015	3.4409e-002	6.6035e+003
Cm-245	1.5999e+005	5.9195e+015	3.2648e-002	5.2233e+003
Cm-249	0.0000e+000	0.0000e+000	1.7420e-003	0.0000e+000
Cs-132	1.6744e-014	6.1954e-004	4.3171e-003	7.2287e-017
Cs-134	5.0172e+006	1.8564e+017	1.0179e-002	5.1071e+004
Cs-134m	0.0000e+000	0.0000e+000	8.0195e-004	0.0000e+000
Cs-135	4.0750e-002	1.5077e+009	3.3375e-004	1.3600e-005
Cs-136	9.7996e-003	3.6258e+008	1.3641e-002	1.3367e-004
Cs-137	5.1504e+006	1.9056e+017	1.0122e-003	5.2135e+003
Cs-138	0.0000e+000	0.0000e+000	2.1245e-002	0.0000e+000
Cs-139	0.0000e+000	0.0000e+000	1.1617e-002	0.0000e+000
Eu-154	2.8284e+005	1.0465e+016	9.0517e-003	2.5602e+003
Eu-155	1.1566e+005	4.2796e+015	7.2543e-004	8.3907e+001
Eu-156	5.6083e-001	2.0751e+010	1.0426e-002	5.8473e-003
Fr-221	4.1348e-013	1.5299e-002	3.7907e-002	1.5674e-014
Fr-223	2.7171e-014	1.0053e-003	2.5771e-003	7.0023e-017
Ga-72	5.8627e-185	2.1692e-174	1.9009e-002	1.1144e-186
Gd-159	2.0333e-137	7.5232e-127	2.1104e-003	4.2910e-140
Ge-77	1.2475e-229	4.6159e-219	1.0182e-002	1.2703e-231
H-3	2.2022e+004	8.1482e+014	3.3701e-005	7.4217e-001
Ho-166	1.3649e-095	5.0502e-085	4.2936e-003	5.8605e-098
I-129	1.5549e+000	5.7530e+010	4.6796e-004	7.2762e-004
I-130	4.1323e-208	1.5290e-197	1.4375e-002	5.9402e-210
I-131	9.1413e-007	3.3823e+004	3.3882e-003	3.0973e-009
I-132	1.1484e-026	4.2490e-016	1.6490e-002	1.8937e-028
I-133	1.4397e-119	5.3269e-109	6.0261e-003	8.6757e-122
I-134	0.0000e+000	0.0000e+000	1.9166e-002	0.0000e+000
I-135	0.0000e+000	0.0000e+000	1.1524e-002	0.0000e+000
I-136	0.0000e+000	0.0000e+000	2.7007e-002	0.0000e+000
In-115	4.7087e-013	1.7422e-002	9.0107e-004	4.2429e-016

<u>Isotope</u>	<u>Activity Curies</u>	<u>Activity Bequerels</u>	<u>Heat Generation Watts/Curie</u>	<u>Heat Generation Watts</u>
In-115m	1.7485e-044	6.4696e-034	1.9788e-003	3.4600e-047
Kr-83m	0.0000e+000	0.0000e+000	2.4154e-004	0.0000e+000
Kr-85	4.3976e+005	1.6271e+016	1.4983e-003	6.5888e+002
Kr-85m	0.0000e+000	0.0000e+000	2.4486e-003	0.0000e+000
Kr-87	0.0000e+000	0.0000e+000	1.2548e-002	0.0000e+000
Kr-88	0.0000e+000	0.0000e+000	1.3749e-002	0.0000e+000
Kr-89	0.0000e+000	0.0000e+000	1.8949e-002	0.0000e+000
Kr-90	0.0000e+000	0.0000e+000	1.5334e-002	0.0000e+000
La-140	2.2288e-001	8.2467e+009	1.6889e-002	3.7642e-003
La-141	0.0000e+000	0.0000e+000	5.8749e-003	0.0000e+000
La-142	0.0000e+000	0.0000e+000	2.1140e-002	0.0000e+000
Mo-99	8.7728e-033	3.2459e-022	3.2674e-003	2.8664e-035
Mo-101	0.0000e+000	0.0000e+000	1.2084e-002	0.0000e+000
Nb-93m	1.5352e-003	5.6802e+007	1.7934e-004	2.7532e-007
Nb-95	3.0160e+006	1.1159e+017	4.7949e-003	1.4461e+004
Nb-95m	1.1813e+004	4.3707e+014	1.4630e-003	1.7282e+001
Nb-97	6.6719e-149	2.4686e-138	6.7116e-003	4.4779e-151
Nb-97m	5.8693e-149	2.1717e-138	4.4033e-003	2.5845e-151
Nd-147	2.7361e-003	1.0123e+008	2.4228e-003	6.6290e-006
Np-237	3.9469e-003	1.4604e+008	2.8779e-002	1.1359e-004
Np-238	2.2271e+000	8.2403e+010	4.7926e-003	1.0674e-002
Np-239	1.2511e+003	4.6292e+013	2.4625e-003	3.0810e+000
Np-240	0.0000e+000	0.0000e+000	9.4518e-003	0.0000e+000
Np-240m	0.0000e+000	0.0000e+000	5.6252e-003	0.0000e+000
Pa-231	1.8805e-010	6.9579e+000	3.2329e-002	6.0795e-012
Pa-233	3.3977e-003	1.2571e+008	2.4276e-003	8.2481e-006
Pa-234	2.2370e-011	8.2770e-001	1.4604e-002	3.2669e-013
Pa-234m	1.3999e-008	5.1795e+002	4.9490e-003	6.9278e-011
Pb-209	2.9427e-013	1.0888e-002	1.1714e-003	3.4471e-016
Pb-210	1.9154e-012	7.0868e-002	2.3060e-004	4.4167e-016
Pb-211	1.3860e-012	5.1281e-002	2.9963e-003	4.1528e-015
Pb-212	1.0995e-001	4.0682e+009	1.9044e-003	2.0939e-004
Pb-214	2.5259e-010	9.3457e+000	3.1921e-003	8.0629e-013
Pd-109	1.5082e-189	5.5802e-179	2.1425e-003	3.2312e-192
Pm-147	6.9440e+006	2.5693e+017	3.6731e-004	2.5506e+003
Pm-148	1.4350e+002	5.3094e+012	7.7120e-003	1.1067e+000
Pm-148m	2.9724e+003	1.0998e+014	1.2777e-002	3.7978e+001
Pm-149	4.9081e-043	1.8160e-032	2.2315e-003	1.0952e-045
Pm-151	1.1533e-086	4.2674e-076	3.7961e-003	4.3782e-089
Po-210	4.8190e-013	1.7830e-002	3.1446e-002	1.5154e-014
Po-211	3.7827e-015	1.3996e-004	4.4166e-002	1.6707e-016
Po-212	7.0449e-002	2.6066e+009	5.2078e-002	3.6688e-003
Po-213	3.6606e-013	1.3544e-002	4.9660e-002	1.8179e-014
Po-214	2.5251e-010	9.3427e+000	4.5570e-002	1.1507e-011
Po-215	1.3864e-012	5.1297e-002	4.3787e-002	6.0707e-014
Po-216	1.0988e-001	4.0656e+009	4.0184e-002	4.4154e-003
Po-218	2.5272e-010	9.3506e+000	3.5576e-002	8.9908e-012
Pr-142	3.5233e-132	1.3036e-121	5.1404e-003	1.8111e-134
Pr-143	5.6579e-001	2.0934e+010	1.8709e-003	1.0585e-003
Pr-144	2.2096e+007	8.1756e+017	7.3455e-003	1.6231e+005
Pr-144m	3.1597e+005	1.1691e+016	3.3653e-004	1.0633e+002
Pu-238	1.4818e+005	5.4827e+015	3.2587e-002	4.8287e+003
Pu-239	1.8230e+004	6.7452e+014	3.0551e-002	5.5695e+002
Pu-240	2.3518e+004	8.7017e+014	3.0614e-002	7.2000e+002
Pu-241	5.7829e+006	2.1397e+017	3.1003e-005	1.7929e+002
Pu-242	9.9803e+001	3.6927e+012	2.9184e-002	2.9127e+000
Pu-243	0.0000e+000	0.0000e+000	1.1572e-003	0.0000e+000
Ra-223	1.3866e-012	5.1305e-002	3.4973e-002	4.8494e-014
Ra-224	1.0988e-001	4.0656e+009	3.3714e-002	3.7045e-003
Ra-225	3.5643e-013	1.3188e-002	7.0678e-004	2.5192e-016
Ra-226	2.6439e-010	9.7826e+000	2.8394e-002	7.5071e-012
Ra-228	6.6901e-016	2.4753e-005	6.8576e-005	4.5878e-020
Rb-86	8.9623e-002	3.3160e+009	4.5170e-003	4.0482e-004
Rb-87	6.9620e-008	2.5760e+003	4.6713e-004	3.2522e-011
Rb-88	0.0000e+000	0.0000e+000	1.6050e-002	0.0000e+000
Rb-89	0.0000e+000	0.0000e+000	1.8309e-002	0.0000e+000
Rb-90	0.0000e+000	0.0000e+000	2.4447e-002	0.0000e+000
Rb-90m	0.0000e+000	0.0000e+000	2.7634e-002	0.0000e+000

<u>Isotope</u>	<u>Activity Curies</u>	<u>Activity Bequerels</u>	<u>Heat Generation Watts/Curie</u>	<u>Heat Generation Watts</u>
Rh-103m	1.0518e+005	3.8916e+015	2.3037e-004	2.4230e+001
Rh-105	1.1113e-067	4.1118e-057	1.3678e-003	1.5200e-070
Rh-105m	0.0000e+000	0.0000e+000	8.1623e-004	0.0000e+000
Rh-106	1.1871e+007	4.3924e+017	9.5998e-003	1.1396e+005
Rn-219	1.3864e-012	5.1298e-002	4.0502e-002	5.6153e-014
Rn-220	1.0988e-001	4.0656e+009	3.7278e-002	4.0961e-003
Rn-222	2.5271e-010	9.3503e+000	3.2543e-002	8.2239e-012
Ru-103	1.0535e+005	3.8980e+015	3.2816e-003	3.4572e+002
Ru-106	1.1871e+007	4.3924e+017	5.9459e-005	7.0585e+002
Sb-122	8.1378e-037	3.0110e-026	5.9663e-003	4.8553e-039
Sb-124	4.6813e+002	1.7321e+013	1.3332e-002	6.2412e+000
Sb-125	2.8344e+005	1.0487e+016	3.1431e-003	8.9089e+002
Sb-127	1.0344e-022	3.8272e-012	5.7924e-003	5.9914e-025
Sb-129	0.0000e+000	0.0000e+000	1.0600e-002	0.0000e+000
Sm-147	5.1839e-005	1.9181e+006	1.3324e-002	6.9071e-007
Sm-151	2.9364e+002	1.0865e+013	1.1729e-004	3.4441e-002
Sm-153	6.2737e-050	2.3213e-039	1.9428e-003	1.2188e-052
Sn-123	3.7113e+003	1.3732e+014	3.1266e-003	1.1604e+001
Sn-125	8.2004e-007	3.0341e+004	6.5820e-003	5.3975e-009
Sr-89	2.9643e+005	1.0968e+016	3.4565e-003	1.0246e+003
Sr-90	4.0214e+006	1.4879e+017	1.1607e-003	4.6678e+003
Sr-91	1.4369e-270	5.3167e-260	7.9421e-003	1.1412e-272
Sr-92	0.0000e+000	0.0000e+000	9.1233e-003	0.0000e+000
Sr-93	0.0000e+000	0.0000e+000	1.8715e-002	0.0000e+000
Tb-160	1.2450e+003	4.6066e+013	8.0199e-003	9.9849e+000
Tc-99	2.9383e+000	1.0872e+011	5.0152e-004	1.4736e-003
Tc-99m	8.5526e-033	3.1645e-022	8.4259e-004	7.2063e-036
Tc-101	0.0000e+000	0.0000e+000	4.8402e-003	0.0000e+000
Te-125m	6.8319e+004	2.5278e+015	9.4493e-004	6.4557e+001
Te-127	5.8915e+004	2.1798e+015	1.3503e-003	7.9553e+001
Te-127m	5.9798e+004	2.2125e+015	5.3838e-004	3.2194e+001
Te-129	8.3263e+002	3.0807e+013	3.5773e-003	2.9786e+000
Te-129m	1.3218e+003	4.8908e+013	1.8295e-003	2.4183e+000
Te-131	2.3143e-082	8.5630e-072	6.7521e-003	1.5626e-084
Te-131m	1.0280e-081	3.8036e-071	9.5810e-003	9.8493e-084
Te-132	1.1146e-026	4.1240e-016	1.9511e-003	2.1747e-029
Te-133	0.0000e+000	0.0000e+000	1.0385e-002	0.0000e+000
Te-133m	0.0000e+000	0.0000e+000	1.7355e-002	0.0000e+000
Te-134	0.0000e+000	0.0000e+000	6.0489e-003	0.0000e+000
Th-227	1.5696e-012	5.8075e-002	3.5868e-002	5.6298e-014
Th-228	1.0931e-001	4.0445e+009	3.2139e-002	3.5131e-003
Th-229	4.2280e-013	1.5643e-002	2.9977e-002	1.2674e-014
Th-230	1.8410e-006	6.8117e+004	2.7809e-002	5.1197e-008
Th-231	1.7865e-005	6.6100e+005	1.0580e-003	1.8900e-008
Th-232	1.7141e-014	6.3422e-004	2.3811e-002	4.0815e-016
Th-234	1.3999e-008	5.1795e+002	3.9682e-004	5.5549e-012
Tl-207	1.3821e-012	5.1136e-002	2.9369e-003	4.0590e-015
Tl-208	3.9508e-002	1.4618e+009	2.3467e-002	9.2712e-004
Tl-209	7.8596e-015	2.9080e-004	1.6632e-002	1.3072e-016
U-233	5.8958e-009	2.1815e+002	2.8557e-002	1.6836e-010
U-234	4.1256e-001	1.5265e+010	2.8311e-002	1.1680e-002
U-235	1.7940e-005	6.6379e+005	2.7115e-002	4.8646e-007
U-236	6.9546e-004	2.5732e+007	2.6697e-002	1.8567e-005
U-237	1.4186e+002	5.2488e+012	1.9366e-003	2.7472e-001
U-238	1.5472e-008	5.7248e+002	2.4920e-002	3.8558e-010
Xe-131m	7.9540e-004	2.9430e+007	9.6242e-004	7.6551e-007
Xe-133	1.1705e-013	4.3308e-003	1.0720e-003	1.2547e-016
Xe-133m	2.8859e-044	1.0678e-033	1.3734e-003	3.9635e-047
Xe-135	8.4073e-282	3.1107e-271	3.3559e-003	2.8214e-284
Xe-135m	0.0000e+000	0.0000e+000	3.1208e-003	0.0000e+000
Xe-137	0.0000e+000	0.0000e+000	1.1598e-002	0.0000e+000
Xe-138	0.0000e+000	0.0000e+000	1.0418e-002	0.0000e+000
Y-90	4.0225e+006	1.4883e+017	5.5411e-003	2.2289e+004
Y-91	7.2845e+005	2.6953e+016	3.5919e-003	2.6165e+003
Y-91m	9.0360e-271	3.3433e-260	3.3051e-003	2.9865e-273
Y-92	0.0000e+000	0.0000e+000	1.0057e-002	0.0000e+000
Y-93	3.5716e-254	1.3215e-243	7.4844e-003	2.6731e-256
Zr-93	3.3186e-002	1.2279e+009	1.1560e-004	3.8363e-006

<u>Isotope</u>	<u>Activity</u> <u>Curies</u>	<u>Activity</u> <u>Bequerels</u>	<u>Heat Generation</u> <u>Watts/Curie</u>	
Zr-95	1.3934e+006	5.1554e+016	5.0452e-003	7.0298e+003
Zr-97	6.1917e-149	2.2909e-138	5.2047e-003	3.2226e-151
		Total	Heat Generation	4.6232e+005

MicroShield 9.05 (9.05-0000)

Quantum Nuclear Services

Source File Heat Generation

Source File: Core Inventory USAR 14-months Decay.mxd

Isotope	Activity Curies	Activity Bequerels	Heat Generation Watts/Curie	Heat Generation Watts
Ac-225	3.8704e-013	1.4321e-002	3.4574e-002	1.3381e-014
Ac-227	3.1629e-012	1.1703e-001	4.7208e-004	1.4931e-015
Ac-228	1.0659e-015	3.9439e-005	8.0395e-003	8.5695e-018
Ag-109m	4.9950e-223	1.8481e-212	5.1551e-004	2.5750e-226
Ag-110	6.9497e+002	2.5714e+013	7.1853e-003	4.9936e+000
Ag-110m	5.2254e+004	1.9334e+015	1.6651e-002	8.7006e+002
Ag-111	1.4299e-011	5.2908e-001	2.2329e-003	3.1929e-014
Am-241	1.8321e+004	6.7786e+014	3.2813e-002	6.0115e+002
Am-242	4.6528e+002	1.7215e+013	1.1352e-003	5.2820e-001
Am-242m	4.6750e+002	1.7297e+013	3.8924e-004	1.8197e-001
Am-243	1.2511e+003	4.6291e+013	3.1704e-002	3.9666e+001
Am-244	1.2731e-299	4.7105e-289	6.7217e-003	8.5574e-302
As-76	4.1905e-115	1.5505e-104	8.8616e-003	3.7134e-117
As-77	3.1747e-076	1.1747e-065	1.4053e-003	4.4616e-079
At-217	3.1529e-013	1.1666e-002	4.1888e-002	1.3207e-014
Ba-137m	4.8532e+006	1.7957e+017	3.9212e-003	1.9031e+004
Ba-139	0.0000e+000	0.0000e+000	5.5588e-003	0.0000e+000
Ba-140	6.6016e-003	2.4426e+008	2.9338e-003	1.9368e-005
Ba-142	0.0000e+000	0.0000e+000	8.1533e-003	0.0000e+000
Bi-210	3.4189e-012	1.2650e-001	2.3060e-003	7.8841e-015
Bi-211	2.3416e-012	8.6641e-002	3.9163e-002	9.1707e-014
Bi-212	1.0336e-001	3.8244e+009	1.6753e-002	1.7317e-003
Bi-213	4.7014e-013	1.7395e-002	4.1771e-003	1.9638e-015
Bi-214	4.0895e-010	1.5131e+001	1.2767e-002	5.2211e-012
Bk-249	4.1822e-008	1.5474e+003	1.9563e-004	8.1814e-012
Br-82	4.3428e-083	1.6068e-072	1.6488e-002	7.1603e-085
Br-83	0.0000e+000	0.0000e+000	1.9419e-003	0.0000e+000
Br-85	0.0000e+000	0.0000e+000	6.3353e-003	0.0000e+000
Cd-115	6.0340e-053	2.2326e-042	3.0688e-003	1.8517e-055
Ce-141	7.7120e+003	2.8535e+014	1.4623e-003	1.1278e+001
Ce-143	1.8159e-086	6.7187e-076	4.2104e-003	7.6454e-089
Ce-144	1.8980e+007	7.0225e+017	6.6284e-004	1.2581e+004
Cf-249	1.5897e-010	5.8820e+000	3.6765e-002	5.8445e-012
Cm-242	3.3769e+005	1.2494e+016	3.6240e-002	1.2238e+004
Cm-244	1.9066e+005	7.0545e+015	3.4409e-002	6.5605e+003
Cm-245	1.5998e+005	5.9194e+015	3.2648e-002	5.2232e+003
Cm-249	0.0000e+000	0.0000e+000	1.7420e-003	0.0000e+000
Cs-132	2.1159e-017	7.8288e-007	4.3171e-003	9.1345e-020
Cs-134	4.7375e+006	1.7529e+017	1.0179e-002	4.8223e+004
Cs-134m	0.0000e+000	0.0000e+000	8.0195e-004	0.0000e+000
Cs-135	4.0750e-002	1.5077e+009	3.3375e-004	1.3600e-005
Cs-136	3.6741e-004	1.3594e+007	1.3641e-002	5.0116e-006
Cs-137	5.1302e+006	1.8982e+017	1.0122e-003	5.1931e+003
Cs-138	0.0000e+000	0.0000e+000	2.1245e-002	0.0000e+000
Cs-139	0.0000e+000	0.0000e+000	1.1617e-002	0.0000e+000
Eu-154	2.7906e+005	1.0325e+016	9.0517e-003	2.5260e+003
Eu-155	1.1294e+005	4.1787e+015	7.2543e-004	8.1929e+001
Eu-156	3.2610e-002	1.2066e+009	1.0426e-002	3.4000e-004
Fr-221	5.0179e-013	1.8566e-002	3.7907e-002	1.9021e-014
Fr-223	4.3639e-014	1.6146e-003	2.5771e-003	1.1246e-016
Ga-72	6.6732e-217	2.4691e-206	1.9009e-002	1.2685e-218
Gd-159	1.0979e-161	4.0623e-151	2.1104e-003	2.3171e-164
Ge-77	1.7259e-269	6.3858e-259	1.0182e-002	1.7574e-271
H-3	2.1811e+004	8.0701e+014	3.3701e-005	7.3506e-001
Ho-166	2.1324e-112	7.8899e-102	4.2936e-003	9.1558e-115
I-129	1.5549e+000	5.7531e+010	4.6796e-004	7.2762e-004
I-130	1.4979e-244	5.5423e-234	1.4375e-002	2.1533e-246
I-131	4.2346e-009	1.5668e+002	3.3882e-003	1.4348e-011
I-132	1.9971e-032	7.3893e-022	1.6490e-002	3.2933e-034
I-133	3.1922e-141	1.1811e-130	6.0261e-003	1.9236e-143
I-134	0.0000e+000	0.0000e+000	1.9166e-002	0.0000e+000
I-135	0.0000e+000	0.0000e+000	1.1524e-002	0.0000e+000
I-136	0.0000e+000	0.0000e+000	2.7007e-002	0.0000e+000
In-115	4.7087e-013	1.7422e-002	9.0107e-004	4.2429e-016

<u>Isotope</u>	<u>Activity Curies</u>	<u>Activity Bequerels</u>	<u>Heat Generation Watts/Curie</u>	<u>Heat Generation Watts</u>
In-115m	6.5698e-053	2.4308e-042	1.9788e-003	1.3000e-055
Kr-83m	0.0000e+000	0.0000e+000	2.4154e-004	0.0000e+000
Kr-85	4.3493e+005	1.6093e+016	1.4983e-003	6.5165e+002
Kr-85m	0.0000e+000	0.0000e+000	2.4486e-003	0.0000e+000
Kr-87	0.0000e+000	0.0000e+000	1.2548e-002	0.0000e+000
Kr-88	0.0000e+000	0.0000e+000	1.3749e-002	0.0000e+000
Kr-89	0.0000e+000	0.0000e+000	1.8949e-002	0.0000e+000
Kr-90	0.0000e+000	0.0000e+000	1.5334e-002	0.0000e+000
La-140	7.5971e-003	2.8109e+008	1.6889e-002	1.2830e-004
La-141	0.0000e+000	0.0000e+000	5.8749e-003	0.0000e+000
La-142	0.0000e+000	0.0000e+000	2.1140e-002	0.0000e+000
Mo-99	1.3209e-039	4.8872e-029	3.2674e-003	4.3158e-042
Mo-101	0.0000e+000	0.0000e+000	1.2084e-002	0.0000e+000
Nb-93m	1.7906e-003	6.6254e+007	1.7934e-004	3.2113e-007
Nb-95	1.5496e+006	5.7336e+016	4.7949e-003	7.4303e+003
Nb-95m	6.0146e+003	2.2254e+014	1.4630e-003	8.7995e+000
Nb-97	1.4892e-175	5.5099e-165	6.7116e-003	9.9947e-178
Nb-97m	1.3100e-175	4.8471e-165	4.4033e-003	5.7685e-178
Nd-147	5.3448e-005	1.9776e+006	2.4228e-003	1.2949e-007
Np-237	4.9242e-003	1.8220e+008	2.8779e-002	1.4171e-004
Np-238	2.2254e+000	8.2339e+010	4.7926e-003	1.0665e-002
Np-239	1.2511e+003	4.6291e+013	2.4625e-003	3.0809e+000
Np-240	0.0000e+000	0.0000e+000	9.4518e-003	0.0000e+000
Np-240m	0.0000e+000	0.0000e+000	5.6252e-003	0.0000e+000
Pa-231	2.5810e-010	9.5498e+000	3.2329e-002	8.3442e-012
Pa-233	4.3204e-003	1.5986e+008	2.4276e-003	1.0488e-005
Pa-234	2.6599e-011	9.8415e-001	1.4604e-002	3.8844e-013
Pa-234m	1.6641e-008	6.1573e+002	4.9490e-003	8.2357e-011
Pb-209	3.5202e-013	1.3025e-002	1.1714e-003	4.1235e-016
Pb-210	3.6584e-012	1.3536e-001	2.3060e-004	8.4362e-016
Pb-211	2.3418e-012	8.6645e-002	2.9963e-003	7.0166e-015
Pb-212	1.0336e-001	3.8242e+009	1.9044e-003	1.9683e-004
Pb-214	4.0901e-010	1.5133e+001	3.1921e-003	1.3056e-012
Pd-109	4.9934e-223	1.8476e-212	2.1425e-003	1.0698e-225
Pm-147	6.6378e+006	2.4560e+017	3.6731e-004	2.4381e+003
Pm-148	5.0401e+001	1.8648e+012	7.7120e-003	3.8869e-001
Pm-148m	1.0440e+003	3.8628e+013	1.2777e-002	1.3339e+001
Pm-149	1.6050e-051	5.9384e-041	2.2315e-003	3.5815e-054
Pm-151	1.5942e-102	5.8987e-092	3.7961e-003	6.0519e-105
Po-210	1.0538e-012	3.8992e-002	3.1446e-002	3.3138e-014
Po-211	6.3930e-015	2.3654e-004	4.4166e-002	2.8235e-016
Po-212	6.6225e-002	2.4503e+009	5.2078e-002	3.4488e-003
Po-213	4.5999e-013	1.7020e-002	4.9660e-002	2.2843e-014
Po-214	4.0887e-010	1.5128e+001	4.5570e-002	1.8632e-011
Po-215	2.3427e-012	8.6680e-002	4.3787e-002	1.0258e-013
Po-216	1.0329e-001	3.8218e+009	4.0184e-002	4.1506e-003
Po-218	4.0918e-010	1.5140e+001	3.5576e-002	1.4557e-011
Pr-142	1.0056e-155	3.7205e-145	5.1404e-003	5.1690e-158
Pr-143	2.3370e-002	8.6470e+008	1.8709e-003	4.3724e-005
Pr-144	1.8980e+007	7.0228e+017	7.3455e-003	1.3942e+005
Pr-144m	2.7142e+005	1.0042e+016	3.3653e-004	9.1339e+001
Pu-238	1.4850e+005	5.4945e+015	3.2587e-002	4.8392e+003
Pu-239	1.8230e+004	6.7452e+014	3.0551e-002	5.5695e+002
Pu-240	2.3521e+004	8.7028e+014	3.0614e-002	7.2009e+002
Pu-241	5.7369e+006	2.1227e+017	3.1003e-005	1.7786e+002
Pu-242	9.9803e+001	3.6927e+012	2.9184e-002	2.9127e+000
Pu-243	0.0000e+000	0.0000e+000	1.1572e-003	0.0000e+000
Ra-223	2.3425e-012	8.6674e-002	3.4973e-002	8.1925e-014
Ra-224	1.0329e-001	3.8218e+009	3.3714e-002	3.4823e-003
Ra-225	6.7474e-013	2.4965e-002	7.0678e-004	4.7689e-016
Ra-226	4.2531e-010	1.5736e+001	2.8394e-002	1.2076e-011
Ra-228	1.0672e-015	3.9485e-005	6.8576e-005	7.3182e-020
Rb-86	8.8448e-003	3.2726e+008	4.5170e-003	3.9951e-005
Rb-87	6.9620e-008	2.5760e+003	4.6713e-004	3.2522e-011
Rb-88	0.0000e+000	0.0000e+000	1.6050e-002	0.0000e+000
Rb-89	0.0000e+000	0.0000e+000	1.8309e-002	0.0000e+000
Rb-90	0.0000e+000	0.0000e+000	2.4447e-002	0.0000e+000
Rb-90m	0.0000e+000	0.0000e+000	2.7634e-002	0.0000e+000

<u>Isotope</u>	<u>Activity Curies</u>	<u>Activity Bequerels</u>	<u>Heat Generation Watts/Curie</u>	<u>Heat Generation Watts</u>
Rh-103m	3.5075e+004	1.2978e+015	2.3037e-004	8.0804e+000
Rh-105	2.0327e-080	7.5209e-070	1.3678e-003	2.7803e-083
Rh-105m	0.0000e+000	0.0000e+000	8.1623e-004	0.0000e+000
Rh-106	1.0557e+007	3.9060e+017	9.5998e-003	1.0134e+005
Rn-219	2.3427e-012	8.6680e-002	4.0502e-002	9.4885e-014
Rn-220	1.0329e-001	3.8218e+009	3.7278e-002	3.8505e-003
Rn-222	4.0919e-010	1.5140e+001	3.2543e-002	1.3316e-011
Ru-103	3.5133e+004	1.2999e+015	3.2816e-003	1.1529e+002
Ru-106	1.0557e+007	3.9060e+017	5.9459e-005	6.2769e+002
Sb-122	9.1155e-044	3.3728e-033	5.9663e-003	5.4386e-046
Sb-124	2.2836e+002	8.4493e+012	1.3332e-002	3.0446e+000
Sb-125	2.7159e+005	1.0049e+016	3.1431e-003	8.5364e+002
Sb-127	1.3808e-027	5.1091e-017	5.7924e-003	7.9983e-030
Sb-129	0.0000e+000	0.0000e+000	1.0600e-002	0.0000e+000
Sm-147	5.9418e-005	2.1985e+006	1.3324e-002	7.9168e-007
Sm-151	2.9326e+002	1.0851e+013	1.1729e-004	3.4395e-002
Sm-153	1.4218e-059	5.2605e-049	1.9428e-003	2.7622e-062
Sn-123	2.6562e+003	9.8281e+013	3.1266e-003	8.3050e+000
Sn-125	9.2694e-009	3.4297e+002	6.5820e-003	6.1011e-011
Sr-89	1.2608e+005	4.6651e+015	3.4565e-003	4.3582e+002
Sr-90	4.0048e+006	1.4818e+017	1.1607e-003	4.6485e+003
Sr-91	0.0000e+000	0.0000e+000	7.9421e-003	0.0000e+000
Sr-92	0.0000e+000	0.0000e+000	9.1233e-003	0.0000e+000
Sr-93	0.0000e+000	0.0000e+000	1.8715e-002	0.0000e+000
Tb-160	6.8486e+002	2.5340e+013	8.0199e-003	5.4925e+000
Tc-99	2.9383e+000	1.0872e+011	5.0152e-004	1.4736e-003
Tc-99m	1.2877e-039	4.7645e-029	8.4259e-004	1.0850e-042
Tc-101	0.0000e+000	0.0000e+000	4.8402e-003	0.0000e+000
Te-125m	6.6013e+004	2.4425e+015	9.4493e-004	6.2378e+001
Te-127	3.9632e+004	1.4664e+015	1.3503e-003	5.3516e+001
Te-127m	4.0227e+004	1.4884e+015	5.3838e-004	2.1657e+001
Te-129	2.3010e+002	8.5136e+012	3.5773e-003	8.2313e-001
Te-129m	3.6529e+002	1.3516e+013	1.8295e-003	6.6830e-001
Te-131	2.2431e-097	8.2995e-087	6.7521e-003	1.5146e-099
Te-131m	9.9638e-097	3.6866e-086	9.5810e-003	9.5463e-099
Te-132	1.9384e-032	7.1720e-022	1.9511e-003	3.7819e-035
Te-133	0.0000e+000	0.0000e+000	1.0385e-002	0.0000e+000
Te-133m	0.0000e+000	0.0000e+000	1.7355e-002	0.0000e+000
Te-134	0.0000e+000	0.0000e+000	6.0489e-003	0.0000e+000
Th-227	2.5973e-012	9.6101e-002	3.5868e-002	9.3161e-014
Th-228	1.0276e-001	3.8020e+009	3.2139e-002	3.3024e-003
Th-229	4.6711e-013	1.7283e-002	2.9977e-002	1.4002e-014
Th-230	2.5300e-006	9.3611e+004	2.7809e-002	7.0358e-008
Th-231	2.0929e-005	7.7439e+005	1.0580e-003	2.2143e-008
Th-232	2.3497e-014	8.6940e-004	2.3811e-002	5.5950e-016
Th-234	1.6641e-008	6.1573e+002	3.9682e-004	6.6035e-012
Tl-207	2.3353e-012	8.6407e-002	2.9369e-003	6.8587e-015
Tl-208	3.7138e-002	1.3741e+009	2.3467e-002	8.7153e-004
Tl-209	1.0124e-014	3.7460e-004	1.6632e-002	1.6839e-016
U-233	8.7582e-009	3.2405e+002	2.8557e-002	2.5011e-010
U-234	4.8435e-001	1.7921e+010	2.8311e-002	1.3713e-002
U-235	2.1005e-005	7.7718e+005	2.7115e-002	5.6955e-007
U-236	8.1430e-004	3.0129e+007	2.6697e-002	2.1739e-005
U-237	1.4073e+002	5.2070e+012	1.9366e-003	2.7254e-001
U-238	1.8115e-008	6.7026e+002	2.4920e-002	4.5143e-010
Xe-131m	2.0680e-005	7.6516e+005	9.6242e-004	1.9903e-008
Xe-133	3.0924e-017	1.1442e-006	1.0720e-003	3.3150e-020
Xe-133m	7.7785e-053	2.8781e-042	1.3734e-003	1.0683e-055
Xe-135	0.0000e+000	0.0000e+000	3.3559e-003	0.0000e+000
Xe-135m	0.0000e+000	0.0000e+000	3.1208e-003	0.0000e+000
Xe-137	0.0000e+000	0.0000e+000	1.1598e-002	0.0000e+000
Xe-138	0.0000e+000	0.0000e+000	1.0418e-002	0.0000e+000
Y-90	4.0058e+006	1.4822e+017	5.5411e-003	2.2197e+004
Y-91	3.4806e+005	1.2878e+016	3.5919e-003	1.2502e+003
Y-91m	0.0000e+000	0.0000e+000	3.3051e-003	0.0000e+000
Y-92	0.0000e+000	0.0000e+000	1.0057e-002	0.0000e+000
Y-93	9.0802e-299	3.3597e-288	7.4844e-003	6.7960e-301
Zr-93	3.3186e-002	1.2279e+009	1.1560e-004	3.8363e-006

<u>Isotope</u>	<u>Activity Curies</u>	<u>Activity Bequerels</u>	<u>Heat Generation Watts/Curie</u>	<u>Heat Generation Watts</u>
Zr-95	7.0945e+005	2.6250e+016	5.0452e-003	3.5793e+003
Zr-97	1.3820e-175	5.1133e-165	5.2047e-003	7.1928e-178
		Total	Heat Generation	4.0475e+005

Independent Check
MicroShield 9.05 (9.05-0000)

Quantum Nuclear Services

Source File Heat Generation

Source File: Core Inventory USAR 16-months Decay.mxd

Isotope	Activity Curies	Activity Bequerels	Heat Generation Watts/Curie	Heat Generation Watts
Ac-225	6.8088e-013	2.5193e-002	3.4574e-002	2.3541e-014
Ac-227	4.6465e-012	1.7192e-001	4.7208e-004	2.1935e-015
Ac-228	1.5605e-015	5.7738e-005	8.0395e-003	1.2546e-017
Ag-109m	2.0619e-254	7.6289e-244	5.1551e-004	1.0629e-257
Ag-110	5.9096e+002	2.1865e+013	7.1853e-003	4.2462e+000
Ag-110m	4.4433e+004	1.6440e+015	1.6651e-002	7.3984e+002
Ag-111	6.2678e-014	2.3191e-003	2.2329e-003	1.3995e-016
Am-241	1.9782e+004	7.3195e+014	3.2813e-002	6.4911e+002
Am-242	4.6494e+002	1.7203e+013	1.1352e-003	5.2782e-001
Am-242m	4.6716e+002	1.7285e+013	3.8924e-004	1.8184e-001
Am-243	1.2511e+003	4.6291e+013	3.1704e-002	3.9665e+001
Am-244	0.0000e+000	0.0000e+000	6.7217e-003	0.0000e+000
As-76	3.8084e-131	1.4091e-120	8.8616e-003	3.3749e-133
As-77	4.1681e-087	1.5422e-076	1.4053e-003	5.8576e-090
At-217	5.2497e-013	1.9424e-002	4.1888e-002	2.1990e-014
Ba-137m	4.8354e+006	1.7891e+017	3.9212e-003	1.8961e+004
Ba-139	0.0000e+000	0.0000e+000	5.5588e-003	0.0000e+000
Ba-140	2.7802e-004	1.0287e+007	2.9338e-003	8.1566e-007
Ba-142	0.0000e+000	0.0000e+000	8.1533e-003	0.0000e+000
Bi-210	5.7590e-012	2.1308e-001	2.3060e-003	1.3281e-014
Bi-211	3.5664e-012	1.3196e-001	3.9163e-002	1.3967e-013
Bi-212	9.7542e-002	3.6090e+009	1.6753e-002	1.6342e-003
Bi-213	5.5399e-013	2.0497e-002	4.1771e-003	2.3141e-015
Bi-214	6.0466e-010	2.2372e+001	1.2767e-002	7.7197e-012
Bk-249	3.6849e-008	1.3634e+003	1.9563e-004	7.2087e-012
Br-82	4.7541e-095	1.7590e-084	1.6488e-002	7.8385e-097
Br-83	0.0000e+000	0.0000e+000	1.9419e-003	0.0000e+000
Br-85	0.0000e+000	0.0000e+000	6.3353e-003	0.0000e+000
Cd-115	7.6362e-061	2.8254e-050	3.0688e-003	2.3434e-063
Ce-141	2.2175e+003	8.2049e+013	1.4623e-003	3.2428e+000
Ce-143	2.9158e-099	1.0789e-088	4.2104e-003	1.2277e-101
Ce-144	1.6459e+007	6.0900e+017	6.6284e-004	1.0910e+004
Cf-249	1.7135e-010	6.3398e+000	3.6765e-002	6.2994e-012
Cm-242	2.6355e+005	9.7512e+015	3.6240e-002	9.5510e+003
Cm-244	1.8950e+005	7.0114e+015	3.4409e-002	6.5205e+003
Cm-245	1.5998e+005	5.9194e+015	3.2648e-002	5.2232e+003
Cm-249	0.0000e+000	0.0000e+000	1.7420e-003	0.0000e+000
Cs-132	4.0602e-020	1.5023e-009	4.3171e-003	1.7529e-022
Cs-134	4.4894e+006	1.6611e+017	1.0179e-002	4.5698e+004
Cs-134m	0.0000e+000	0.0000e+000	8.0195e-004	0.0000e+000
Cs-135	4.0750e-002	1.5077e+009	3.3375e-004	1.3600e-005
Cs-136	1.6918e-005	6.2597e+005	1.3641e-002	2.3077e-007
Cs-137	5.1114e+006	1.8912e+017	1.0122e-003	5.1740e+003
Cs-138	0.0000e+000	0.0000e+000	2.1245e-002	0.0000e+000
Cs-139	0.0000e+000	0.0000e+000	1.1617e-002	0.0000e+000
Eu-154	2.7557e+005	1.0196e+016	9.0517e-003	2.4943e+003
Eu-155	1.1044e+005	4.0863e+015	7.2543e-004	8.0117e+001
Eu-156	2.2657e-003	8.3832e+007	1.0426e-002	2.3623e-005
Fr-221	7.0167e-013	2.5962e-002	3.7907e-002	2.6598e-014
Fr-223	6.4119e-014	2.3724e-003	2.5771e-003	1.6524e-016
Ga-72	7.5888e-247	2.8079e-236	1.9009e-002	1.4425e-248
Gd-159	1.9591e-184	7.2485e-174	2.1104e-003	4.1344e-187
Ge-77	7.4656e-307	2.7623e-296	1.0182e-002	7.6017e-309
H-3	2.1615e+004	7.9975e+014	3.3701e-005	7.2845e-001
Ho-166	3.7555e-128	1.3895e-117	4.2936e-003	1.6125e-130
I-129	1.5549e+000	5.7531e+010	4.6796e-004	7.2762e-004
I-130	1.0373e-278	3.8379e-268	1.4375e-002	1.4911e-280
I-131	2.7462e-011	1.0161e+000	3.3882e-003	9.3046e-014
I-132	7.9664e-038	2.9476e-027	1.6490e-002	1.3137e-039
I-133	1.6047e-161	5.9375e-151	6.0261e-003	9.6702e-164
I-134	0.0000e+000	0.0000e+000	1.9166e-002	0.0000e+000
I-135	0.0000e+000	0.0000e+000	1.1524e-002	0.0000e+000
I-136	0.0000e+000	0.0000e+000	2.7007e-002	0.0000e+000
In-115	4.7087e-013	1.7422e-002	9.0107e-004	4.2429e-016

<u>Isotope</u>	<u>Activity Curies</u>	<u>Activity Bequerels</u>	<u>Heat Generation Watts/Curie</u>	<u>Heat Generation Watts</u>
In-115m	8.3143e-061	3.0763e-050	1.9788e-003	1.6452e-063
Kr-83m	0.0000e+000	0.0000e+000	2.4154e-004	0.0000e+000
Kr-85	4.3046e+005	1.5927e+016	1.4983e-003	6.4494e+002
Kr-85m	0.0000e+000	0.0000e+000	2.4486e-003	0.0000e+000
Kr-87	0.0000e+000	0.0000e+000	1.2548e-002	0.0000e+000
Kr-88	0.0000e+000	0.0000e+000	1.3749e-002	0.0000e+000
Kr-89	0.0000e+000	0.0000e+000	1.8949e-002	0.0000e+000
Kr-90	0.0000e+000	0.0000e+000	1.5334e-002	0.0000e+000
La-140	3.1995e-004	1.1838e+007	1.6889e-002	5.4034e-006
La-141	0.0000e+000	0.0000e+000	5.8749e-003	0.0000e+000
La-142	0.0000e+000	0.0000e+000	2.1140e-002	0.0000e+000
Mo-99	5.3166e-046	1.9671e-035	3.2674e-003	1.7371e-048
Mo-101	0.0000e+000	0.0000e+000	1.2084e-002	0.0000e+000
Nb-93m	2.0282e-003	7.5044e+007	1.7934e-004	3.6374e-007
Nb-95	8.2711e+005	3.0603e+016	4.7949e-003	3.9659e+003
Nb-95m	3.1946e+003	1.1820e+014	1.4630e-003	4.6737e+000
Nb-97	1.5486e-200	5.7299e-190	6.7116e-003	1.0394e-202
Nb-97m	1.3623e-200	5.0407e-190	4.4033e-003	5.9988e-203
Nd-147	1.3358e-006	4.9423e+004	2.4228e-003	3.2363e-009
Np-237	5.9188e-003	2.1900e+008	2.8779e-002	1.7034e-004
Np-238	2.2238e+000	8.2279e+010	4.7926e-003	1.0658e-002
Np-239	1.2511e+003	4.6291e+013	2.4625e-003	3.0809e+000
Np-240	0.0000e+000	0.0000e+000	9.4518e-003	0.0000e+000
Np-240m	0.0000e+000	0.0000e+000	5.6252e-003	0.0000e+000
Pa-231	3.3382e-010	1.2351e+001	3.2329e-002	1.0792e-011
Pa-233	5.2643e-003	1.9478e+008	2.4276e-003	1.2780e-005
Pa-234	3.0562e-011	1.1308e+000	1.4604e-002	4.4633e-013
Pa-234m	1.9118e-008	7.0738e+002	4.9490e-003	9.4617e-011
Pb-209	4.8409e-013	1.7911e-002	1.1714e-003	5.6706e-016
Pb-210	6.1147e-012	2.2624e-001	2.3060e-004	1.4100e-015
Pb-211	3.5662e-012	1.3195e-001	2.9963e-003	1.0685e-014
Pb-212	9.7536e-002	3.6088e+009	1.9044e-003	1.8575e-004
Pb-214	6.0475e-010	2.2376e+001	3.1921e-003	1.9304e-012
Pd-109	2.0612e-254	7.6266e-244	2.1425e-003	4.4161e-257
Pm-147	6.3630e+006	2.3543e+017	3.6731e-004	2.3372e+003
Pm-148	1.8901e+001	6.9933e+011	7.7120e-003	1.4576e-001
Pm-148m	3.9151e+002	1.4486e+013	1.2777e-002	5.0022e+000
Pm-149	1.7832e-059	6.5979e-049	2.2315e-003	3.9792e-062
Pm-151	2.1673e-117	8.0189e-107	3.7961e-003	8.2272e-120
Po-210	1.9342e-012	7.1566e-002	3.1446e-002	6.0823e-014
Po-211	9.7356e-015	3.6022e-004	4.4166e-002	4.2998e-016
Po-212	6.2495e-002	2.3123e+009	5.2078e-002	3.2546e-003
Po-213	5.4202e-013	2.0055e-002	4.9660e-002	2.6917e-014
Po-214	6.0454e-010	2.2368e+001	4.5570e-002	2.7549e-011
Po-215	3.5677e-012	1.3200e-001	4.3787e-002	1.5622e-013
Po-216	9.7474e-002	3.6065e+009	4.0184e-002	3.9169e-003
Po-218	6.0498e-010	2.2384e+001	3.5576e-002	2.1523e-011
Pr-142	8.5447e-178	3.1615e-167	5.1404e-003	4.3923e-180
Pr-143	1.1784e-003	4.3602e+007	1.8709e-003	2.2047e-006
Pr-144	1.6460e+007	6.0902e+017	7.3455e-003	1.2091e+005
Pr-144m	2.3537e+005	8.7088e+015	3.3653e-004	7.9210e+001
Pu-238	1.4869e+005	5.5016e+015	3.2587e-002	4.8454e+003
Pu-239	1.8230e+004	6.7452e+014	3.0551e-002	5.5694e+002
Pu-240	2.3524e+004	8.7039e+014	3.0614e-002	7.2017e+002
Pu-241	5.6941e+006	2.1068e+017	3.1003e-005	1.7654e+002
Pu-242	9.9803e+001	3.6927e+012	2.9184e-002	2.9127e+000
Pu-243	0.0000e+000	0.0000e+000	1.1572e-003	0.0000e+000
Ra-223	3.5675e-012	1.3200e-001	3.4973e-002	1.2476e-013
Ra-224	9.7474e-002	3.6065e+009	3.3714e-002	3.2862e-003
Ra-225	7.5652e-013	2.7991e-002	7.0678e-004	5.3470e-016
Ra-226	6.2592e-010	2.3159e+001	2.8394e-002	1.7772e-011
Ra-228	1.5631e-015	5.7836e-005	6.8576e-005	1.0719e-019
Rb-86	1.0090e-003	3.7335e+007	4.5170e-003	4.5578e-006
Rb-87	6.9620e-008	2.5760e+003	4.6713e-004	3.2522e-011
Rb-88	0.0000e+000	0.0000e+000	1.6050e-002	0.0000e+000
Rb-89	0.0000e+000	0.0000e+000	1.8309e-002	0.0000e+000
Rb-90	0.0000e+000	0.0000e+000	2.4447e-002	0.0000e+000
Rb-90m	0.0000e+000	0.0000e+000	2.7634e-002	0.0000e+000

Isotope	Activity Curies	Activity Bequerels	Heat Generation Watts/Curie	Heat Generation Watts
Rh-103m	1.2529e+004	4.6359e+014	2.3037e-004	2.8864e+000
Rh-105	2.3317e-092	8.6271e-082	1.3678e-003	3.1893e-095
Rh-105m	0.0000e+000	0.0000e+000	8.1623e-004	0.0000e+000
Rh-106	9.4569e+006	3.4991e+017	9.5998e-003	9.0784e+004
Rn-219	3.5677e-012	1.3200e-001	4.0502e-002	1.4450e-013
Rn-220	9.7474e-002	3.6065e+009	3.7278e-002	3.6336e-003
Rn-222	6.0499e-010	2.2385e+001	3.2543e-002	1.9688e-011
Ru-103	1.2550e+004	4.6435e+014	3.2816e-003	4.1185e+001
Ru-106	9.4569e+006	3.4991e+017	5.9459e-005	5.6230e+002
Sb-122	2.7807e-050	1.0289e-039	5.9663e-003	1.6591e-052
Sb-124	1.1652e+002	4.3111e+012	1.3332e-002	1.5535e+000
Sb-125	2.6093e+005	9.6545e+015	3.1431e-003	8.2014e+002
Sb-127	3.7217e-032	1.3770e-021	5.7924e-003	2.1557e-034
Sb-129	0.0000e+000	0.0000e+000	1.0600e-002	0.0000e+000
Sm-147	6.6218e-005	2.4501e+006	1.3324e-002	8.8228e-007
Sm-151	2.9290e+002	1.0837e+013	1.1729e-004	3.4353e-002
Sm-153	1.2938e-068	4.7871e-058	1.9428e-003	2.5136e-071
Sn-123	1.9414e+003	7.1830e+013	3.1266e-003	6.0698e+000
Sn-125	1.3872e-010	5.1326e+000	6.5820e-003	9.1305e-013
Sr-89	5.6578e+004	2.0934e+015	3.4565e-003	1.9556e+002
Sr-90	3.9893e+006	1.4761e+017	1.1607e-003	4.6305e+003
Sr-91	0.0000e+000	0.0000e+000	7.9421e-003	0.0000e+000
Sr-92	0.0000e+000	0.0000e+000	9.1233e-003	0.0000e+000
Sr-93	0.0000e+000	0.0000e+000	1.8715e-002	0.0000e+000
Tb-160	3.9109e+002	1.4470e+013	8.0199e-003	3.1365e+000
Tc-99	2.9383e+000	1.0872e+011	5.0152e-004	1.4736e-003
Tc-99m	5.1831e-046	1.9178e-035	8.4259e-004	4.3672e-049
Tc-101	0.0000e+000	0.0000e+000	4.8402e-003	0.0000e+000
Te-125m	6.3672e+004	2.3559e+015	9.4493e-004	6.0166e+001
Te-127	2.7331e+004	1.0112e+015	1.3503e-003	3.6905e+001
Te-127m	2.7741e+004	1.0264e+015	5.3838e-004	1.4935e+001
Te-129	6.8918e+001	2.5500e+012	3.5773e-003	2.4654e-001
Te-129m	1.0941e+002	4.0482e+012	1.8295e-003	2.0017e-001
Te-131	1.8928e-111	7.0032e-101	6.7521e-003	1.2780e-113
Te-131m	8.4076e-111	3.1108e-100	9.5810e-003	8.0553e-113
Te-132	7.7321e-038	2.8609e-027	1.9511e-003	1.5086e-040
Te-133	0.0000e+000	0.0000e+000	1.0385e-002	0.0000e+000
Te-133m	0.0000e+000	0.0000e+000	1.7355e-002	0.0000e+000
Te-134	0.0000e+000	0.0000e+000	6.0489e-003	0.0000e+000
Th-227	3.8986e-012	1.4425e-001	3.5868e-002	1.3984e-013
Th-228	9.6969e-002	3.5878e+009	3.2139e-002	3.1164e-003
Th-229	6.3086e-013	2.3342e-002	2.9977e-002	1.8911e-014
Th-230	3.2762e-006	1.2122e+005	2.7809e-002	9.1108e-008
Th-231	2.3802e-005	8.8068e+005	1.0580e-003	2.5182e-008
Th-232	3.0368e-014	1.1236e-003	2.3811e-002	7.2309e-016
Th-234	1.9119e-008	7.0739e+002	3.9682e-004	7.5866e-012
Tl-207	3.5567e-012	1.3160e-001	2.9369e-003	1.0446e-014
Tl-208	3.5047e-002	1.2967e+009	2.3467e-002	8.2244e-004
Tl-209	1.1948e-014	4.4208e-004	1.6632e-002	1.9872e-016
U-233	1.2092e-008	4.4742e+002	2.8557e-002	3.4532e-010
U-234	5.5175e-001	2.0415e+010	2.8311e-002	1.5621e-002
U-235	2.3877e-005	8.8347e+005	2.7115e-002	6.4745e-007
U-236	9.2571e-004	3.4251e+007	2.6697e-002	2.4714e-005
U-237	1.3968e+002	5.1682e+012	1.9366e-003	2.7050e-001
U-238	2.0592e-008	7.6192e+002	2.4920e-002	5.1317e-010
Xe-131m	6.7565e-007	2.4999e+004	9.6242e-004	6.5026e-010
Xe-133	1.3684e-020	5.0631e-010	1.0720e-003	1.4669e-023
Xe-133m	7.2100e-061	2.6677e-050	1.3734e-003	9.9020e-064
Xe-135	0.0000e+000	0.0000e+000	3.3559e-003	0.0000e+000
Xe-135m	0.0000e+000	0.0000e+000	3.1208e-003	0.0000e+000
Xe-137	0.0000e+000	0.0000e+000	1.1598e-002	0.0000e+000
Xe-138	0.0000e+000	0.0000e+000	1.0418e-002	0.0000e+000
Y-90	3.9903e+006	1.4764e+017	5.5411e-003	2.2111e+004
Y-91	1.7417e+005	6.4444e+015	3.5919e-003	6.2561e+002
Y-91m	0.0000e+000	0.0000e+000	3.3051e-003	0.0000e+000
Y-92	0.0000e+000	0.0000e+000	1.0057e-002	0.0000e+000
Y-93	0.0000e+000	0.0000e+000	7.4844e-003	0.0000e+000
Zr-93	3.3186e-002	1.2279e+009	1.1560e-004	3.8363e-006

<u>Isotope</u>	<u>Activity</u> <u>Curies</u>	<u>Activity</u> <u>Bequerels</u>	<u>Heat Generation</u> <u>Watts/Curie</u>	<u>Heat Generation</u> <u>Watts</u>
Zr-95	3.7682e+005	1.3942e+016	5.0452e-003	1.9011e+003
Zr-97	1.4372e-200	5.3175e-190	5.2047e-003	7.4800e-203
		Total	Heat Generation	3.6210e+005

Independent Check
MicroShield 9.05 (9.05-0000)

Quantum Nuclear Services

Source File Heat Generation

Source File: Core Inventory USAR 548-day Decay.mxd

<u>Isotope</u>	<u>Activity</u> <u>Curies</u>	<u>Activity</u> <u>Bequerels</u>	<u>Heat Generation</u> <u>Watts/Curie</u>	<u>Heat Generation</u> <u>Watts</u>
Ac-225	6.4278e-013	2.3783e-002	3.4574e-002	2.2223e-014
Ac-227	6.6691e-012	2.4676e-001	4.7208e-004	3.1483e-015
Ac-228	2.2271e-015	8.2403e-005	8.0395e-003	1.7905e-017
Ag-109m	7.9678e-288	2.9481e-277	5.1551e-004	4.1075e-291
Ag-110	4.9727e+002	1.8399e+013	7.1853e-003	3.5730e+000
Ag-110m	3.7389e+004	1.3834e+015	1.6651e-002	6.2255e+002
Ag-111	1.9341e-016	7.1562e-006	2.2329e-003	4.3186e-019
Am-241	2.1326e+004	7.8906e+014	3.2813e-002	6.9977e+002
Am-242	4.6458e+002	1.7189e+013	1.1352e-003	5.2741e-001
Am-242m	4.6680e+002	1.7271e+013	3.8924e-004	1.8170e-001
Am-243	1.2511e+003	4.6290e+013	3.1704e-002	3.9665e+001
Am-244	0.0000e+000	0.0000e+000	6.7217e-003	0.0000e+000
As-76	3.1793e-148	1.1763e-137	8.8616e-003	2.8174e-150
As-77	1.0834e-098	4.0085e-088	1.4053e-003	1.5225e-101
At-217	5.1995e-013	1.9238e-002	4.1888e-002	2.1779e-014
Ba-137m	4.8165e+006	1.7821e+017	3.9212e-003	1.8887e+004
Ba-139	0.0000e+000	0.0000e+000	5.5588e-003	0.0000e+000
Ba-140	9.5409e-006	3.5301e+005	2.9338e-003	2.7991e-008
Ba-142	0.0000e+000	0.0000e+000	8.1533e-003	0.0000e+000
Bi-210	9.4632e-012	3.5014e-001	2.3060e-003	2.1822e-014
Bi-211	5.2738e-012	1.9513e-001	3.9163e-002	2.0654e-013
Bi-212	9.1704e-002	3.3930e+009	1.6753e-002	1.5364e-003
Bi-213	5.9399e-013	2.1978e-002	4.1771e-003	2.4812e-015
Bi-214	8.7302e-010	3.2302e+001	1.2767e-002	1.1146e-011
Bk-249	3.2203e-008	1.1915e+003	1.9563e-004	6.2998e-012
Br-82	8.7750e-108	3.2467e-097	1.6488e-002	1.4468e-109
Br-83	0.0000e+000	0.0000e+000	1.9419e-003	0.0000e+000
Br-85	0.0000e+000	0.0000e+000	6.3353e-003	0.0000e+000
Cd-115	2.9829e-069	1.1037e-058	3.0688e-003	9.1542e-072
Ce-141	5.8828e+002	2.1766e+013	1.4623e-003	8.6026e-001
Ce-143	6.9731e-113	2.5801e-102	4.2104e-003	2.9359e-115
Ce-144	1.4143e+007	5.2328e+017	6.6284e-004	9.3744e+003
Cf-249	1.8290e-010	6.7671e+000	3.6765e-002	6.7241e-012
Cm-242	2.0244e+005	7.4901e+015	3.6240e-002	7.3363e+003
Cm-244	1.8827e+005	6.9658e+015	3.4409e-002	6.4781e+003
Cm-245	1.5998e+005	5.9193e+015	3.2648e-002	5.2231e+003
Cm-249	0.0000e+000	0.0000e+000	1.7420e-003	0.0000e+000
Cs-132	5.1999e-023	1.9239e-012	4.3171e-003	2.2448e-025
Cs-134	4.2395e+006	1.5686e+017	1.0179e-002	4.3155e+004
Cs-134m	0.0000e+000	0.0000e+000	8.0195e-004	0.0000e+000
Cs-135	4.0750e-002	1.5077e+009	3.3375e-004	1.3600e-005
Cs-136	6.3849e-007	2.3624e+004	1.3641e-002	8.7093e-009
Cs-137	5.0915e+006	1.8838e+017	1.0122e-003	5.1538e+003
Cs-138	0.0000e+000	0.0000e+000	2.1245e-002	0.0000e+000
Cs-139	0.0000e+000	0.0000e+000	1.1617e-002	0.0000e+000
Eu-154	2.7189e+005	1.0060e+016	9.0517e-003	2.4611e+003
Eu-155	1.0784e+005	3.9902e+015	7.2543e-004	7.8233e+001
Eu-156	1.3250e-004	4.9024e+006	1.0426e-002	1.3814e-006
Fr-221	6.6877e-013	2.4744e-002	3.7907e-002	2.5351e-014
Fr-223	9.2026e-014	3.4049e-003	2.5771e-003	2.3716e-016
Ga-72	1.0011e-278	3.7039e-268	1.9009e-002	1.9029e-280
Gd-159	1.1833e-208	4.3781e-198	2.1104e-003	2.4972e-211
Ge-77	0.0000e+000	0.0000e+000	1.0182e-002	0.0000e+000
H-3	2.1408e+004	7.9210e+014	3.3701e-005	7.2148e-001
Ho-166	6.3406e-145	2.3460e-134	4.2936e-003	2.7224e-147
I-129	1.5549e+000	5.7531e+010	4.6796e-004	7.2762e-004
I-130	4.4474e-315	1.6455e-304	1.4375e-002	6.3931e-317
I-131	1.2859e-013	4.7578e-003	3.3882e-003	4.3569e-016
I-132	1.4228e-043	5.2642e-033	1.6490e-002	2.3462e-045
I-133	3.9322e-183	1.4549e-172	6.0261e-003	2.3695e-185
I-134	0.0000e+000	0.0000e+000	1.9166e-002	0.0000e+000
I-135	0.0000e+000	0.0000e+000	1.1524e-002	0.0000e+000
I-136	0.0000e+000	0.0000e+000	2.7007e-002	0.0000e+000
In-115	4.7087e-013	1.7422e-002	9.0107e-004	4.2429e-016

<u>Isotope</u>	<u>Activity Curies</u>	<u>Activity Bequerels</u>	<u>Heat Generation Watts/Curie</u>	<u>Heat Generation Watts</u>
In-115m	3.2478e-069	1.2017e-058	1.9788e-003	6.4268e-072
Kr-83m	0.0000e+000	0.0000e+000	2.4154e-004	0.0000e+000
Kr-85	4.2574e+005	1.5753e+016	1.4983e-003	6.3788e+002
Kr-85m	0.0000e+000	0.0000e+000	2.4486e-003	0.0000e+000
Kr-87	0.0000e+000	0.0000e+000	1.2548e-002	0.0000e+000
Kr-88	0.0000e+000	0.0000e+000	1.3749e-002	0.0000e+000
Kr-89	0.0000e+000	0.0000e+000	1.8949e-002	0.0000e+000
Kr-90	0.0000e+000	0.0000e+000	1.5334e-002	0.0000e+000
La-140	1.0980e-005	4.0625e+005	1.6889e-002	1.8543e-007
La-141	0.0000e+000	0.0000e+000	5.8749e-003	0.0000e+000
La-142	0.0000e+000	0.0000e+000	2.1140e-002	0.0000e+000
Mo-99	8.2610e-053	3.0566e-042	3.2674e-003	2.6992e-055
Mo-101	0.0000e+000	0.0000e+000	1.2084e-002	0.0000e+000
Nb-93m	2.2792e-003	8.4330e+007	1.7934e-004	4.0875e-007
Nb-95	4.2299e+005	1.5651e+016	4.7949e-003	2.0282e+003
Nb-95m	1.6288e+003	6.0264e+013	1.4630e-003	2.3829e+000
Nb-97	3.9091e-227	1.4464e-216	6.7116e-003	2.6236e-229
Nb-97m	3.4389e-227	1.2724e-216	4.4033e-003	1.5142e-229
Nd-147	2.6300e-008	9.7311e+002	2.4228e-003	6.3721e-011
Np-237	7.0606e-003	2.6124e+008	2.8779e-002	2.0320e-004
Np-238	2.2220e+000	8.2215e+010	4.7926e-003	1.0649e-002
Np-239	1.2511e+003	4.6290e+013	2.4625e-003	3.0808e+000
Np-240	0.0000e+000	0.0000e+000	9.4518e-003	0.0000e+000
Np-240m	0.0000e+000	0.0000e+000	5.6252e-003	0.0000e+000
Pa-231	4.2511e-010	1.5729e+001	3.2329e-002	1.3743e-011
Pa-233	6.3526e-003	2.3505e+008	2.4276e-003	1.5421e-005
Pa-234	3.4782e-011	1.2869e+000	1.4604e-002	5.0795e-013
Pa-234m	2.1756e-008	8.0497e+002	4.9490e-003	1.0767e-010
Pb-209	7.5127e-013	2.7797e-002	1.1714e-003	8.8003e-016
Pb-210	9.9749e-012	3.6907e-001	2.3060e-004	2.3002e-015
Pb-211	5.2739e-012	1.9514e-001	2.9963e-003	1.5802e-014
Pb-212	9.1698e-002	3.3928e+009	1.9044e-003	1.7463e-004
Pb-214	8.7312e-010	3.2305e+001	3.1921e-003	2.7871e-012
Pd-109	7.9654e-288	2.9472e-277	2.1425e-003	1.7066e-290
Pm-147	6.0830e+006	2.2507e+017	3.6731e-004	2.2344e+003
Pm-148	6.6525e+000	2.4614e+011	7.7120e-003	5.1304e-002
Pm-148m	1.3780e+002	5.0985e+012	1.2777e-002	1.7606e+000
Pm-149	6.0642e-068	2.2438e-057	2.2315e-003	1.3532e-070
Pm-151	3.2233e-133	1.1926e-122	3.7961e-003	1.2236e-135
Po-210	3.4575e-012	1.2793e-001	3.1446e-002	1.0872e-013
Po-211	1.4399e-014	5.3275e-004	4.4166e-002	6.3593e-016
Po-212	5.8755e-002	2.1739e+009	5.2078e-002	3.0598e-003
Po-213	5.8116e-013	2.1503e-002	4.9660e-002	2.8860e-014
Po-214	8.7284e-010	3.2295e+001	4.5570e-002	3.9775e-011
Po-215	5.2753e-012	1.9518e-001	4.3787e-002	2.3099e-013
Po-216	9.1640e-002	3.3907e+009	4.0184e-002	3.6824e-003
Po-218	8.7344e-010	3.2317e+001	3.5576e-002	3.1074e-011
Pr-142	2.7187e-201	1.0059e-190	5.1404e-003	1.3975e-203
Pr-143	4.8987e-005	1.8125e+006	1.8709e-003	9.1651e-008
Pr-144	1.4143e+007	5.2330e+017	7.3455e-003	1.0389e+005
Pr-144m	2.0225e+005	7.4831e+015	3.3653e-004	6.8061e+001
Pu-238	1.4880e+005	5.5057e+015	3.2587e-002	4.8490e+003
Pu-239	1.8230e+004	6.7451e+014	3.0551e-002	5.5694e+002
Pu-240	2.3527e+004	8.7050e+014	3.0614e-002	7.2027e+002
Pu-241	5.6489e+006	2.0901e+017	3.1003e-005	1.7514e+002
Pu-242	9.9803e+001	3.6927e+012	2.9184e-002	2.9127e+000
Pu-243	0.0000e+000	0.0000e+000	1.1572e-003	0.0000e+000
Ra-223	5.2751e-012	1.9518e-001	3.4973e-002	1.8448e-013
Ra-224	9.1640e-002	3.3907e+009	3.3714e-002	3.0895e-003
Ra-225	9.0864e-013	3.3620e-002	7.0678e-004	6.4221e-016
Ra-226	9.0023e-010	3.3308e+001	2.8394e-002	2.5561e-011
Ra-228	2.2309e-015	8.2542e-005	6.8576e-005	1.5298e-019
Rb-86	1.0004e-004	3.7017e+006	4.5170e-003	4.5190e-007
Rb-87	6.9620e-008	2.5760e+003	4.6713e-004	3.2522e-011
Rb-88	0.0000e+000	0.0000e+000	1.6050e-002	0.0000e+000
Rb-89	0.0000e+000	0.0000e+000	1.8309e-002	0.0000e+000
Rb-90	0.0000e+000	0.0000e+000	2.4447e-002	0.0000e+000
Rb-90m	0.0000e+000	0.0000e+000	2.7634e-002	0.0000e+000

<u>Isotope</u>	<u>Activity Curies</u>	<u>Activity Bequerels</u>	<u>Heat Generation Watts/Curie</u>	<u>Heat Generation Watts</u>
Rh-103m	4.1876e+003	1.5494e+014	2.3037e-004	9.6470e-001
Rh-105	4.5232e-105	1.6736e-094	1.3678e-003	6.1869e-108
Rh-105m	0.0000e+000	0.0000e+000	8.1623e-004	0.0000e+000
Rh-106	8.4117e+006	3.1123e+017	9.5998e-003	8.0750e+004
Rn-219	5.2753e-012	1.9518e-001	4.0502e-002	2.1366e-013
Rn-220	9.1640e-002	3.3907e+009	3.7278e-002	3.4161e-003
Rn-222	8.7344e-010	3.2317e+001	3.2543e-002	2.8424e-011
Ru-103	4.1945e+003	1.5520e+014	3.2816e-003	1.3765e+001
Ru-106	8.4117e+006	3.1123e+017	5.9459e-005	5.0015e+002
Sb-122	3.2164e-057	1.1901e-046	5.9663e-003	1.9190e-059
Sb-124	5.6921e+001	2.1061e+012	1.3332e-002	7.5889e-001
Sb-125	2.5005e+005	9.2517e+015	3.1431e-003	7.8592e+002
Sb-127	5.0813e-037	1.8801e-026	5.7924e-003	2.9433e-039
Sb-129	0.0000e+000	0.0000e+000	1.0600e-002	0.0000e+000
Sm-147	7.3148e-005	2.7065e+006	1.3324e-002	9.7463e-007
Sm-151	2.9251e+002	1.0823e+013	1.1729e-004	3.4308e-002
Sm-153	3.0656e-078	1.1343e-067	1.9428e-003	5.9559e-081
Sn-123	1.3904e+003	5.1445e+013	3.1266e-003	4.3472e+000
Sn-125	1.5822e-012	5.8541e-002	6.5820e-003	1.0414e-014
Sr-89	2.4107e+004	8.9195e+014	3.4565e-003	8.3326e+001
Sr-90	3.9729e+006	1.4700e+017	1.1607e-003	4.6114e+003
Sr-91	0.0000e+000	0.0000e+000	7.9421e-003	0.0000e+000
Sr-92	0.0000e+000	0.0000e+000	9.1233e-003	0.0000e+000
Sr-93	0.0000e+000	0.0000e+000	1.8715e-002	0.0000e+000
Tb-160	2.1539e+002	7.9695e+012	8.0199e-003	1.7274e+000
Tc-99	2.9383e+000	1.0872e+011	5.0152e-004	1.4736e-003
Tc-99m	8.0536e-053	2.9798e-042	8.4259e-004	6.7858e-056
Tc-101	0.0000e+000	0.0000e+000	4.8402e-003	0.0000e+000
Te-125m	6.1145e+004	2.2624e+015	9.4493e-004	5.7778e+001
Te-127	1.8400e+004	6.8081e+014	1.3503e-003	2.4846e+001
Te-127m	1.8676e+004	6.9102e+014	5.3838e-004	1.0055e+001
Te-129	1.9095e+001	7.0650e+011	3.5773e-003	6.8308e-002
Te-129m	3.0313e+001	1.1216e+012	1.8295e-003	5.5459e-002
Te-131	1.9662e-126	7.2750e-116	6.7521e-003	1.3276e-128
Te-131m	8.7338e-126	3.2315e-115	9.5810e-003	8.3678e-128
Te-132	1.3809e-043	5.1094e-033	1.9511e-003	2.6943e-046
Te-133	0.0000e+000	0.0000e+000	1.0385e-002	0.0000e+000
Te-133m	0.0000e+000	0.0000e+000	1.7355e-002	0.0000e+000
Te-134	0.0000e+000	0.0000e+000	6.0489e-003	0.0000e+000
Th-227	5.6960e-012	2.1075e-001	3.5868e-002	2.0430e-013
Th-228	9.1165e-002	3.3731e+009	3.2139e-002	2.9299e-003
Th-229	7.3289e-013	2.7117e-002	2.9977e-002	2.1969e-014
Th-230	4.1773e-006	1.5456e+005	2.7809e-002	1.1617e-007
Th-231	2.6860e-005	9.9384e+005	1.0580e-003	2.8418e-008
Th-232	3.8644e-014	1.4298e-003	2.3811e-002	9.2016e-016
Th-234	2.1756e-008	8.0497e+002	3.9682e-004	8.6331e-012
Tl-207	5.2595e-012	1.9460e-001	2.9369e-003	1.5447e-014
Tl-208	3.2949e-002	1.2191e+009	2.3467e-002	7.7322e-004
Tl-209	1.2013e-014	4.4447e-004	1.6632e-002	1.9980e-016
U-233	1.6395e-008	6.0661e+002	2.8557e-002	4.6818e-010
U-234	6.2359e-001	2.3073e+010	2.8311e-002	1.7655e-002
U-235	2.6936e-005	9.9663e+005	2.7115e-002	7.3038e-007
U-236	1.0443e-003	3.8641e+007	2.6697e-002	2.7881e-005
U-237	1.3857e+002	5.1271e+012	1.9366e-003	2.6836e-001
U-238	2.3230e-008	8.5950e+002	2.4920e-002	5.7889e-010
Xe-131m	1.7695e-008	6.5472e+002	9.6242e-004	1.7030e-011
Xe-133	3.6755e-024	1.3599e-013	1.0720e-003	3.9401e-027
Xe-133m	2.0217e-069	7.4805e-059	1.3734e-003	2.7766e-072
Xe-135	0.0000e+000	0.0000e+000	3.3559e-003	0.0000e+000
Xe-135m	0.0000e+000	0.0000e+000	3.1208e-003	0.0000e+000
Xe-137	0.0000e+000	0.0000e+000	1.1598e-002	0.0000e+000
Xe-138	0.0000e+000	0.0000e+000	1.0418e-002	0.0000e+000
Y-90	3.9739e+006	1.4703e+017	5.5411e-003	2.2020e+004
Y-91	8.3345e+004	3.0838e+015	3.5919e-003	2.9936e+002
Y-91m	0.0000e+000	0.0000e+000	3.3051e-003	0.0000e+000
Y-92	0.0000e+000	0.0000e+000	1.0057e-002	0.0000e+000
Y-93	0.0000e+000	0.0000e+000	7.4844e-003	0.0000e+000
Zr-93	3.3186e-002	1.2279e+009	1.1560e-004	3.8363e-006

<u>Isotope</u>	<u>Activity</u> <u>Curies</u>	<u>Activity</u> <u>Bequerels</u>	<u>Heat Generation</u> <u>Watts/Curie</u>	
Zr-95	1.9212e+005	7.1085e+015	5.0452e-003	9.6930e+002
Zr-97	3.6277e-227	1.3423e-216	5.2047e-003	1.8881e-229
		Total	Heat Generation	3.2482e+005

OMAHA PUBLIC POWER DISTRICT

FORT CALHOUN STATION

DOCKET NUMBER 50-285 / LICENSE NUMBER CPR-40

ENCLOSURE 3

**AFFIDAVIT FOR WITHHOLDING INFORMATION
PURSUANT TO 10 CFR 2.390**

AFFIDAVIT

COMMONWEALTH OF VIRGINIA)
) ss.
CITY OF LYNCHBURG)

1. My name is Gayle Elliott. I am Deputy Director, Licensing & Regulatory Affairs, for AREVA Inc. (AREVA) and as such I am authorized to execute this Affidavit.

2. I am familiar with the criteria applied by AREVA to determine whether certain AREVA information is proprietary. I am familiar with the policies established by AREVA to ensure the proper application of these criteria.

3. I am familiar with the AREVA information contained in the attachment to a letter from Ms. Mary J. Fisher (OPPD Senior Director FCS Decommissioning) to Document Control Desk (NRC), in support of license amendment LIC-16-0109 containing Calculation FC08514, Revision 0, entitled, "Stack Density Blanket Fuel," and referred to herein as "Document." Information contained in this Document has been classified by AREVA as proprietary in accordance with the policies established by AREVA for the control and protection of proprietary and confidential information.

4. This Document contains information of a proprietary and confidential nature and is of the type customarily held in confidence by AREVA and not made available to the public. Based on my experience, I am aware that other companies regard information of the kind contained in this Document as proprietary and confidential.

5. This Document has been made available to the U.S. Nuclear Regulatory Commission in confidence with the request that the information contained in this Document be withheld from public disclosure. The request for withholding of proprietary information is made in accordance with 10 CFR 2.390. The information for which withholding from disclosure is

requested qualifies under 10 CFR 2.390(a)(4) "Trade secrets and commercial or financial information."

6. The following criteria are customarily applied by AREVA to determine whether information should be classified as proprietary:

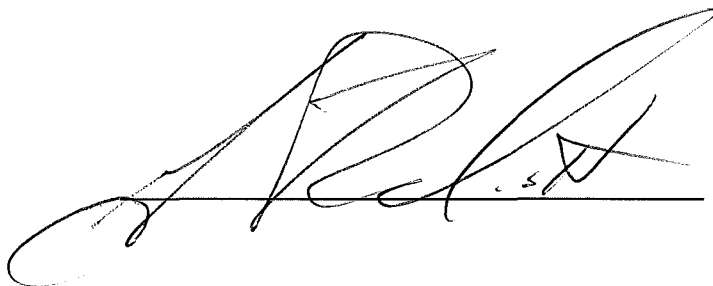
- (a) The information reveals details of AREVA's research and development plans and programs or their results.
- (b) Use of the information by a competitor would permit the competitor to significantly reduce its expenditures, in time or resources, to design, produce, or market a similar product or service.
- (c) The information includes test data or analytical techniques concerning a process, methodology, or component, the application of which results in a competitive advantage for AREVA.
- (d) The information reveals certain distinguishing aspects of a process, methodology, or component, the exclusive use of which provides a competitive advantage for AREVA in product optimization or marketability.
- (e) The information is vital to a competitive advantage held by AREVA, would be helpful to competitors to AREVA, and would likely cause substantial harm to the competitive position of AREVA.

The information in this Document is considered proprietary for the reasons set forth in paragraphs 6(c), 6(d) and 6(e) above.

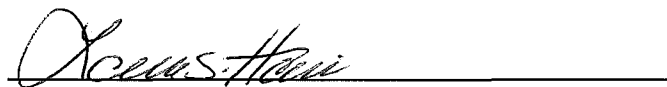
7. In accordance with AREVA's policies governing the protection and control of information, proprietary information contained in this Document has been made available, on a limited basis, to others outside AREVA only as required and under suitable agreement providing for nondisclosure and limited use of the information.

8. AREVA policy requires that proprietary information be kept in a secured file or area and distributed on a need-to-know basis.

9. The foregoing statements are true and correct to the best of my knowledge,
information, and belief.

A large, stylized handwritten signature in black ink, written over a horizontal line.

SUBSCRIBED before me this 10th
day of February, 2017.

A handwritten signature in black ink, written over a horizontal line.

Laurie Harris
NOTARY PUBLIC, COMMONWEALTH OF VIRGINIA
City of Lynchburg

