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DEFINITION OF LOSS-OF-COOLANT ACCIDENT
RADIATION SOURCE

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SYSTEMS SAFETY TECHNOLOGY DIVISION

Sandia Laboratories

SF 2900 Q(7-73)

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DEFINITION OF LOSS-OF-COOLANT ACCIDENT RADIATION SOURCE

Sandia Contract Monitor

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This report, prepared by IRT Corporation under contract to Sandia Laboratories, details the radiation energy release rates and spectra corresponding to those sources specified in USNRC Regulatory Guide 1.89, for the radiation qualification of Class IE equipment. The effects of several parameters not specific in the Guide, such as reactor fuel composition, operating duration and power level, and treatment of progeny, are evaluated. The results are presented as time-dependent beta and gamma-ray energy release rates and spectra and are fundamental quantities that are not specific to any plant design but are generally applicable to any nuclear power station.

This study is an elaboration on, and update of, an earlier report, SAND76-0740, NUREG76-6521, "Radiation Signature Following the Hypothesized LOCA," Lloyd L. Bonzon, October, 1977 (Revised); in general, there is good agreement. Because of the substantive bulk of this report, it has not been issued for wide distribution. Rather, a complementary summary report has been prepared for general release; the larger report will be principally useful as a reference source of additional data. The summary report is available as SAND78-0091, "Definition of Loss-of-Coolant Accident Radiation Source: Summary and Conclusions."

The reported work is a part of the Qualification Testing Evaluation Program (FIN No. A-1051-8) being conducted at Sandia Laboratories, Albuquerque, for the United States Nuclear Regulatory Commission, Research Applications Branch, Office of Water Reactor Safety Research.

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DEFINITION
OF LOSS-OF-COOLANT
ACCIDENT RADIATION SOURCE

N. A. Lurie, D. H. Houston and J. A. Naber

FINAL REPORT-PHASES 2,3, and 4

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1. INTRODUCTION

Meaningful qualification testing of nuclear reactor components requires a knowledge of the radiation fields expected in a loss-of-coolant accident (LOCA). The overall objective of this program is to define the LOCA source terms and compare these with the output of various simulators employed for radiation qualification testing. The basis for comparison will be the energy deposition in a model reactor component.

The second, third and fourth phases of this program have the goal of generating the source terms (both energy release rates and spectra) corresponding to those sources specified in Regulatory Guide 1.89, Rev. 1, Draft of November 1976. The calculational methods available were reviewed, and the rationale for choices of codes were discussed in the Phase 1 final report (Ref. 1). In this report the results of the calculations are presented and some interpretation of the results given. The energy release rates and spectra were validated by comparison with other calculations using different codes since experimental data appropriate to these calculations do not exist. Selected sources from those reported here will be used for calculation of energy deposition in a model component in the next phase of the program.

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2. LOCA ENERGY RELEASE RATES

The fission product energy release rate or decay power produced after shutdown is a complicated time-dependent quantity. There are a number of variables that control the inventory of fission products which exists in the reactor at any time, and therefore control the energy release rate. These variables include the length of time the reactor has been in operation, the power levels during operation and the fissile composition of the core. In realistic situations the operating power fluctuates and there are periods that the reactor is shutdown. These conditions make it difficult to provide precise detailed information on fission product inventories applicable to all plants. Rather, general trends and simplified irradiation histories will be used to investigate bounding conditions which are pertinent to the present purposes.

The effects of the parameters mentioned that control the fission product inventory have been investigated. Other variables which affect the energy release rates were also studied. The results are presented in both tabular and graphical forms and many cross-comparisons are presented to more clearly show the differences.

A description of the sources investigated in this work and the method of calculating the decay power are given in the following sections. These are followed by a presentation of the results and a discussion of the conclusions drawn from the results.

2.1 SOURCES INVESTIGATED

The LOCA radiation sources appropriate for qualification testing have, to a limited extent, been specified in U.S.N.R.C. Regulatory Guide 1.89 (Ref. 2). No attempt was made in this program to verify or justify the appropriateness of the specified sources as given in the guide. These sources are divided into two source strengths (for safety related electric systems, and for containment heat removal systems) and three distribution categories: (1) airborne

(uniformly dispersed in the containment atmosphere); (2) plate-out (plated out on surfaces exposed to the containment atmosphere); (3) waterborne (intimately mixed with coolant water). Table 2.1 summarizes the specifications.

Table 2.1

Source 1 (Containment heat removal systems)	Airborne	100% Noble gases, 25% Iodines
	Plate-Out	25% Iodines, 1% Solids
	Waterborne	50% Halogens, 1% solids
Source 2 (Safety related electrical systems)	Airborne	10% Noble gases (except Kr-85), 30% Kr-85, 5% Iodines
	Plate-Out	5% Iodines
	Waterborne	10% Halogens
Source 3		100% Halogens
Source 4		100% Iodines
Source 5		100% Noble Gases
Source 6		100% Solids
Source 7		100% All Fission Products

This method used to specify the LOCA source term is not complete in that nothing is said about assumptions of irradiation history, fuel composition, or other parameters which affect the energy release rates and spectra. To better understand the implications and importance of assumptions about irradiation history and other parameters, a series of calculations was undertaken for a range of parameters which span the conditions of interest. The parameters investigated include length of irradiation, power level, and fissile composition of the fuel. The guide is also nonspecific about whether or not progeny of the species of interest are to be included. This point was also investigated.

In addition to the sources listed in Regulatory Guide 1.89, calculations were made for each of the major constituents, i.e., 100% halogens, 100% iodines, 100% noble gases, 100% solids and all fission products. The latter source was intended primarily as a reference for comparison with published calculations or with experimental decay heat data. For each of the sources separate beta and gamma-ray contributions were calculated.

2.2 METHODS OF CALCULATION

The primary code used for fission product energy release rate calculations was RIBD-II (Ref. 3). The code was briefly discussed in Reference 1. To provide verification of the results, a limited number of calculations were also performed with other codes. The results of these comparisons will be discussed in greater detail in Section 4. The recent work on fission product decay heat calculations has established that with proper input assumptions, all the codes give identical results when the same data base is used (Ref. 4). All of the results reported here utilize the ENDF/B-IV fission product data library with corrections (Refs. 5, 6).

Modifications to RIBD-II were required to tally the selected grouping of fission products specified in the previous section. The specified types were tracked with and without allowing their daughters to be included in the tally. At each cooling time for which a tally was made the ten nuclides which constitute the most significant contributors to the energy release rate were determined.

2.3 RESULTS

Gamma-ray and beta energy release rates were calculated for each of the seven sources listed in Table 2.1, for each of four irradiation times and for pure U-235 at a power level of 1 watt. The irradiation times studied were 200 d, 500 d, 5000 d and equilibrium. For the latter a time of 10^{13} seconds was used in accordance with the usual convention and as specified in the proposed revised ANS decay heat standard (ANS 5.1), draft of March 1977 (Ref. 12). Contributions from all daughters of the specified types are included in the energy release rates.

The results for the energy release rates (expressed in MeV/sec) are tabulated in Table 2.2 through 2.9 and plotted in Figures 2.1 through 2.22. In each figure the energy release rates are plotted for a given source and distribution (air, plate-out, water) for the four different irradiation times. For most cases it may be seen that there is little difference in the energy release rates at cooling times less than about 1 day (86,400 sec). The cases which show the greatest effect of length of irradiation are Sources 6 and 7 (100% solids and all fission products).

Tabulations of the ten nuclides which are the greatest contributors to the energy release rates are given in Appendix A. These tables list the nuclides in order of their importance and the percentage of the total beta or gamma decay power which they contribute. In nearly every case beyond 30 days cooling almost all the decay power comes from one or two nuclides.

To study the effects that power levels have on energy release rates, additional calculations were performed with the power increased to 4000 MW. This can have two effects: (1) the increased neutron flux can result in transmutation by neutron capture, thus altering the inventory of fission products present; (2) at a high sustained operating power depletion of the fuel and conversion of the fertile isotopes present to fissile isotopes also changes the mixture of fission products present.

The first case was investigated by simply increasing the operating power and flux. All fissions were assumed to come from U-235 and no depletion effects were considered. In the absence of neutron capture effects, the decay power should scale linearly with the operating power. The results of these calculations for Source 1 are summarized in Table 2.10 and in Figures 2.23 through 2.28. Tabulations of the 10 greatest contributing nuclides for these calculations are given in Appendix B. The results are discussed in Section 2.4.1.

The second case was studied by permitting a specified increasing fraction of the fissions to occur in Pu-239 over the irradiation period. Only the equilibrium and 200 day irradiations were studied for this case. For the former it was assumed that initially all of the fissions were occurring in U-235 and by the end of the irradiation period 50 percent of the fissions were occurring in each U-235 and Pu-239. For the 200 day case, the final fractions

Table 2.2

SOURCE=1, POWER=1 WATT, PURE U-235

GAMMA-RAY ENERGY RELEASE RATE (MEV/SEC/WATT)

TIME	EQUILIBRIUM			5000 DAYS			500 DAYS			200 DAYS		
AFTER LOCA (SEC)	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER
0.000	2.362+10	6.763+09	1.569+10	2.362+10	6.754+09	1.568+10	2.362+10	6.750+09	1.567+10	2.362+10	6.744+09	1.567+10
1.000+00	2.266+10	6.526+09	1.488+10	2.266+10	6.517+09	1.487+10	2.266+10	6.513+09	1.487+10	2.266+10	6.507+09	1.486+10
2.000+00	2.205+10	6.377+09	1.435+10	2.205+10	6.368+09	1.434+10	2.205+10	6.364+09	1.434+10	2.205+10	6.358+09	1.433+10
5.000+00	2.087+10	6.086+09	1.335+10	2.087+10	6.077+09	1.334+10	2.087+10	6.073+09	1.334+10	2.087+10	6.067+09	1.333+10
1.000+01	1.981+10	5.799+09	1.241+10	1.981+10	5.781+09	1.240+10	1.981+10	5.777+09	1.240+10	1.981+10	5.771+09	1.239+10
2.000+01	1.850+10	5.434+09	1.136+10	1.850+10	5.424+09	1.135+10	1.850+10	5.421+09	1.135+10	1.850+10	5.415+09	1.134+10
5.000+01	1.621+10	4.895+09	9.888+09	1.621+10	4.885+09	9.879+09	1.621+10	4.882+09	9.875+09	1.621+10	4.876+09	9.869+09
6.000+01	1.578+10	4.782+09	9.592+09	1.578+10	4.773+09	9.582+09	1.570+10	4.769+09	9.578+09	1.570+10	4.763+09	9.572+09
1.000+02	1.427+10	4.474+09	8.802+09	1.427+10	4.465+09	8.792+09	1.427+10	4.462+09	8.789+09	1.427+10	4.455+09	8.783+09
2.000+02	1.254+10	4.119+09	7.945+09	1.254+10	4.110+09	7.936+09	1.254+10	4.106+09	7.932+09	1.254+10	4.100+09	7.926+09
5.000+02	1.075+10	3.778+09	7.254+09	1.075+10	3.768+09	7.245+09	1.075+10	3.765+09	7.241+09	1.075+10	3.759+09	7.235+09
1.000+03	9.656+09	3.510+09	6.755+09	9.656+09	3.500+09	6.745+09	9.656+09	3.497+09	6.742+09	9.656+09	3.491+09	6.736+09
2.000+03	8.449+09	3.114+09	5.986+09	8.449+09	3.105+09	5.977+09	8.448+09	3.101+09	5.974+09	8.448+09	3.095+09	5.967+09
3.600+03	7.016+09	2.647+09	5.059+09	7.015+09	2.637+09	5.049+09	7.015+09	2.634+09	5.046+09	7.015+09	2.628+09	5.040+09
5.000+03	6.074+09	2.342+09	4.452+09	6.073+09	2.333+09	4.442+09	6.073+09	2.329+09	4.439+09	6.073+09	2.323+09	4.433+09
1.000+04	4.093+09	1.887+09	3.153+09	4.093+09	1.877+09	3.144+09	4.093+09	1.874+09	3.141+09	4.093+09	1.868+09	3.134+09
2.000+04	2.860+09	1.159+09	2.125+09	2.859+09	1.150+09	2.116+09	2.859+09	1.147+09	2.113+09	2.859+09	1.141+09	2.107+09
4.320+04	1.199+09	7.455+08	1.320+09	1.199+09	7.362+08	1.311+09	1.199+09	7.326+08	1.307+09	1.199+09	7.266+08	1.301+09
5.000+04	1.039+09	6.799+08	1.193+09	1.038+09	6.707+08	1.183+09	1.038+09	6.671+08	1.180+09	1.038+09	6.611+08	1.174+09
8.640+04	6.214+08	4.881+08	7.804+08	6.212+08	4.588+08	7.756+08	6.211+08	4.552+08	7.719+08	6.211+08	4.492+08	7.660+08
1.000+05	5.556+08	4.213+08	6.956+08	5.555+08	4.120+08	6.863+08	5.555+08	4.084+08	6.827+08	5.554+08	4.024+08	6.767+08
2.000+05	3.995+08	2.618+08	3.965+08	3.994+08	2.525+08	3.873+08	3.993+08	2.489+08	3.836+08	3.993+08	2.430+08	3.777+08
3.450+05	2.103+08	1.932+08	2.747+08	2.102+08	1.840+08	2.654+08	2.101+08	1.804+08	2.618+08	2.101+08	1.746+08	2.560+08
5.000+05	1.596+08	1.423+08	2.233+08	1.595+08	1.531+08	2.141+08	1.594+08	1.495+08	2.105+08	1.594+08	1.437+08	2.047+08
8.640+05	9.386+07	1.244+08	1.638+08	9.375+07	1.151+08	1.546+08	9.365+07	1.115+08	1.510+08	9.364+07	1.060+08	1.455+08
1.000+06	7.806+07	1.147+08	1.088+08	7.795+07	1.054+08	1.396+08	7.785+07	1.019+08	1.360+08	7.784+07	9.684+07	1.306+08
2.000+06	7.194+07	1.077+07	8.513+07	7.183+07	6.365+07	7.588+07	7.173+07	6.011+07	7.234+07	7.172+07	5.523+07	6.746+07
2.592+06	1.087+07	6.044+07	6.725+07	1.077+07	5.128+07	5.801+07	1.067+07	4.777+07	5.449+07	1.066+07	4.318+07	4.991+07
5.000+06	9.636+05	3.943+07	4.006+07	8.556+05	3.023+07	3.084+07	7.588+05	2.679+07	2.739+07	7.489+05	2.323+07	2.383+07
5.184+06	8.343+05	3.462+07	3.915+07	7.264+05	2.943+07	2.993+07	6.294+05	2.599+07	2.650+07	6.198+05	2.250+07	2.300+07
1.000+07	2.257+05	2.676+07	2.679+07	1.185+05	1.760+07	1.760+07	2.252+04	1.427+07	1.428+07	1.299+04	1.211+07	1.211+07
1.296+07	2.190+05	2.277+07	2.280+07	1.123+05	1.363+07	1.363+07	1.686+04	1.036+07	1.036+07	7.386+03	8.708+06	8.708+06
2.000+07	2.158+05	1.724+07	1.727+07	1.102+05	8.144+06	8.144+06	1.614+04	4.963+06	4.963+06	6.803+03	4.017+06	4.017+06
3.156+07	2.114+05	1.386+07	1.388+07	1.076+05	4.837+06	4.837+06	1.577+04	1.761+06	1.761+06	6.646+03	1.244+06	1.244+06

Table 2.3

SOURCE=1, POWER=1 WATT, PURE U-235

AFTER ENERGY RELEASE RATE (MEV/SEC/WATT)

TIME	EQUILIBRIUM			5000 DAYS			500 DAYS			200 DAYS		
AFTER LOCAL (SEC)	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER
0.000	2.255+10	4.200+09	1.163+10	2.254+10	4.187+09	1.162+10	2.253+10	4.168+09	1.160+10	2.253+10	4.158+09	1.159+10
1.000+00	2.146+10	3.957+09	1.066+10	2.146+10	3.939+09	1.064+10	2.144+10	3.925+09	1.063+10	2.144+10	3.915+09	1.062+10
2.000+00	2.070+10	3.810+09	1.007+10	2.069+10	3.793+09	1.006+10	2.068+10	3.779+09	9.988+09	2.068+10	3.768+09	9.978+09
5.000+00	1.906+10	3.530+09	8.830+09	1.905+10	3.512+09	8.812+09	1.904+10	3.499+09	8.748+09	1.904+10	3.488+09	8.788+09
1.000+01	1.737+10	3.251+09	7.741+09	1.736+10	3.233+09	7.723+09	1.735+10	3.219+09	7.709+09	1.735+10	3.209+09	7.699+09
2.000+01	1.540+10	2.925+09	6.597+09	1.539+10	2.907+09	6.579+09	1.538+10	2.893+09	6.565+09	1.538+10	2.883+09	6.555+09
5.000+01	1.263+10	2.454+09	5.122+09	1.262+10	2.437+09	5.104+09	1.261+10	2.423+09	5.090+09	1.261+10	2.412+09	5.079+09
1.000+02	1.207+10	2.358+09	4.800+09	1.206+10	2.340+09	4.822+09	1.205+10	2.326+09	4.808+09	1.204+10	2.316+09	4.798+09
2.000+02	1.084+10	2.004+09	4.109+09	1.087+10	2.076+09	4.091+09	1.086+10	2.062+09	4.077+09	1.086+10	2.052+09	4.066+09
5.000+02	8.510+09	1.794+09	3.335+09	8.501+09	1.774+09	3.317+09	8.490+09	1.762+09	3.303+09	8.489+09	1.751+09	3.293+09
1.000+03	6.511+09	1.537+09	2.771+09	6.502+09	1.519+09	2.753+09	6.491+09	1.505+09	2.739+09	6.490+09	1.495+09	2.729+09
2.000+03	5.675+09	1.388+09	2.503+09	5.666+09	1.370+09	2.485+09	5.655+09	1.356+09	2.471+09	5.653+09	1.346+09	2.461+09
5.000+03	4.825+09	1.218+09	2.201+09	4.816+09	1.201+09	2.183+09	4.805+09	1.187+09	2.169+09	4.804+09	1.176+09	2.158+09
1.000+04	4.820+09	1.055+09	1.888+09	4.811+09	1.038+09	1.870+09	4.800+09	1.024+09	1.856+09	4.799+09	1.013+09	1.846+09
2.000+04	4.347+09	9.607+08	1.700+09	4.338+09	9.429+08	1.682+09	4.327+09	9.290+08	1.668+09	4.326+09	9.185+08	1.658+09
5.000+04	3.087+09	7.691+08	1.322+09	3.078+09	7.513+08	1.304+09	3.067+09	7.374+08	1.291+09	3.066+09	7.269+08	1.280+09
1.000+05	1.887+09	6.114+08	1.028+09	1.878+09	5.936+08	1.010+09	1.867+09	5.797+08	9.960+08	1.865+09	5.692+08	9.855+08
2.000+05	1.462+09	4.609+08	7.588+08	1.453+09	4.432+08	7.411+08	1.442+09	4.292+08	7.271+08	1.441+09	4.187+08	7.166+08
5.000+05	8.279+08	4.322+08	7.077+08	8.269+08	4.144+08	6.899+08	8.258+08	4.005+08	6.760+08	8.257+08	3.900+08	6.655+08
1.000+06	5.182+08	3.248+08	5.141+08	5.171+08	3.071+08	4.964+08	5.160+08	2.932+08	4.824+08	5.159+08	2.827+08	4.719+08
2.000+06	4.600+08	2.975+08	4.601+08	4.589+08	2.798+08	4.463+08	4.578+08	2.659+08	4.324+08	4.567+08	2.554+08	4.219+08
5.000+06	2.758+08	1.931+08	2.724+08	2.747+08	1.754+08	2.507+08	2.736+08	1.615+08	2.408+08	2.725+08	1.511+08	2.303+08
1.000+07	2.009+08	1.081+08	1.920+08	2.000+08	1.064+08	1.743+08	1.990+08	1.165+08	1.604+08	1.989+08	1.061+08	1.501+08
2.000+07	1.817+08	1.303+08	1.622+08	1.808+08	1.126+08	1.445+08	1.800+08	9.873+07	1.306+08	1.800+08	8.844+07	1.203+08
5.000+07	1.055+08	1.102+08	1.306+08	1.047+08	9.253+07	1.129+08	1.038+08	7.878+07	9.917+07	1.037+08	6.866+07	8.905+07
1.000+08	9.119+07	1.051+08	1.228+08	9.110+07	8.743+07	1.050+08	9.102+07	7.370+07	9.132+07	9.093+07	6.365+07	8.127+07
2.000+08	3.949+07	8.218+07	8.836+07	3.940+07	6.451+07	7.066+07	3.930+07	5.099+07	5.713+07	3.929+07	4.139+07	4.753+07
5.000+08	2.987+07	7.490+07	7.827+07	2.982+07	5.724+07	6.056+07	2.976+07	4.385+07	4.717+07	2.975+07	3.450+07	3.782+07
1.000+09	2.717+07	6.080+07	6.113+07	2.716+07	4.317+07	4.346+07	2.715+07	3.026+07	3.054+07	2.714+07	2.181+07	2.210+07
2.000+09	2.208+07	4.617+07	6.045+07	2.207+07	4.254+07	4.278+07	2.206+07	2.966+07	2.990+07	2.205+07	2.128+07	2.152+07
5.000+09	2.153+07	4.986+07	4.991+07	2.152+07	3.730+07	3.730+07	2.151+07	2.027+07	2.028+07	2.150+07	1.326+07	1.326+07
1.000+10	2.140+07	4.612+07	4.616+07	2.139+07	2.859+07	2.859+07	2.138+07	1.704+07	1.704+07	2.137+07	1.068+07	1.068+07
2.000+10	2.109+07	4.032+07	4.036+07	2.108+07	2.289+07	2.289+07	2.107+07	1.783+06	1.783+06	2.106+07	7.147+06	7.147+06
5.000+10	2.060+07	3.497+07	3.501+07	2.059+07	1.769+07	1.769+07	2.058+07	8.369+06	8.369+06	2.057+07	4.554+06	4.554+06

GAMMA RAYS-SOURCE 1 (AIR), 1 WATT, PURE U-235

Figure 2.1

BETA RAYS- SOURCE 1 (AIR), 1 WATT, PURE U-235

Figure 2.2

GAMMA RAYS-SOURCE 1 (PLATE OUT), 1 WATT, PURE U-235

BETA RAYS- SOURCE 1 (PLATE OUT), 1 WATT, PURE U-235

Figure 2.4

GAMMA RAYS-SOURCE 1 (WATER), 1 WATT, PURE U-235

Figure 2.5

BETA RAYS- SOURCE 1 (WATER), 1 WATT, PURE U-235

Figure 2.6

Table 2.4

SOURCE=2, POWER=1 WATT, PURE U-235

GAMMA-RAY ENERGY RELEASE RATE (MEV/SEC/WATT)

TIME	EQUILIBRIUM			5000 DAYS			500 DAYS			200 DAYS		
AFTER LOCA (SEC)	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER
0.000	2.909+09	1.063+09	2.847+09	2.909+09	1.063+09	2.847+09	2.909+09	1.063+09	2.847+09	2.909+09	1.063+09	2.847+09
1.000+00	2.800+09	1.037+09	2.708+09	2.800+09	1.037+09	2.708+09	2.800+09	1.037+09	2.708+09	2.800+09	1.037+09	2.708+09
2.000+00	2.729+09	1.018+09	2.613+09	2.729+09	1.018+09	2.613+09	2.729+09	1.018+09	2.613+09	2.729+09	1.018+09	2.613+09
5.000+00	2.592+09	9.785+08	2.432+09	2.592+09	9.785+08	2.432+09	2.592+09	9.785+08	2.432+09	2.592+09	9.785+08	2.432+09
1.000+01	2.464+09	9.362+08	2.260+09	2.464+09	9.362+08	2.260+09	2.464+09	9.362+08	2.260+09	2.464+09	9.362+08	2.260+09
2.000+01	2.307+09	8.844+08	2.070+09	2.307+09	8.844+08	2.070+09	2.307+09	8.844+08	2.070+09	2.307+09	8.844+08	2.070+09
5.000+01	2.038+09	8.050+08	1.804+09	2.038+09	8.050+08	1.804+09	2.038+09	8.050+08	1.804+09	2.038+09	8.050+08	1.804+09
6.000+01	1.979+09	7.883+08	1.750+09	1.979+09	7.883+08	1.750+09	1.979+09	7.883+08	1.750+09	1.979+09	7.883+08	1.750+09
1.000+02	1.813+09	7.429+08	1.608+09	1.813+09	7.429+08	1.608+09	1.813+09	7.429+08	1.608+09	1.813+09	7.429+08	1.608+09
2.000+02	1.615+09	6.924+08	1.458+09	1.615+09	6.924+08	1.458+09	1.615+09	6.924+08	1.458+09	1.615+09	6.924+08	1.458+09
5.000+02	1.413+09	6.474+08	1.343+09	1.413+09	6.474+08	1.343+09	1.413+09	6.474+08	1.343+09	1.413+09	6.474+08	1.343+09
1.000+03	1.285+09	6.102+08	1.259+09	1.285+09	6.102+08	1.259+09	1.285+09	6.102+08	1.259+09	1.285+09	6.102+08	1.259+09
2.000+03	1.132+09	5.476+08	1.122+09	1.132+09	5.475+08	1.122+09	1.132+09	5.475+08	1.122+09	1.132+09	5.475+08	1.122+09
3.600+03	9.479+08	4.670+08	9.494+08	9.479+08	4.670+08	9.494+08	9.479+08	4.670+08	9.494+08	9.479+08	4.670+08	9.494+08
5.000+03	8.256+08	4.122+08	8.340+08	8.256+08	4.122+08	8.340+08	8.256+08	4.122+08	8.340+08	8.256+08	4.122+08	8.340+08
1.000+04	5.647+08	2.913+08	5.846+08	5.647+08	2.912+08	5.846+08	5.647+08	2.912+08	5.846+08	5.647+08	2.912+08	5.846+08
2.000+04	3.487+08	1.927+08	3.859+08	3.487+08	1.927+08	3.859+08	3.487+08	1.927+08	3.859+08	3.487+08	1.927+08	3.859+08
4.320+04	1.797+08	1.148+08	2.297+08	1.796+08	1.148+08	2.296+08	1.796+08	1.148+08	2.296+08	1.796+08	1.148+08	2.296+08
5.000+04	1.569+08	1.025+08	2.051+08	1.569+08	1.025+08	2.051+08	1.568+08	1.025+08	2.051+08	1.568+08	1.025+08	2.051+08
8.640+04	9.421+07	6.334+07	1.267+08	9.418+07	6.334+07	1.267+08	9.415+07	6.334+07	1.267+08	9.415+07	6.334+07	1.267+08
1.000+05	8.223+07	5.485+07	1.097+08	8.220+07	5.484+07	1.097+08	8.217+07	5.484+07	1.097+08	8.217+07	5.484+07	1.097+08
2.000+05	4.447+07	2.674+07	5.389+07	4.443+07	2.674+07	5.388+07	4.440+07	2.674+07	5.388+07	4.440+07	2.674+07	5.388+07
3.456+05	2.921+07	1.624+07	3.257+07	2.918+07	1.628+07	3.256+07	2.915+07	1.628+07	3.256+07	2.915+07	1.628+07	3.256+07
5.000+05	2.211+07	1.221+07	2.441+07	2.208+07	1.220+07	2.440+07	2.205+07	1.220+07	2.440+07	2.204+07	1.220+07	2.440+07
8.640+05	1.337+07	7.880+06	1.578+07	1.334+07	7.884+06	1.577+07	1.331+07	7.884+06	1.577+07	1.331+07	7.884+06	1.577+07
1.000+06	1.126+07	6.831+06	1.366+07	1.123+07	6.826+06	1.365+07	1.120+07	6.826+06	1.365+07	1.120+07	6.826+06	1.365+07
2.000+06	3.458+06	2.452+06	4.904+06	3.429+06	2.446+06	4.892+06	3.399+06	2.444+06	4.892+06	3.397+06	2.446+06	4.892+06
2.597+06	1.801+06	1.350+06	2.701+06	1.772+06	1.345+06	2.689+06	1.743+06	1.345+06	2.689+06	1.740+06	1.345+06	2.689+06
5.000+06	1.985+05	1.270+05	2.580+05	1.899+05	1.214+05	2.427+05	1.398+05	1.214+05	2.427+05	1.369+05	1.214+05	2.427+05
5.184+06	1.754+05	1.068+05	2.135+05	1.659+05	1.011+05	2.023+05	1.168+05	1.011+05	2.023+05	1.139+05	1.011+05	2.023+05
1.000+07	6.409+04	6.573+03	1.315+04	3.876+04	9.282+02	1.856+03	5.952+03	9.279+02	1.856+03	3.091+03	9.279+02	1.856+03
1.296+07	6.275+04	5.705+03	1.141+04	3.357+04	6.068+01	1.214+02	4.932+03	6.046+01	1.209+02	2.089+03	6.044+01	1.209+02
2.000+07	6.186+04	5.646+03	1.129+04	3.301+04	1.259+00	2.528+00	4.785+03	1.038+00	2.086+00	1.982+03	1.023+00	2.056+00
3.156+07	6.050+04	5.646+03	1.129+04	3.224+04	1.052+00	2.111+00	4.673+03	8.311+01	1.671+00	1.936+03	1.164+01	1.842+00

Table 2.5

SOURCE=2, POWER=1 WATT, PURE U-235

HFYA ENERGY RELEASE RATE (MEV/SEC/WATT)

TIME	EQUILIBRIUM			5000 DAYS			500 DAYS			200 DAYS		
AFTER LOCA (SEC)	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER
0.000	2.535+09	5.150+08	2.002+09	2.532+09	5.150+08	2.002+09	2.529+09	5.150+08	2.012+09	2.529+09	5.150+08	2.002+09
1.000+00	2.417+09	4.964+08	1.837+09	2.415+09	4.964+08	1.837+09	2.411+09	4.964+08	1.837+09	2.411+09	4.964+08	1.837+09
2.000+00	2.334+09	4.825+08	1.724+09	2.331+09	4.825+08	1.724+09	2.328+09	4.825+08	1.724+09	2.327+09	4.825+08	1.724+09
5.000+00	2.155+09	4.530+08	1.513+09	2.152+09	4.530+08	1.513+09	2.149+09	4.530+08	1.513+09	2.149+09	4.530+08	1.513+09
1.000+01	1.970+09	4.210+08	1.319+09	1.967+09	4.210+08	1.319+09	1.964+09	4.210+08	1.319+09	1.964+09	4.210+08	1.319+09
2.000+01	1.754+09	3.815+08	1.116+09	1.751+09	3.815+08	1.116+09	1.748+09	3.815+08	1.116+09	1.747+09	3.815+08	1.116+09
5.000+01	1.446+09	3.199+08	8.533+08	1.443+09	3.199+08	8.533+08	1.440+09	3.199+08	8.533+08	1.439+09	3.199+08	8.533+08
6.000+01	1.383+09	3.068+08	8.032+08	1.380+09	3.067+08	8.032+08	1.377+09	3.067+08	8.032+08	1.376+09	3.067+08	8.032+08
1.000+02	1.206+09	2.704+08	6.734+08	1.203+09	2.704+08	6.733+08	1.200+09	2.704+08	6.733+08	1.200+09	2.704+08	6.733+08
2.000+02	9.889+08	2.304+08	5.387+08	9.862+08	2.304+08	5.387+08	9.829+08	2.304+08	5.387+08	9.828+08	2.304+08	5.387+08
5.000+02	7.747+08	2.022+08	4.490+08	7.720+08	2.022+08	4.490+08	7.686+08	2.022+08	4.490+08	7.683+08	2.022+08	4.490+08
1.000+03	6.843+08	1.894+08	4.124+08	6.815+08	1.894+08	4.124+08	6.782+08	1.894+08	4.124+08	6.779+08	1.894+08	4.124+08
2.000+03	6.408+08	1.723+08	3.687+08	6.372+08	1.723+08	3.687+08	6.339+08	1.723+08	3.687+08	6.336+08	1.723+08	3.687+08
3.600+03	5.779+08	1.513+08	3.179+08	5.752+08	1.513+08	3.178+08	5.719+08	1.513+08	3.178+08	5.715+08	1.513+08	3.178+08
5.000+03	5.226+08	1.373+08	2.851+08	5.199+08	1.373+08	2.851+08	5.166+08	1.373+08	2.851+08	5.163+08	1.373+08	2.851+08
1.000+04	3.785+08	1.068+08	2.174+08	3.758+08	1.067+08	2.174+08	3.725+08	1.067+08	2.174+08	3.722+08	1.067+08	2.174+08
2.000+04	2.419+08	8.199+07	1.653+08	2.392+08	8.198+07	1.652+08	2.359+08	8.198+07	1.652+08	2.355+08	8.198+07	1.652+08
4.320+04	1.316+08	5.939+07	1.190+08	1.289+08	5.938+07	1.190+08	1.256+08	5.938+07	1.190+08	1.252+08	5.938+07	1.190+08
5.000+04	1.168+08	5.499+07	1.101+08	1.141+08	5.498+07	1.101+08	1.108+08	5.498+07	1.101+08	1.105+08	5.498+07	1.101+08
8.640+04	7.558+07	3.785+07	7.570+07	7.285+07	3.784+07	7.568+07	6.955+07	3.784+07	7.568+07	6.922+07	3.784+07	7.568+07
1.000+05	6.733+07	3.331+07	6.662+07	6.461+07	3.330+07	6.660+07	6.130+07	3.330+07	6.660+07	6.098+07	3.330+07	6.660+07
2.000+05	3.998+07	1.586+07	3.171+07	3.717+07	1.585+07	3.170+07	3.387+07	1.585+07	3.170+07	3.354+07	1.585+07	3.170+07
3.456+05	2.886+07	8.790+06	1.758+07	2.614+07	8.782+06	1.756+07	2.284+07	8.782+06	1.756+07	2.251+07	8.782+06	1.756+07
5.000+05	2.378+07	6.386+06	1.277+07	2.102+07	6.378+06	1.275+07	1.772+07	6.378+06	1.275+07	1.739+07	6.378+06	1.275+07
8.640+05	1.698+07	4.087+06	8.173+06	1.425+07	4.078+06	8.156+06	1.096+07	4.078+06	8.156+06	1.063+07	4.078+06	8.156+06
1.000+06	1.526+07	3.531+06	7.063+06	1.250+07	3.523+06	7.045+06	9.283+06	3.523+06	7.045+06	8.916+06	3.523+06	7.045+06
2.000+06	8.934+06	1.236+06	2.473+06	8.220+06	1.228+06	2.455+06	2.929+06	1.228+06	2.455+06	2.603+06	1.228+06	2.455+06
2.592+06	7.684+06	6.727+05	1.345+06	6.974+06	6.639+05	1.328+06	5.687+06	6.639+05	1.328+06	5.361+06	6.639+05	1.328+06
5.000+06	6.590+06	6.594+04	1.319+05	3.892+06	5.713+04	1.143+05	6.220+05	5.713+04	1.143+05	2.973+05	5.713+04	1.143+05
5.184+06	6.575+06	5.627+04	1.125+05	3.878+06	4.746+04	9.494+04	6.091+05	4.746+04	9.494+04	2.345+05	4.746+04	9.494+04
1.000+07	6.854+06	9.188+03	1.839+04	3.784+06	3.826+02	7.741+02	5.466+05	3.822+02	7.734+02	2.251+05	3.822+02	7.733+02
1.296+07	6.414+06	8.826+03	1.766+04	3.760+06	2.252+01	4.714+01	5.426+05	2.017+01	4.645+01	2.231+05	2.015+01	4.640+01
2.000+07	6.322+06	8.806+03	1.762+04	3.706+06	6.089+01	4.071+00	5.345+05	2.841+01	3.381+00	2.196+05	2.611+01	3.335+00
3.156+07	6.174+06	8.806+03	1.761+04	3.619+06	6.092+01	2.611+00	5.218+05	2.644+01	1.921+00	2.143+05	2.414+01	1.875+00

GAMMA RAYS-SOURCE 2 (AIR), 1 WATT, PURE U-235

BETA RAYS- SOURCE 2 (AIR), 1 WATT, PURE U-235

GAMMA RAYS-SOURCE 2 (PLATE OUT), 1 WATT, PURE U-235

BETA RAYS- SOURCE 2 (PLATE OUT), 1 WATT, PURE U-235

Figure 2.10

GAMMA RAYS-SOURCE 2 (WATER), 1 WATT, PURE U-235

Figure 2.1)

BETA RAYS- SOURCE 2 (WATER), 1 WATT, PURE U-235

Figure 2.12

Table 2.6

SOURCES 3,4,5, POWER=1 WATT, PWR= 11-235

GAMMA-RAY ENRGY RELEASE RATE (MEV/SEC/WATT)

TIME	EQUILIBRIUM			5000 DAYS			500 DAYS			200 DAYS		
AFTER LOCA (SEC)	100% HALOGENS	100% IODINES	100% NORLE GASES	100% HALOGENS	100% IODINES	100% NORLE GASES	100% HALOGENS	100% IODINES	100% NORLE GASES	100% HALOGENS	100% IODINES	100% NORLE GASES
0.000	2.848+10	2.126+10	1.831+10	2.848+10	2.126+10	1.831+10	2.848+10	2.126+10	1.831+10	2.848+10	2.126+10	1.831+10
1.000+00	2.708+10	2.074+10	1.748+10	2.708+10	2.074+10	1.748+10	2.708+10	2.074+10	1.748+10	2.708+10	2.074+10	1.748+10
2.000+00	2.613+10	2.036+10	1.698+10	2.613+10	2.036+10	1.698+10	2.613+10	2.036+10	1.698+10	2.613+10	2.036+10	1.698+10
5.000+00	2.432+10	1.957+10	1.598+10	2.432+10	1.957+10	1.598+10	2.432+10	1.957+10	1.598+10	2.432+10	1.957+10	1.598+10
1.000+01	2.260+10	1.872+10	1.513+10	2.260+10	1.872+10	1.513+10	2.260+10	1.872+10	1.513+10	2.260+10	1.872+10	1.513+10
2.000+01	2.070+10	1.769+10	1.408+10	2.070+10	1.769+10	1.408+10	2.070+10	1.769+10	1.408+10	2.070+10	1.769+10	1.408+10
5.000+01	1.804+10	1.610+10	1.218+10	1.804+10	1.610+10	1.218+10	1.804+10	1.610+10	1.218+10	1.804+10	1.610+10	1.218+10
6.000+01	1.750+10	1.577+10	1.175+10	1.750+10	1.577+10	1.175+10	1.750+10	1.577+10	1.175+10	1.750+10	1.577+10	1.175+10
1.000+02	1.608+10	1.486+10	1.055+10	1.608+10	1.486+10	1.055+10	1.608+10	1.486+10	1.055+10	1.608+10	1.486+10	1.055+10
2.000+02	1.458+10	1.385+10	9.073+09	1.458+10	1.385+10	9.073+09	1.458+10	1.385+10	9.073+09	1.458+10	1.385+10	9.073+09
5.000+02	1.343+10	1.295+10	7.513+09	1.343+10	1.295+10	7.513+09	1.343+10	1.295+10	7.513+09	1.343+10	1.295+10	7.513+09
1.000+03	1.259+10	1.220+10	6.605+09	1.259+10	1.220+10	6.605+09	1.259+10	1.220+10	6.605+09	1.259+10	1.220+10	6.605+09
2.000+03	1.122+10	1.095+10	5.711+09	1.122+10	1.095+10	5.711+09	1.122+10	1.095+10	5.711+09	1.122+10	1.095+10	5.711+09
3.600+03	9.494+09	9.340+09	4.680+09	9.494+09	9.340+09	4.680+09	9.494+09	9.340+09	4.680+09	9.494+09	9.340+09	4.680+09
5.000+03	8.341+09	8.245+09	4.012+09	8.341+09	8.245+09	4.012+09	8.341+09	8.245+09	4.012+09	8.341+09	8.245+09	4.012+09
1.000+04	5.847+09	5.825+09	2.637+09	5.846+09	5.825+09	2.637+09	5.846+09	5.825+09	2.636+09	5.846+09	5.825+09	2.636+09
2.000+04	3.859+09	3.855+09	1.496+09	3.859+09	3.855+09	1.496+09	3.859+09	3.855+09	1.496+09	3.859+09	3.855+09	1.496+09
4.320+04	2.297+09	2.295+09	6.253+08	2.296+09	2.295+09	6.252+08	2.296+09	2.295+09	6.251+08	2.296+09	2.295+09	6.251+08
5.000+04	2.051+09	2.050+09	5.261+08	2.051+09	2.050+09	5.260+08	2.051+09	2.050+09	5.259+08	2.051+09	2.050+09	5.259+08
8.640+04	1.267+09	1.267+09	3.046+08	1.267+09	1.267+09	3.046+08	1.267+09	1.267+09	3.044+08	1.267+09	1.267+09	3.044+08
1.000+05	1.097+09	1.097+09	2.712+08	1.097+09	1.097+09	2.713+08	1.097+09	1.097+09	2.712+08	1.097+09	1.097+09	2.712+08
2.000+05	5.389+08	5.389+08	1.748+08	5.388+08	5.388+08	1.747+08	5.388+08	5.388+08	1.748+08	5.388+08	5.388+08	1.748+08
3.456+05	3.257+08	3.257+08	1.289+08	3.256+08	3.256+08	1.288+08	3.256+08	3.256+08	1.287+08	3.256+08	3.256+08	1.287+08
5.000+05	2.441+08	2.441+08	9.861+07	2.440+08	2.440+08	9.852+07	2.440+08	2.440+08	9.842+07	2.440+08	2.440+08	9.841+07
8.640+05	1.578+08	1.578+08	5.421+07	1.577+08	1.577+08	5.432+07	1.577+08	1.577+08	5.423+07	1.577+08	1.577+08	5.422+07
1.000+06	1.366+08	1.366+08	4.390+07	1.365+08	1.365+08	4.382+07	1.365+08	1.365+08	4.372+07	1.365+08	1.365+08	4.371+07
2.000+06	4.904+07	4.904+07	9.678+06	4.892+07	4.892+07	9.598+06	4.892+07	4.892+07	9.500+06	4.892+07	4.892+07	9.490+06
2.592+06	2.701+07	2.701+07	4.123+06	2.689+07	2.689+07	4.043+06	2.689+07	2.689+07	3.945+06	2.689+07	2.689+07	3.943+06
5.000+06	2.540+06	2.540+06	3.285+05	2.427+06	2.427+06	2.088+05	2.427+06	2.427+06	1.518+05	2.427+06	2.427+06	1.421+05
5.184+06	2.135+06	2.135+06	3.005+05	2.023+06	2.023+06	2.207+05	2.023+06	2.023+06	1.238+05	2.023+06	2.023+06	1.141+05
1.000+07	1.315+05	1.315+05	1.928+05	1.156+04	1.156+04	1.139+05	1.156+04	1.156+04	1.788+04	1.156+04	1.156+04	8.348+03
1.296+07	1.141+05	1.141+05	1.905+05	1.144+03	1.144+03	1.120+05	1.209+03	1.209+03	1.656+04	1.209+03	1.209+03	7.084+03
2.000+07	1.129+05	1.129+05	1.876+05	2.528+01	2.518+01	1.102+05	2.086+01	2.076+01	1.614+04	2.050+01	2.046+01	6.796+03
3.156+07	1.129+05	1.129+05	1.832+05	2.113+01	2.104+01	1.076+05	1.671+01	1.662+01	1.576+04	1.642+01	1.633+01	6.642+03

Table 2.7

SOURCES 3,4,5, POWER=1 WATT, PURE U-235

RFTA ENRGY RELEASE RATE (MEV/SEC/WATT)

TIME	EQUILIBRIUM			5000 DAYS			500 DAYS			200 DAYS		
AFTER LOCA (SEC)	100% HALOGENS	100% IODINES	100% NOBLE GASES	100% HALOGENS	100% IODINES	100% NOBLE GASES	100% HALOGENS	100% IODINES	100% NOBLE GASES	100% HALOGENS	100% IODINES	100% NOBLE GASES
0.000	2.002+10	1.030+10	1.997+10	2.002+10	1.030+10	1.996+10	2.002+10	1.030+10	1.995+10	2.002+10	1.030+10	1.995+10
1.000+00	1.837+10	9.929+09	1.898+10	1.837+10	9.928+09	1.897+10	1.837+10	9.928+09	1.896+10	1.837+10	9.928+09	1.896+10
2.000+00	1.724+10	9.650+09	1.828+10	1.724+10	9.650+09	1.828+10	1.724+10	9.650+09	1.826+10	1.724+10	9.650+09	1.826+10
5.000+00	1.513+10	9.060+09	1.679+10	1.513+10	9.059+09	1.678+10	1.513+10	9.059+09	1.677+10	1.513+10	9.059+09	1.677+10
1.000+01	1.319+10	8.420+09	1.526+10	1.319+10	8.420+09	1.525+10	1.319+10	8.420+09	1.524+10	1.319+10	8.420+09	1.524+10
2.000+01	1.116+10	7.629+09	1.349+10	1.116+10	7.629+09	1.349+10	1.116+10	7.629+09	1.347+10	1.116+10	7.629+09	1.347+10
5.000+01	8.534+09	6.399+09	1.103+10	8.533+09	6.399+09	1.102+10	8.533+09	6.399+09	1.101+10	8.533+09	6.399+09	1.101+10
6.000+01	8.032+09	6.135+09	1.053+10	8.032+09	6.135+09	1.052+10	8.032+09	6.135+09	1.051+10	8.032+09	6.135+09	1.051+10
1.000+02	6.734+09	5.409+09	9.130+09	6.734+09	5.409+09	9.121+09	6.734+09	5.409+09	9.110+09	6.734+09	5.409+09	9.109+09
2.000+02	5.387+09	4.608+09	7.358+09	5.387+09	4.608+09	7.349+09	5.387+09	4.608+09	7.338+09	5.387+09	4.608+09	7.337+09
5.000+02	4.491+09	4.045+09	5.500+09	4.490+09	4.044+09	5.491+09	4.490+09	4.044+09	5.480+09	4.490+09	4.044+09	5.479+09
1.000+03	4.124+09	3.788+09	4.728+09	4.124+09	3.788+09	4.718+09	4.124+09	3.788+09	4.707+09	4.124+09	3.788+09	4.706+09
2.000+03	3.687+09	3.445+09	4.263+09	3.687+09	3.445+09	4.254+09	3.687+09	3.445+09	4.243+09	3.687+09	3.445+09	4.242+09
3.600+03	3.179+09	3.026+09	4.064+09	3.178+09	3.026+09	4.055+09	3.178+09	3.026+09	4.043+09	3.178+09	3.026+09	4.042+09
5.000+03	2.851+09	2.745+09	3.661+09	2.851+09	2.745+09	3.652+09	2.851+09	2.745+09	3.641+09	2.851+09	2.745+09	3.639+09
1.000+04	2.174+09	2.135+09	2.554+09	2.174+09	2.135+09	2.544+09	2.174+09	2.135+09	2.533+09	2.174+09	2.135+09	2.532+09
2.000+04	1.653+09	1.640+09	1.477+09	1.652+09	1.640+09	1.468+09	1.652+09	1.640+09	1.457+09	1.652+09	1.640+09	1.456+09
4.320+04	1.190+09	1.188+09	6.492+08	1.190+09	1.188+09	6.402+08	1.190+09	1.188+09	6.292+08	1.190+09	1.188+09	6.281+08
5.000+04	1.101+09	1.100+09	5.529+08	1.101+09	1.100+09	5.439+08	1.101+09	1.100+09	5.329+08	1.101+09	1.100+09	5.318+08
8.640+04	7.570+08	7.569+08	3.290+08	7.568+08	7.567+08	3.199+08	7.568+08	7.567+08	3.089+08	7.568+08	7.567+08	3.078+08
1.000+05	6.662+08	6.662+08	2.939+08	6.660+08	6.660+08	2.849+08	6.660+08	6.660+08	2.738+08	6.660+08	6.660+08	2.727+08
2.000+05	3.171+08	3.171+08	1.965+08	3.170+08	3.170+08	1.875+08	3.170+08	3.170+08	1.765+08	3.170+08	3.170+08	1.754+08
3.456+05	1.758+08	1.758+08	1.569+08	1.756+08	1.756+08	1.479+08	1.756+08	1.756+08	1.369+08	1.756+08	1.756+08	1.358+08
5.000+05	1.277+08	1.277+08	1.294+08	1.275+08	1.275+08	1.207+08	1.275+08	1.275+08	1.097+08	1.275+08	1.275+08	1.086+08
8.640+05	8.153+07	8.153+07	8.512+07	8.156+07	8.156+07	7.608+07	8.156+07	8.156+07	6.509+07	8.156+07	8.156+07	6.399+07
1.000+06	7.061+07	7.063+07	7.753+07	7.045+07	7.045+07	6.449+07	7.045+07	7.045+07	5.350+07	7.045+07	7.045+07	5.241+07
2.000+06	2.473+07	2.473+07	3.331+07	2.455+07	2.455+07	2.429+07	2.455+07	2.455+07	1.332+07	2.455+07	2.455+07	1.223+07
2.592+06	1.305+07	1.305+07	2.650+07	1.328+07	1.328+07	1.750+07	1.328+07	1.328+07	6.541+06	1.328+07	1.328+07	5.453+06
5.000+06	1.319+06	1.319+06	2.184+07	1.143+06	1.143+06	1.288+07	1.143+06	1.143+06	1.976+06	1.143+06	1.143+06	8.932+05
5.184+06	1.125+06	1.125+06	2.180+07	9.494+05	9.494+05	1.284+07	9.494+05	9.492+05	1.945+06	9.494+05	9.492+05	8.628+05
1.000+07	1.839+05	1.838+05	2.149+07	7.741+03	7.651+03	1.262+07	7.734+03	7.644+03	1.826+06	7.733+03	7.644+03	7.547+05
1.296+07	1.766+05	1.765+05	2.135+07	4.714+02	4.103+02	1.254+07	4.645+02	4.034+02	1.812+06	4.640+02	4.030+02	7.472+05
2.000+07	1.762+05	1.761+05	2.105+07	4.070+01	1.258+01	1.235+07	3.381+01	5.682+00	1.783+06	3.335+01	5.222+00	7.332+05
3.156+07	1.761+05	1.761+05	2.055+07	2.611+01	1.218+01	1.206+07	1.921+01	5.288+00	1.740+06	1.875+01	4.828+00	7.147+05

GAMMA RAYS-100% HALOGENS, 1 WATT, PURE U-235

Figure 2.13

2-24

GAMMA RAYS-100% IODINES, 1 WATT, PURE U-235

BETA RAYS- 100% IODINES, 1 WATT, PURE U-235

GAMMA RAYS-100% NOBLE GASES, 1 WATT, PURE U-235

BETA RAYS- 100% NOBLE GASES, 1 WATT, PURE U-235

Table 2.8

SOURCES A,7, POWER=1 WATT, PUNT U-235

GAMMA-RAY ENERGY RELEASE RATE (MEV/SEC/WATT)

TIME AFTER LOCA (SEC)	FOMILITATION		5000 DAYS		500 DAYS		200 DAYS	
	100% SOLIDS	100% ALL F P	100% SOLIDS	100% ALL F P	100% SOLIDS	100% ALL F P	100% SOLIDS	100% ALL F P
0.000	1.449+11	1.917+11	1.440+11	1.908+11	1.436+11	1.904+11	1.430+11	1.898+11
1.000+00	1.340+11	1.786+11	1.331+11	1.776+11	1.327+11	1.773+11	1.321+11	1.767+11
2.000+00	1.285+11	1.716+11	1.276+11	1.707+11	1.273+11	1.704+11	1.267+11	1.697+11
5.000+00	1.181+11	1.596+11	1.184+11	1.587+11	1.180+11	1.583+11	1.174+11	1.577+11
1.000+01	1.109+11	1.486+11	1.100+11	1.477+11	1.096+11	1.473+11	1.090+11	1.467+11
2.000+01	1.012+11	1.359+11	1.007+11	1.350+11	9.987+10	1.347+11	9.927+10	1.340+11
5.000+01	8.697+10	1.172+11	8.605+10	1.163+11	8.569+10	1.159+11	8.508+10	1.153+11
6.000+01	8.407+10	1.133+11	8.315+10	1.124+11	8.279+10	1.120+11	8.218+10	1.114+11
1.000+02	7.598+10	1.026+11	7.506+10	1.017+11	7.470+10	1.013+11	7.409+10	1.007+11
2.000+02	6.569+10	8.934+10	6.477+10	8.842+10	6.441+10	8.806+10	6.381+10	8.745+10
5.000+02	5.406+10	7.500+10	5.314+10	7.408+10	5.278+10	7.372+10	5.218+10	7.311+10
1.000+03	4.598+10	6.510+10	4.498+10	6.417+10	4.461+10	6.381+10	4.401+10	6.321+10
2.000+03	3.781+10	5.454+10	3.669+10	5.362+10	3.633+10	5.326+10	3.572+10	5.265+10
3.000+03	3.116+10	4.533+10	3.024+10	4.441+10	2.988+10	4.405+10	2.927+10	4.345+10
5.000+03	2.811+10	4.046+10	2.719+10	3.954+10	2.683+10	3.918+10	2.622+10	3.858+10
1.000+04	2.303+10	3.151+10	2.210+10	3.059+10	2.174+10	3.022+10	2.114+10	2.962+10
2.000+04	1.958+10	2.494+10	1.866+10	2.402+10	1.830+10	2.365+10	1.770+10	2.305+10
4.320+04	1.716+10	2.009+10	1.624+10	1.916+10	1.588+10	1.880+10	1.528+10	1.820+10
5.000+04	1.678+10	1.932+10	1.582+10	1.840+10	1.546+10	1.804+10	1.486+10	1.783+10
8.640+04	1.513+10	1.671+10	1.421+10	1.578+10	1.385+10	1.542+10	1.325+10	1.482+10
1.000+05	1.470+10	1.607+10	1.378+10	1.515+10	1.342+10	1.479+10	1.282+10	1.419+10
2.000+05	1.271+10	1.342+10	1.179+10	1.250+10	1.143+10	1.214+10	1.081+10	1.155+10
3.056+05	1.118+10	1.160+10	1.026+10	1.072+10	9.902+09	1.036+10	9.320+09	9.774+09
5.000+05	1.013+10	1.047+10	9.206+09	9.548+09	8.866+09	9.189+09	8.274+09	8.616+09
8.640+05	8.491+09	8.703+09	7.571+09	7.783+09	7.213+09	7.425+09	6.662+09	6.874+09
1.000+06	8.052+09	8.232+09	7.132+09	7.312+09	6.775+09	6.955+09	6.232+09	6.412+09
2.000+06	6.061+09	6.119+09	5.182+09	5.200+09	4.788+09	4.807+09	4.300+09	4.359+09
2.592+06	5.376+09	5.405+09	4.456+09	4.487+09	4.104+09	4.135+09	3.646+09	3.677+09
5.000+06	3.879+09	3.882+09	2.962+09	2.965+09	2.618+09	2.621+09	2.262+09	2.265+09
5.184+06	3.809+09	3.811+09	2.892+09	2.894+09	2.508+09	2.551+09	2.199+09	2.201+09
1.000+07	2.673+09	2.673+09	1.759+09	1.759+09	1.427+09	1.427+09	1.210+09	1.210+09
1.296+07	2.275+09	2.275+09	1.363+09	1.363+09	1.036+09	1.036+09	8.708+08	8.708+08
2.000+07	1.721+09	1.721+09	8.144+08	8.145+08	4.963+08	4.964+08	4.017+08	4.017+08
3.156+07	1.383+09	1.383+09	4.837+08	4.838+08	1.761+08	1.761+08	1.244+08	1.244+08

Table 2.9

SOURCES 6,7, POWER=1 WATT, PURE U-235

AFTER ENERGY RELEASE RATE (MEV/SEC/WATT)

TIME AFTER LCCA (SEC)	EQUILIBRIUM		5000 DAYS		500 DAYS		200 DAYS	
	100% SOLIDS	100% ALL F P	100% SOLIDS	100% ALL F P	100% SOLIDS	100% ALL F P	100% SOLIDS	100% ALL F P
0.000	1.625+11	2.025+11	1.607+11	2.007+11	1.593+11	1.993+11	1.583+11	1.982+11
1.000+00	1.075+11	1.848+11	1.057+11	1.831+11	1.043+11	1.816+11	1.033+11	1.806+11
2.000+00	1.398+11	1.753+11	1.380+11	1.735+11	1.366+11	1.721+11	1.356+11	1.711+11
5.000+00	1.265+11	1.585+11	1.248+11	1.567+11	1.234+11	1.553+11	1.223+11	1.542+11
1.000+01	1.146+11	1.430+11	1.128+11	1.413+11	1.114+11	1.399+11	1.104+11	1.388+11
2.000+01	1.018+11	1.260+11	9.999+10	1.246+11	9.860+10	1.232+11	9.754+10	1.222+11
5.000+01	8.548+10	1.050+11	8.371+10	1.033+11	8.231+10	1.019+11	8.126+10	1.008+11
1.000+01	8.241+10	1.010+11	8.064+10	9.919+10	7.924+10	9.779+10	7.819+10	9.673+10
1.000+02	7.017+10	9.004+10	7.241+10	8.824+10	7.101+10	8.685+10	6.996+10	8.580+10
2.000+02	6.416+10	7.691+10	6.239+10	7.513+10	6.100+10	7.373+10	5.995+10	7.267+10
5.000+02	5.257+10	6.256+10	5.080+10	6.078+10	4.940+10	5.917+10	4.815+10	5.832+10
1.000+03	4.407+10	5.292+10	4.230+10	5.115+10	4.091+10	4.911+10	3.986+10	4.869+10
2.000+03	3.571+10	4.186+10	3.394+10	4.209+10	3.255+10	4.061+10	3.149+10	3.462+10
3.600+03	2.989+10	3.713+10	2.812+10	3.536+10	2.673+10	3.395+10	2.568+10	3.290+10
5.000+03	2.743+10	3.394+10	2.566+10	3.217+10	2.427+10	3.076+10	2.322+10	2.971+10
1.000+04	2.353+10	2.825+10	2.176+10	2.648+10	2.036+10	2.507+10	1.931+10	2.402+10
2.000+04	2.014+10	2.327+10	1.837+10	2.149+10	1.698+10	2.009+10	1.593+10	1.903+10
4.320+04	1.640+10	1.873+10	1.463+10	1.646+10	1.324+10	1.505+10	1.218+10	1.400+10
5.000+04	1.572+10	1.738+10	1.346+10	1.560+10	1.256+10	1.420+10	1.151+10	1.314+10
8.640+04	1.356+10	1.465+10	1.180+10	1.287+10	1.040+10	1.147+10	9.353+09	1.042+10
1.000+05	1.310+10	1.406+10	1.133+10	1.228+10	9.438+09	1.088+10	8.888+09	9.826+09
2.000+05	1.139+10	1.190+10	9.620+09	1.012+10	8.229+09	8.723+09	7.185+09	7.677+09
3.456+05	1.041+10	1.075+10	8.649+09	8.972+09	7.262+09	7.575+09	6.225+09	6.536+09
5.000+05	9.833+09	1.009+10	8.068+09	8.316+09	6.685+09	6.922+09	5.655+09	5.891+09
8.640+05	8.979+09	9.146+09	7.214+09	7.372+09	5.839+09	5.985+09	5.827+09	4.973+09
1.000+06	8.746+09	8.890+09	6.982+09	7.117+09	5.609+09	5.733+09	4.604+09	4.777+09
2.000+06	7.600+09	7.658+09	5.817+09	5.886+09	4.485+09	4.523+09	3.526+09	3.562+09
2.592+06	7.154+09	7.194+09	5.392+09	5.423+09	4.053+09	4.073+09	3.118+09	3.137+09
5.000+06	6.047+09	6.070+09	4.289+09	4.303+09	2.997+09	3.000+09	2.153+09	2.155+09
5.184+06	5.889+09	6.012+09	4.211+09	4.244+09	2.943+09	2.946+09	2.105+09	2.107+09
1.000+07	4.982+09	5.003+09	3.230+09	3.242+09	2.027+09	2.029+09	1.326+09	1.326+09
1.296+07	4.607+09	4.629+09	2.859+09	2.872+09	1.704+09	1.706+09	1.068+09	1.068+09
2.000+07	4.027+09	4.049+09	2.289+09	2.301+09	1.231+09	1.233+09	7.147+08	7.154+08
3.156+07	3.492+09	3.513+09	1.769+09	1.781+09	8.369+08	8.387+08	4.554+08	4.561+08

GAMMA RAYS-100% SOLIDS, 1 WATT, PURE U-235

BETA RAYS- 100% SOLIDS, 1 WATT, PURE U-235

GAMMA RAYS-ALL FISSION PRODUCTS, 1 WATT, PURE U-235

BETA RAYS- ALL FISSION PRODUCTS, 1 WATT, PURE U-235

Figure 2.22

Table 2.10

SOURCE=1, POWER=4000MW, PURE U-235

ENRGY RELEASE RATES (MEV/SEC/WATT)

GAMMAS

BETAS

TIME AFTER LOCA (SEC)	EQUILIBRIUM						200 DAYS						EQUILIBRIUM						200 DAYS					
	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER
0.000	2.755+10	9.690+09	1.901+10	2.324+10	6.747+09	1.567+10	3.340+10	7.064+09	1.461+10	2.206+10	4.159+09	1.159+10	3.340+10	7.064+09	1.461+10	2.206+10	4.159+09	1.159+10	3.340+10	7.064+09	1.461+10	2.206+10	4.159+09	1.159+10
1.000+00	2.658+10	9.411+09	1.816+10	2.227+10	6.509+09	1.486+10	3.229+10	6.803+09	1.362+10	2.097+10	3.916+09	1.062+10	3.229+10	6.803+09	1.362+10	2.097+10	3.916+09	1.062+10	3.229+10	6.803+09	1.362+10	2.097+10	3.916+09	1.062+10
2.000+00	2.595+10	9.254+09	1.762+10	2.166+10	6.360+09	1.433+10	3.149+10	6.638+09	1.246+10	2.021+10	3.770+09	9.979+09	3.149+10	6.638+09	1.246+10	2.021+10	3.770+09	9.979+09	3.149+10	6.638+09	1.246+10	2.021+10	3.770+09	9.979+09
5.000+00	2.477+10	8.954+09	1.661+10	2.048+10	6.069+09	1.330+10	2.976+10	6.308+09	1.172+10	1.857+10	3.489+09	8.789+09	2.976+10	6.308+09	1.172+10	1.857+10	3.489+09	8.789+09	2.976+10	6.308+09	1.172+10	1.857+10	3.489+09	8.789+09
1.000+01	2.368+10	8.645+09	1.565+10	1.941+10	5.777+09	1.239+10	2.793+10	5.956+09	1.056+10	1.688+10	3.210+09	7.700+09	2.793+10	5.956+09	1.056+10	1.688+10	3.210+09	7.700+09	2.793+10	5.956+09	1.056+10	1.688+10	3.210+09	7.700+09
2.000+01	2.233+10	8.266+09	1.458+10	1.811+10	5.417+09	1.135+10	2.569+10	5.516+09	9.305+09	1.491+10	2.884+09	6.556+09	2.569+10	5.516+09	9.305+09	1.491+10	2.884+09	6.556+09	2.569+10	5.516+09	9.305+09	1.491+10	2.884+09	6.556+09
5.000+01	1.993+10	7.686+09	1.307+10	1.581+10	4.878+09	9.872+09	2.212+10	4.854+09	7.636+09	1.214+10	2.413+09	5.080+09	2.212+10	4.854+09	7.636+09	1.214+10	2.413+09	5.080+09	2.212+10	4.854+09	7.636+09	1.214+10	2.413+09	5.080+09
6.000+01	1.938+10	7.565+09	1.276+10	1.530+10	4.768+09	9.576+09	2.131+10	4.720+09	7.318+09	1.158+10	2.316+09	4.799+09	2.131+10	4.720+09	7.318+09	1.158+10	2.316+09	4.799+09	2.131+10	4.720+09	7.318+09	1.158+10	2.316+09	4.799+09
1.000+02	1.782+10	7.234+09	1.195+10	1.388+10	4.458+09	8.786+09	1.881+10	4.368+09	6.497+09	9.994+09	2.053+09	4.067+09	1.881+10	4.368+09	6.497+09	9.994+09	2.053+09	4.067+09	1.881+10	4.368+09	6.497+09	9.994+09	2.053+09	4.067+09
2.000+02	1.580+10	6.850+09	1.106+10	1.214+10	4.102+09	7.930+09	1.497+10	3.989+09	5.647+09	8.023+09	1.757+09	3.294+09	1.497+10	3.989+09	5.647+09	8.023+09	1.757+09	3.294+09	1.497+10	3.989+09	5.647+09	8.023+09	1.757+09	3.294+09
5.000+02	1.344+10	6.474+09	1.033+10	1.036+10	3.761+09	7.238+09	9.789+09	3.678+09	5.016+09	6.026+09	1.446+09	2.729+09	9.789+09	3.678+09	5.016+09	6.026+09	1.446+09	2.729+09	9.789+09	3.678+09	5.016+09	6.026+09	1.446+09	2.729+09
1.000+03	1.187+10	6.173+09	9.792+09	9.271+09	3.497+09	6.739+09	7.223+09	3.489+09	4.694+09	5.195+09	1.346+09	2.461+09	7.223+09	3.489+09	4.694+09	5.195+09	1.346+09	2.461+09	7.223+09	3.489+09	4.694+09	5.195+09	1.346+09	2.461+09
2.000+03	1.024+10	5.730+09	8.969+09	8.071+09	3.097+09	5.971+09	6.308+09	3.263+09	4.328+09	4.854+09	1.177+09	2.159+09	6.308+09	3.263+09	4.328+09	4.854+09	1.177+09	2.159+09	6.308+09	3.263+09	4.328+09	4.854+09	1.177+09	2.159+09
3.600+03	8.522+09	5.214+09	7.985+09	6.650+09	2.629+09	5.043+09	5.634+09	3.039+09	3.943+09	4.364+09	1.014+09	1.847+09	5.634+09	3.039+09	3.943+09	4.364+09	1.014+09	1.847+09	5.634+09	3.039+09	3.943+09	4.364+09	1.014+09	1.847+09
5.000+03	7.462+09	4.879+09	7.341+09	5.719+09	2.325+09	4.435+09	5.061+09	2.905+09	3.710+09	3.904+09	9.189+08	1.656+09	5.061+09	2.905+09	3.710+09	3.904+09	9.189+08	1.656+09	5.061+09	2.905+09	3.710+09	3.904+09	9.189+08	1.656+09
1.000+04	5.302+09	4.141+09	5.945+09	3.774+09	1.669+09	3.137+09	3.581+09	2.622+09	3.231+09	2.686+09	7.231+09	1.281+09	3.581+09	2.622+09	3.231+09	2.686+09	7.231+09	1.281+09	3.581+09	2.622+09	3.231+09	2.686+09	7.231+09	1.281+09
2.000+04	3.542+09	3.501+09	4.776+09	2.201+09	1.142+09	2.109+09	2.239+09	2.360+09	2.824+09	1.558+09	5.695+08	9.860+08	2.239+09	2.360+09	2.824+09	1.558+09	5.695+08	9.860+08	2.239+09	2.360+09	2.824+09	1.558+09	5.695+08	9.860+08
4.320+04	2.194+09	2.922+09	3.752+09	1.040+09	7.278+08	1.303+09	1.283+09	2.076+09	2.413+09	3.356+08	4.190+08	7.170+08	1.283+09	2.076+09	2.413+09	3.356+08	4.190+08	7.170+08	1.283+09	2.076+09	2.413+09	3.356+08	4.190+08	7.170+08
5.000+04	2.016+09	2.819+09	3.574+09	9.007+08	6.622+08	1.176+09	1.171+09	2.018+09	2.330+09	6.425+08	3.903+08	6.659+08	2.016+09	2.819+09	3.574+09	9.007+08	6.622+08	1.176+09	1.171+09	2.018+09	2.330+09	6.425+08	3.903+08	6.659+08
8.640+04	1.519+09	2.446+09	2.950+09	5.571+08	4.501+08	7.672+08	8.861+08	1.784+09	2.003+09	2.400+08	2.830+08	4.722+08	5.571+08	4.501+08	7.672+08	8.861+08	1.784+09	2.003+09	2.400+08	2.830+08	4.722+08	5.571+08	4.501+08	7.672+08
1.000+05	1.415+09	2.351+09	2.796+09	4.073+08	4.033+08	6.778+08	8.360+08	1.719+09	1.914+09	3.816+08	2.556+08	4.222+08	4.073+08	4.033+08	6.778+08	8.360+08	1.719+09	1.914+09	3.816+08	2.556+08	4.222+08	5.571+08	4.501+08	7.672+08
2.000+05	9.991+08	1.943+09	2.178+09	3.035+08	2.436+08	3.784+08	6.525+08	1.429+09	1.529+09	2.474+08	1.513+08	2.305+08	1.943+09	2.178+09	3.035+08	2.436+08	3.784+08	6.525+08	1.429+09	1.529+09	2.474+08	1.513+08	2.305+08	2.305+08
3.456+05	7.143+08	1.684+09	1.823+09	2.099+08	1.751+08	2.566+08	5.423+08	1.253+09	1.313+09	1.792+08	1.063+08	1.502+08	7.143+08	1.684+09	1.823+09	2.099+08	1.751+08	2.566+08	5.423+08	1.253+09	1.313+09	1.792+08	1.063+08	1.502+08
5.000+05	5.319+08	1.536+09	1.635+09	1.594+08	1.442+08	2.052+08	4.608+08	1.160+09	1.205+09	1.404+08	8.854+07	1.204+08	5.319+08	1.536+09	1.635+09	1.594+08	1.442+08	2.052+08	4.608+08	1.160+09	1.205+09	1.404+08	8.854+07	1.204+08
8.640+05	2.933+08	1.339+09	1.399+09	9.363+07	1.065+08	1.459+08	3.183+08	1.041+09	1.076+09	8.433+07	6.873+07	8.912+07	2.933+08	1.339+09	1.399+09	9.363+07	1.065+08	1.459+08	3.183+08	1.041+09	1.076+09	8.433+07	6.873+07	8.912+07
1.000+06	2.400+08	1.288+09	1.339+09	7.782+07	9.683+07	1.310+08	2.789+08	1.010+09	1.035+09	6.999+07	6.372+07	8.133+07	2.400+08	1.288+09	1.339+09	7.782+07	9.683+07	1.310+08	2.789+08	1.010+09	1.035+09	6.999+07	6.372+07	8.133+07
2.000+06	6.368+07	1.028+09	1.046+09	2.172+07	5.452+07	6.775+07	1.334+08	8.609+08	8.649+08	1.836+07	4.143+07	4.757+07	6.368+07	1.028+09	1.046+09	2.172+07	5.452+07	6.775+07	1.334+08	8.609+08	8.649+08	1.836+07	4.143+07	4.757+07
2.592+06	3.360+07	9.251+08	9.351+08	1.066+07	4.344+07	5.016+07	1.068+08	8.021+08	8.070+08	8.768+06	3.453+07	3.785+07	3.360+07	9.251+08	9.351+08	1.066+07	4.344+07	5.016+07	1.068+08	8.021+08	8.070+08	8.768+06	3.453+07	3.785+07
5.000+06	3.638+06	6.732+08	6.741+08	7.489+05	2.334+07	2.306+07	8.677+07	6.495+08	6.499+08	1.177+06	2.183+07	2.211+07	3.638+06	6.732+08	6.741+08	7.489+05	2.334+07	2.306+07	8.677+07	6.495+08	6.499+08	1.177+06	2.183+07	2.211+07
5.184+06	3.385+06	6.602+08	6.609+08	6.197+05	2.260+07	2.315+07	8.654+07	6.411+08	6.414+08	1.098+06	2.136+07	2.153+07	3.385+06	6.602+08	6.609+08	6.197+05	2.260+07	2.315+07	8.654+07	6.411+08	6.414+08	1.098+06	2.136+07	2.153+07
1.000+07	8.247+05	4.458+08	4.458+08	1.297+04	1.218+07	1.218+07	8.503+07	4.896+08	4.896+08	7.547+05	1.326+07	1.327+07	8.247+05	4.458+08	4.458+08	1.297+04	1.218+07	1.218+07	8.503+07	4.896+08	4.896+08	7.547+05	1.326+07	1.327+07
1.296+07	7.619+05	3.754+08	3.754+08	7.369+03	8.757+06	8.757+06	8.451+07	4.323+08	4.323+08	7.454+05	1.068+07	1.068+07	7.619+05	3.754+08	3.754+08	7.369+03	8.757+06	8.757+06	8.451+07	4.323+08	4.323+08	7.454+05	1.068+07	1.068+07
2.000+07	7.426+05	2.847+08	2.847+08	6.787+03	4.047+06	4.047+06	8.330+07	4.438+08	4.438+08	7.314+05	7.147+06	7.148+06	7.426+05	2.847+08	2.847+08	6.787+03	4.047+06	4.047+06	8.330+07	4.438+08	4.438+08	7.314+05	7.147+06	7.148+06
3.156+07	7.252+05	2.304+08	2.304+08	6.630+03	1.265+06	1.265+06	8.135+07	2.639+08	2.639+08	7.129+05	4.554+06	4.554+06	7.252+05	2.304+08	2.304+08	6.630+03	1.265+06	1.265+06	8.135+07	2.639+08	2.639+08	7.129+05	4.554+06	4.554+06

GAMMA RAYS-SOURCE 1 (AIR), 4000 MW, PURE U-235

Figure 2.23

BETA RAYS- SOURCE 1 (AIR), 4000 MW, PURE U-235

Figure 2.24

GAMMA RAYS-SOURCE 1 (P.O.), 4000 MW, PURE U-235

Figure 2.25

BETA RAYS- SOURCE 1 (P.O.), 4000 MW, PURE U-235

Figure 2.26

GAMMA RAYS-SOURCE 1 (WATER), 4000 MW, PURE U-235

BETA RAYS- SOURCE 1 (WATER), 4000 MW, PURE U-235

were 75 percent (U-235) and 25 percent (Pu-239). These choices were somewhat arbitrary; a more realistic case will be discussed below. These results (expressed in MeV/sec/watt) for Sources 1 and 2 are given in Tables 2.11 and 2.12 and plotted in Figures 2.29 through 2.40. The ten most important nuclides for these cases are given in Appendix C. The discussion of these results is given in Section 2.4.1. Note that there is now a much greater difference between equilibrium and 200 day irradiations. This is the result of the different contributions of Pu-239 to the decay power, and the capture effects at the high power level.

The effect that fissile loading has on the energy release rates was examined by considering a "realistic" case which consisted of a typical fissile loading of fuel and allowing conversion of the fertile U-238 material to Pu-239 over the irradiation period. For this case a power level of 4000 MW at 200 days was calculated assuming realistic fluxes, but not including the contribution to the decay power from the decay of U-239 and Np-239 to Pu-239. Both Sources 1 and 2 were calculated.

The initial fuel enrichment was taken to be 3.3 percent with an average thermal flux of 2×10^{13} neutrons/cm²-sec. The calculated burnup after 200 days at 4000 MW is ~6000 MWD/MT. At the end of the cycle 88 percent of the fissions are occurring in U-235 and 12 percent in Pu-239. The conversion rate for this design is 0.56 g Pu/MWD. The contribution from fissions in U-238 was not included.

The results of these calculations are shown in Figures 2.41 through 2.46 and tabulated in Tables 2.13 and 2.14 in units of MeV/sec/watt. Also shown in Tables 2.13 and 2.14 and Figures 2.47-2.52 are the results for exclusion of daughters if they are different from the originally specified types.

There are several ways one might handle the effects of daughter nuclides of the originally specified elements. No guidance for this is given in Regulatory Guide 1.89. One might take the most conservative assumption and include all daughters of the original nuclides. This gives the maximum energy release but is probably not a very realistic situation. For example, some of the daughters of the gaseous nuclides are solids which are unlikely to remain airborne. This conservative assumption (that is, including all daughters) was made for most of the calculations.

Table 2.11

SOURCE 1, POWER=4000 MW, U=235+PU-239

ENERGY RELEASE RATES (MEV/SEC/WATT)

GAMMAS

BETAS

TIME AFTER LOCA (SEC)	EQUILIBRIUM			200 DAYS			EQUILIBRIUM			200 DAYS		
	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER
0.000	2.263+10	9.381+09	1.720+10	2.075+10	6.566+09	1.468+10	2.733+10	6.616+09	1.210+10	1.966+10	3.992+09	1.038+10
1.000+00	2.198+10	9.146+09	1.663+10	1.995+10	6.356+09	1.402+10	2.661+10	6.407+09	1.147+10	1.877+10	3.774+09	9.585+09
2.000+00	2.156+10	9.020+09	1.627+10	1.943+10	6.222+09	1.358+10	2.609+10	6.273+09	1.104+10	1.814+10	3.641+09	9.059+09
5.000+00	2.074+10	8.774+09	1.558+10	1.844+10	5.959+09	1.274+10	2.493+10	5.998+09	1.020+10	1.678+10	3.385+09	8.068+09
1.000+01	1.997+10	8.516+09	1.489+10	1.753+10	5.688+09	1.193+10	2.365+10	5.699+09	9.384+09	1.536+10	3.127+09	7.145+09
2.000+01	1.898+10	8.192+09	1.408+10	1.640+10	5.358+09	1.101+10	2.202+10	5.318+09	8.455+09	1.368+10	2.823+09	6.157+09
5.000+01	1.719+10	7.650+09	1.288+10	1.441+10	4.853+09	9.693+09	1.923+10	4.729+09	7.153+09	1.125+10	2.378+09	4.853+09
6.000+01	1.678+10	7.571+09	1.263+10	1.397+10	4.747+09	9.425+09	1.857+10	4.609+09	6.896+09	1.075+10	2.285+09	4.601+09
1.000+02	1.561+10	7.271+09	1.195+10	1.273+10	4.454+09	8.706+09	1.648+10	4.286+09	6.221+09	9.323+09	2.032+09	3.938+09
2.000+02	1.407+10	6.916+09	1.120+10	1.123+10	4.113+09	7.915+09	1.319+10	3.932+09	5.500+09	7.519+09	1.741+09	3.229+09
5.000+02	1.227+10	6.557+09	1.053+10	9.672+09	3.781+09	7.257+09	8.622+09	3.636+09	4.951+09	5.647+09	1.491+09	2.702+09
1.000+03	1.089+10	6.257+09	9.998+09	8.691+09	3.515+09	6.766+09	6.301+09	3.450+09	4.654+09	4.836+09	1.343+09	2.445+09
2.000+03	9.455+09	5.813+09	9.187+09	7.573+09	3.120+09	6.006+09	5.443+09	3.227+09	4.298+09	4.484+09	1.175+09	2.150+09
3.000+03	7.945+09	5.295+09	8.217+09	6.242+09	2.453+09	5.086+09	4.857+09	3.004+09	3.925+09	4.016+09	1.013+09	1.845+09
5.000+03	7.028+09	4.957+09	7.569+09	5.373+09	2.349+09	4.481+09	4.390+09	2.870+09	3.698+09	3.594+09	9.185+08	1.660+09
1.000+04	5.188+09	4.206+09	6.151+09	3.574+09	1.690+09	3.180+09	3.232+09	2.585+09	3.223+09	2.505+09	7.271+08	1.286+09
2.000+04	3.706+09	3.541+09	4.929+09	2.134+09	1.156+09	2.137+09	2.194+09	2.319+09	2.810+09	1.506+09	5.690+08	9.902+08
4.320+04	2.500+09	2.926+09	3.834+09	1.058+09	7.360+08	1.319+09	1.399+09	2.034+09	2.393+09	7.584+08	4.190+08	7.207+08
5.000+04	2.324+09	2.817+09	3.644+09	9.234+08	6.699+08	1.191+09	1.294+09	1.976+09	2.310+09	6.687+08	3.905+08	6.696+08
8.400+04	1.786+09	2.424+09	2.977+09	5.784+08	4.573+08	7.811+08	9.956+08	1.744+09	1.981+09	4.410+08	2.840+08	4.765+08
1.000+05	1.666+09	2.323+09	2.813+09	5.158+08	4.103+08	6.915+08	9.349+08	1.679+09	1.891+09	3.986+08	2.568+08	4.265+08
2.000+05	1.174+09	1.899+09	2.160+09	3.118+08	2.498+08	3.903+08	7.206+08	1.394+09	1.507+09	2.529+08	1.523+08	2.343+08
3.456+05	8.408+08	1.636+09	1.796+09	2.157+08	1.801+08	2.663+08	5.969+08	1.225+09	1.295+09	1.825+08	1.069+08	1.530+08
5.000+05	6.274+08	1.496+09	1.606+09	1.642+08	1.482+08	2.132+08	5.047+08	1.137+09	1.191+09	1.430+08	8.875+07	1.226+08
8.640+05	3.474+08	1.298+09	1.379+09	9.683+07	1.089+08	1.511+08	3.415+08	1.025+09	1.061+09	8.605+07	6.839+07	9.011+07
1.000+06	2.848+08	1.249+09	1.310+09	8.060+07	9.891+07	1.355+08	2.961+08	9.965+08	1.027+09	7.145+07	6.324+07	8.201+07
2.000+06	7.943+07	1.002+09	1.024+09	2.269+07	5.605+07	6.918+07	1.780+08	8.547+08	8.656+08	1.881+07	4.054+07	4.711+07
2.592+06	4.091+07	9.063+08	9.186+08	1.119+07	4.360+07	5.082+07	9.714+07	7.988+08	8.047+08	8.978+06	3.362+07	3.717+07
5.000+06	4.628+06	6.773+08	6.785+08	7.970+05	2.314+07	2.380+07	7.393+07	6.543+08	6.548+08	1.142+06	2.119+07	2.149+07
5.184+06	4.054+06	6.657+08	6.666+08	6.599+05	2.240+07	2.295+07	7.370+07	6.463+08	6.468+08	1.060+06	2.068+07	2.093+07
1.000+07	7.155+05	4.761+08	4.761+08	1.293+04	1.195+07	1.195+07	7.219+07	5.020+08	5.020+08	7.003+05	1.309+07	1.309+07
1.296+07	6.523+05	4.140+08	4.140+08	6.929+03	8.578+06	8.579+06	7.175+07	4.465+08	4.465+08	6.916+05	1.066+07	1.066+07
2.000+07	6.315+05	3.329+08	3.329+08	6.320+03	3.975+06	3.975+06	7.072+07	3.593+08	3.593+08	6.789+05	7.292+06	7.292+06
3.156+07	6.166+05	2.820+08	2.820+08	6.174+03	1.271+06	1.271+06	6.907+07	2.784+08	2.784+08	6.619+05	4.743+06	4.743+06

GAMMA RAYS-SOURCE 1 (AIR) 4000 MW, U-235 + PU239

Figure 2.29

BETA RAYS- SOURCE 1 (AIR) 4000 MW, U-235 + PU239

GAMMA RAYS-SOURCE 1 (PLATE OUT) 4000MH,U-235+PU-239

Figure 2.31

BETA RAYS- SOURCE 1 (PLATE OUT) 4000MHZ, U-235+PU-239

Figure 2.32

GAMMA RAYS-SOURCE 1 (WATER) 4000 MW, U-235 + PU-239

Figure 2.33

BETA RAYS- SOURCE 1 (WATER) 4000 MW, U-235 + PU-239

Figure 2.34

Table 2.12

SOURCE 2, POWER=4000 MW, U=235+PU=239

ENERGY RELEASE RATES (MEV/SEC/WATT)

GAMMAS

BETAS

TIME	EQUILIBRIUM			200 DAYS			EQUILIBRIUM			200 DAYS		
AFTER LOCA (SEC)	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER
0.000	2.830+09	1.082+09	2.607+09	2.607+09	1.038+09	2.662+09	3.025+09	4.918+08	1.588+09	2.228+09	4.917+08	1.769+09
1.000+00	2.755+09	1.064+09	2.561+09	2.516+09	1.016+09	2.589+09	2.947+09	4.784+08	1.490+09	2.131+09	4.757+08	1.638+09
2.000+00	2.706+09	1.050+09	2.500+09	2.455+09	9.991+08	2.471+09	2.889+09	4.679+08	1.421+09	2.062+09	4.635+08	1.547+09
5.000+00	2.610+09	1.019+09	2.379+09	2.339+09	9.639+08	2.320+09	2.762+09	4.451+08	1.286+09	1.912+09	4.373+08	1.374+09
1.000+01	2.515+09	9.849+08	2.259+09	2.229+09	9.258+08	2.174+09	2.622+09	4.195+08	1.157+09	1.756+09	4.085+08	1.212+09
2.000+01	2.395+09	9.419+08	2.119+09	2.092+09	8.784+08	2.009+09	2.442+09	3.867+08	1.014+09	1.571+09	3.724+08	1.039+09
5.000+01	2.182+09	8.734+08	1.913+09	1.856+09	8.046+08	1.773+09	2.136+09	3.335+08	8.183+08	1.299+09	3.152+08	8.103+08
6.000+01	2.134+09	8.587+08	1.870+09	1.804+09	7.889+08	1.725+09	2.064+09	3.219+08	7.794+08	1.242+09	3.028+08	7.658+08
1.000+02	1.996+09	8.180+08	1.755+09	1.659+09	7.460+08	1.596+09	1.839+09	2.895+08	6.766+08	1.082+09	2.686+08	6.497+08
2.000+02	1.818+09	7.713+08	1.628+09	1.484+09	6.977+08	1.458+09	1.492+09	2.531+08	5.665+08	8.831+08	2.306+08	5.280+08
5.000+02	1.611+09	7.269+08	1.521+09	1.307+09	6.518+08	1.349+09	1.021+09	2.260+08	4.890+08	8.822+08	2.037+08	4.460+08
1.000+03	1.458+09	6.880+08	1.436+09	1.190+09	6.166+08	1.267+09	7.813+08	2.118+08	4.525+08	5.946+08	1.912+08	4.115+08
2.000+03	1.281+09	6.232+08	1.298+09	1.046+09	5.539+08	1.131+09	6.843+08	1.923+08	4.063+08	5.501+08	1.741+08	3.691+08
3.600+03	1.087+09	5.403+08	1.124+09	8.718+08	4.732+08	9.597+08	6.123+08	1.691+08	3.533+08	4.919+08	1.531+08	3.195+08
5.000+03	9.655+08	4.838+08	1.006+09	7.568+08	4.182+08	8.447+08	5.564+08	1.540+08	3.195+08	4.419+08	1.390+08	2.673+08
1.000+04	7.141+08	3.568+08	7.458+08	5.138+08	2.961+08	5.941+08	4.195+08	1.217+08	2.493+08	3.151+08	1.083+08	2.200+08
2.000+04	5.058+08	2.482+08	5.258+08	3.168+08	1.958+08	3.921+08	2.952+08	9.509+07	1.933+08	1.990+08	8.311+07	1.673+08
4.320+04	3.320+08	1.558+08	3.373+08	1.660+08	1.164+08	2.331+08	1.947+08	7.006+07	1.417+08	1.085+08	6.015+07	1.205+08
5.000+04	3.059+08	1.406+08	3.059+08	1.459+08	1.041+08	2.083+08	1.804+08	5.519+07	1.318+08	9.673+07	5.572+07	1.115+08
8.640+04	2.246+08	9.048+07	2.011+08	9.051+07	6.470+07	1.295+08	1.382+08	4.624+07	9.365+07	6.388+07	3.850+07	7.701+07
1.000+05	2.067+08	7.922+07	1.772+08	7.984+07	5.617+07	1.124+08	1.293+08	4.129+07	8.357+07	5.719+07	3.394+07	6.790+07
2.000+05	1.382+08	4.136+07	9.358+07	4.522+07	2.807+07	5.617+07	9.778+07	2.196+07	4.450+07	3.363+07	1.640+07	3.280+07
3.456+05	9.768+07	2.694+07	5.881+07	3.018+07	1.722+07	3.406+07	8.131+07	1.379+07	2.783+07	2.300+07	9.236+06	1.847+07
5.000+05	7.344+07	2.114+07	4.441+07	2.292+07	1.300+07	2.601+07	7.051+07	1.063+07	2.138+07	1.783+07	6.762+06	1.352+07
8.640+05	4.191+07	1.409+07	2.847+07	1.390+07	8.439+06	1.688+07	5.237+07	7.031+06	1.408+07	1.092+07	4.343+06	8.687+06
1.000+06	3.473+07	1.224+07	2.463+07	1.172+07	7.310+06	1.462+07	4.737+07	6.101+06	1.221+07	9.163+06	3.754+06	7.509+06
2.000+06	1.030+07	4.449+06	8.900+06	3.583+06	2.625+06	5.250+06	2.857+07	2.178+06	4.355+06	2.678+06	1.313+06	2.625+06
2.592+06	5.451+06	2.457+06	4.915+06	1.802+06	1.444+06	2.888+06	2.467+07	1.190+06	2.380+06	1.394+06	7.109+05	1.422+06
5.000+06	7.045+05	2.238+05	4.475+05	1.462+05	1.305+05	2.610+05	2.203+07	1.047+05	2.095+05	2.846+05	6.138+04	1.228+05
5.184+06	6.283+05	1.865+05	3.730+05	1.216+05	1.087+05	2.175+05	2.199+07	8.707+04	1.741+05	2.711+05	5.099+04	1.020+05
1.000+07	2.029+05	1.721+03	3.442+03	3.022+03	9.980+02	1.996+03	2.166+07	7.144+02	1.434+03	2.085+05	4.111+02	8.292+02
1.296+07	1.930+05	1.161+02	2.322+02	1.948+03	6.489+01	1.298+02	2.153+07	4.504+01	9.363+01	2.066+05	2.464+01	4.811+01
2.000+07	1.890+05	6.187+00	1.238+01	1.838+03	9.682+01	1.945+00	2.122+07	8.249+00	1.822+01	2.034+05	2.448+01	2.759+00
3.156+07	1.846+05	5.811+00	1.163+01	1.795+03	7.469+01	1.502+00	2.072+07	8.215+00	1.736+01	1.985+05	2.239+01	1.610+00

GAMMA RAYS-SOURCE 2 (AIR) 4000 MW, U-235 + PU239

Figure 2.35

BETA RAYS- SOURCE 2 (AIR) 4000 MW, U-235 + PU239

Figure 2.36

GAMMA RAYS-SOURCE 2 (PLATE OUT) 4000MH,U-235+PU-239

Figure 2.37

BETA RAYS- SOURCE 2 (PLATE OUT) 4000MW, U-235+PU-239

GAMMA RAYS-SOURCE 2 (WATER) 4000 MW, U-235 + PU-239

BETA RAYS- SOURCE 2 (WATER) 4000 MW, U-235 + PU-239

Table 2.13

SOURCE 1, POWER=4000 MW, 200 DAYS, U=235+PU=239

ENERGY RELEASE RATES (MEV/SEC/WATT)

GAMMAS

BETAS

TIME AFTER LOCA (SFC)	DAUGHTERS			NO DAUGHTERS			DAUGHTERS			NO DAUGHTERS		
	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER
0.000	2.201+10	6.661+09	1.520+10	2.201+10	6.661+09	1.520+10	2.086+10	4.079+09	1.101+10	2.086+10	4.079+09	1.101+10
1.000+00	2.112+10	6.436+09	1.446+10	2.091+10	6.433+09	1.445+10	1.987+10	3.848+09	1.012+10	1.953+10	3.843+09	1.010+10
2.000+00	2.055+10	6.295+09	1.397+10	2.025+10	6.290+09	1.395+10	1.917+10	3.708+09	9.538+09	1.865+10	3.700+09	9.507+09
5.000+00	1.946+10	6.017+09	1.305+10	1.899+10	6.010+09	1.302+10	1.766+10	3.440+09	8.443+09	1.699+10	3.424+09	8.399+09
1.000+01	1.847+10	5.733+09	1.217+10	1.781+10	5.724+09	1.213+10	1.610+10	3.170+09	7.434+09	1.543+10	3.148+09	7.378+09
2.000+01	1.725+10	5.389+09	1.119+10	1.632+10	5.380+09	1.115+10	1.427+10	2.855+09	6.365+09	1.355+10	2.825+09	6.296+09
5.000+01	1.511+10	4.867+09	9.787+09	1.388+10	4.857+09	9.752+09	1.167+10	2.396+09	4.972+09	1.074+10	2.357+09	4.885+09
1.000+02	1.462+10	4.757+09	9.504+09	1.338+10	4.747+09	9.470+09	1.113+10	2.302+09	4.704+09	1.018+10	2.262+09	4.615+09
2.000+02	1.329+10	4.457+09	8.748+09	1.204+10	4.447+09	8.716+09	9.623+09	2.043+09	4.006+09	8.643+09	2.003+09	3.918+09
5.000+02	1.166+10	4.108+09	7.924+09	1.047+10	4.097+09	7.892+09	7.732+09	1.747+09	3.263+09	6.732+09	1.716+09	3.192+09
1.000+03	9.991+09	3.771+09	7.248+09	8.641+09	3.755+09	7.211+09	5.796+09	1.493+09	2.716+09	4.525+09	1.479+09	2.682+09
2.000+03	8.953+09	3.504+09	6.753+09	7.353+09	3.481+09	6.701+09	4.975+09	1.345+09	2.454+09	3.273+09	1.339+09	2.437+09
5.000+03	7.793+09	3.109+09	5.989+09	6.126+09	3.074+09	5.916+09	4.630+09	1.176+09	2.155+09	2.531+09	1.170+09	2.138+09
1.000+04	6.417+09	2.641+09	5.064+09	5.055+09	2.599+09	4.976+09	4.152+09	1.013+09	1.846+09	2.047+09	1.003+09	1.822+09
2.000+04	5.516+09	2.337+09	4.458+09	4.453+09	2.291+09	4.363+09	3.711+09	9.189+08	1.659+09	1.796+09	9.047+08	1.626+09
5.000+04	4.645+09	1.680+09	3.158+09	3.157+09	1.628+09	3.052+09	2.560+09	7.273+08	1.283+09	1.294+09	7.019+08	1.231+09
1.000+05	2.142+09	1.149+09	2.123+09	1.942+09	1.092+09	2.007+09	1.501+09	5.694+08	9.881+08	5.881+08	5.293+08	9.075+08
2.000+05	1.032+09	7.320+08	1.311+09	9.919+08	6.768+08	1.200+09	7.268+08	4.191+08	7.189+08	6.029+08	3.694+08	5.193+08
5.000+05	8.973+08	6.662+08	1.183+09	8.721+08	6.134+08	1.078+09	6.380+08	3.905+08	6.677+08	5.603+08	3.415+08	5.697+08
1.000+06	5.607+08	4.537+08	7.741+08	5.586+08	4.168+08	7.001+08	4.223+08	2.835+08	4.744+08	4.159+08	2.470+08	4.013+08
2.000+06	5.012+08	4.068+08	6.846+08	5.004+08	3.751+08	6.212+08	3.838+08	2.562+08	4.243+08	3.812+08	2.249+08	3.617+08
5.000+06	3.069+08	2.467+08	3.843+08	3.069+08	2.344+08	3.597+08	2.493+08	1.518+08	2.324+08	2.492+08	1.414+08	2.116+08
1.000+07	2.126+08	1.774+08	2.613+08	2.126+08	1.701+08	2.464+08	1.807+08	1.066+08	1.516+08	1.807+08	1.066+08	1.399+08
2.000+07	1.617+08	1.462+08	2.092+08	1.617+08	1.406+08	1.979+08	1.416+08	8.867+07	1.215+08	1.416+08	8.384+07	1.118+08
5.000+07	4.515+07	1.077+08	1.485+08	9.513+07	1.048+08	1.426+08	8.515+07	6.859+07	8.961+07	8.511+07	6.559+07	8.363+07
1.000+08	7.914+07	9.791+07	1.332+08	7.913+07	9.555+07	1.285+08	7.068+07	6.351+07	8.167+07	7.065+07	6.104+07	7.674+07
2.000+08	2.218+07	5.584+07	6.850+07	2.217+07	5.531+07	6.745+07	1.858+07	1.102+07	4.736+07	1.855+07	4.046+07	4.624+07
5.000+08	1.091+07	4.357+07	5.053+07	1.090+07	4.333+07	5.005+07	8.868+06	3.411+07	3.754+07	8.843+06	3.388+07	3.708+07
1.000+09	7.719+06	2.336+07	2.393+07	7.699+06	2.328+07	2.389+07	1.160+06	2.153+07	2.182+07	1.144+06	2.152+07	2.181+07
2.000+09	6.389+06	2.256+07	2.109+07	6.372+06	2.250+07	2.305+07	1.080+06	2.101+07	2.125+07	1.066+06	2.100+07	2.124+07
5.000+09	1.295+04	1.208+07	1.209+07	1.259+04	1.208+07	1.209+07	7.288+05	1.318+07	1.319+07	7.213+05	1.318+07	1.319+07
1.000+10	1.296+07	7.160+03	8.684+06	8.856+03	8.684+06	8.684+06	7.198+05	1.067+07	1.067+07	7.150+05	1.067+07	1.067+07
2.000+10	6.565+03	4.019+06	4.019+06	6.274+03	4.019+06	4.019+06	7.060+05	7.215+06	7.215+06	7.047+05	7.215+06	7.215+06
5.000+10	3.156+07	6.413+03	1.273+06	6.125+03	1.273+06	1.273+06	6.886+05	4.643+06	4.643+06	6.882+05	4.643+06	4.642+06

Table 2.14

SOURCE 2, POWER=4000 MW, 200 DAYS, U=235+PU=239

ENERGY RELEASE RATES (MEV/SEC/WATT)

GAMMAS

BETAS

TIME AFTER LOCAL (SEC)	DAUGHTERS			NO DAUGHTERS			DAUGHTERS			NO DAUGHTERS		
	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER
0.000	2.740+09	1.051+09	2.758+09	2.740+09	1.051+09	2.758+09	2.355+09	5.039+08	1.890+09	2.355+09	5.039+08	1.890+09
1.000+00	2.639+09	1.027+09	2.632+09	2.619+09	1.027+09	2.629+09	2.248+09	4.865+08	1.741+09	2.213+09	4.857+08	1.737+09
2.000+00	2.573+09	1.009+09	2.545+09	2.542+09	1.004+09	2.540+09	2.171+09	4.734+08	1.639+09	2.119+09	4.721+08	1.633+09
5.000+00	2.444+09	9.717+08	2.378+09	2.398+09	9.707+08	2.372+09	2.006+09	4.455+08	1.446+09	1.939+09	4.431+08	1.437+09
1.000+01	2.327+09	9.313+08	2.219+09	2.241+09	9.302+08	2.211+09	1.835+09	4.151+08	1.268+09	1.768+09	4.115+08	1.256+09
2.000+01	2.179+09	8.817+08	2.041+09	2.087+09	8.803+08	2.033+09	1.633+09	3.771+08	1.079+09	1.551+09	3.720+08	1.065+09
5.000+01	1.926+09	8.049+08	1.789+09	1.805+09	8.033+08	1.781+09	1.343+09	3.177+08	8.327+08	1.251+09	3.103+08	8.147+08
6.000+01	1.871+09	7.887+08	1.738+09	1.746+09	7.871+08	1.730+09	1.283+09	3.044+08	7.853+08	1.166+09	2.972+08	7.669+08
1.000+02	1.715+09	7.446+08	1.603+09	1.591+09	7.428+08	1.595+09	1.114+09	2.696+08	6.621+08	1.016+09	2.618+08	6.438+08
2.000+02	1.528+09	6.951+08	1.468+08	1.409+09	6.931+08	1.451+09	9.057+08	2.305+08	5.336+08	8.056+08	2.243+08	5.189+08
5.000+02	1.338+09	6.506+08	1.344+09	1.203+09	6.475+08	1.338+09	6.981+08	2.030+08	4.476+08	5.709+08	2.001+08	4.403+08
1.000+03	1.215+09	6.134+08	1.264+09	1.055+09	6.086+08	1.252+09	6.093+08	1.903+08	4.120+08	4.390+08	1.890+08	4.082+08
2.000+03	1.067+09	5.567+08	1.127+09	9.008+08	5.438+08	1.112+09	5.655+08	1.732+08	3.689+08	3.555+08	1.719+08	3.653+08
3.600+03	8.887+08	4.701+08	9.546+08	7.525+08	4.616+08	9.367+08	5.062+08	1.522+08	3.167+08	2.957+08	1.501+08	3.135+08
5.000+03	7.705+08	4.152+08	8.344+08	6.441+08	4.040+08	8.207+08	4.543+08	1.381+08	2.862+08	2.627+08	1.353+08	2.797+08
1.000+04	5.204+08	2.937+08	5.894+08	4.714+08	2.833+08	5.681+08	3.211+08	1.075+08	2.187+08	1.945+08	1.024+08	2.081+08
2.000+04	3.173+08	1.943+08	3.891+08	2.972+08	1.829+08	3.659+08	1.988+08	8.254+07	1.663+08	1.375+08	7.452+07	1.501+08
4.320+04	1.632+08	1.156+08	2.314+08	1.592+08	1.044+08	2.093+08	1.054+08	5.976+07	1.197+08	9.301+07	4.982+07	9.079+07
5.000+04	1.430+08	1.033+08	2.067+08	1.405+08	9.277+07	1.856+08	9.363+07	5.534+07	1.108+08	8.586+07	4.554+07	9.119+07
8.640+04	8.843+07	6.403+07	1.281+08	8.622+07	5.864+07	1.133+08	6.188+07	3.816+07	7.633+07	6.123+07	3.086+07	6.172+07
1.000+05	7.807+07	5.551+07	1.111+08	7.798+07	4.917+07	9.834+07	5.556+07	3.861+07	6.723+07	5.531+07	2.736+07	5.471+07
2.000+05	4.443+07	2.749+07	5.499+07	4.443+07	2.503+07	5.085+07	3.313+07	1.611+07	3.223+07	3.313+07	1.403+07	2.807+07
3.456+05	2.963+07	1.673+07	3.348+07	2.963+07	1.524+07	3.050+07	2.272+07	8.999+06	1.800+07	2.271+07	7.833+06	1.567+07
5.000+05	2.246+07	1.254+07	2.517+07	2.246+07	1.144+07	2.292+07	1.759+07	6.562+06	1.312+07	1.759+07	5.597+06	1.119+07
8.640+05	1.359+07	8.159+06	1.630+07	1.359+07	7.559+06	1.512+07	1.076+07	4.205+06	8.409+06	1.076+07	3.607+06	7.214+06
1.000+06	1.144+07	7.057+06	1.411+07	1.144+07	6.587+06	1.317+07	9.032+06	3.034+06	7.267+06	9.028+06	3.140+06	6.281+06
2.000+06	3.085+06	2.532+06	5.063+06	3.484+06	2.427+06	4.853+06	2.636+06	1.248+06	2.537+06	2.635+06	1.156+06	2.313+06
2.592+06	1.789+06	1.392+06	2.768+06	1.788+06	1.344+06	2.689+06	1.378+06	6.664+05	1.373+06	1.373+06	6.466+05	1.281+06
5.000+06	1.413+05	1.257+05	2.515+05	1.412+05	1.217+05	2.433+05	2.910+05	5.916+04	1.163+05	2.893+05	5.797+04	1.159+05
5.184+06	1.174+05	1.048+05	2.095+05	1.174+05	1.013+05	2.025+05	2.778+05	4.915+04	9.831+04	2.763+05	4.824+04	9.650+04
1.000+07	3.056+03	9.614+02	1.923+03	3.019+03	8.292+02	1.654+03	2.169+05	3.966+02	8.000+02	2.162+05	3.952+02	7.903+02
1.294+07	8.254+01	1.251+02	1.049+03	4.327+01	8.055+01	1.505+03	2.150+05	2.086+01	4.721+01	2.145+05	2.063+01	4.126+01
2.000+07	1.911+03	9.968+01	2.002+03	1.882+03	4.841+02	9.682+02	2.116+05	2.532+01	3.059+01	2.114+05	3.376+02	6.755+02
3.156+07	1.867+03	7.837+01	1.575+03	1.837+03	9.843+01	1.977+02	2.065+05	2.329+01	1.748+01	2.065+05	1.542+02	3.083+02

GAMMA+BETA- SOURCE 1 (AIR), 4000 MW, U-235+PU-239

GAMMA+BETA- SOURCE 1 (P.O.), 4000 MW, U235+PU239

GAMMA+BETA- SOURCE 1 (WATER), 4000 MW, U235+PU239

Figure 2.43

GAMMA+BETA- SOURCE 2 (AIR), 4000 MW, U-235+PU-239

Figure 2.44

GAMMA+BETA- SOURCE 2 (P.O.), 4000 MW, U235+PU239

Figure 2.45

GAMMA+BETA- SOURCE 2 (WATER), 4000 MW, U235+PU239

Figure 2.46

GAMMA+BETA- SOURCE 1 (AIR), 4000 MW, U-235+PU-239 (ND)

GAMMA+BETA- SOURCE 1 (P.O.), 4000 MW, U235+PU239 (ND)

Figure 2.43

GAMMA+BETA- SOURCE 1 (WATER), 4000 MW, U235+PU239 (ND)

Figure 2.49

GAMMA+BETA- SOURCE 2 (AIR), 4000 MW, U-235+PU-239 (ND)

GAMMA+BETA- SOURCE 2 (P.O.), 4000 MW, U235+PU239 (ND)

Figure 2.51

GAMMA+BETA- SOURCE 2 (WATER), 4000 MW, U235+PU239 (ND)

A second possibility is to include the daughter contributions only if they are of the same type as originally specified. For example, for Source 1-airborne, any daughters that are also noble gases or iodines would be included, others would not. This case was also calculated for Sources 1-5 and the resulting tables (Tables 2.15-2.20) and figures (Figures 2.53-2.70) follow.

A third treatment of daughters was investigated in which all fission products are released but only the specified types are tallied at each cooling time. This differs from the Regulatory Guide 1.89 specifications, but it is of interest because it is a much simpler case to calculate. In essence it permits the daughters of nonspecified fission products to be included if they are the types of interest, and it retains daughters of the specified types only if they are the same species. Most of the standard fission product codes can perform these calculations with little or no modification. These results for Sources 1 and 2 at the four irradiation times are given in Tables 2.21 through 2.24 and shown in Figures 2.71 through 2.82. We denote this treatment the "continuous release" method.

2.4 DISCUSSION OF THE RESULTS

The voluminous quantity of data generated in this study and described in the previous section requires much intercomparison in order to draw conclusions concerning the effects of the various parameters considered. In the following sections brief discussions of the effects of each of the parameters is given and illustrated with cross plots of the data shown earlier.

2.4.1 Effects of Irradiation History

The length of irradiation and operating power are two variables which influence the fission product energy release rates and spectra. The length of irradiation affects the buildup and inventory of fission products in a well understood way described by the equations of radioactive decay. At long irradiation and cooling times, for example, the results are dominated by the long half-life species. As noted earlier, the energy release rate results for equilibrium, 5000 d, 500 d and 200 d irradiations showed little difference at short cooling times ($\approx$ 1 day). At longer times, however, there are notable

Table 2.15

SOURCE=1, POWER=1 WATT, PURE U-235 (NO DAUGHTERS)

GAMMA-RAY ENERGY RELEASE RATE (MEV/SEC/WATT)

TIME	EQUILIBRIUM			5000 DAYS			500 DAYS			200 DAYS		
AFTER LOCA (SEC)	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER
0.000	2.362+10	6.763+09	1.569+10	2.362+10	6.754+09	1.568+10	2.362+10	6.750+09	1.567+10	2.362+10	6.744+09	1.567+10
1.000+00	2.244+10	6.522+09	1.486+10	2.244+10	6.513+09	1.485+10	2.244+10	6.509+09	1.485+10	2.244+10	6.503+09	1.484+10
2.000+00	2.170+10	6.372+09	1.432+10	2.170+10	6.362+09	1.431+10	2.170+10	6.359+09	1.431+10	2.170+10	6.353+09	1.431+10
5.000+00	2.035+10	6.078+09	1.332+10	2.035+10	6.069+09	1.331+10	2.035+10	6.065+09	1.330+10	2.035+10	6.059+09	1.330+10
1.000+01	1.909+10	5.781+09	1.237+10	1.909+10	5.771+09	1.236+10	1.909+10	5.768+09	1.235+10	1.909+10	5.762+09	1.235+10
2.000+01	1.749+10	5.423+09	1.132+10	1.749+10	5.414+09	1.131+10	1.749+10	5.410+09	1.131+10	1.749+10	5.404+09	1.130+10
5.000+01	1.489+10	4.884+09	9.850+09	1.489+10	4.875+09	9.841+09	1.489+10	4.872+09	9.837+09	1.489+10	4.868+09	9.831+09
6.000+01	1.435+10	4.772+09	9.555+09	1.435+10	4.763+09	9.545+09	1.435+10	4.759+09	9.542+09	1.435+10	4.753+09	9.536+09
1.000+02	1.293+10	4.464+09	8.767+09	1.293+10	4.455+09	8.758+09	1.293+10	4.451+09	8.754+09	1.293+10	4.445+09	8.748+09
2.000+02	1.126+10	4.108+09	7.913+09	1.126+10	4.099+09	7.903+09	1.126+10	4.095+09	7.900+09	1.126+10	4.089+09	7.894+09
5.000+02	9.318+09	3.762+09	7.216+09	9.317+09	3.753+09	7.207+09	9.317+09	3.749+09	7.203+09	9.317+09	3.743+09	7.197+09
1.000+03	7.971+09	3.486+09	6.703+09	7.971+09	3.477+09	6.693+09	7.971+09	3.473+09	6.690+09	7.971+09	3.467+09	6.684+09
2.000+03	6.700+09	3.080+09	5.914+09	6.699+09	3.070+09	5.904+09	6.699+09	3.067+09	5.901+09	6.699+09	3.061+09	5.895+09
3.600+03	5.584+09	2.604+09	4.970+09	5.584+09	2.595+09	4.960+09	5.584+09	2.591+09	4.957+09	5.584+09	2.585+09	4.951+09
5.000+03	4.951+09	2.296+09	4.356+09	4.951+09	2.287+09	4.347+09	4.951+09	2.284+09	4.343+09	4.951+09	2.278+09	4.337+09
1.000+04	3.570+09	1.635+09	3.047+09	3.570+09	1.626+09	3.038+09	3.570+09	1.622+09	3.034+09	3.570+09	1.616+09	3.029+09
2.000+04	2.243+09	1.102+09	2.309+09	2.243+09	1.093+09	2.000+09	2.243+09	1.089+09	1.997+09	2.243+09	1.083+09	1.991+09
4.320+04	1.158+09	6.903+08	1.209+09	1.158+09	6.811+08	1.200+09	1.155+09	6.774+08	1.196+09	1.155+09	6.714+08	1.190+09
5.000+04	1.011+09	6.273+08	1.087+09	1.011+09	6.179+08	1.078+09	1.011+09	6.143+08	1.074+09	1.011+09	6.083+08	1.068+09
8.640+04	3.191+08	4.311+08	7.107+08	3.191+08	4.218+08	7.016+08	3.188+08	4.182+08	6.980+08	3.188+08	4.122+08	6.920+08
1.000+05	5.447+08	1.389+08	6.322+08	5.445+08	1.380+08	6.229+08	5.445+08	1.376+08	6.193+08	5.445+08	1.370+08	6.133+08
2.000+05	3.093+08	2.493+08	1.720+08	3.093+08	2.403+08	3.627+08	3.093+08	2.367+08	3.591+08	3.093+08	2.307+08	3.532+08
3.556+05	2.103+08	1.838+08	2.598+08	2.102+08	1.766+08	2.506+08	2.101+08	1.730+08	2.470+08	2.101+08	1.672+08	2.411+08
5.000+05	1.598+08	1.567+08	2.121+08	1.595+08	1.474+08	2.026+08	1.594+08	1.439+08	1.993+08	1.594+08	1.381+08	1.935+08
8.640+05	9.383+07	1.214+08	1.579+08	9.372+07	1.122+08	1.487+08	9.362+07	1.086+08	1.451+08	9.362+07	1.031+08	1.396+08
1.000+06	7.801+07	1.123+08	1.441+08	7.793+07	1.031+08	1.340+08	7.783+07	9.953+07	1.313+08	7.782+07	9.410+07	1.259+08
2.000+06	2.173+07	7.234+07	3.408+07	2.182+07	6.313+07	7.484+07	2.172+07	5.959+07	7.130+07	2.171+07	5.471+07	6.642+07
2.592+06	1.087+07	6.026+07	6.377+07	1.075+07	5.105+07	5.753+07	1.066+07	4.753+07	5.402+07	1.065+07	4.295+07	4.943+07
5.000+06	7.315+05	3.741+07	4.002+07	7.313+05	3.321+07	3.080+07	7.366+05	2.677+07	2.736+07	7.469+05	2.321+07	2.380+07
5.184+06	8.325+05	3.860+07	3.712+07	7.243+05	2.941+07	2.990+07	6.276+05	2.597+07	2.646+07	6.179+05	2.248+07	2.297+07
1.000+07	2.253+05	2.276+07	2.679+07	1.182+05	1.760+07	1.760+07	2.215+04	1.427+07	1.427+07	1.262+04	1.211+07	1.211+07
1.296+07	2.187+05	2.277+07	2.280+07	1.120+05	1.363+07	1.363+07	1.656+04	1.036+07	1.036+07	7.079+03	8.708+06	8.708+06
2.000+07	2.153+05	1.724+07	1.727+07	1.099+05	8.144+06	8.144+06	1.585+04	4.963+06	4.963+06	6.511+03	4.017+06	4.017+06
3.156+07	2.111+05	1.386+07	1.388+07	1.074+05	4.837+06	4.837+06	1.548+04	1.761+06	1.761+06	6.356+03	1.244+06	1.244+06

Table 2.16

SOURCE=1, POWER=1 WATT, PURE U-235 (NO DAUGHTERS)

BETA ENERGY RELEASE RATE (MEV/SEC/WATT)

TIME AFTER LOCA (SEC)	EQUILIBRIUM			5000 DAYS			500 DAYS			200 DAYS		
	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER
0.000	2.255+10	4.200+09	1.163+10	2.254+10	4.182+09	1.162+10	2.253+10	4.168+09	1.160+10	2.253+10	4.158+09	1.159+10
1.000+00	2.109+10	3.951+09	1.064+10	2.108+10	3.934+09	1.062+10	2.107+10	3.920+09	1.061+10	2.107+10	3.909+09	1.059+10
2.000+00	2.013+10	3.801+09	9.987+08	2.012+10	3.784+09	9.969+08	2.011+10	3.770+09	9.955+08	2.011+10	3.759+09	9.944+08
5.000+00	1.832+10	3.514+09	8.781+08	1.831+10	3.496+09	8.764+08	1.830+10	3.482+09	8.750+08	1.830+10	3.472+09	8.739+08
1.000+01	1.664+10	3.227+09	7.680+08	1.663+10	3.210+09	7.663+08	1.662+10	3.196+09	7.649+08	1.662+10	3.185+09	7.638+08
2.000+01	1.462+10	2.894+09	6.523+08	1.461+10	2.876+09	6.506+08	1.460+10	2.862+09	6.492+08	1.460+10	2.851+09	6.481+08
5.000+01	1.164+10	2.414+09	5.030+08	1.163+10	2.396+09	5.012+08	1.162+10	2.382+09	4.998+08	1.162+10	2.372+09	4.988+08
6.000+01	1.105+10	2.316+09	4.746+08	1.104+10	2.294+09	4.729+08	1.103+10	2.284+09	4.715+08	1.102+10	2.274+09	4.704+08
1.000+02	9.429+09	2.052+09	4.016+08	9.420+09	2.035+09	3.998+08	9.409+09	2.021+09	3.984+08	9.408+09	2.010+09	3.974+08
2.000+02	7.439+09	1.761+09	3.261+08	7.429+09	1.743+09	3.244+08	7.418+09	1.729+09	3.230+08	7.417+09	1.719+09	3.219+08
5.000+02	5.156+09	1.522+09	2.735+08	5.146+09	1.504+09	2.717+08	5.135+09	1.490+09	2.703+08	5.134+09	1.480+09	2.693+08
1.000+03	3.860+09	1.382+09	2.485+08	3.851+09	1.364+09	2.467+08	3.840+09	1.350+09	2.454+08	3.839+09	1.339+09	2.443+08
2.000+03	3.084+09	1.212+09	2.184+08	3.075+09	1.194+09	2.166+08	3.064+09	1.180+09	2.152+08	3.063+09	1.170+09	2.141+08
5.000+03	2.566+09	1.045+09	1.864+08	2.557+09	1.027+09	1.846+08	2.546+09	1.013+09	1.832+08	2.545+09	1.003+09	1.821+08
5.000+03	2.290+09	9.465+08	1.669+08	2.281+09	9.288+08	1.651+08	2.270+09	9.148+08	1.637+08	2.269+09	9.043+08	1.627+08
1.000+04	1.721+09	7.437+08	1.270+08	1.712+09	7.260+08	1.252+08	1.701+09	7.120+08	1.238+08	1.700+09	7.015+08	1.228+08
2.000+04	1.224+09	5.712+08	9.471+07	1.215+09	5.535+08	9.293+07	1.204+09	5.396+08	9.153+07	1.203+09	5.291+08	9.048+07
4.320+04	8.121+08	4.111+08	6.592+07	8.030+08	3.934+08	6.415+07	7.920+08	3.795+08	6.275+07	7.909+08	3.690+08	6.170+07
5.000+04	7.439+08	3.831+08	6.096+07	7.347+08	3.654+08	5.919+07	7.237+08	3.515+08	5.779+07	7.226+08	3.410+08	5.674+07
6.640+04	5.113+08	2.883+08	4.410+07	5.022+08	2.706+08	4.233+07	4.911+08	2.567+08	4.094+07	4.901+08	2.462+08	3.988+07
1.000+05	4.577+08	2.662+08	3.701+07	4.435+08	2.483+08	3.837+07	4.376+08	2.346+08	3.698+07	4.365+08	2.241+08	3.593+07
2.000+05	2.758+08	1.827+08	2.517+07	2.657+08	1.651+08	2.339+07	2.557+08	1.512+08	2.200+07	2.546+08	1.401+08	2.096+07
3.458+05	2.008+08	1.423+08	1.804+07	1.917+08	1.246+08	1.627+07	1.807+08	1.107+08	1.488+07	1.796+08	1.003+08	1.384+07
5.000+05	1.617+08	1.254+08	1.526+07	1.526+08	1.078+08	1.348+07	1.416+08	9.392+07	1.210+08	1.405+08	8.362+07	1.107+07
5.640+05	1.055+08	1.072+08	1.247+07	9.643+07	8.955+07	1.070+08	8.543+07	7.579+07	9.320+07	8.434+07	6.567+07	8.308+07
1.230+06	9.115+07	1.027+07	1.178+07	8.207+07	8.497+07	1.001+08	7.108+07	7.124+07	8.640+07	6.999+07	6.119+07	7.634+07
2.000+06	3.946+07	3.162+07	8.724+07	3.040+07	6.393+07	6.953+07	1.943+07	5.043+07	5.601+07	1.834+07	4.084+07	4.642+07
2.592+06	2.984+07	7.467+07	7.781+07	2.079+07	5.701+07	6.010+07	9.833+06	4.362+07	4.671+07	8.745+06	3.272+07	3.737+07
5.000+06	2.215+07	6.080+07	6.112+07	1.314+07	4.317+07	4.345+07	2.243+06	3.025+07	3.053+07	1.161+06	2.181+07	2.209+07
5.184+06	2.206+07	6.017+07	6.044+07	1.306+07	4.254+07	4.277+07	2.165+06	2.966+07	2.989+07	1.083+06	2.128+07	2.151+07
1.000+07	2.152+07	4.986+07	4.991+07	1.261+07	3.230+07	3.230+07	1.820+06	2.027+07	2.028+07	7.084+05	1.326+07	1.326+07
1.296+07	2.139+07	4.612+07	4.616+07	1.253+07	2.859+07	2.859+07	1.807+06	1.704+07	1.704+07	7.421+05	1.068+07	1.068+07
2.000+07	2.109+07	4.032+07	4.036+07	1.235+07	2.289+07	2.289+07	1.781+06	1.231+07	1.231+07	7.313+05	7.147+06	7.147+06
4.156+07	2.060+07	3.497+07	3.501+07	1.206+07	1.767+07	1.769+07	1.733+06	5.369+06	8.369+06	7.142+05	4.554+06	4.554+06

GAMMA RAYS-SOURCE 1 (AIR), 1 WATT, PURE U-235 (ND)

BETA RAYS- SOURCE 1 (AIR), 1 WATT, PURE U-235 (ND)

GAMMA RAYS-SOURCE 1 (PLATE OUT), 1 WATT, U-235 (ND)

Figure 2.55

BETA RAYS- SOURCE 1 (PLATE OUT), 1 WATT, U-235 (ND)

Figure 2.56

GAMMA RAYS-SOURCE 1 (WATER), 1 WATT, PURE U-235(ND)

Figure 2.57

BETA RAYS- SOURCE 1 (WATER), 1 WATT, PURE U-235(ND)

Figure 2.53

Table 2.17

SOURCE=2, POWER=1 WATT, PURE U-235 (NO DAUGHTERS)

GAMMA-RAY ENERGY RELEASE RATE (MEV/SEC/WATT)

TIME	EQUILIBRIUM			5000 DAYS			500 DAYS			200 DAYS		
AFTER LOCA (SEC)	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER
0.000	2.909+09	1.063+09	2.847+09	2.909+09	1.063+09	2.847+09	2.909+09	1.063+09	2.847+09	2.909+09	1.063+09	2.847+09
1.000+00	2.778+09	1.037+09	2.705+09	2.778+09	1.037+09	2.705+09	2.778+09	1.037+09	2.705+09	2.778+09	1.037+09	2.705+09
2.000+00	2.695+09	1.017+09	2.608+09	2.695+09	1.017+09	2.608+09	2.695+09	1.017+09	2.608+09	2.695+09	1.017+09	2.608+09
3.000+00	2.540+09	9.775+08	2.424+09	2.540+09	9.775+08	2.424+09	2.540+09	9.775+08	2.424+09	2.540+09	9.775+08	2.424+09
1.000+01	2.392+09	9.349+08	2.251+09	2.392+09	9.349+08	2.251+09	2.392+09	9.349+08	2.251+09	2.392+09	9.349+08	2.251+09
2.000+01	2.206+09	8.829+08	2.061+09	2.206+09	8.829+08	2.061+09	2.206+09	8.829+08	2.061+09	2.206+09	8.829+08	2.061+09
3.000+01	1.906+09	8.033+08	1.795+09	1.906+09	8.033+08	1.795+09	1.906+09	8.033+08	1.795+09	1.906+09	8.033+08	1.795+09
6.000+01	1.844+09	7.866+08	1.742+09	1.844+09	7.866+08	1.742+09	1.844+09	7.866+08	1.742+09	1.844+09	7.866+08	1.742+09
1.000+02	1.679+09	7.411+08	1.600+09	1.679+09	7.411+08	1.600+09	1.679+09	7.411+08	1.600+09	1.679+09	7.411+08	1.600+09
2.000+02	1.487+09	6.903+08	1.450+09	1.487+09	6.903+08	1.450+09	1.487+09	6.903+08	1.450+09	1.487+09	6.903+08	1.450+09
3.000+02	1.270+09	6.443+08	1.334+09	1.270+09	6.443+08	1.334+09	1.270+09	6.443+08	1.334+09	1.270+09	6.443+08	1.334+09
1.000+03	1.116+09	6.054+08	1.248+09	1.116+09	6.054+08	1.248+09	1.116+09	6.054+08	1.248+09	1.116+09	6.054+08	1.248+09
2.000+03	9.575+08	5.406+08	1.107+09	9.575+08	5.406+08	1.107+09	9.575+08	5.406+08	1.107+09	9.575+08	5.406+08	1.107+09
3.000+03	8.048+08	4.585+08	9.314+08	8.048+08	4.585+08	9.314+08	8.048+08	4.585+08	9.314+08	8.048+08	4.585+08	9.314+08
5.000+03	7.133+08	4.030+08	8.148+08	7.133+08	4.030+08	8.148+08	7.133+08	4.030+08	8.148+08	7.133+08	4.030+08	8.148+08
1.000+04	5.124+08	2.809+08	5.633+08	5.124+08	2.809+08	5.633+08	5.124+08	2.809+08	5.633+08	5.124+08	2.809+08	5.633+08
2.000+04	3.270+08	1.813+08	3.627+08	3.270+08	1.813+08	3.627+08	3.270+08	1.813+08	3.627+08	3.270+08	1.813+08	3.627+08
4.320+04	1.753+08	1.037+08	2.075+08	1.753+08	1.037+08	2.075+08	1.753+08	1.037+08	2.075+08	1.753+08	1.037+08	2.075+08
5.000+04	1.542+08	9.195+07	1.839+08	1.542+08	9.195+07	1.839+08	1.542+08	9.195+07	1.839+08	1.542+08	9.195+07	1.839+08
8.640+04	1.399+07	5.595+07	1.119+08	1.399+07	5.595+07	1.119+08	1.399+07	5.595+07	1.119+08	1.399+07	5.595+07	1.119+08
1.000+05	4.446+07	2.448+07	4.899+07	4.446+07	2.448+07	4.899+07	4.446+07	2.448+07	4.899+07	4.446+07	2.448+07	4.899+07
2.000+05	2.921+07	1.480+07	2.960+07	2.921+07	1.480+07	2.960+07	2.921+07	1.480+07	2.960+07	2.921+07	1.480+07	2.960+07
3.456+05	2.210+07	1.108+07	2.217+07	2.210+07	1.108+07	2.217+07	2.210+07	1.108+07	2.217+07	2.210+07	1.108+07	2.217+07
5.000+05	1.337+07	7.301+06	1.460+07	1.337+07	7.301+06	1.460+07	1.337+07	7.301+06	1.460+07	1.337+07	7.301+06	1.460+07
8.640+05	1.126+07	6.363+06	1.273+07	1.126+07	6.363+06	1.273+07	1.126+07	6.363+06	1.273+07	1.126+07	6.363+06	1.273+07
1.000+06	3.457+06	2.348+06	4.695+06	3.457+06	2.348+06	4.695+06	3.457+06	2.348+06	4.695+06	3.457+06	2.348+06	4.695+06
2.000+06	1.801+06	1.303+06	2.606+06	1.801+06	1.303+06	2.606+06	1.801+06	1.303+06	2.606+06	1.801+06	1.303+06	2.606+06
5.000+06	1.983+05	1.230+05	2.461+05	1.983+05	1.230+05	2.461+05	1.983+05	1.230+05	2.461+05	1.983+05	1.230+05	2.461+05
5.184+06	1.752+05	1.030+05	2.067+05	1.752+05	1.030+05	2.067+05	1.752+05	1.030+05	2.067+05	1.752+05	1.030+05	2.067+05
1.600+07	6.405+04	6.048+03	1.289+04	6.405+04	6.048+03	1.289+04	6.405+04	6.048+03	1.289+04	6.405+04	6.048+03	1.289+04
1.296+07	6.272+04	5.687+03	1.137+04	6.272+04	5.687+03	1.137+04	6.272+04	5.687+03	1.137+04	6.272+04	5.687+03	1.137+04
2.000+07	6.183+04	5.645+03	1.129+04	6.183+04	5.645+03	1.129+04	6.183+04	5.645+03	1.129+04	6.183+04	5.645+03	1.129+04
3.156+07	6.051+04	5.645+03	1.129+04	6.051+04	5.645+03	1.129+04	6.051+04	5.645+03	1.129+04	6.051+04	5.645+03	1.129+04

Table 2.18

SOURCE=2, POWER=1 WATT, PURE U-235 (NO DAUGHTERS)

BETA ENERGY RELEASE RATE (MEV/SEC/WATT)

TIME	EQUILIBRIUM			5000 DAYS			500 DAYS			200 DAYS		
AFTER LOCA (SEC)	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER
0.000	2.535+09	5.150+08	2.002+09	2.532+09	5.150+08	2.002+09	2.529+09	5.150+08	2.002+09	2.529+09	5.150+08	2.002+09
1.000+00	2.380+09	4.956+08	1.832+09	2.377+09	4.956+08	1.832+09	2.374+09	4.956+08	1.832+09	2.374+09	4.956+08	1.832+09
2.000+00	2.277+09	4.811+08	1.718+09	2.274+09	4.811+08	1.718+09	2.271+09	4.811+08	1.718+09	2.271+09	4.811+08	1.718+09
5.000+00	2.081+09	4.505+08	1.503+09	2.079+09	4.505+08	1.503+09	2.075+09	4.505+08	1.503+09	2.075+09	4.505+08	1.503+09
1.000+01	1.897+09	4.173+08	1.307+09	1.894+09	4.173+08	1.306+09	1.891+09	4.173+08	1.306+09	1.891+09	4.173+08	1.306+09
2.000+01	1.676+09	3.761+08	1.101+09	1.673+09	3.761+08	1.101+09	1.670+09	3.761+08	1.101+09	1.669+09	3.761+08	1.101+09
5.000+01	1.346+09	3.122+08	8.343+08	1.344+09	3.122+08	8.343+08	1.340+09	3.122+08	8.343+08	1.340+09	3.122+08	8.343+08
6.000+01	1.281+09	2.987+08	7.837+08	1.278+09	2.987+08	7.837+08	1.275+09	2.987+08	7.837+08	1.274+09	2.987+08	7.837+08
1.000+02	1.101+09	2.623+08	6.541+08	1.098+09	2.623+08	6.540+08	1.095+09	2.623+08	6.540+08	1.094+09	2.623+08	6.540+08
2.000+02	8.817+08	2.239+08	5.232+08	8.790+08	2.239+08	5.232+08	8.757+08	2.239+08	5.232+08	8.754+08	2.239+08	5.232+08
5.000+02	6.391+08	1.993+08	4.413+08	6.364+08	1.993+08	4.413+08	6.331+08	1.993+08	4.413+08	6.328+08	1.993+08	4.413+08
1.000+03	5.028+08	1.881+08	4.085+08	5.001+08	1.881+08	4.084+08	4.968+08	1.881+08	4.084+08	4.965+08	1.881+08	4.084+08
2.000+03	4.159+08	1.710+08	3.649+08	4.132+08	1.710+08	3.649+08	4.099+08	1.710+08	3.649+08	4.095+08	1.710+08	3.649+08
3.600+03	3.525+08	1.492+08	3.126+08	3.498+08	1.492+08	3.126+08	3.465+08	1.492+08	3.126+08	3.461+08	1.492+08	3.126+08
5.000+03	3.169+08	1.344+08	2.786+08	3.142+08	1.344+08	2.786+08	3.109+08	1.344+08	2.786+08	3.106+08	1.344+08	2.786+08
1.000+04	2.419+08	1.017+08	2.068+08	2.392+08	1.017+08	2.068+08	2.359+08	1.017+08	2.068+08	2.356+08	1.017+08	2.068+08
2.000+04	1.756+08	7.397+07	1.490+08	1.729+08	7.396+07	1.490+08	1.696+08	7.396+07	1.490+08	1.693+08	7.396+07	1.490+08
4.320+04	1.182+08	4.944+07	9.904+07	1.154+08	4.943+07	9.902+07	1.121+08	4.943+07	9.902+07	1.118+08	4.943+07	9.902+07
5.000+04	1.084+08	4.518+07	9.047+07	1.057+08	4.518+07	9.045+07	1.024+08	4.518+07	9.045+07	1.021+08	4.518+07	9.045+07
8.640+04	7.489+07	3.054+07	6.106+07	7.216+07	3.053+07	6.106+07	6.886+07	3.053+07	6.106+07	6.853+07	3.053+07	6.106+07
1.000+05	6.706+07	2.705+07	5.410+07	6.433+07	2.704+07	5.408+07	6.103+07	2.704+07	5.408+07	6.070+07	2.704+07	5.408+07
2.000+05	5.989+07	1.378+07	2.755+07	5.717+07	1.377+07	2.755+07	5.387+07	1.377+07	2.755+07	5.354+07	1.377+07	2.755+07
3.456+05	2.866+07	7.627+06	1.525+07	2.614+07	7.618+06	1.524+07	2.283+07	7.618+06	1.524+07	2.251+07	7.618+06	1.524+07
5.000+05	2.374+07	5.425+06	1.085+07	2.102+07	5.416+06	1.083+07	1.772+07	5.416+06	1.083+07	1.739+07	5.416+06	1.083+07
8.640+05	1.697+07	3.490+06	6.980+06	1.425+07	3.481+06	6.962+06	1.095+07	3.481+06	6.962+06	1.062+07	3.481+06	6.962+06
1.000+06	1.526+07	3.040+06	6.079+06	1.254+07	3.031+06	6.061+06	9.240+06	3.031+06	6.061+06	8.912+06	3.031+06	6.061+06
2.000+06	8.931+06	1.125+06	2.250+06	8.717+06	1.116+06	2.232+06	8.296+06	1.116+06	2.232+06	8.000+06	1.116+06	2.232+06
2.592+06	7.652+06	6.270+05	1.254+06	7.407+06	6.182+05	1.236+06	6.684+06	6.182+05	1.236+06	6.358+06	6.182+05	1.236+06
5.000+06	6.588+06	8.475+04	1.295+05	6.391+06	5.595+04	1.119+05	6.202+05	5.595+04	1.119+05	5.955+05	5.595+04	1.119+05
5.184+06	6.573+06	5.537+04	1.107+05	6.377+06	4.656+04	9.313+04	6.074+05	4.656+04	9.313+04	5.828+05	4.656+04	9.313+04
1.000+07	6.453+06	9.187+03	1.837+04	6.373+06	3.817+02	7.634+02	5.457+05	3.814+02	7.627+02	5.243+05	3.813+02	7.627+02
1.296+07	6.414+06	8.826+03	1.765+04	6.370+06	2.028+01	4.056+01	5.421+05	1.993+01	3.987+01	5.226+05	1.991+01	3.982+01
2.000+07	6.322+06	8.806+03	1.761+04	6.370+06	3.999+00	7.998+00	5.343+05	5.509+02	1.102+01	5.194+05	3.211+02	6.423+02
3.156+07	6.174+06	8.606+03	1.761+04	6.319+06	3.822+01	7.644+01	5.218+05	3.737+02	7.474+02	5.103+05	1.440+02	2.879+02

GAMMA RAYS-SOURCE 2 (AIR), 1 WATT, PURE U-235 (ND)

Figure 2.59

BETA RAYS- SOURCE 2 (AIR), 1 WATT, PURE U-235 (ND)

Figure 2.60

GAMMA RAYS-SOURCE 2 (PLATE OUT), 1 WATT, U-235 (ND)

Figure 2.61

BETA RAYS- SOURCE 2 (PLATE OUT), 1 WATT, U-235 (ND)

GAMMA RAYS-SOURCE 2 (WATER), 1 WATT, PURE U-235(ND)

BETA RAYS- SOURCE 2 (WATER), 1 WATT, PURE U-235(ND)

Figure 2.64

Table 2.19
SOURCES 3,4,5, POWER=1 WATT, PURE U-235 (NO DAUGHTERS)

GAMMA-RAY ENERGY RELEASE RATE (MEV/SEC/WATT)

TIME	EQUILIBRIUM			5000 DAYS			500 DAYS			200 DAYS		
AFTER LOCA (SEC)	100% HALOGENS	100% IODINES	100% NOBLE GASES	100% HALOGENS	100% IODINES	100% NOBLE GASES	100% HALOGENS	100% IODINES	100% NOBLE GASES	100% HALOGENS	100% IODINES	100% NOBLE GASES
0.000	2.848+10	2.126+10	1.831+10	2.848+10	2.126+10	1.831+10	2.848+10	2.126+10	1.831+10	2.848+10	2.126+10	1.831+10
1.000+00	2.705+10	2.073+10	1.725+10	2.705+10	2.073+10	1.725+10	2.705+10	2.073+10	1.725+10	2.705+10	2.073+10	1.725+10
2.000+00	2.608+10	2.035+10	1.661+10	2.608+10	2.035+10	1.661+10	2.608+10	2.035+10	1.661+10	2.608+10	2.035+10	1.661+10
5.000+00	2.424+10	1.955+10	1.546+10	2.424+10	1.955+10	1.546+10	2.424+10	1.955+10	1.546+10	2.424+10	1.955+10	1.546+10
1.000+01	2.251+10	1.870+10	1.441+10	2.251+10	1.870+10	1.441+10	2.251+10	1.870+10	1.441+10	2.251+10	1.870+10	1.441+10
2.000+01	2.061+10	1.766+10	1.307+10	2.061+10	1.766+10	1.307+10	2.061+10	1.766+10	1.307+10	2.061+10	1.766+10	1.307+10
5.000+01	1.795+10	1.607+10	1.086+10	1.795+10	1.607+10	1.086+10	1.795+10	1.607+10	1.086+10	1.795+10	1.607+10	1.086+10
6.000+01	1.742+10	1.573+10	1.041+10	1.742+10	1.573+10	1.041+10	1.742+10	1.573+10	1.041+10	1.742+10	1.573+10	1.041+10
1.000+02	1.600+10	1.482+10	9.211+09	1.600+10	1.482+10	9.211+09	1.600+10	1.482+10	9.211+09	1.600+10	1.482+10	9.211+09
2.000+02	1.450+10	1.381+10	7.794+09	1.450+10	1.381+10	7.794+09	1.450+10	1.381+10	7.794+09	1.450+10	1.381+10	7.794+09
5.000+02	1.334+10	1.289+10	6.081+09	1.334+10	1.289+10	6.081+09	1.334+10	1.289+10	6.081+09	1.334+10	1.289+10	6.081+09
1.000+03	1.248+10	1.211+10	4.921+09	1.248+10	1.211+10	4.921+09	1.248+10	1.211+10	4.921+09	1.248+10	1.211+10	4.921+09
2.000+03	1.107+10	1.081+10	3.962+09	1.107+10	1.081+10	3.962+09	1.107+10	1.081+10	3.962+09	1.107+10	1.081+10	3.962+09
3.000+03	9.314+09	9.149+09	3.254+09	9.313+09	9.169+09	3.249+09	9.313+09	9.169+09	3.249+09	9.313+09	9.169+09	3.249+09
5.000+03	8.148+09	8.061+09	2.890+09	8.148+09	8.061+09	2.890+09	8.148+09	8.061+09	2.890+09	8.148+09	8.061+09	2.890+09
1.000+04	5.633+09	5.618+09	2.114+09	5.633+09	5.618+09	2.114+09	5.633+09	5.618+09	2.114+09	5.633+09	5.618+09	2.114+09
2.000+04	3.627+09	3.626+09	1.279+09	3.627+09	3.626+09	1.279+09	3.627+09	3.626+09	1.279+09	3.627+09	3.626+09	1.279+09
4.320+04	2.075+09	2.075+09	5.817+08	2.075+09	2.075+09	5.817+08	2.075+09	2.075+09	5.817+08	2.075+09	2.075+09	5.817+08
5.000+04	1.839+09	1.839+09	4.986+08	1.839+09	1.839+09	4.986+08	1.839+09	1.839+09	4.986+08	1.839+09	1.839+09	4.986+08
8.640+04	1.119+09	1.119+09	3.022+08	1.119+09	1.119+09	3.022+08	1.119+09	1.119+09	3.022+08	1.119+09	1.119+09	3.022+08
1.000+05	9.703+08	9.703+08	2.702+08	9.702+08	9.701+08	2.703+08	9.702+08	9.701+08	2.702+08	9.702+08	9.701+08	2.702+08
2.000+05	4.899+08	4.898+08	1.748+08	4.897+08	4.897+08	1.747+08	4.897+08	4.897+08	1.746+08	4.897+08	4.897+08	1.746+08
3.456+05	2.960+08	2.960+08	1.287+08	2.959+08	2.959+08	1.286+08	2.959+08	2.959+08	1.287+08	2.959+08	2.959+08	1.287+08
5.000+05	2.217+08	2.217+08	9.858+07	2.216+08	2.216+08	9.850+07	2.216+08	2.216+08	9.840+07	2.216+08	2.216+08	9.839+07
8.640+05	1.459+08	1.459+08	5.430+07	1.459+08	1.459+08	5.430+07	1.459+08	1.459+08	5.420+07	1.459+08	1.459+08	5.419+07
1.000+06	1.273+08	1.273+08	4.388+07	1.271+08	1.271+08	4.380+07	1.271+08	1.271+08	4.370+07	1.271+08	1.271+08	4.369+07
2.000+06	4.695+07	4.695+07	9.667+06	4.684+07	4.684+07	9.586+06	4.684+07	4.684+07	9.488+06	4.684+07	4.684+07	9.479+06
2.592+06	2.606+07	2.606+07	4.115+06	2.595+07	2.595+07	4.035+06	2.595+07	2.595+07	3.937+06	2.595+07	2.595+07	3.927+06
5.000+06	2.461+06	2.461+06	3.265+05	2.348+06	2.348+06	2.468+05	2.348+06	2.348+06	1.498+05	2.348+06	2.348+06	1.401+05
5.184+06	2.067+06	2.067+06	2.986+05	1.954+06	1.954+06	2.189+05	1.954+06	1.954+06	1.219+05	1.954+06	1.954+06	1.123+05
1.000+07	1.289+05	1.289+05	1.925+05	1.601+04	1.601+04	1.135+05	1.601+04	1.601+04	1.752+04	1.600+04	1.600+04	7.981+03
1.296+07	1.137+05	1.137+05	1.902+05	8.399+02	8.399+02	1.117+05	8.355+02	8.355+02	1.626+04	8.352+02	8.352+02	6.781+03
2.000+07	1.129+05	1.129+05	1.873+05	5.643+00	5.643+00	1.099+05	1.223+01	1.223+01	1.585+04	9.282+01	9.282+01	6.510+03
3.156+07	1.129+05	1.129+05	1.829+05	4.900+00	4.900+00	1.074+05	4.791-01	4.791-01	1.548+04	1.846+01	1.846+01	6.356+03

Table 2.20
SOURCES 3,4,5, POWER=1 WATT, PURE U-235 (NO DAUGHTERS)

BETA ENERGY RELEASE RATE (MEV/SEC/WATT)

TIME	EQUILIBRIUM			5000 DAYS			500 DAYS			200 DAYS		
AFTER LOCA (SEC)	100% HALOGENS	100% IODINES	100% NOBLE GASES	100% HALOGENS	100% IODINES	100% NOBLE GASES	100% HALOGENS	100% IODINES	100% NOBLE GASES	100% HALOGENS	100% IODINES	100% NOBLE GASES
0.000	2.002+10	1.030+10	1.997+10	2.002+10	1.030+10	1.996+10	2.002+10	1.030+10	1.995+10	2.002+10	1.030+10	1.995+10
1.000+00	1.832+10	9.912+09	1.861+10	1.832+10	9.912+09	1.860+10	1.832+10	9.912+09	1.859+10	1.832+10	9.912+09	1.858+10
2.000+00	1.718+10	9.623+09	1.772+10	1.718+10	9.623+09	1.771+10	1.718+10	9.623+09	1.770+10	1.718+10	9.623+09	1.770+10
5.000+00	1.503+10	9.010+09	1.606+10	1.503+10	9.010+09	1.605+10	1.503+10	9.010+09	1.604+10	1.503+10	9.010+09	1.604+10
1.000+01	1.307+10	8.345+09	1.453+10	1.307+10	8.345+09	1.452+10	1.307+10	8.345+09	1.451+10	1.307+10	8.345+09	1.451+10
2.000+01	1.101+10	7.522+09	1.271+10	1.101+10	7.521+09	1.270+10	1.101+10	7.521+09	1.269+10	1.101+10	7.521+09	1.269+10
5.000+01	8.343+09	6.244+09	1.004+10	8.343+09	6.244+09	1.003+10	8.343+09	6.244+09	1.002+10	8.343+09	6.244+09	1.002+10
6.000+01	7.837+09	5.974+09	9.512+09	7.837+09	5.974+09	9.502+09	7.837+09	5.974+09	9.492+09	7.837+09	5.974+09	9.490+09
1.000+02	6.541+09	5.246+09	8.077+09	6.540+09	5.246+09	8.068+09	6.540+09	5.246+09	8.057+09	6.540+09	5.246+09	8.056+09
2.000+02	5.232+09	4.478+09	6.267+09	5.232+09	4.478+09	6.278+09	5.232+09	4.478+09	6.267+09	5.232+09	4.478+09	6.266+09
5.000+02	4.414+09	3.986+09	4.145+09	4.413+09	3.985+09	4.136+09	4.413+09	3.985+09	4.125+09	4.413+09	3.985+09	4.124+09
1.000+03	4.085+09	3.763+09	2.914+09	4.084+09	3.763+09	2.905+09	4.084+09	3.763+09	2.894+09	4.084+09	3.763+09	2.893+09
2.000+03	3.649+09	3.420+09	2.223+09	3.649+09	3.419+09	2.214+09	3.649+09	3.419+09	2.203+09	3.649+09	3.419+09	2.202+09
3.600+03	3.126+09	2.983+09	1.810+09	3.126+09	2.983+09	1.801+09	3.126+09	2.983+09	1.790+09	3.126+09	2.983+09	1.789+09
5.000+03	2.786+09	2.688+09	1.604+09	2.786+09	2.688+09	1.595+09	2.786+09	2.688+09	1.584+09	2.786+09	2.688+09	1.583+09
1.000+04	2.068+09	2.034+09	1.181+09	2.068+09	2.033+09	1.178+09	2.068+09	2.033+09	1.167+09	2.068+09	2.033+09	1.166+09
2.000+04	1.490+09	1.479+09	8.142+08	1.490+09	1.479+09	8.051+08	1.490+09	1.479+09	7.941+08	1.490+09	1.479+09	7.930+08
4.320+04	9.904+08	9.887+08	5.152+08	9.902+08	9.885+08	5.061+08	9.902+08	9.885+08	4.951+08	9.902+08	9.885+08	4.940+08
5.000+04	9.047+08	9.037+08	4.689+08	9.045+08	9.035+08	4.598+08	9.045+08	9.035+08	4.488+08	9.045+08	9.035+08	4.477+08
8.640+04	6.108+08	6.107+08	3.220+08	6.106+08	6.106+08	3.130+08	6.106+08	6.106+08	3.020+08	6.106+08	6.106+08	3.009+08
1.000+05	5.410+08	5.410+08	2.911+08	5.408+08	5.408+08	2.821+08	5.408+08	5.408+08	2.711+08	5.408+08	5.408+08	2.700+08
2.000+05	2.756+08	2.756+08	1.965+08	2.755+08	2.755+08	1.878+08	2.755+08	2.755+08	1.764+08	2.755+08	2.755+08	1.753+08
3.456+05	1.525+08	1.525+08	1.569+08	1.524+08	1.524+08	1.478+08	1.524+08	1.524+08	1.368+08	1.524+08	1.524+08	1.357+08
5.000+05	1.085+08	1.085+08	1.297+08	1.083+08	1.083+08	1.207+08	1.083+08	1.083+08	1.097+08	1.083+08	1.083+08	1.086+08
8.640+05	6.980+07	6.980+07	8.508+07	6.962+07	6.962+07	7.604+07	6.962+07	6.962+07	6.505+07	6.962+07	6.962+07	6.395+07
1.000+06	6.079+07	6.079+07	7.349+07	6.061+07	6.061+07	6.446+07	6.061+07	6.061+07	5.347+07	6.061+07	6.061+07	5.237+07
2.000+06	2.250+07	2.250+07	3.328+07	2.232+07	2.232+07	2.426+07	2.232+07	2.232+07	1.329+07	2.232+07	2.232+07	1.220+07
2.592+06	1.254+07	1.254+07	2.648+07	1.236+07	1.236+07	1.747+07	1.236+07	1.236+07	6.513+06	1.236+07	1.236+07	5.426+06
5.000+06	1.295+06	1.295+06	2.182+07	1.119+06	1.119+06	1.286+07	1.119+06	1.119+06	1.958+06	1.119+06	1.119+06	8.753+05
5.184+06	1.107+06	1.107+06	2.178+07	9.313+05	9.313+05	1.282+07	9.313+05	9.313+05	1.927+06	9.313+05	9.313+05	8.455+05
1.000+07	1.637+05	1.637+05	2.188+07	7.638+03	7.638+03	1.261+07	7.627+03	7.627+03	1.818+06	7.627+03	7.627+03	7.465+05
1.296+07	1.765+05	1.765+05	2.135+07	4.056+02	4.056+02	1.253+07	3.987+02	3.987+02	1.807+06	3.982+02	3.982+02	7.420+05
2.000+07	1.761+05	1.761+05	2.104+07	7.998+00	7.998+00	1.235+07	1.102+00	1.102+00	1.781+06	6.423+01	6.423+01	7.313+05
3.156+07	1.761+05	1.761+05	2.055+07	7.644+00	7.644+00	1.206+07	7.674+01	7.674+01	1.739+06	2.880+01	2.880+01	7.142+05

GAMMA RAYS-100% HALOGENS, 1 WATT, PURE U-235 (ND)

Figure 2.55

BETA RAYS- 100% HALOGENS, 1 WATT, PURE U-235 (ND)

Figure 2.66

GAMMA RAYS-100% IODINES, 1 WATT, PURE U-235 (ND)

Figure 2.67

BETA RAYS- 100% IODINES, 1 WATT, PURE U-235 (ND)

Figure 2.68

GAMMA RAYS-100% NOBLE GASES, 1 WATT, PURE U-235 (ND)

Figure 2.69

BETA RAYS- 100% NOBLE GASES, 1 WATT, PURE U-235 (ND)

Table 2.21

SOURCE 1, POWER=1 WATT, PURE U-235 (CONTINUOUS RELEASE)

GAMMA-RAY ENERGY RELEASE RATE (MEV/SEC/WATT)

TIME AFTER LOCA (SEC)	EQUILIBRIUM			5000 DAYS			500 DAYS			200 DAYS		
	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER
0.000	2.362+10	6.763+09	1.569+10	2.362+10	6.754+09	1.568+10	2.362+10	6.750+09	1.567+10	2.362+10	6.744+09	1.567+10
1.000+00	2.248+10	6.531+09	1.492+10	2.248+10	6.522+09	1.491+10	2.248+10	6.518+09	1.490+10	2.248+10	6.512+09	1.490+10
2.000+00	2.176+10	6.386+09	1.442+10	2.176+10	6.377+09	1.441+10	2.176+10	6.373+09	1.440+10	2.176+10	6.367+09	1.440+10
5.000+00	2.044+10	6.105+09	1.348+10	2.044+10	6.096+09	1.347+10	2.044+10	6.092+09	1.347+10	2.044+10	6.086+09	1.346+10
1.000+01	1.920+10	5.821+09	1.260+10	1.920+10	5.812+09	1.259+10	1.920+10	5.808+09	1.259+10	1.920+10	5.802+09	1.258+10
2.000+01	1.762+10	5.482+09	1.159+10	1.762+10	5.473+09	1.158+10	1.762+10	5.469+09	1.158+10	1.762+10	5.463+09	1.157+10
5.000+01	1.503+10	4.967+09	1.011+10	1.503+10	4.958+09	1.010+10	1.503+10	4.955+09	1.010+10	1.503+10	4.949+09	1.009+10
6.000+01	1.449+10	4.858+09	9.807+09	1.449+10	4.849+09	9.798+09	1.449+10	4.845+09	9.794+09	1.449+10	4.839+09	9.786+09
1.000+02	1.307+10	4.555+09	8.994+09	1.307+10	4.546+09	8.984+09	1.307+10	4.542+09	8.980+09	1.307+10	4.536+09	8.974+09
2.000+02	1.140+10	4.208+09	8.127+09	1.140+10	4.199+09	8.118+09	1.140+10	4.196+09	8.114+09	1.140+10	4.190+09	8.108+09
5.000+02	9.546+09	3.936+09	7.574+09	9.545+09	3.927+09	7.565+09	9.545+09	3.923+09	7.561+09	9.545+09	3.917+09	7.555+09
1.000+03	8.349+09	3.788+09	7.319+09	8.349+09	3.779+09	7.318+09	8.349+09	3.775+09	7.306+09	8.349+09	3.769+09	7.300+09
2.000+03	7.297+09	3.563+09	6.895+09	7.297+09	3.554+09	6.886+09	7.297+09	3.550+09	6.883+09	7.297+09	3.544+09	6.877+09
3.600+03	6.364+09	3.236+09	6.252+09	6.364+09	3.227+09	6.243+09	6.363+09	3.223+09	6.240+09	6.363+09	3.217+09	6.234+09
5.000+03	5.794+09	2.977+09	5.738+09	5.794+09	2.968+09	5.729+09	5.794+09	2.964+09	5.725+09	5.794+09	2.958+09	5.719+09
1.000+04	4.412+09	2.292+09	4.385+09	4.412+09	2.283+09	4.375+09	4.412+09	2.280+09	4.372+09	4.412+09	2.274+09	4.366+09
2.000+04	3.055+09	1.715+09	3.259+09	3.055+09	1.706+09	3.249+09	3.055+09	1.702+09	3.246+09	3.055+09	1.696+09	3.240+09
4.320+04	1.994+09	1.335+09	2.525+09	1.994+09	1.326+09	2.516+09	1.994+09	1.322+09	2.512+09	1.994+09	1.316+09	2.506+09
5.000+04	1.839+09	1.269+09	2.397+09	1.838+09	1.259+09	2.387+09	1.838+09	1.256+09	2.384+09	1.838+09	1.250+09	2.376+09
8.640+04	1.350+09	1.026+09	1.925+09	1.350+09	1.017+09	1.916+09	1.350+09	1.013+09	1.912+09	1.350+09	1.007+09	1.906+09
1.000+05	1.240+09	9.647+08	1.806+09	1.239+09	9.554+08	1.797+09	1.239+09	9.516+08	1.793+09	1.239+09	9.459+08	1.787+09
2.000+05	8.145+08	6.982+08	1.288+09	8.144+08	6.889+08	1.279+09	8.143+08	6.853+08	1.275+09	8.143+08	6.794+08	1.269+09
3.456+05	5.595+08	4.989+08	8.991+08	5.594+08	4.897+08	8.898+08	5.593+08	4.861+08	8.862+08	5.593+08	4.803+08	8.800+08
5.000+05	4.000+08	3.708+08	6.492+08	3.999+08	3.615+08	6.399+08	3.998+08	3.579+08	6.363+08	3.998+08	3.522+08	6.306+08
8.640+05	1.902+08	2.090+08	3.367+08	1.901+08	1.997+08	3.274+08	1.900+08	1.962+08	3.238+08	1.900+08	1.907+08	3.183+08
1.000+06	1.507+08	1.751+08	2.722+08	1.506+08	1.658+08	2.630+08	1.505+08	1.623+08	2.594+08	1.504+08	1.568+08	2.540+08
2.000+06	2.933+07	7.790+07	9.542+07	2.922+07	6.868+07	8.617+07	2.912+07	6.514+07	8.264+07	2.911+07	6.026+07	7.776+07
2.592+06	1.305+07	6.164+07	6.960+07	1.294+07	5.243+07	6.036+07	1.284+07	4.492+07	5.685+07	1.283+07	4.434+07	5.527+07
5.000+06	1.002+06	3.902+07	4.008+07	9.343+05	3.023+07	3.084+07	8.373+05	2.679+07	2.734+07	8.270+05	2.323+07	2.535+07
5.184+06	9.009+05	3.862+07	3.915+07	7.929+05	2.943+07	2.993+07	6.960+05	2.599+07	2.649+07	6.863+05	2.249+07	2.530+07
1.000+07	2.274+05	2.676+07	2.679+07	1.203+05	1.760+07	1.760+07	2.023+04	1.427+07	1.427+07	1.409+04	1.111+07	1.211+07
1.296+07	2.190+05	2.277+07	2.280+07	1.123+05	1.363+07	1.363+07	1.844+04	1.036+07	1.036+07	1.762+03	8.700+06	8.700+06
2.000+07	2.155+05	1.724+07	1.727+07	1.099+05	8.144+06	8.144+06	1.585+04	4.964+06	4.964+06	6.514+03	4.018+06	4.018+06
3.156+07	2.111+05	1.386+07	1.388+07	1.074+05	4.837+06	4.837+06	1.548+04	1.761+06	1.761+06	6.356+03	1.244+06	1.244+06

GAMMA RAYS-SOURCE 1 (AIR), 1 WATT, PURE U-235

GAMMA RAYS-SOURCE 1 (PLATE OUT), 1 WATT, PURE U-235

GAMMA RAYS-SOURCE 1 (WATER), 1 WATT, PURE U-235

Table 2.22

SOURCE 1, POWER=1 WATT, PURE D-235 (CONTINUOUS RELEASE)

HFPA ENERGY RELEASE RATE (MFV/SEC/WATT)

TIME AFTER LOCA (SEC)	EQUILIBRIUM			5000 DAYS			500 DAYS			200 DAYS		
	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER
0.000	2.255+10	4.200+09	1.161+10	2.254+10	4.182+09	1.162+10	2.253+10	4.168+09	1.160+10	2.253+10	4.158+09	1.159+10
1.000+00	2.113+10	3.960+09	1.071+10	2.113+10	3.942+09	1.069+10	2.111+10	3.926+09	1.068+10	2.111+10	3.914+09	1.067+10
2.000+00	2.020+10	3.815+09	1.011+10	2.019+10	3.798+09	1.010+10	2.018+10	3.784+09	1.008+10	2.018+10	3.773+09	1.007+10
5.000+00	1.842+10	3.538+09	9.011+09	1.842+10	3.520+09	8.993+09	1.840+10	3.506+09	8.980+09	1.840+10	3.495+09	8.967+09
1.000+01	1.677+10	3.259+09	7.982+09	1.676+10	3.242+09	7.965+09	1.675+10	3.228+09	7.951+09	1.674+10	3.217+09	7.940+09
2.000+01	1.478+10	2.937+09	6.837+09	1.477+10	2.919+09	6.819+09	1.476+10	2.905+09	6.805+09	1.476+10	2.894+09	6.795+09
5.000+01	1.183+10	2.471+09	5.260+09	1.182+10	2.453+09	5.242+09	1.181+10	2.439+09	5.228+09	1.181+10	2.428+09	5.217+09
6.000+01	1.125+10	2.374+09	4.957+09	1.124+10	2.356+09	4.939+09	1.122+10	2.342+09	4.925+09	1.122+10	2.331+09	4.914+09
1.000+02	9.623+09	2.107+09	4.177+09	9.614+09	2.089+09	4.160+09	9.603+09	2.075+09	4.146+09	9.602+09	2.065+09	4.135+09
2.000+02	7.593+09	1.806+09	3.374+09	7.583+09	1.788+09	3.356+09	7.572+09	1.774+09	3.342+09	7.571+09	1.763+09	3.332+09
5.000+02	5.260+09	1.578+09	2.854+09	5.250+09	1.561+09	2.836+09	5.239+09	1.547+09	2.822+09	5.238+09	1.536+09	2.812+09
1.000+03	3.969+09	1.475+09	2.670+09	3.960+09	1.457+09	2.653+09	3.944+09	1.443+09	2.639+09	3.943+09	1.432+09	2.620+09
2.000+03	3.240+09	1.357+09	2.465+09	3.231+09	1.339+09	2.447+09	3.220+09	1.325+09	2.433+09	3.219+09	1.314+09	2.423+09
3.600+03	2.773+09	1.228+09	2.220+09	2.764+09	1.210+09	2.202+09	2.753+09	1.196+09	2.188+09	2.752+09	1.186+09	2.176+09
5.000+03	2.519+09	1.140+09	2.046+09	2.510+09	1.122+09	2.028+09	2.499+09	1.108+09	2.014+09	2.498+09	1.098+09	2.004+09
1.000+04	1.972+09	9.214+08	1.619+09	1.963+09	9.037+08	1.602+09	1.952+09	8.898+08	1.588+09	1.951+09	8.742+08	1.577+09
2.000+04	1.500+09	7.257+08	1.256+09	1.491+09	7.080+08	1.238+09	1.480+09	6.941+08	1.224+09	1.479+09	6.835+08	1.213+09
4.320+04	1.122+09	5.643+08	9.747+08	1.113+09	5.486+08	9.569+08	1.102+09	5.347+08	9.430+08	1.101+09	5.241+08	9.325+08
5.000+04	1.051+09	5.369+08	9.227+08	1.042+09	5.192+08	9.050+08	1.031+09	5.053+08	8.910+08	1.029+09	4.948+08	8.805+08
8.640+04	7.687+08	4.298+08	7.298+08	7.596+08	4.121+08	7.120+08	7.485+08	3.981+08	6.981+08	7.474+08	3.876+08	6.876+08
1.000+05	6.944+08	4.028+08	6.804+08	6.853+08	3.851+08	6.626+08	6.743+08	3.712+08	6.487+08	6.732+08	3.607+08	6.442+08
2.000+05	4.181+08	2.889+08	4.683+08	4.089+08	2.712+08	4.506+08	3.979+08	2.573+08	4.367+08	3.968+08	2.468+08	4.262+08
3.450+05	2.959+08	2.162+08	3.313+08	2.867+08	1.985+08	3.136+08	2.757+08	1.846+08	2.947+08	2.746+08	1.742+08	2.893+08
5.000+05	2.293+08	1.760+08	2.558+08	2.202+08	1.583+08	2.380+08	2.092+08	1.445+08	2.242+08	2.081+08	1.342+08	2.139+08
8.640+05	1.364+08	1.280+08	1.671+08	1.273+08	1.103+08	1.493+08	1.163+08	9.655+07	1.356+08	1.152+08	8.663+07	1.255+08
1.000+06	1.143+08	1.176+08	1.483+08	1.052+08	9.988+07	1.380+08	9.425+07	8.016+07	1.168+08	9.310+07	7.100+07	1.084+08
2.000+06	4.263+07	6.300+07	9.005+07	3.357+07	6.532+07	7.234+07	2.260+07	5.161+07	5.882+07	2.151+07	4.221+07	4.923+07
2.592+06	3.093+07	7.504+07	6.046+07	2.188+07	5.738+07	6.085+07	1.092+07	4.399+07	4.746+07	9.436+06	3.404+07	3.511+07
5.000+06	2.218+07	6.080+07	6.114+07	1.317+07	4.317+07	4.384+07	2.270+06	3.026+07	3.155+07	1.188+06	2.162+07	2.211+07
5.184+06	2.200+07	6.017+07	6.046+07	1.306+07	4.255+07	4.279+07	2.186+06	2.967+07	2.991+07	1.104+06	2.129+07	2.153+07
1.000+07	2.152+07	4.988+07	4.991+07	1.261+07	3.230+07	3.230+07	1.820+06	2.027+07	2.028+07	7.485+05	1.326+07	1.326+07
1.296+07	2.139+07	4.612+07	4.616+07	1.253+07	2.880+07	2.880+07	1.807+06	1.704+07	1.704+07	7.271+05	1.166+07	1.166+07
2.000+07	2.109+07	4.032+07	4.038+07	1.235+07	2.289+07	2.289+07	1.781+06	1.231+07	1.231+07	7.314+05	7.167+06	7.167+06
3.156+07	2.060+07	3.497+07	3.501+07	1.206+07	1.789+07	1.769+07	1.739+06	8.369+06	8.369+06	7.143+05	4.554+06	4.554+06

BETA RAYS- SOURCE 1 (AIR), 1 WATT, PURE U-235

BETA RAYS- SOURCE 1 (PLATE OUT), 1 WATT, PURE U-235

Figure 2.75

BETA RAYS- SOURCE 1 (WATER), 1 WATT, PURE U-235

Figure 2.76

Table 2.23

SOURCE 2, POWER=1 WATT, PURE U-235 (CONTINUOUS RELEASE)

GAMMA-RAY ENERGY RELEASE RATE (MEV/SEC/WATT)

TIME AFTER LOCA (SEC)	EQUILIBRIUM			5000 DAYS			500 DAYS			200 DAYS		
	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER
0.000	1.268+09	1.063+09	2.847+08	1.268+09	1.063+09	2.847+08	1.268+09	1.063+09	2.847+08	1.268+09	1.063+09	2.847+08
1.000+00	1.233+09	1.038+09	2.715+08	1.233+09	1.038+09	2.715+08	1.233+09	1.038+09	2.715+08	1.233+09	1.038+09	2.715+08
2.000+00	1.208+09	1.020+09	2.626+08	1.208+09	1.020+09	2.626+08	1.208+09	1.020+09	2.626+08	1.208+09	1.020+09	2.626+08
5.000+00	1.159+09	9.820+08	2.458+08	1.159+09	9.819+08	2.458+08	1.159+09	9.819+08	2.458+08	1.159+09	9.819+08	2.458+08
1.000+01	1.109+09	9.418+08	2.298+08	1.109+09	9.418+08	2.298+08	1.109+09	9.418+08	2.298+08	1.109+09	9.418+08	2.298+08
2.000+01	1.046+09	8.931+08	2.115+08	1.046+09	8.931+08	2.115+08	1.046+09	8.931+08	2.115+08	1.046+09	8.931+08	2.115+08
5.000+01	9.491+08	8.179+08	1.846+08	9.491+08	8.179+08	1.846+08	9.490+08	8.179+08	1.846+08	9.490+08	8.179+08	1.846+08
6.000+01	9.284+08	8.018+08	1.792+08	9.284+08	8.018+08	1.792+08	9.284+08	8.018+08	1.792+08	9.284+08	8.018+08	1.792+08
1.000+02	8.719+08	7.573+08	1.645+08	8.718+08	7.572+08	1.645+08	8.718+08	7.572+08	1.645+08	8.718+08	7.572+08	1.645+08
2.000+02	8.089+08	7.085+08	1.492+08	8.089+08	7.085+08	1.492+08	8.089+08	7.085+08	1.492+08	8.088+08	7.085+08	1.492+08
5.000+02	7.608+08	6.776+08	1.405+08	7.608+08	6.776+08	1.405+08	7.607+08	6.776+08	1.405+08	7.607+08	6.776+08	1.405+08
1.000+03	7.363+08	6.649+08	1.371+08	7.363+08	6.649+08	1.371+08	7.362+08	6.649+08	1.371+08	7.362+08	6.649+08	1.371+08
2.000+03	6.991+08	6.378+08	1.304+08	6.991+08	6.378+08	1.304+08	6.991+08	6.378+08	1.304+08	6.991+08	6.378+08	1.304+08
3.600+03	6.404+08	5.872+08	1.190+08	6.404+08	5.872+08	1.190+08	6.403+08	5.872+08	1.190+08	6.403+08	5.872+08	1.190+08
5.000+03	5.911+08	5.425+08	1.095+08	5.911+08	5.425+08	1.095+08	5.911+08	5.425+08	1.095+08	5.911+08	5.425+08	1.095+08
1.000+04	4.545+08	4.168+08	8.353+07	4.545+08	4.168+08	8.353+07	4.544+08	4.168+08	8.353+07	4.544+08	4.168+08	8.353+07
2.000+04	3.331+08	3.085+08	6.172+07	3.330+08	3.085+08	6.172+07	3.330+08	3.085+08	6.172+07	3.330+08	3.085+08	6.172+07
4.320+04	2.495+08	2.380+08	4.760+07	2.495+08	2.380+08	4.760+07	2.495+08	2.380+08	4.760+07	2.495+08	2.380+08	4.760+07
5.000+04	2.353+08	2.255+08	4.511+07	2.352+08	2.255+08	4.511+07	2.352+08	2.255+08	4.511+07	2.352+08	2.255+08	4.511+07
6.600+04	1.849+08	1.798+08	3.597+07	1.849+08	1.798+08	3.597+07	1.849+08	1.798+08	3.597+07	1.849+08	1.798+08	3.597+07
1.000+05	1.727+08	1.683+08	3.366+07	1.726+08	1.683+08	3.366+07	1.726+08	1.683+08	3.366+07	1.726+08	1.683+08	3.366+07
2.000+05	1.703+08	1.180+08	2.359+07	1.702+08	1.180+08	2.359+07	1.702+08	1.180+08	2.359+07	1.702+08	1.180+08	2.359+07
3.456+05	8.168+07	8.003+07	1.601+07	8.165+07	8.002+07	1.601+07	8.162+07	8.002+07	1.601+07	8.162+07	8.002+07	1.601+07
5.000+05	5.696+07	5.568+07	1.114+07	5.693+07	5.568+07	1.114+07	5.690+07	5.568+07	1.114+07	5.690+07	5.568+07	1.114+07
6.600+05	2.626+07	2.554+07	5.107+06	2.623+07	2.554+07	5.107+06	2.620+07	2.554+07	5.107+06	2.620+07	2.554+07	5.107+06
1.000+06	2.003+07	1.943+07	3.886+06	2.000+07	1.943+07	3.886+06	1.997+07	1.943+07	3.886+06	1.996+07	1.943+07	3.886+06
2.000+06	3.679+06	3.504+06	7.099+05	3.699+06	3.499+06	6.997+05	3.620+06	3.499+06	6.997+05	3.617+06	3.499+06	6.997+05
2.592+06	1.699+06	1.592+06	3.184+05	1.669+06	1.584+06	3.172+05	1.640+06	1.584+06	3.172+05	1.637+06	1.588+06	3.172+05
5.000+06	1.870+05	1.269+05	2.538+04	1.574+05	1.213+05	2.426+04	1.283+05	1.213+05	2.426+04	1.254+05	1.213+05	2.426+04
5.184+06	1.661+05	1.065+05	2.129+04	1.366+05	1.008+05	2.016+04	1.075+05	1.068+05	2.016+04	1.006+05	1.008+05	2.016+04
1.000+07	6.385+04	6.447+03	1.293+03	3.452+04	8.224+02	1.645+02	5.715+03	8.221+02	1.644+02	2.854+03	8.221+02	1.644+02
1.296+07	6.269+04	5.688+03	1.138+03	3.350+04	4.314+01	8.628+00	4.872+03	4.292+01	8.584+00	2.029+03	4.290+01	8.581+00
2.000+07	6.183+04	5.605+03	1.129+03	3.298+04	2.838+01	5.676+02	4.755+03	6.275+02	1.255+02	1.953+03	4.801+02	9.603+03
3.156+07	6.051+04	5.645+03	1.129+03	3.221+04	2.456+01	4.912+02	4.644+03	2.456+02	4.912+03	1.907+03	9.823+03	1.965+03

GAMMA RAYS-SOURCE 2 (AIR), 1 WATT, PURE U-235

Figure 2.77

GAMMA RAYS-SOURCE 2 (PLATE OUT), 1 WATT, PURE U-235

Figure 2.73

GAMMA RAYS-SOURCE 2 (WATER), 1 WATT, PURE U-235

Figure 2.79

Table 2.24

SOURCE 2, POWER=1 WATT, PURE U-235 (CONTINUOUS RELEASE)

BETA ENERGY RELEASE RATE (MEV/SEC/WATT)

TIME AFTER LOCA (SEC)	EQUILIBRIUM			5000 DAYS			500 DAYS			200 DAYS		
	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER	AIR	PLATE OUT	WATER
0.000	7.479+08	5.150+08	2.002+08	7.452+08	5.150+08	2.002+08	7.419+08	5.150+08	2.002+08	7.416+08	5.150+08	2.002+08
1.000+00	7.163+08	4.966+08	1.847+08	7.136+08	4.966+08	1.847+08	7.103+08	4.966+08	1.847+08	7.099+08	4.966+08	1.847+08
2.000+00	6.939+08	4.829+08	1.743+08	6.912+08	4.829+08	1.743+08	6.879+08	4.829+08	1.743+08	6.876+08	4.829+08	1.743+08
5.000+00	6.486+08	4.539+08	1.549+08	6.459+08	4.539+08	1.549+08	6.426+08	4.539+08	1.549+08	6.422+08	4.539+08	1.549+08
1.000+01	6.022+08	4.224+08	1.367+08	5.994+08	4.224+08	1.367+08	5.961+08	4.224+08	1.367+08	5.958+08	4.224+08	1.367+08
2.000+01	5.453+08	3.835+08	1.164+08	5.426+08	3.835+08	1.164+08	5.392+08	3.835+08	1.164+08	5.389+08	3.835+08	1.164+08
5.000+01	4.575+08	3.221+08	8.799+07	4.548+08	3.221+08	8.799+07	4.515+08	3.221+08	8.799+07	4.511+08	3.221+08	8.799+07
6.000+01	4.389+08	3.087+08	8.253+07	4.362+08	3.087+08	8.253+07	4.329+08	3.087+08	8.253+07	4.325+08	3.087+08	8.253+07
1.000+02	3.874+08	2.715+08	6.857+07	3.846+08	2.715+08	6.856+07	3.813+08	2.715+08	6.856+07	3.810+08	2.715+08	6.856+07
2.000+02	3.786+08	2.311+08	5.447+07	3.758+08	2.310+08	5.447+07	3.725+08	2.310+08	5.447+07	3.722+08	2.310+08	5.447+07
5.000+02	2.834+08	2.083+08	4.634+07	2.806+08	2.083+08	4.634+07	2.773+08	2.083+08	4.634+07	2.770+08	2.083+08	4.634+07
1.000+03	2.657+08	2.038+08	4.430+07	2.630+08	2.038+08	4.430+07	2.597+08	2.038+08	4.430+07	2.593+08	2.038+08	4.430+07
2.000+03	2.503+08	1.965+08	4.182+07	2.476+08	1.965+08	4.182+07	2.443+08	1.965+08	4.182+07	2.440+08	1.965+08	4.182+07
3.600+03	2.309+08	1.827+08	3.811+07	2.282+08	1.827+08	3.811+07	2.249+08	1.827+08	3.811+07	2.246+08	1.827+08	3.811+07
5.000+03	2.154+08	1.705+08	3.517+07	2.127+08	1.705+08	3.517+07	2.094+08	1.705+08	3.517+07	2.091+08	1.705+08	3.517+07
1.000+04	1.728+08	1.359+08	2.755+07	1.701+08	1.359+08	2.754+07	1.668+08	1.359+08	2.754+07	1.665+08	1.359+08	2.754+07
2.000+04	1.324+08	1.048+08	2.107+07	1.297+08	1.048+08	2.107+07	1.264+08	1.048+08	2.107+07	1.260+08	1.048+08	2.107+07
4.320+04	9.924+07	8.149+07	1.637+07	9.651+07	8.148+07	1.631+07	9.321+07	8.148+07	1.631+07	9.288+07	8.148+07	1.631+07
5.000+04	9.323+07	7.705+07	1.542+07	9.050+07	7.704+07	1.542+07	8.720+07	7.704+07	1.542+07	8.687+07	7.704+07	1.542+07
8.640+04	7.170+07	5.999+07	1.200+07	6.898+07	5.998+07	1.200+07	6.567+07	5.998+07	1.200+07	6.534+07	5.998+07	1.200+07
1.000+05	6.640+07	5.551+07	1.110+07	6.368+07	5.550+07	1.110+07	6.038+07	5.550+07	1.110+07	6.005+07	5.550+07	1.110+07
2.000+05	4.664+07	3.589+07	7.178+06	4.191+07	3.588+07	7.176+06	3.861+07	3.588+07	7.176+06	3.828+07	3.588+07	7.176+06
3.456+05	3.119+07	2.302+07	4.605+06	2.846+07	2.302+07	4.603+06	2.516+07	2.302+07	4.603+06	2.483+07	2.302+07	4.603+06
5.000+05	2.380+07	1.595+07	3.191+06	2.108+07	1.595+07	3.189+06	1.778+07	1.595+07	3.189+06	1.745+07	1.595+07	3.189+06
8.640+05	1.513+07	7.815+06	1.563+06	1.241+07	7.806+06	1.561+06	9.117+06	7.806+06	1.561+06	8.789+06	7.806+06	1.561+06
1.000+06	1.333+07	6.146+06	1.229+06	1.061+07	6.137+06	1.228+06	7.310+06	6.137+06	1.228+06	6.983+06	6.137+06	1.228+06
2.000+06	8.099+06	1.411+06	2.823+05	5.385+06	1.403+06	2.805+05	2.094+06	1.403+06	2.805+05	1.768+06	1.403+06	2.805+05
2.592+06	7.302+06	7.033+05	1.407+05	4.591+06	6.945+05	1.389+05	1.304+06	6.945+05	1.389+05	9.780+05	6.945+05	1.389+05
5.000+06	6.578+06	6.644+04	1.329+04	3.880+06	5.763+04	1.153+04	6.101+05	5.763+04	1.153+04	2.853+05	5.763+04	1.153+04
5.184+06	6.565+06	5.674+04	1.135+04	3.869+06	4.794+04	9.587+03	5.998+05	4.794+04	9.587+03	2.752+05	4.794+04	9.587+03
1.000+07	6.453+06	9.198+03	1.840+03	3.783+06	3.921+02	7.843+01	5.458+05	3.918+02	7.836+01	2.243+05	3.918+02	7.836+01
1.296+07	6.414+06	8.826+03	1.765+03	3.760+06	2.082+01	4.165+00	5.421+05	2.048+01	4.096+00	2.226+05	2.045+01	4.091+00
2.000+07	6.322+06	8.806+03	1.761+03	3.706+06	4.013+01	8.026+02	5.343+05	5.650+02	1.130+02	2.194+05	3.352+02	6.704+03
3.156+07	6.174+06	8.806+03	1.761+03	3.619+06	3.831+01	7.662+02	5.218+05	3.831+02	7.662+03	2.143+05	1.532+02	3.065+03

BETA RAYS- SOURCE 2 (AIR), 1 WATT, PURE U-235

BETA RAYS- SOURCE 2 (PLATE OUT), 1 WATT, PURE U-235

BETA RAYS- SOURCE 2 (WATER), 1 WATT, PURE U-235

Figure 2.32

differences. Figures 2.83 through 2.94 show the results for Sources 1 and 2 where the long time region ($>10^4$ sec) has been plotted in an expanded scale to show the differences. Tables 2.25 and 2.26 show the percentage difference (from the equilibrium case) at a few selected cooling times. Clearly at "long" cooling times the length of irradiation time chosen for the calculations can have a significant effect on the energy release rates. For Source 1, "long" means greater than a few days, for Source 2, "long" means greater than 30 days. However, there are only very minor differences between irradiation times of 200 days and 500 days.

In the absence of depletion the reactor operating power affects the inventory of fission products only by neutron capture transmutation of the fission products. That is, without depletion or capture the decay power scales with operating power (assuming constant power operation). In general, (for the case of all fission products) neutron capture tends to increase the decay power. The magnitude is very much cooling time dependent with the largest capture effect occurring at long cooling times ($\sim 10^7 - 10^8$ sec). The effect also increases with increasing flux level or length of irradiation. However, when looking at a restricted set of fission products, as is the case here, it is difficult to make such generalizations.

We have attempted to investigate the magnitude of this effect on the specialized sources of interest by performing calculations at high power levels (4000 MW) and corresponding high flux levels (2×10^{13} n/cm²-sec). For these calculations depletion or capture in the fuel was not allowed. Calculations for equilibrium and 200 day irradiations are compared against similar calculations at low power (and low flux) for Source 1. The equilibrium results, shown in Figures 2.95 through 2.100, are probably not very meaningful since this unrealistically long irradiation (10^{13} sec) results in very high capture. The results for the 200 day irradiation are given in Figures 2.101 through 2.106. These results indicate that capture is not a significant effect at shorter and more realistic irradiation times.

Another effect of operating power is depletion or burnup of the fuel and possible transmutation of fertile material to fissile. In order to maintain the power level constant a decrease in the fission rate due to burnup must be compensated by an increase of fission rate in a second fuel. This effect was examined for a power level of 4000 MW and the assumption that all fissions

GAMMA RAYS-SOURCE 1 (AIR), 1 WATT, PURE U-235

Figure 2.33

BETA RAYS- SOURCE 1 (AIR), 1 WATT, PURE U-235

Figure 2.34

GAMMA RAYS-SOURCE 1 (PLATE OUT), 1 WATT, PURE U-235

Figure 2.85

BETA RAYS- SOURCE 1 (PLATE OUT), 1 WATT, PURE U-235

GAMMA RAYS-SOURCE 1 (WATER), 1 WATT, PURE U-235

Figure 2.37

BETA RAYS- SOURCE 1 (WATER), 1 WATT, PURE U-235

Figure 2.88

GAMMA RAYS-SOURCE 2 (AIR), 1 WATT, PURE U-235

BETA RAYS- SOURCE 2 (AIR), 1 WATT, PURE U-235

GAMMA RAYS-SOURCE 2 (PLATE OUT), 1 WATT, PURE U-235

BETA RAYS- SOURCE 2 (PLATE OUT), 1 WATT, PURE U-235

GAMMA RAYS-SOURCE 2 (WATER), 1 WATT, PURE U-235

BETA RAYS- SOURCE 2 (WATER), 1 WATT, PURE U-235

Figure 2.94

Table 2.25
PERCENT DEVIATION FROM EQUILIBRIUM
ENERGY RELEASE RATE

SOURCE 1 (Gamma)

Cooling Time	Air			Plate Out			Water		
	5000 d	500 d	200 d	5000 d	500 d	200 d	5000 d	500 d	200 d
1 d	3.2×10^{-2}	4.8×10^{-2}	4.8×10^{-2}	1.99	2.76	4.04	1.17	1.64	2.40
4 d	<0.1	<0.1	<0.1	4.76	6.63	9.63	3.39	4.70	6.81
10 d	0.12	0.22	0.23	7.48	10.4	14.8	5.62	7.81	11.2
30 d	0.92	1.84	1.93	15.2	21.0	28.6	13.7	19.0	25.8
60 d	12.9	24.6	25.7	23.8	32.7	41.7	23.6	32.3	41.3
1 y	49.1	92.5	96.9	65.1	87.3	91.0	65.2	87.3	91.0

SOURCE 1 (Beta)

Cooling Time	Air			Plate Out			Water		
	5000 d	500 d	200 d	5000 d	500 d	200 d	5000 d	500 d	200 d
1 d	1.76	3.88	4.09	5.45	9.73	13.0	3.44	6.17	8.21
4 d	4.53	10.0	10.6	12.0	21.3	28.4	9.22	16.5	21.8
10 d	8.56	19.0	20.0	16.0	28.5	37.7	13.6	24.1	31.8
30 d	30.3	67.0	70.6	23.6	41.5	53.9	22.6	39.7	55.9
60 d	40.8	90.1	95.0	29.3	50.7	64.6	29.2	50.5	64.4
1 y	41.5	91.6	96.5	49.4	76.1	87.0	49.5	76.1	87.0

Table 2.26
PERCENT DEVIATION FROM EQUILIBRIUM
ENERGY RELEASE RATE
SOURCE 2 (Gamma)

Cooling Time	Air			Plate Out			Water		
	5000 d	500 d	200 d	5000 d	500 d	200 d	5000 d	500 d	200 d
1 d	<0.1	<0.1	<0.1	0	0	0	0	0	0
4 d	0.10	0.21	0.21	0	0	0	<0.1	<0.1	<0.1
10 d	0.22	0.45	0.45	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
30 d	1.61	3.22	3.39	0.37	0.37	0.37	0.44	0.44	0.44
60 d	16.8	33.4	35.1	5.34	5.34	5.34	5.25	5.25	5.25
1 y	46.7	92.3	96.8	100	100	100	100	100	100

SOURCE 2 (Beta)

Cooling Time	Air			Plate Out			Water		
	5000 d	500 d	200 d	5000 d	500 d	200 d	5000 d	500 d	200 d
1 d	3.61	7.98	8.41	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4 d	9.42	20.9	22.0	<0.1	<0.1	<0.1	0.11	0.11	0.11
10 d	16.1	35.5	37.4	0.22	0.22	0.22	0.21	0.21	0.21
30 d	35.3	78.0	82.3	1.31	1.31	1.31	1.26	1.26	1.26
60 d	41.0	90.7	95.7	15.7	15.7	15.7	15.6	15.6	15.6
1 y	41.4	91.5	96.5	100	100	100	100	100	100

GAMMA RAYS-- SOURCE 1 (AIR), EQUILIBRIUM - EFFECTS OF CAPTURE

Figure 2.95

BETA RAYS- - SOURCE 1 (AIR), EQUILIBRIUM - EFFECTS OF CAPTURE

Figure 2.96

GAMMA RAYS-- SOURCE 1 (P.O.), EQUILIBRIUM-EFFECTS OF CAPTURE

Figure 2.97

BETA RAYS- - SOURCE 1 (P.O.), EQUILIBRIUM-EFFECTS OF CAPTURE

Figure 2.98

GAMMA RAYS-- SOURCE 1 (WATER), EQUILIBRIUM-EFFECTS OF CAPTURE

Figure 2.99

BETA RAYS - SOURCE 1 (WATER), EQUILIBRIUM-EFFECTS OF CAPTURE

Figure 2.100

GAMMA RAYS-- SOURCE 1 (AIR), 200 DAYS - EFFECTS OF CAPTURE

BETA RAYS- - SOURCE 1 (AIR), 200 DAYS - EFFECTS OF CAPTURE

Figure 2.102

GAMMA RAYS-- SOURCE 1 (P.O.), 200 DAYS - EFFECTS OF CAPTURE

Figure 2.103

BETA RAYS- - SOURCE 1 (P.O.), 200 DAYS - EFFECTS OF CAPTURE

Figure 2.10⁴

GAMMA RAYS-- SOURCE 1 (WATER), 200 DAYS - EFFECTS OF CAPTURE

Figure 2.105

BETA RAYS- - SOURCE 1 (WATER), 200 DAYS - EFFECTS OF CAPTURE

Figure 2.106

were initially coming from U-235 but at the end of the irradiation period a certain percentage of the fissions were coming from Pu-239. The assumptions were 50 percent in each isotope at the end of the equilibrium irradiation, and 25 percent of the fission from Pu-239 at the end of the 200 day irradiation.

Since the decay power for Pu-239 is generally less than that for U-235, these assumptions tend to decrease the decay power compared to the pure U-235 case, all other conditions being equal. This may be graphically seen in Figures 2.107 through 2.112 which compare Source 1 equilibrium calculations for pure U-235 with capture effects only at 4000 MW and calculations for U-235 and Pu-239 at 4000 MW. The data have been scaled to give the results in MeV/sec/watt. Similar results are shown for the 200 day irradiation in Figures 2.113 through 2.118. In most cases the effect of depletion and transmutation of fertile U-238 to Pu-239 during irradiation is to reduce the decay power compared to the pure U-235 case.

2.4.2 Treatment of Daughter Nuclides

A method for handling the daughter nuclides of the specified release fractions is not given in Regulatory Guide 1.89. In this program we investigated and compared several ways one might treat the daughters.

The most conservative assumption (leading to the largest decay power) is to include all progeny of the specified elements in the determination of the energy release rates. The procedure was followed for the bulk of the calculations reported here. Another possibility is to keep only those daughters which are of the same species as originally specified, and reject all others. For example, for an airborne source of 100 percent noble gases and 25 percent iodines, the decay of iodine builds up certain xenon isotopes in addition to any that may be present at shutdown. These would be retained. The xenon, however, decays to nongaseous isotopes, and the subsequent decay of these would not be included in the decay power. The logic behind this treatment is that the solids would not remain in the air and therefore would not continue to contribute to the decay power of the airborne source.

Calculations with the latter assumption were made for Sources 1 and 2, and for the 100 percent groups: halogens, iodines and noble gases (Sources 3, 4, 5). The results for Sources 1 and 2 are compared with the more conservative

GAMMA RAYS-- SOURCE 1 (AIR), EQUILIBRIUM - EFFECT OF DEPLETION

Figure 2.107

BETA RAYS - SOURCE 1 (AIR), EQUILIBRIUM - EFFECT OF DEPLETION

Figure 2.108

GAMMA RAYS-- SOURCE 1 (P.O.), EQUILIBRIUM-EFFECT OF DEPLETION

Figure 2.109

BETA RAYS- - SOURCE 1 (P.O.), EQUILIBRIUM-EFFECT OF DEPLETION

Figure 2.110

GAMMA RAYS-- SOURCE 1 (WATER), EQUILIBRIUM-EFFECT OF DEPLETION

Figure 2.111

BETA RAYS - - SOURCE 1 (WATER), EQUILIBRIUM-EFFECT OF DEPLETION

Figure 2.112

GAMMA RAYS-- SOURCE 1 (AIR), 200 DAYS - EFFECT OF DEPLETION

Figure 2.113

BETA RAYS- - SOURCE 1 (AIR), 200 DAYS - EFFECT OF DEPLETION

Figure 2.114

GAMMA RAYS-- SOURCE 1 (P.O.), 200 DAYS - EFFECT OF DEPLETION

Figure 2.115

BETA RAYS - SOURCE 1 (P.O.), 200 DAYS - EFFECT OF DEPLETION

Figure 2.116

GAMMA RAYS-- SOURCE 1 (WATER), 200 DAYS - EFFECT OF DEPLETION

Figure 2.117

BETA RAYS- - SOURCE 1 (WATER), 200 DAYS - EFFECT OF DEPLETION

Figure 2.118

assumption (all daughters retained) and shown in Figures 2.119 through 2.142 for the cases of equilibrium and 200 day irradiation. In most cases the daughters are seen to contribute a small amount to the energy release rates. The region where the discrepancies are the largest is the middle time region from $\sim 10^2$ to 10^5 sec cooling. The most dramatic difference occurs for the noble gases (and the airborne sources which are dominated by the noble gases). For the other cases the inclusion of all daughters results in a slightly conservative energy release rate.

Similar comparisons (i.e., with and without daughters) are shown for the calculations of 100 percent halogens, 100 percent iodines and 100 percent noble gases (Sources 3, 4, 5) in Figures 2.143 through 2.154. These results also demonstrate that it is the noble gases (see Figures 2.151 through 2.154) which show the biggest effect of including daughters.

A third treatment was investigated. For this case it was assumed that all fission products were released or available for release at all times after shutdown. At each cooling time the decay power from the specified release fractions was tallied. This model essentially allows daughters from nuclides not included in the originally specified groups to be included if they are of the appropriate species, but as with the "no daughters" case described above, any daughters are discarded unless they are also members of the elemental groups being followed.

This model, which we call the "continuous release" model, is not strictly in keeping with the regulatory guides description, but in some sense is more realistic in that it allows gaseous decay products of solids in the water, for example, to contribute to the atmospheric source. This model is also much simpler to calculate with standard fission product codes. Only a single time-dependent calculation with 100 percent of all fission products released need be made. All the information pertaining to the various sources can be computed afterward from these data.

The results of the latter treatment are shown in Figures 2.155 through 2.166 for Sources 1 and 2 compared with the standard calculation which includes all daughter contributions. For clarity, only the equilibrium cases are shown in the plots. Similar results obtain for the other irradiation times.

It is observed from the plots that for Source 1 at short and long cooling times the continuous release treatment of daughters is very close to the case

GAMMA RAYS-SOURCE 1 (AIR), EQUILIBRIUM, -EFFECTS OF DAUGHTERS

Figure 2.119

BETA RAYS- SOURCE 1 (AIR), EQUILIBRIUM, -EFFECTS OF DAUGHTERS

Figure 2.120

GAMMA RAYS-SOURCE 1 (AIR), 200 DAYS, -EFFECTS OF DAUGHTERS

BETA RAYS- SOURCE 1 (AIR), 200 DAYS, -EFFECTS OF DAUGHTERS

Figure 2.122

GAMMA RAYS-SOURCE 1 (P.O.), EQUILIBRIUM, -EFFECTS OF DAUGHTERS

Figure 2.123

BETA RAYS- SOURCE 1 (P.O.), EQUILIBRIUM, -EFFECTS OF DAUGHTERS

Figure 2.124

GAMMA RAYS-SOURCE 1 (P.O.), 200 DAYS, -EFFECTS OF DAUGHTERS

Figure 2.125

BETA RAYS- SOURCE 1 (P.O.), 200 DAYS, -EFFECTS OF DAUGHTERS

GAMMA RAYS-SOURCE 1 (WATER), EQUILIBRIUM, -EFFECTS OF DAUGHTERS

Figure 2.127

BETA RAYS- SOURCE 1 (WATER), EQUILIBRIUM, -EFFECTS OF DAUGHTERS

GAMMA RAYS-SOURCE 1 (WATER), 200 DAYS, -EFFECTS OF DAUGHTERS

Figure 2.129

BETA RAYS- SOURCE 1 (WATER), 200 DAYS, -EFFECTS OF DAUGHTERS

GAMMA RAYS-SOURCE 2 (AIR), EQUILIBRIUM, -EFFECTS OF DAUGHTERS

BETA RAYS- SOURCE 2 (AIR), EQUILIBRIUM, -EFFECTS OF DAUGHTERS

Figure 2.132

GAMMA RAYS-SOURCE 2 (AIR), 200 DAYS, -EFFECTS OF DAUGHTERS

Figure 2.133

BETA RAYS- SOURCE 2 (AIR), 200 DAYS, -EFFECTS OF DAUGHTERS

Figure 2.134

GAMMA RAYS-SOURCE 2 (P.O.), EQUILIBRIUM, -EFFECTS OF DAUGHTERS

Figure 2.135

BETA RAYS- SOURCE 2 (P.O.), EQUILIBRIUM, -EFFECTS OF DAUGHTERS

GAMMA RAYS-SOURCE 2 (P.O.), 200 DAYS, -EFFECTS OF DAUGHTERS

BETA RAYS- SOURCE 2 (P.O.), 200 DAYS, -EFFECTS OF DAUGHTERS

Figure 2.138

GAMMA RAYS-SOURCE 2 (WATER), EQUILIBRIUM, -EFFECTS OF DAUGHTERS

Figure 2.139

BETA RAYS- SOURCE 2 (WATER), EQUILIBRIUM, -EFFECTS OF DAUGHTERS

GAMMA RAYS-SOURCE 2 (WATER), 200 DAYS, -EFFECTS OF DAUGHTERS

Figure 2.141

BETA RAYS- SOURCE 2 (WATER), 200 DAYS, -EFFECTS OF DAUGHTERS

ENERGY REL RATE (MEV/SEC/MATT)

Figure 2.142

GAMMA RAYS-100% HALOGENS, EQUILIBRIUM, -EFFECTS OF DAUGHTERS

Figure 2.143

BETA RAYS- 100% HALOGENS, EQUILIBRIUM, -EFFECTS OF DAUGHTERS

GAMMA RAYS-100% HALOGENS, 200 DAYS, -EFFECTS OF DAUGHTERS

Figure 2.145

BETA RAYS- 180% HALOGENS, 200 DAYS, -EFFECTS OF DAUGHTERS

Figure 2.146

GAMMA RAYS-100% IODINES, EQUILIBRIUM, -EFFECTS OF DAUGHTERS

Figure 2.147

BETA RAYS- 100% IODINES, EQUILIBRIUM, -EFFECTS OF DAUGHTERS

Figure 2.148

GAMMA RAYS-100% IODINES, 200 DAYS, -EFFECTS OF DAUGHTERS

BETA RAYS- 100% IODINES, 200 DAYS, -EFFECTS OF DAUGHTERS

Figure 2.150

GAMMA RAYS-100% NOBLE GASES, EQUILIBRIUM, -EFFECTS OF DAUGHTERS

BETA RAYS- 100% NOBLE GASES, EQUILIBRIUM, -EFFECTS OF DAUGHTERS

Figure 2.152

GAMMA RAYS-100% NOBLE GASES, 200 DAYS, -EFFECTS OF DAUGHTERS

Figure 2.153

BETA RAYS- 100% NOBLE GASES, 200 DAYS, -EFFECTS OF DAUGHTERS

Figure 2.154

GAMMA RAYS-- SOURCE 1 (AIR) - EFFECTS OF DAUGHTERS

Figure 2.155

BETA RAYS- - SOURCE 1 (AIR) - EFFECTS OF DAUGHTERS

Figure 2.156

GAMMA RAYS-- SOURCE 1 (P.O.) - EFFECTS OF DAUGHTERS

Figure 2.157

BETA RAYS- - SOURCE 1 (P.O.) - EFFECTS OF DAUGHTERS

GAMMA RAYS-- SOURCE 1 (WATER) - EFFECTS OF DAUGHTERS

Figure 2.159

BETA RAYS- - SOURCE 1 (WATER) - EFFECTS OF DAUGHTERS

GAMMA RAYS-- SOURCE 2 (AIR) - EFFECTS OF DAUGHTERS

BETA RAYS- - SOURCE 2 (AIR) - EFFECTS OF DAUGHTERS

GAMMA RAYS-- SOURCE 2 (P.O.) - EFFECTS OF DAUGHTERS

BETA RAYS- - SOURCE 2 (P.O.) - EFFECTS OF DAUGHTERS

Figure 2.164

GAMMA RAYS-- SOURCE 2 (WATER) - EFFECTS OF DAUGHTERS

Figure 2.165

BETA RAYS - SOURCE 2 (WATER) - EFFECTS OF DAUGHTERS

Figure 2.166

which includes all daughters. In the middle cooling time region there are significant differences. For Source 2, the plate-out case behaves similarly. However, the airborne and waterborne sources show very large differences. These results indicate that the continuous release method of calculation must be used with caution. It remains to be shown whether or not this case is closer to a realistic situation than the instantaneous release approach specified in Regulatory Guide 1.89.

2.4.3 Effects of Fissile Loading

For most of the calculations described so far the fuel was pure U-235. In a power reactor fissions will come from U-235 and Pu-239 which is produced by neutron capture (and subsequent decay) in U-238. A so-called "realistic" case was calculated as described in Section 2.3. This is intended to serve as an illustration of the effect that conditions closer to realistic have on the decay power compared to the pure U-235 case without capture.

As may be seen by the comparisons shown in Figures 2.167 through 2.178 for Sources 1 and 2 for an irradiation of 200 days, the differences are not very large.

2.4.4 Largest Contributing Nuclides

For all of the energy release rate calculations presented in this report a compilation was made of the ten nuclides which are the most significant contributors to the decay power. These are given for reference in the appendices.

A few general conclusions may be drawn from these results. Except at very short times, relatively few nuclides contribute the bulk of the decay power for Sources 1 and 2. At long cooling times (> 30 days) only one or two nuclides are responsible for almost all the decay power.

It was also found that the realistic case that included Pu-239 did not significantly alter the types or percentage contribution of nuclides which are most significant.

GAMMA RAYS-SOURCE 1(AIR),200 DAYS,IDEAL VS REALISTIC

Figure 2.167

BETA RAYS- SOURCE 1(AIR),200 DAYS,IDEAL VS REALISTIC

GNTHA RAYS-SOURCE 1(P O), 200 DAYS, IDEAL VS REALISTIC

BETA RAYS- SOURCE 1(P O), 200 DAYS, IDEAL VS REALISTIC

GAMMA RAYS-SOURCE 1(H2O),200 DAYS,IDEAL VS REALISTIC

Figure 2.171

BETA RAYS- SOURCE 1 (H2O), 200 DAYS, IDEAL VS REALISTIC

Figure 2.172

GAMMA RAYS-SOURCE 2(AIR), 200 DAYS, IDEAL VS REALISTIC

Figure 2.173

BETA RAYS- SOURCE 2(AIR), 200 DAYS, IDEAL VS REALISTIC

Figure 2.174

GAMMA RAYS-SOURCE 2(P O), 200 DAYS, IDEAL VS REALISTIC

Figure 2.175

BETA RAYS- SOURCE 2(P O), 200 DAYS, IDEAL VS REALISTIC

Figure 2.176

GAMMA RAYS-SOURCE 2(H2O), 200 DAYS, IDEAL VS REALISTIC

Figure 2.177

BETA RAYS- SOURCE 2(H2O), 200 DAYS, IDEAL VS REALISTIC

Figure 2.178

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3. RADIATION SPECTRA

We report here the beta and gamma-ray spectra of the fission product sources specified in Regulatory Guide 1.89 (Ref. 2). Like the energy release rates discussed in the previous section; the spectra are dependent upon many parameters associated with the power history of the reactor. In addition the spectra are dependent upon cooling time or time after shutdown. It is therefore of interest to determine the importance of all of these variables on the spectra.

In this section we report the results of beta and gamma spectra calculated for certain selected sources described previously. The calculational methods are described in Section 3.1 followed by a presentation of the results in the form of tables and plots. Some discussion and conclusions are also given.

These spectra will be used in Phase 5 of this program as sources for calculations of energy deposition in a model reactor cable.

3.1 METHOD OF CALCULATION

The procedure used for calculation of composite spectra of fission products is based on the technique used by England and co-workers in conjunction with the CINDER family of fission product codes (Ref. 7). A block diagram outlining the method is shown in Figure 3.1. The concentrations of all of the fission product nuclides of interest are tallied by RIBD-II as described in Section 2. At the cooling times at which spectra are desired, these concentrations are dumped onto a tape along with the total beta and gamma energy release rates. Spectra of all of the individual nuclides in ENDF/B-IV for which spectral data are known (180 nuclides) have been calculated in a fixed group structure by England and Stamatelatos (Ref. 8). For gamma rays this is simply a matter of properly binning the ENDF data (line energies and intensities) into a 150-group energy structure (50-keV bins) between 0 and 7.5 MeV. For beta particles the problem is more complex since beta spectra are continuous. It is necessary

FIGURE 3.1

to use a theoretical formulation to generate individual nuclide beta spectra using the intensity and endpoint energy specified in the ENDF/B-IV files. This has been done using an "exact" beta theory and tabulated in a 75-energy group (100 keV bins) structure by England and Stamatelatos (Ref. 8). These individual nuclide data are folded with the concentrations of nuclides of interest to produce the desired fission product spectrum. The final spectra were collapsed to a 50-group (150 keV) structure for gamma rays and 25 groups (300 keV bins) for betas.

The 180 nuclides for which spectral information is available are the most important for decay heating. Recent comparisons have shown that for all fission products, the 180 nuclides account for about two-thirds of the total decay energy at short cooling times (~ 10 s) and to account for 90 to 98 percent of the total decay energy at times $\gtrsim 100$ s after shutdown (Ref. 8).

In order to approximately account for the missing nuclides at each cooling time the spectra have been normalized so that the total energy (integral of the spectrum) is equal to the total decay energy from all 818 of the fission products as calculated by RIBD-II. At short cooling times this may not be accurate since the spectral shape could be altered by the missing nuclides. It should also be noted that the summation method under-predicts the decay heat at short times. However, for the cooling times of concern here, it is not expected to be important.

3.2 RESULTS

In the energy release rate studies (Section 2) a very large number of source calculations were prepared. It was not practical to calculate spectra for all those cases nor for all the cooling times calculated (34). We therefore limited the spectral calculations to 10 time points between shutdown and one year after shutdown, as shown in Table 3.1.

Table 3.1. COOLING TIMES FOR SPECTRAL CALCULATIONS

Shutdown	4 days
1 minute	10 days
1 hour	30 days
12 hours	60 days
1 day	1 year

There are several useful forms in which to express spectral information: Number spectra (number of particles per second in a given energy bin); energy spectra (particle energy per unit time in a specified bin); cumulative spectra (fraction of energy below the specified energy).

All three of these forms were calculated and tabulated separately for beta and gamma rays. In addition the average particle energy at each of the cooling times was also determined. The shutdown spectra should be interpreted with caution since the spectral shape could be significantly altered by the large contribution of missing nuclides.

The information presented in graphical form was further condensed for clarity. Only energy spectra and cumulative spectra have been plotted at selected times (1 minute, 1 hour, 1 day and 30 days).

The results for Source 1 are given in Tables 3.2 through 3.73 and Figures 3.2 through 3.49. Source 2 spectra are given in Tables 3.74 through 3.145 and Figures 3.50 through 3.97. Spectral results for Source 7 (100 percent of all fission products) are presented in Tables 3.146 through 3.169 and Figures 3.98 through 3.113. The plotted energy spectra should more properly be shown as histograms.

It is difficult to make very many generalizations about such a large body of data. It is clear, however, that the spectral shapes are changing very dramatically with cooling time. The spectra at one minute bear little resemblance to those at 30 days. The gamma-ray spectra show considerable structure even with the coarse group structure chosen.

Initial inspection of the spectral data indicate that very little shape changes occur as a function of length of irradiation.

It is interesting to compare the Source 1 and 2 spectra with the spectra for all fission products (Source 7). The 30 day cooling time spectra for Source 7 are much harder than either Source 1 or 2. The short-time (1 minute) spectra, however, have very similar shapes. Of course the magnitudes are quite different.

Spectral calculations for the cases without daughters were limited to only equilibrium irradiations in an effort to cut down the volume of tables and plots. Little difference is expected for the other irradiation times.

Table 3.2

SOURCE 1 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	9.9056+09	3.3736+09	2.9038+09	2.0112+09	1.5251+09	9.3550+08	4.1028+08	2.4451+07	4.4366+05	5.9792-02
2	3.00000+01	7.5730+09	4.6538+09	2.5828+09	1.1759+09	5.9725+08	4.3130+07	1.4199+07	1.6046+06	1.0635+05	1.6351-04
3	4.50000+01	2.4920+09	1.6736+09	6.2914+08	2.3099+08	2.3000+08	2.3824+08	1.3208+08	1.8706+07	1.2194+06	1.8451-05
4	6.00000+01	8.1886+09	2.2743+09	8.4078+08	3.9494+08	2.8699+08	3.6419+07	1.4042+06	5.7507+05	4.3773+05	4.0219+05
5	7.50000+01	1.5110+09	9.9066+08	4.3964+08	4.7403+07	3.3327+07	2.6628+07	1.4195+07	2.0101+06	1.3146+05	4.4453+02
6	9.00000+01	2.4962+09	2.0104+09	1.0870+09	6.4327+07	2.3814+07	2.3867+04	2.2845+04	1.2761+03	2.1786+02	1.3848-02
7	1.05000+00	6.4494+08	5.3323+08	2.7996+08	2.0252+07	5.4071+06	5.4504+03	1.3518+03	3.7348+02	4.3600+01	4.0747-06
8	1.20000+00	1.8553+09	6.2067+08	2.5741+08	4.8129+07	1.5641+07	1.9754+05	1.4383+03	1.2920+04	1.7718-14	0.0000
9	1.35000+00	1.1745+09	5.9717+08	2.0436+08	6.2143+07	2.6029+07	1.8268+06	1.0867+04	3.9058+00	2.3700+00	6.2837-02
10	1.50000+00	5.9399+08	3.4908+08	3.8029+08	1.7917+07	4.8790+06	3.3620+03	1.3083+03	2.7525+04	2.2183-04	1.0322-04
11	1.65000+00	8.8305+08	5.0221+08	1.6828+08	1.3483+07	1.7280+06	1.8920+04	1.5529+04	4.2906+03	7.3065+02	4.6811-05
12	1.80000+00	1.0367+09	6.7640+08	1.4544+08	3.3228+07	1.0466+07	7.4105+03	1.8648+03	7.1600+09	6.1869+09	5.9455-09
13	1.95000+00	2.3070+08	1.8098+08	2.3158+08	1.8346+07	1.4296+06	3.1231+02	6.7467+05	1.1962-17	1.2931-30	0.0000
14	2.10000+00	6.0587+08	6.1448+08	1.2700+08	7.1771+06	7.1446+05	2.6252+02	6.4393+05	2.5668-22	0.0000	0.0000
15	2.25000+00	3.6668+08	2.9002+08	2.3628+08	1.6228+07	7.4422+05	7.0389+02	9.3108+04	7.0236+04	5.6503+04	2.6340-04
16	2.40000+00	7.3516+08	5.8184+08	3.6073+08	2.5871+07	1.5152+06	1.4266+02	1.2230+02	3.3792+01	3.7544+00	3.8867-07
17	2.55000+00	1.9314+08	6.3257+07	1.5591+07	6.6858+05	3.8924+04	5.8164+02	4.9878+02	1.3781+02	2.3468+01	1.5035-06
18	2.70000+00	1.8709+08	1.6690+08	1.2093+08	2.2515+06	1.2221+05	3.0547+03	9.4746+19	0.0000	0.0000	0.0000
19	2.85000+00	1.4593+08	5.5893+07	6.0457+06	2.3247+05	1.3377+04	3.3838+04	1.7470+19	0.0000	0.0000	0.0000
20	3.00000+00	1.1099+08	6.1107+07	8.0309+00	3.7372+00	3.7943+00	1.1258+01	9.6547+00	2.6675+00	4.5426+01	2.9103-08
21	3.15000+00	4.8892+07	3.5680+07	3.6208+06	2.8150+05	1.6496+04	3.7526+00	3.2177+00	8.8903+01	1.5139+01	9.6995-09
22	3.30000+00	1.9776+07	1.4485+07	3.1791+06	2.5813+05	1.5127+04	3.8272+04	1.4114+19	0.0000	0.0000	0.0000
23	3.45000+00	5.3586+07	6.1588+07	4.0425+06	5.9426+03	9.6306+00	9.6311+08	4.7207+20	0.0000	0.0000	0.0000
24	3.60000+00	3.6197+07	4.9297+07	1.9538+06	1.3491+05	7.9053+03	1.9998+04	6.1425+20	0.0000	0.0000	0.0000
25	3.75000+00	2.8674+07	2.4889+07	1.6610+05	2.5018+03	1.4643+02	3.7038+06	1.1376+21	0.0000	0.0000	0.0000
26	3.90000+00	1.1642+07	1.3815+07	1.2973+04	3.3990+01	1.7526+03	2.0581+17	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	2.8534+07	1.9657+07	2.4454+05	1.3326+04	7.8086+02	1.9754+05	6.0673+21	0.0000	0.0000	0.0000
28	4.20000+00	4.4765+06	2.4417+07	9.9645+00	7.2828+02	1.5462+08	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	3.7855+06	6.7761+06	3.9595+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	4.2324+06	2.0425+07	4.3965+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	5.6986+05	5.2740+06	2.4157+04	1.9988+03	1.1713+02	2.9630+06	9.1010+22	0.0000	0.0000	0.0000
32	4.80000+00	5.6986+05	4.7329+05	9.8586+05	8.1611+04	4.7823+03	1.2098+04	3.7159+20	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	4.8466+04	7.2437+04	5.9965+03	3.5139+02	8.8891+06	2.7303+21	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	8.3643+05	1.7403+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	2.2170+06	4.8729+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	1.4093+06	3.0978+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	3.5059+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	1.8932+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	2.9449+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	6.8729+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.3

SOURCE : (AIR), EQUILIBRIUM, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	4.4292+08	2.5302+08	2.1774+08	1.5084+08	1.1838+08	7.0163+07	3.0771+07	1.8338+06	3.3275+04	4.4844+03
2	3.00000+01	1.7039+08	1.0471+08	5.8112+08	2.6458+08	1.3438+08	9.7041+06	3.1947+06	3.6108+05	2.3928+04	3.6789+03
3	4.50000+01	9.3451+08	6.2762+08	2.3593+08	8.6622+07	8.6249+07	6.9339+07	4.9530+07	7.0149+06	4.5728+05	6.9193+04
4	6.00000+01	2.1780+09	1.1940+09	4.4141+08	2.0734+08	1.5067+08	1.9120+07	7.3718+05	3.0191+05	2.2981+05	2.1115+05
5	7.50000+01	1.0199+09	6.6869+08	2.9676+08	3.2132+07	2.2496+07	1.7974+07	9.5815+06	1.3569+06	8.8738+04	3.0006+02
6	9.00000+01	2.0593+09	1.6586+09	8.9678+08	3.3070+07	1.9647+07	1.9691+06	1.8867+04	1.0528+03	1.7941+02	1.9725+02
7	1.05000+00	6.4832+08	5.1990+08	2.7296+08	1.9786+07	5.2719+06	5.3141+03	1.3180+03	3.6814+02	6.2010+01	3.9729+06
8	1.20000+00	2.1322+09	9.2325+08	2.8959+08	5.4145+07	1.7596+07	2.2223+05	1.6181+03	1.4535+04	1.9933+14	0.0000
9	1.35000+00	1.4974+09	7.6139+08	2.6056+08	7.9232+07	3.3187+07	1.8191+06	1.3855+04	4.9799+00	3.0218+00	8.0117+02
10	1.50000+00	7.1819+04	4.9744+08	5.4192+08	2.5531+07	6.9525+06	4.7908+03	1.8644+03	3.9223+04	3.1554+04	1.8709+04
11	1.65000+00	1.3908+09	7.9099+08	2.6504+08	2.1236+07	2.7217+06	2.9798+04	2.4458+04	6.7577+03	1.1508+03	7.3728+05
12	1.80000+00	1.7883+09	1.1668+09	2.5089+08	5.7318+07	1.8053+07	1.2783+04	3.2167+03	1.2351+08	1.0672+08	1.0256+08
13	1.95000+00	4.3256+08	3.3933+08	4.3421+08	3.4398+07	2.6805+06	5.8559+02	1.6400+04	2.2429+17	2.4246+30	0.0000
14	2.10000+00	1.6319+09	1.2443+09	2.5718+08	1.4534+07	1.8468+06	5.3160+02	1.3040+04	5.1978+22	0.0000	0.0000
15	2.25000+00	7.9752+08	6.8820+08	5.1392+08	2.7684+07	1.6187+06	1.5310+01	2.0251+03	1.5276+03	1.2289+03	5.7289+04
16	2.40000+00	1.7097+09	1.3528+09	8.1869+08	6.0150+07	3.5228+06	3.3168+02	2.8436+02	7.8566+01	1.3379+01	8.5717+07
17	2.55000+00	4.7803+08	2.0606+08	3.8587+07	1.6547+06	9.6337+04	1.4395+03	1.2385+03	3.4108+02	5.8083+01	3.7213+06
18	2.70000+00	4.9111+08	4.3812+08	3.1745+08	5.9102+06	3.2080+05	8.0972+03	2.4871+18	0.0000	0.0000	0.0000
19	2.85000+00	4.0494+08	1.5510+08	1.6777+07	6.4510+05	3.7122+04	9.3900+04	4.8479+19	0.0000	0.0000	0.0000
20	3.00000+00	3.2466+08	1.7874+08	2.5556+05	2.3490+01	1.1098+01	3.2331+01	2.8240+01	7.8025+08	1.3287+00	8.5127+08
21	3.15000+00	1.5034+08	1.0971+08	1.1134+07	8.6541+05	5.0727+04	1.1539+01	9.8945+00	2.7338+00	4.6554+01	2.9826+08
22	3.30000+00	6.3778+07	4.6715+07	1.0252+07	8.3252+05	4.8785+04	1.2343+03	4.5518+19	0.0000	0.0000	0.0000
23	3.45000+00	1.8085+08	2.0786+08	1.3683+07	2.0056+04	3.2503+01	3.2505+07	1.5932+19	0.0000	0.0000	0.0000
24	3.60000+00	1.2759+08	1.7377+08	6.8872+06	4.7555+05	2.7866+04	3.2869+04	2.1652+19	0.0000	0.0000	0.0000
25	3.75000+00	1.0538+08	8.9998+07	6.1044+05	9.1940+03	5.3812+02	1.3611+05	4.1808+21	0.0000	0.0000	0.0000
26	3.90000+00	4.4532+07	5.1311+07	4.4622+04	1.3001+00	6.7038+03	7.8723+17	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	1.1342+08	7.8136+07	9.7203+05	5.2970+04	3.1039+03	7.8520+05	2.4118+20	0.0000	0.0000	0.0000
28	4.20000+00	1.8466+07	1.0072+08	4.1104+05	3.0042+01	6.3781+08	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	1.6183+07	2.8968+07	1.6927+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	1.8732+07	9.0382+07	1.9455+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	2.6071+06	2.4128+07	1.1052+05	9.1846+03	5.3586+02	1.3556+05	4.1637+21	0.0000	0.0000	0.0000
32	4.80000+00	2.6926+06	2.2363+06	4.6582+06	3.8561+05	2.2597+04	5.7163+04	1.7558+19	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	2.3627+05	3.5313+05	2.9233+04	1.7130+03	4.3334+05	1.3310+20	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	4.2031+06	8.7451+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	1.1473+07	2.5217+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	7.5044+06	1.6496+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	1.9195+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	1.0649+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	1.7007+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	4.0722+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.4

SOURCE 1 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

.....COOLING TIMES.....												
GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	1.50000-01	1.6745-02	1.6117-02	3.1037-02	1.2576-01	1.8405-01	3.3353-01	3.2779-01	1.6860-01	3.9874-02	2.1208-08	
2	3.00000-01	9.0857-02	8.2816-02	1.1385-01	3.4634-01	4.0027-01	3.7966-01	3.6162-01	2.0179-01	6.8548-02	2.1382-08	
3	4.50000-01	1.3041-01	1.2279-01	1.4748-01	5.1854-01	5.3905-01	6.0434-01	8.8942-01	8.2671-01	6.1652-01	2.1415-08	
4	6.00000-01	2.2258-01	1.9885-01	2.1038-01	5.9187-01	7.8149-01	8.9523-01	8.9728-01	8.7447-01	8.9198-01	9.9858-01	
5	7.50000-01	2.6575-01	2.4145-01	2.5268-01	6.1821-01	8.1768-01	9.8067-01	9.9934-01	9.9921-01	9.9824-01	1.0000+00	
6	9.00000-01	3.5240-01	3.3710-01	3.8048-01	6.6286-01	8.4929-01	9.9003-01	9.9954-01	9.9931-01	9.9846-01	1.0000+00	
7	1.05000+00	3.8034-01	3.8021-01	4.1938-01	6.7892-01	8.5778-01	9.9006-01	9.9956-01	9.9934-01	9.9853-01	1.0000+00	
8	1.20000+00	4.7057-01	4.3902-01	4.6065-01	7.2406-01	8.8609-01	9.9111-01	9.9958-01	9.9934-01	9.9853-01	1.0000+00	
9	1.35000+00	5.3395-01	4.8752-01	4.9778-01	7.9012-01	9.3949-01	9.9976-01	9.9972-01	9.9934-01	9.9853-01	1.0000+00	
10	1.40000+00	5.6434-01	5.1921-01	5.7501-01	8.1141-01	9.5068-01	9.9978-01	9.9972-01	9.9934-01	9.9853-01	1.0000+00	
11	1.65000+00	6.2320-01	5.6960-01	6.1279-01	8.2911-01	9.5506-01	9.9993-01	9.9998-01	9.9996-01	9.9991-01	1.0000+00	
12	1.80000+00	6.9888-01	6.4392-01	6.4854-01	8.7498-01	9.8410-01	9.9999-01	9.9998-01	9.9996-01	9.9991-01	1.0000+00	
13	1.95000+00	7.1719-01	6.6553-01	7.1042-01	9.0558-01	9.8842-01	9.9999-01	9.9998-01	9.9996-01	9.9991-01	1.0000+00	
14	2.10000+00	7.8625-01	7.4480-01	7.4707-01	9.1769-01	9.9075-01	9.9999-01	9.9998-01	9.9996-01	9.9991-01	1.0000+00	
15	2.25000+00	8.2001-01	7.8609-01	8.2031-01	9.4077-01	9.9335-01	9.9999-01	9.9998-01	9.9996-01	9.9991-01	1.0000+00	
16	2.40000+00	8.9236-01	8.7228-01	9.3984-01	9.9092-01	9.9902-01	9.9999-01	9.9998-01	9.9996-01	9.9991-01	1.0000+00	
17	2.55000+00	9.1259-01	8.8538-01	9.4534-01	9.9230-01	9.9917-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
18	2.70000+00	9.3338-01	9.1329-01	9.9058-01	9.9723-01	9.9969-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
19	2.85000+00	9.5052-01	9.2317-01	9.9297-01	9.9777-01	9.9975-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
20	3.00000+00	9.6426-01	9.3456-01	9.9301-01	9.9777-01	9.9975-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
21	3.15000+00	9.7062-01	9.4155-01	9.9459-01	9.9849-01	9.9983-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
22	3.30000+00	9.7332-01	9.4452-01	9.9605-01	9.9918-01	9.9991-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
23	3.45000+00	9.8097-01	9.5776-01	9.9800-01	9.9920-01	9.9991-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
24	3.60000+00	9.8637-01	9.6883-01	9.9898-01	9.9959-01	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
25	3.75000+00	9.9083-01	9.7456-01	9.9907-01	9.9960-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
26	3.90000+00	9.9272-01	9.7783-01	9.9907-01	9.9960-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
27	4.05000+00	9.9752-01	9.8281-01	9.9921-01	9.9965-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
28	4.20000+00	9.9830-01	9.8923-01	9.9927-01	9.9965-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
29	4.35000+00	9.9898-01	9.9107-01	9.9927-01	9.9965-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
30	4.50000+00	9.9978-01	9.9683-01	9.9927-01	9.9965-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
31	4.65000+00	9.9989-01	9.9837-01	9.9929-01	9.9965-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
32	4.80000+00	1.0000+00	9.9851-01	9.9945-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
33	4.95000+00	1.0000+00	9.9852-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
34	5.10000+00	1.0000+00	9.9879-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
35	5.25000+00	1.0000+00	9.9952-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
36	5.40000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
37	5.55000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
38	5.70000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
39	5.85000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
40	6.00000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	

SOURCE 1 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235

Figure 3.2

SOURCE 1 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235

Table 3.5

SOURCE 1 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

-----COOLING TIMES-----

GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	7.4345+09	6.3769+09	4.8108+09	2.7393+09	2.0898+09	1.1540+09	5.9236+08	1.1244+08	6.2583+07	5.7637+07
2	6.00000+01	5.5748+09	2.7938+09	1.6911+09	5.8233+08	2.8235+08	5.2893+07	3.6412+07	2.8117+07	2.7387+07	2.5798+07
3	9.00000+01	2.1094+09	1.4960+09	6.6525+08	1.7216+08	7.9259+07	3.8025+06	4.2476+05	4.5991+05	4.9255+05	4.6058+05
4	1.20000+00	1.6636+09	1.0166+09	3.0915+08	2.8144+07	1.1745+07	7.9939+05	1.3651+04	6.1926+03	4.4094+03	8.7806+01
5	1.50000+00	1.5083+09	8.6498+08	2.3108+08	7.3572+06	6.5875+05	1.0313+04	1.4014+03	1.1608+03	8.1929+02	2.2853+01
6	1.80000+00	1.3431+09	7.3971+08	1.9768+08	6.0146+06	3.0736+05	9.0855+01	5.0047+01	2.4801+01	9.8804+00	5.4544+00
7	2.10000+00	1.1266+09	5.9822+08	1.6503+08	5.4981+06	2.6601+05	2.1241+01	1.1427+01	6.1291+00	2.9496+00	1.8996+00
8	2.50000+00	8.9961+08	4.6050+08	1.3194+08	5.0100+06	2.3675+05	2.8341+00	1.8677+01	1.6496+01	1.4621+01	1.3333+01
9	2.70000+00	7.1759+08	3.5241+08	1.0360+08	4.5933+06	2.1729+05	4.7179+01	1.6419+03	1.6986+03	1.9352+03	9.2329+04
10	3.00000+00	5.7561+08	2.6414+08	8.1497+07	4.2019+06	1.9950+05	1.2554+02	2.6286+04	3.0643+04	3.1236+04	1.4903+04
11	3.30000+00	4.3905+08	1.8457+08	6.3553+07	3.7068+06	1.7666+05	2.8688+03	1.5801+17	0.0000	0.0000	0.0000
12	3.60000+00	3.1144+08	1.1580+08	4.8983+07	3.1443+06	1.5028+05	2.4224+03	3.3606+18	0.0000	0.0000	0.0000
13	3.90000+00	2.0448+08	6.3564+07	3.7598+07	2.5366+06	1.2141+05	1.9529+03	6.6232+19	0.0000	0.0000	0.0000
14	4.20000+00	1.2561+08	2.9998+07	2.7570+07	1.8827+06	9.0132+04	1.8499+03	4.9091+19	0.0000	0.0000	0.0000
15	4.50000+00	7.4982+07	1.2678+07	1.8019+07	1.2324+06	5.9000+04	9.6909+04	3.2135+19	0.0000	0.0000	0.0000
16	4.80000+00	4.7105+07	6.1832+06	9.5308+06	6.5211+05	3.1220+04	5.0221+04	1.7004+19	0.0000	0.0000	0.0000
17	5.10000+00	2.8023+07	2.9649+06	3.1928+06	2.1846+05	1.0459+04	1.6824+04	5.6966+20	0.0000	0.0000	0.0000
18	5.40000+00	1.4307+07	1.4590+06	2.3661+05	1.6189+04	7.7505+02	1.2468+05	4.2214+21	0.0000	0.0000	0.0000
19	5.70000+00	5.2219+06	6.3262+05	6.4703+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	7.9490+05	2.3530+05	2.6829+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	2.0673+05	3.8370+04	4.6157+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	5.0661+02	1.1852+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	2.9376+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	1.3120+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	2.9388+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.6

SOURCE 1 (AIR), EQUILIRRIUM, 1 WATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	1.1452+09	9.5653+08	7.2163+08	4.1089+08	3.1347+08	1.7340+08	8.8855+07	1.6866+07	9.3875+06	8.6456+06
2	6.00000+01	1.6087+09	1.2572+09	7.6099+08	2.6205+08	1.2715+08	2.3802+07	1.6385+07	1.2653+07	1.2324+07	1.1609+07
3	9.00000+01	1.5820+09	1.0920+09	4.9894+08	1.2912+08	5.9444+07	2.8519+06	3.1857+05	3.4493+05	3.6942+05	3.4541+05
4	1.20000+00	1.7468+09	1.0675+09	3.2461+08	2.9552+07	1.2333+07	8.3936+05	1.4334+04	6.5022+03	4.6299+03	9.2196+01
5	1.50000+00	2.0362+09	1.1677+09	3.1196+08	9.9322+06	8.8932+05	1.3923+04	1.8919+03	1.5671+03	1.1040+03	3.0851+01
6	1.80000+00	2.2161+09	1.2205+09	3.2618+08	9.9240+06	5.0714+05	1.4991+02	8.2578+01	4.0922+01	1.6303+01	8.9998+00
7	2.10000+00	2.1968+09	1.1665+09	3.2182+08	1.0721+07	5.1872+05	4.1419+01	2.2283+01	1.1952+01	5.7518+00	3.8797+00
8	2.40000+00	2.0241+09	1.0361+09	2.9688+08	1.1272+07	5.3269+05	6.3767+00	4.2024+01	3.7116+01	3.2896+01	2.9999+01
9	2.70000+00	1.8298+09	8.9864+08	2.6419+08	1.1713+07	5.5409+05	1.2031+00	4.1869+03	4.8410+03	4.9388+03	2.3544+03
10	3.00000+00	1.6405+09	7.5279+08	2.3227+08	1.1975+07	5.6856+05	3.5778+02	7.4914+04	8.7332+04	8.9023+04	4.2473+04
11	3.30000+00	1.3830+09	5.8180+08	2.0019+08	1.1677+07	5.5649+05	9.0355+03	4.9778+17	0.0000	0.0000	0.0000
12	3.60000+00	1.0745+09	3.9951+08	1.6899+08	1.0848+07	5.1848+05	8.3571+03	1.2284+17	0.0000	0.0000	0.0000
13	3.90000+00	7.6679+08	2.3836+08	1.4099+08	9.5124+06	4.5527+05	7.3235+03	2.4837+18	0.0000	0.0000	0.0000
14	4.20000+00	5.0874+08	1.2149+08	1.1166+08	7.6248+06	3.6504+05	5.8720+03	1.9882+18	0.0000	0.0000	0.0000
15	4.50000+00	3.2617+08	5.5150+07	7.8382+07	5.3609+06	2.5665+05	4.1285+03	1.3979+18	0.0000	0.0000	0.0000
16	4.80000+00	2.1904+08	2.8752+07	4.4318+07	3.0321+06	1.4517+05	2.3353+03	7.9069+19	0.0000	0.0000	0.0000
17	5.10000+00	1.3872+08	1.4676+07	1.5845+07	1.0814+06	5.1771+04	8.3274+04	2.8197+19	0.0000	0.0000	0.0000
18	5.40000+00	7.5111+07	7.6598+06	1.2422+06	8.4993+04	4.0690+03	6.5455+05	2.2162+20	0.0000	0.0000	0.0000
19	5.70000+00	2.8982+07	3.5110+06	3.5910+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	4.6502+06	1.3765+06	1.5695+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.2345+04	2.3598+05	2.8386+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	3.2677+03	7.6446+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	1.9829+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	9.2497+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	2.1600+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.7

SOURCE 1 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

-----COOLING TIMES-----											
GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	5.0700+02	7.9264+02	1.4968+01	4.3418+01	6.8479+01	8.6309+01	8.4163+01	5.6462+01	4.2503+01	4.1966+01
2	4.00000+01	1.2211+01	1.8344+01	3.0753+01	7.1108+01	8.5009+01	9.8156+01	9.9683+01	9.9818+01	9.8301+01	9.8323+01
3	9.00000+01	1.9226+01	2.7394+01	4.1102+01	8.4751+01	9.6478+01	9.9575+01	9.9985+01	9.9973+01	9.9974+01	9.9999+01
4	1.20000+00	2.6972+01	3.6239+01	4.7836+01	8.7874+01	9.8857+01	9.9993+01	9.9998+01	9.9995+01	9.9995+01	1.0000+00
5	1.50000+00	3.6001+01	4.5916+01	5.8306+01	8.8923+01	9.9029+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
6	1.80000+00	4.5828+01	5.6030+01	6.1072+01	8.9972+01	9.9127+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
7	2.10000+00	5.5569+01	6.5696+01	6.7747+01	9.1105+01	9.9227+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
8	2.40000+00	6.4544+01	7.4262+01	7.3905+01	9.2296+01	9.9329+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	7.2658+01	8.1729+01	7.9385+01	9.3534+01	9.9436+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	7.9932+01	8.7967+01	8.4203+01	9.4799+01	9.9546+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	8.6065+01	9.2785+01	8.8355+01	9.6033+01	9.9653+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.0829+01	9.6095+01	9.1861+01	9.7179+01	9.9753+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.4229+01	9.8070+01	9.4785+01	9.8184+01	9.981+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.6483+01	9.9077+01	9.7101+01	9.8940+01	9.9912+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.7931+01	9.9534+01	9.8727+01	9.9556+01	9.9961+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.8903+01	9.9772+01	9.9646+01	9.9877+01	9.9989+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9518+01	9.9844+01	9.9974+01	9.9991+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9851+01	9.9957+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9979+01	9.9987+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	1.0000+00	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235

SOURCE 1 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235

Figure 3.5

Table 3.8

SOURCE 1 (AIR), 5000 DAYS, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

-----COOLING TIME-----											
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	5.9854+09	3.3735+09	2.4036+09	2.0111+09	1.5250+09	9.3562+08	4.1038+08	2.4451+07	4.3517+05	5.1816+02
2	3.00000+01	7.5728+09	4.6536+09	2.5826+09	1.1758+09	5.9720+08	4.3133+07	1.4202+07	1.6047+06	1.0432+05	1.4169+04
3	4.50000+01	2.4920+09	1.6736+09	6.2913+08	2.3098+08	2.2999+08	2.3828+08	1.3212+08	1.8707+07	1.1961+06	1.5990+05
4	6.00000+01	4.1482+09	2.2740+09	8.4060+08	3.9475+08	2.8678+08	3.6143+07	1.1422+06	3.6750+05	2.5407+05	2.0459+05
5	7.50000+01	1.5110+09	9.9065+08	4.3964+08	4.7602+07	3.3326+07	2.6632+07	1.4199+07	2.0102+06	1.2895+05	3.8523+02
6	9.00000+01	2.4962+09	2.0104+09	1.0870+09	6.4325+07	2.3813+07	2.3871+06	2.2852+04	1.2761+03	2.1331+02	1.2001+02
7	1.05000+00	6.6494+08	5.3323+08	2.7996+08	2.0251+07	5.4069+06	5.4512+03	1.3522+03	3.7350+02	6.2385+01	3.5311+06
8	1.20000+00	1.8053+09	8.2066+08	2.5741+08	4.8127+07	1.5640+07	1.9757+05	1.4387+03	1.2920+04	1.7380+14	0.0000
9	1.35000+00	1.1745+09	5.9717+08	2.0436+08	6.2181+07	2.6028+07	1.4270+06	1.0870+04	3.9066+00	2.3248+00	5.4455+02
10	1.50000+00	9.0399+08	3.4908+08	3.8029+08	1.7916+07	4.8788+06	3.3625+03	1.3087+03	2.7526+04	2.1720+04	8.9453+05
11	1.65000+00	8.8305+08	5.0221+08	1.6828+08	1.3483+07	1.7280+06	1.8923+04	1.5534+04	4.2908+03	7.1670+02	4.0566+05
12	1.80000+00	1.0367+09	6.7640+08	1.4544+08	3.3227+07	1.0465+07	7.4117+03	1.8653+03	7.1603+09	6.0687+09	5.1523+09
13	1.95000+00	2.3070+08	1.8097+08	2.3158+08	1.8345+07	1.4295+06	3.1236+02	8.7493+05	1.1963+17	1.2684+30	0.0000
14	2.10000+00	8.0547+08	6.1444+08	1.2700+08	7.1788+06	7.1444+05	2.6256+02	6.4612+05	2.5670+22	0.0000	0.0000
15	2.25000+00	3.6668+08	2.9802+08	2.3628+08	1.2728+07	7.4420+05	7.0400+02	9.3135+04	7.0239+04	5.5423+04	2.2826+04
16	2.40000+00	7.3536+08	5.8184+08	3.6072+08	2.5870+07	1.5151+06	1.4268+02	1.2234+02	3.3793+01	5.6445+00	3.1949+07
17	2.55000+00	1.9314+08	8.3257+07	1.5591+07	6.6854+05	3.8923+04	5.8173+02	4.9893+02	1.3782+02	2.3020+01	1.3030+06
18	2.70000+00	1.8709+08	1.6690+08	1.2093+08	2.2514+06	1.2221+05	3.0852+03	9.4773+19	0.0000	0.0000	0.0000
19	2.85000+00	1.4593+08	5.5493+07	6.0456+06	2.3246+05	1.3377+04	3.3843+04	1.7475+19	0.0000	0.0000	0.0000
20	3.00000+00	1.1099+08	6.1107+07	8.7371+06	8.0306+00	3.7941+00	1.1260+01	9.6575+00	2.6677+00	4.4558+01	2.5221+08
21	3.15000+00	4.8692+07	3.5679+07	3.6208+06	2.8149+05	1.6496+04	3.7532+00	3.2187+00	8.8907+01	1.4850+01	8.4056+09
22	3.30000+00	1.9776+07	1.4485+07	3.1790+06	2.5814+05	1.5127+04	3.8278+04	1.4118+19	0.0000	0.0000	0.0000
23	3.45000+00	5.3566+07	6.1587+07	4.0425+06	5.9424+03	9.6303+00	6.6327+08	4.7221+20	0.0000	0.0000	0.0000
24	3.60000+00	3.6197+07	4.9297+07	1.9538+06	1.3490+05	7.9051+03	2.0002+04	6.1443+20	0.0000	0.0000	0.0000
25	3.75000+00	2.8674+07	2.4489+07	1.6610+05	2.5017+03	1.8642+02	3.7044+06	1.1380+21	0.0000	0.0000	0.0000
26	3.90000+00	1.1642+07	1.3415+07	1.2973+04	3.3989+01	1.7526+03	2.0585+17	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	2.8534+07	1.9657+07	2.8853+05	1.3325+04	7.8083+02	1.9757+05	6.0691+21	0.0000	0.0000	0.0000
28	4.20000+00	4.4765+06	2.4417+07	9.9644+04	7.2826+02	1.5462+08	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	3.7855+06	6.7761+06	3.9595+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	4.2332+06	2.0425+07	4.3965+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	5.6986+05	5.2739+06	2.4157+04	1.9984+03	1.1712+02	2.9635+06	9.1037+22	0.0000	0.0000	0.0000
32	4.80000+00	5.6986+05	4.7329+05	9.8586+05	6.1609+04	4.7822+03	1.2100+04	3.7170+20	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	4.8466+04	7.2437+04	5.9963+03	3.5137+02	8.8905+06	2.7311+21	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	8.3643+05	1.7403+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	2.2169+06	4.8729+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	1.4493+06	3.0977+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	3.5059+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	1.8932+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	2.9449+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	6.8729+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.9

SOURCE 1 (AIR), 5000 DAYS, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

-----COOLING TIMES-----

GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.9 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	4.4291+08	2.5501+08	2.1777+08	1.5083+08	1.1437+08	7.0171+07	3.0779+07	1.8338+06	3.2638+04	3.8862+03
2	3.00000+01	1.7039+09	1.0871+09	5.8109+08	2.6856+08	1.3837+08	9.7049+06	3.1955+06	3.6105+05	2.3471+04	3.1881+05
3	4.50000+01	9.3451+08	6.2761+08	2.3592+08	8.6619+07	8.6246+07	8.9354+07	4.9544+07	7.0152+06	4.4854+05	5.9962+06
4	6.00000+01	2.1778+09	1.1939+09	4.4132+08	2.0724+08	1.5056+08	1.8975+07	5.9946+06	1.9298+05	1.3339+04	1.0741+05
5	7.50000+01	1.0199+09	6.6869+08	2.9676+08	3.2131+07	2.2495+07	1.7977+07	9.5843+06	1.3599+06	8.7043+04	2.6001+02
6	9.00000+01	2.0593+09	1.6586+09	8.9677+08	5.3084+07	1.9646+07	1.9694+06	1.8853+04	1.0528+03	1.7598+02	9.9005+01
7	1.05000+00	6.4832+08	5.1990+08	2.7296+08	1.9745+07	5.2717+06	5.1150+03	1.3183+03	3.6416+02	6.0826+01	3.4429+06
8	1.20000+00	2.1322+09	9.2325+08	2.8959+08	5.4183+07	1.7596+07	2.2227+05	1.6186+03	1.4535+04	1.9553+14	0.0000
9	1.35000+00	1.4974+09	7.6139+08	2.6055+08	7.9230+07	3.3186+07	1.8194+06	1.3859+04	4.9801+00	2.9641+00	6.9430+02
10	1.50000+00	7.1819+08	4.9744+08	5.4191+08	2.5530+07	6.9523+06	4.7916+03	1.8649+03	3.9225+04	3.0951+04	1.2747+04
11	1.65000+00	1.3908+09	7.9098+08	2.6594+08	2.1236+07	2.7216+06	2.9803+04	2.4466+04	6.7580+03	1.1288+03	6.3892+05
12	1.80000+00	1.7883+09	1.1668+09	2.5089+08	5.7316+07	1.8053+07	1.2785+04	3.2177+03	1.2351+08	1.0469+08	8.8878+09
13	1.95000+00	4.3255+08	3.3933+08	4.3421+08	3.4397+07	2.6804+06	5.8568+02	1.6405+04	2.2430+17	2.3781+30	0.0000
14	2.10000+00	1.6319+09	1.2443+09	2.5718+08	1.4533+07	1.4467+06	5.3168+02	1.3043+04	5.1981+22	0.0000	0.0000
15	2.25000+00	7.9752+08	6.4820+08	5.1391+08	2.7683+07	1.6186+06	1.5312+01	2.0257+03	1.5277+03	1.2055+03	4.9646+04
16	2.40000+00	1.7097+09	1.3528+09	8.3868+08	6.0148+07	3.5226+06	3.3173+02	2.8444+02	7.8570+01	1.3126+01	7.4282+07
17	2.55000+00	4.7803+08	2.0606+08	1.8587+07	1.6547+06	9.6334+05	1.4398+03	1.2349+03	3.4110+02	5.6974+01	3.2248+06
18	2.70000+00	4.9111+08	4.3812+08	3.1745+08	5.9100+06	3.2079+05	8.0986+03	2.4878+18	0.0000	0.0000	0.0000
19	2.85000+00	4.0496+08	1.5510+08	1.6777+07	6.4509+05	3.7121+04	9.3915+04	4.8493+19	0.0000	0.0000	0.0000
20	3.00000+00	3.2466+08	1.7874+08	2.5556+05	2.3490+01	1.1094+01	3.2936+01	2.8248+01	7.8029+00	1.3033+00	7.3771+08
21	3.15000+00	1.5034+04	1.0971+08	1.1134+07	8.6558+05	5.0725+04	1.1541+01	9.8974+00	2.7336+00	4.5665+01	2.5847+08
22	3.30000+00	1.8378+07	4.6714+07	1.0252+07	8.3250+05	4.8783+04	1.2345+03	4.5531+19	0.0000	0.0000	0.0000
23	3.45000+00	6.8045+08	2.0786+08	1.3683+07	2.0056+04	3.2582+01	3.2510+07	1.5937+19	0.0000	0.0000	0.0000
24	3.60000+00	1.2759+08	1.7177+08	6.8871+06	4.7553+05	2.7865+04	7.0506+04	2.1659+19	0.0000	0.0000	0.0000
25	3.75000+00	1.0538+08	8.9998+07	6.7043+05	9.1937+03	5.3810+02	1.3618+05	4.1820+21	0.0000	0.0000	0.0000
26	3.90000+00	4.4532+07	5.1311+07	4.9621+04	1.3001+00	6.7036+03	7.8736+17	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	1.1342+08	7.8136+07	9.7202+05	5.2968+04	3.1038+03	7.8533+05	2.4125+20	0.0000	0.0000	0.0000
28	4.20000+00	1.8466+07	1.0072+08	4.1183+05	3.0041+01	6.3779+08	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	1.6183+07	2.8968+07	1.6927+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	1.8732+07	9.0382+07	1.9454+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	2.6071+06	4.4128+07	1.1052+05	9.1443+03	5.3545+02	1.3558+05	4.1649+21	0.0000	0.0000	0.0000
32	4.80000+00	2.2363+06	4.4582+06	2.2363+06	3.8560+05	2.2596+04	5.7172+04	1.7563+19	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	2.3627+05	3.5313+05	2.9232+04	1.7130+03	4.3341+05	1.3314+20	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	4.2030+06	8.7450+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	1.1473+07	2.5217+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	7.5044+06	1.6495+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	1.9195+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	1.0649+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	1.7007+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	4.0727+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.10

SOURCE 1 (AIR), 5000 DAYS, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.40000+01	1.8745+02	1.6117+02	3.1036+02	1.2576+01	1.8407+01	3.3375+01	3.2626+01	1.7030+01	4.4923+02	3.6094+08
2	3.00000+01	9.0855+02	8.2819+02	1.1345+01	3.4636+01	4.0033+01	3.7991+01	3.6234+01	2.0382+01	7.7229+02	3.6390+08
3	4.50000+01	1.3041+01	1.2279+01	1.4747+01	4.1858+01	5.3913+01	8.0490+01	8.9073+01	8.5528+01	6.4461+01	3.6446+08
4	6.00000+01	2.2257+01	1.9884+01	2.1037+01	5.9139+01	7.8148+01	8.9516+01	8.9712+01	8.7319+01	8.7821+01	9.9758+01
5	7.40000+01	2.6574+01	2.4184+01	2.5266+01	6.1818+01	8.1765+01	9.8066+01	9.9934+01	9.9920+01	9.9802+01	1.0000+00
6	9.00000+01	3.5289+01	3.4709+01	3.8047+01	6.2433+01	8.4927+01	9.9002+01	9.9954+01	9.9930+01	9.9826+01	1.0000+00
7	1.05000+00	3.8033+01	3.8021+01	4.1937+01	6.7889+01	8.5775+01	9.9005+01	9.9956+01	9.9933+01	9.9834+01	1.0000+00
8	1.70000+00	4.7057+01	4.3902+01	4.6064+01	7.2404+01	8.8607+01	9.9111+01	9.9957+01	9.9933+01	9.9834+01	1.0000+00
9	1.35000+00	5.3394+01	4.8752+01	4.9777+01	7.9010+01	9.3948+01	9.9976+01	9.9972+01	9.9933+01	9.9835+01	1.0000+00
10	1.50000+00	5.6434+01	5.1921+01	5.7501+01	8.1139+01	9.5067+01	9.9978+01	9.9972+01	9.9933+01	9.9835+01	1.0000+00
11	1.65000+00	6.2320+01	5.6959+01	6.1278+01	8.2909+01	9.5505+01	9.9993+01	9.9998+01	9.9994+01	9.9990+01	1.0000+00
12	1.80000+00	6.9888+01	6.4392+01	6.4853+01	8.7489+01	9.8410+01	9.9999+01	9.9998+01	9.9996+01	9.9990+01	1.0000+00
13	1.95000+00	7.1719+01	6.6553+01	7.1042+01	9.0557+01	9.8842+01	9.9999+01	9.9998+01	9.9996+01	9.9990+01	1.0000+00
14	2.10000+00	7.8625+01	7.4479+01	7.4707+01	9.1768+01	9.9078+01	9.9999+01	9.9998+01	9.9996+01	9.9990+01	1.0000+00
15	2.25000+00	8.2000+01	7.8609+01	8.2031+01	9.4077+01	9.9335+01	9.9999+01	9.9998+01	9.9996+01	9.9990+01	1.0000+00
16	2.40000+00	8.9236+01	8.7226+01	9.3984+01	9.9092+01	9.9902+01	9.9999+01	9.9999+01	9.9997+01	9.9992+01	1.0000+00
17	2.55000+00	9.1259+01	8.8538+01	9.4534+01	9.9233+01	9.9917+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	2.70000+00	9.3338+01	9.1329+01	9.9058+01	9.9723+01	9.9969+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	2.85000+00	9.5052+01	9.2317+01	9.9297+01	9.9777+01	9.9975+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	3.00000+00	9.6424+01	9.3456+01	9.9301+01	9.9777+01	9.9975+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	3.15000+00	9.7062+01	9.4155+01	9.9459+01	9.9849+01	9.9983+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.7332+01	9.4452+01	9.9605+01	9.9918+01	9.9991+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.8097+01	9.5776+01	9.9800+01	9.9920+01	9.9991+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.8637+01	9.6883+01	9.9898+01	9.9959+01	9.9995+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.9083+01	9.7456+01	9.9907+01	9.9960+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.9272+01	9.7783+01	9.9907+01	9.9960+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.9752+01	9.8281+01	9.9921+01	9.9965+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.9830+01	9.8923+01	9.9927+01	9.9965+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9898+01	9.9107+01	9.9927+01	9.9965+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9978+01	9.9683+01	9.9927+01	9.9965+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9989+01	9.9837+01	9.9929+01	9.9965+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	1.0000+00	9.9851+01	9.9995+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	1.0000+00	9.9852+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	1.0000+00	9.9879+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	1.0000+00	9.9952+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (AIR), 5000 DAYS, 1 WATT, PURE U-235

SOURCE 1 (AIR), 5000 DAYS, 1 WATT, PURE U-235

Figure 3.7

Table 3.11

SOURCE 1 (AIR), 5000 DAYS, 1 WATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

-----COOLING TIMES-----												
GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	3.00000+01	7.6057+09	6.3516+09	4.7860+09	2.7136+09	2.0622+09	1.1228+09	5.5979+08	8.5977+07	3.7385+07	3.3761+07	
2	6.00000+01	3.5619+09	2.7827+09	1.6880+09	5.7168+08	2.7237+08	4.4108+07	2.7337+07	1.7117+07	1.6111+07	1.5111+07	
3	9.00000+01	2.1092+09	1.4536+09	6.6498+08	1.7176+08	7.8829+07	3.6083+06	2.6821+05	2.6577+05	2.9130+05	2.6988+05	
4	1.20000+00	1.6637+09	1.0166+09	3.0912+08	2.8109+07	1.1706+07	7.8892+05	1.3323+04	5.9488+03	4.3891+03	8.7618+01	
5	1.50000+00	1.5084+09	8.6497+08	2.3106+08	7.3480+06	6.5656+05	1.0178+08	1.3677+03	1.1151+03	8.1551+02	2.2804+01	
6	1.80000+00	1.3432+09	7.3970+08	1.9766+08	6.0070+06	3.0634+05	8.9665+01	4.8845+01	2.3824+01	9.8348+00	5.4428+00	
7	2.10000+00	1.1266+09	5.9821+08	1.6502+08	5.4912+06	2.6513+05	2.0962+01	1.1153+01	5.8877+00	2.9360+00	1.9853+00	
8	2.40000+00	8.9966+08	4.6050+08	1.5193+08	5.0037+06	2.3596+05	2.7970+00	1.8229+01	1.5846+01	1.4553+01	1.3305+01	
9	2.70000+00	7.1763+08	3.5240+08	1.0359+08	4.5875+06	2.1657+05	4.6561+01	1.6025+03	1.8237+03	1.9263+03	9.2132+04	
10	3.00000+00	5.7565+08	2.6414+08	8.1489+07	4.1966+06	1.9883+05	1.2389+02	2.5654+04	2.9436+04	3.1092+04	1.4871+04	
11	3.30000+00	4.3407+08	1.8457+08	6.3547+07	3.7022+06	1.7608+05	2.8308+03	1.5422+17	0.0000	0.0000	0.0000	
12	3.60000+00	3.1145+08	1.1580+08	4.8979+07	3.1404+06	1.4978+05	2.3906+03	3.4750+18	0.0000	0.0000	0.0000	
13	3.90000+00	2.0449+08	6.3563+07	3.7595+07	2.5335+06	1.2100+05	1.9273+03	6.4641+19	0.0000	0.0000	0.0000	
14	4.20000+00	1.2562+08	2.9998+07	2.7568+07	1.8803+06	8.9832+04	1.4309+03	4.7912+19	0.0000	0.0000	0.0000	
15	4.50000+00	7.4987+07	1.2678+07	1.4017+07	1.2308+06	5.8804+04	9.3665+04	3.1363+19	0.0000	0.0000	0.0000	
16	4.80000+00	4.7108+07	6.1831+06	9.5299+06	6.5129+05	3.1116+04	4.9563+04	1.6596+19	0.0000	0.0000	0.0000	
17	5.10000+00	2.8025+07	2.9649+06	3.1926+06	2.1819+05	1.0424+04	1.6604+04	5.5596+20	0.0000	0.0000	0.0000	
18	5.40000+00	1.4308+07	1.4590+06	2.7659+05	1.6169+04	7.7247+02	1.2304+05	4.1200+21	0.0000	0.0000	0.0000	
19	5.70000+00	5.2222+06	6.3261+05	6.4647+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
20	6.00000+00	7.9495+05	2.3430+05	2.6827+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
21	6.30000+00	2.0074+03	3.8370+04	4.6153+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
22	6.60000+00	0.0000	5.0661+02	1.1851+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
23	6.90000+00	0.0000	2.9375+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
24	7.20000+00	0.0000	1.3120+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
25	7.50000+00	0.0000	2.9388+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Table 3.12

SOURCE 1 (AIR), 5000 DAYS, 1 WATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	COOLING TIMES									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	1.1409+09	9.5273+08	7.1791+08	4.0704+08	3.0932+08	1.6841+08	8.3949+07	1.2897+07	5.4078+06	5.0641+06
2	6.00000+01	1.4029+09	1.2521+09	7.5602+08	2.5725+08	1.2257+08	1.9849+07	1.2302+07	7.7160+06	7.2500+06	6.8001+06
3	9.00000+01	1.5819+09	1.0919+09	4.9878+08	1.2882+08	5.9121+07	2.7062+06	2.0115+05	1.9933+05	2.1847+05	2.0238+05
4	1.20000+00	1.7469+09	1.0675+09	3.2458+08	2.9515+07	1.2292+07	8.2836+05	1.3990+04	6.2462+03	4.6085+03	9.1999+03
5	1.50000+00	2.0364+09	1.1677+09	3.1193+08	9.9198+06	8.8636+05	1.3741+04	1.8464+03	1.5054+03	1.1009+03	3.0785+03
6	1.80000+00	2.2162+09	1.2205+09	3.2615+08	9.9116+06	5.0545+05	1.4795+02	8.0594+01	3.9310+01	1.6227+01	8.9806+01
7	2.10000+00	2.1969+09	1.1665+09	3.2179+08	1.0708+07	5.1700+05	4.0876+01	2.1748+01	1.1481+01	5.7252+00	3.8714+01
8	2.40000+00	2.0242+09	1.0361+09	2.9645+08	1.1258+07	5.3092+05	6.2932+00	4.1015+01	3.5655+01	3.2745+01	2.9935+01
9	2.70000+00	1.8299+09	8.9863+08	2.6416+08	1.1698+07	5.6667+05	3.5310+02	7.3114+04	8.3893+04	8.8612+04	4.2382+04
10	3.00000+00	1.6406+09	7.5279+08	2.3224+08	1.1960+07	5.5224+05	1.1873+00	4.0863+03	4.6504+03	4.9120+03	2.3494+03
11	3.30000+00	1.3831+09	5.8139+08	2.0017+08	1.1662+07	5.5464+05	8.9171+03	4.8578+17	0.0000	0.0000	0.0000
12	3.60000+00	1.0745+09	3.9950+08	1.6898+08	1.0834+07	5.1675+05	8.2476+03	1.1989+17	0.0000	0.0000	0.0000
13	3.90000+00	7.6683+08	2.3836+08	1.4098+08	9.5004+06	4.5375+05	7.2275+03	2.4240+18	0.0000	0.0000	0.0000
14	4.20000+00	5.0877+08	1.2149+08	1.1165+08	7.4152+06	3.6382+05	5.7951+03	1.9404+18	0.0000	0.0000	0.0000
15	4.50000+00	3.2619+08	5.5149+07	7.8375+07	5.3541+06	2.3580+05	4.0744+03	1.3643+18	0.0000	0.0000	0.0000
16	4.80000+00	2.1905+08	2.8752+07	4.4314+07	3.0285+06	1.4469+05	2.3047+03	7.7169+19	0.0000	0.0000	0.0000
17	5.10000+00	1.3872+08	1.4676+07	1.5803+07	1.0800+06	5.1598+04	8.2188+04	2.7520+19	0.0000	0.0000	0.0000
18	5.40000+00	7.5116+07	7.6597+06	1.2421+06	8.4884+04	4.0555+03	6.4597+05	2.1630+20	0.0000	0.0000	0.0000
19	5.70000+00	2.8983+07	3.5110+06	3.5907+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	4.6504+06	1.3765+06	1.5694+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.2345+04	2.3498+05	2.4384+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	3.2676+03	7.6439+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	1.9828+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	9.2496+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	2.1400+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.13

SOURCE 1 (AIR), 3000 DAYS, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000-01	5.0608-02	7.9009-02	1.4919-01	2.3430-01	6.0746-01	8.7892-01	8.7026-01	6.1944-01	4.2866-01	4.1968-01
2	6.00000-01	1.2171-01	1.8205-01	3.0611-01	7.0878-01	8.4816-01	9.8150-01	9.9775-01	9.9005-01	9.8286-01	9.8322-01
3	9.00000-01	1.9189-01	2.7339-01	4.0946-01	8.8622-01	9.6827-01	9.9561-01	9.9983-01	9.9963-01	9.9956-01	9.9999-01
4	1.20000+00	2.6938-01	3.6192-01	4.7741-01	8.7771-01	9.8841-01	9.9993-01	9.9998-01	9.9993-01	9.9991-01	1.0000+00
5	1.50000+00	3.5971-01	4.5875-01	5.4224-01	8.8829-01	9.9015-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
6	1.80000+00	4.5803-01	5.5997-01	6.1002-01	8.9887-01	9.9114-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
7	2.10000+00	5.5548-01	6.5670-01	6.7689-01	9.1029-01	9.9215-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
8	2.40000+00	6.4528-01	7.4263-01	7.3858-01	9.2231-01	9.9320-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	7.2645-01	8.1715-01	7.9388-01	9.3479-01	9.9438-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	7.9923-01	8.7958-01	8.4174-01	9.4755-01	9.9539-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	8.6058-01	9.2779-01	8.8334-01	9.5999-01	9.9648-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.0825-01	9.6092-01	9.1846-01	9.7155-01	9.9750-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.4227-01	9.8069-01	9.4776-01	9.8169-01	9.9839-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.6483-01	9.9076-01	9.7046-01	9.8981-01	9.9910-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.7938-01	9.9538-01	9.8725-01	9.9553-01	9.9961-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.8902-01	9.9772-01	9.9646-01	9.9876-01	9.9989-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9518-01	9.9894-01	9.9974-01	9.9991-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9851-01	9.9957-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9979-01	9.9987-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	1.0000+00	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (AIR), 5000 DAYS, 1 WATT, PURE U-235

Figure 3.3

SOURCE 1 (AIR), 5000 DAYS, 1 WATT, PURE U-235

Figure 3.9

Table 3.14

SOURCE 1 (AIR), 500 DAYS, 1 WATT, PURE U=235

GAMMA SPECTRA (GAMMAS/SEC)

-----COOLING TIMES-----												
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	1.50000+01	5.9054+09	3.3735+09	2.9036+09	2.0111+09	1.5251+09	9.3598+08	4.1069+08	2.4532+07	4.4576+05	5.1899+02	
2	3.00000+01	7.5728+09	4.6536+09	2.5826+09	1.1758+09	5.9723+08	4.3150+07	1.4213+07	1.6100+06	1.0685+05	1.4192+04	
3	4.50000+01	2.9920+09	1.6736+09	6.2913+08	2.3099+08	2.3000+08	2.3837+08	1.3222+08	1.8769+07	1.2252+06	1.8015+05	
4	6.00000+01	4.1480+09	2.2738+09	8.4041+08	3.9454+08	2.8655+08	3.5414+07	8.2371+05	1.1536+05	4.1831+04	2.9544+04	
5	7.50000+01	1.5110+09	9.9065+08	4.3964+08	4.7607+07	3.3328+07	2.6643+07	1.4210+07	2.0169+06	1.3209+05	3.8585+02	
6	9.00000+01	2.4962+09	2.0104+09	1.0870+09	6.4325+07	2.3814+07	2.3881+06	2.2869+04	1.2804+03	2.1850+02	1.2020+02	
7	1.05000+00	6.6494+08	5.3323+08	2.7996+08	2.0252+07	5.4072+06	5.4534+03	1.3532+03	3.7473+02	6.3903+01	3.5368+06	
8	1.20000+00	1.6953+09	8.2066+08	2.5741+08	4.8128+07	1.5641+07	1.9765+05	1.4398+03	1.2963+04	1.7803+04	0.0000	
9	1.35000+00	1.1745+09	5.9717+08	2.0436+08	6.2142+07	2.6030+07	1.4276+06	1.0878+04	3.9189+00	2.3813+00	5.4542+02	
10	1.50000+00	5.0399+08	3.4908+08	1.8029+08	1.7916+07	4.8790+06	3.3638+03	1.3097+03	2.7617+04	2.2248+04	8.9596+05	
11	1.65000+00	8.8305+08	5.0221+08	1.6828+08	1.3483+07	1.7281+06	1.8930+04	1.5545+04	4.3050+03	7.3415+02	4.0631+05	
12	1.80000+00	1.0367+09	6.7640+08	1.4544+08	3.3227+07	1.0466+07	7.4146+03	1.8667+03	7.1839+09	6.2164+09	5.1606+09	
13	1.95000+00	2.3070+08	1.8097+08	2.3158+08	1.8345+07	1.4296+06	3.1249+02	8.7558+05	1.2002+17	1.2993+30	0.0000	
14	2.10000+00	8.0587+08	6.1448+08	1.2700+08	7.1769+06	7.1447+05	2.6266+02	6.4460+05	2.5754+22	0.0000	0.0000	
15	2.25000+00	3.6668+08	2.9802+08	2.3628+08	1.2728+07	7.4424+05	7.0428+02	9.3204+04	7.0471+04	5.6772+04	2.2862+04	
16	2.40000+00	7.3536+08	5.8184+08	3.6072+08	2.5871+07	1.5152+06	1.4274+02	1.2245+02	3.3905+01	5.7819+00	5.2000+07	
17	2.55000+00	1.9314+08	8.3257+07	1.5591+07	6.6857+05	3.8925+04	5.8196+02	4.9930+02	1.3827+02	2.3580+01	1.3050+06	
18	2.70000+00	1.8709+08	1.6690+08	1.2093+08	2.2515+06	1.2221+05	3.0864+03	9.4844+19	0.0000	0.0000	0.0000	
19	2.85000+00	1.4593+08	5.5893+07	6.0456+06	2.3246+05	1.3378+04	3.3857+04	1.7488+19	0.0000	0.0000	0.0000	
20	3.00000+00	1.1099+08	6.1107+07	8.7372+04	8.0108+00	3.7943+00	1.1265+01	9.6647+00	2.6764+00	4.5642+01	2.5261+08	
21	3.15000+00	4.8892+07	3.5679+07	3.6208+06	2.6149+05	1.6497+04	3.7547+00	3.2210+00	8.9201+01	1.5212+01	8.4190+09	
22	3.30000+00	1.9776+07	1.4485+07	3.1790+06	2.5814+05	1.5127+04	3.8293+04	1.4129+19	0.0000	0.0000	0.0000	
23	3.45000+00	5.3586+07	6.1587+07	5.0425+06	5.9424+03	9.6308+00	9.6364+08	4.7256+20	0.0000	0.0000	0.0000	
24	3.60000+00	3.6197+07	4.9297+07	1.9538+06	1.3490+05	7.9055+03	2.0009+04	6.1489+20	0.0000	0.0000	0.0000	
25	3.75000+00	2.8674+07	2.4489+07	1.6610+05	2.5017+03	1.4643+02	3.7058+06	1.1388+21	0.0000	0.0000	0.0000	
26	3.90000+00	1.1642+07	1.3415+07	1.2973+04	3.3989+01	1.7527+03	2.0593+17	0.0000	0.0000	0.0000	0.0000	
27	4.05000+00	2.8534+07	1.9657+07	2.4453+05	1.3325+04	7.8087+02	1.9765+05	6.0736+21	0.0000	0.0000	0.0000	
28	4.20000+00	4.4765+06	2.4417+07	9.9644+04	7.2827+02	1.5462+08	0.0000	0.0000	0.0000	0.0000	0.0000	
29	4.35000+00	3.7855+06	6.7761+06	3.9595+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
30	4.50000+00	4.2332+06	2.0425+07	4.3965+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
31	4.65000+00	5.6986+05	5.2739+06	2.4157+04	1.9988+03	1.1713+02	2.9647+06	9.1104+22	0.0000	0.0000	0.0000	
32	4.80000+00	5.6986+05	4.7329+05	9.8586+05	8.1610+04	4.7824+03	1.2105+04	3.7198+20	0.0000	0.0000	0.0000	
33	4.95000+00	0.0000	4.8466+04	7.2437+04	5.9963+03	3.5139+02	8.8940+06	2.7331+21	0.0000	0.0000	0.0000	
34	5.10000+00	0.0000	8.3643+05	1.7463+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
35	5.25000+00	0.0000	2.2769+06	4.8729+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
36	5.40000+00	0.0000	1.4103+06	3.0977+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
37	5.55000+00	0.0000	3.5059+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
38	5.70000+00	0.0000	1.8932+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
39	5.85000+00	0.0000	2.9449+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
40	6.00000+00	0.0000	6.8729+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Table 3.15

SOURCE 1 (AIR), 500 DAYS, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	4.4291+08	2.5301+08	2.1777+08	1.5083+08	1.1438+08	7.0199+07	3.0802+07	1.8399+06	3.3432+04	3.8924-03
2	3.00000+01	1.7039+09	1.0871+09	5.8109+08	2.6456+08	1.3438+08	9.7087+06	3.1979+06	3.6224+05	2.4882+04	3.1932-05
3	4.50000+01	9.3451+08	6.2761+08	2.3592+08	8.6620+07	6.0250+07	6.9389+07	4.9581+07	7.0383+06	4.5948+05	6.0058-06
4	6.00000+01	2.1777+09	1.1938+09	4.8121+08	2.0713+08	1.5044+08	1.8802+07	4.3245+05	6.0566+04	2.1961+04	1.5511+04
5	7.50000+01	1.0199+09	6.6869+08	2.9676+08	3.2132+07	2.2496+07	1.7984+07	9.5915+06	1.3618+06	8.9161+04	2.6045+02
6	9.00000+01	2.0593+09	1.6586+09	8.9677+08	5.3068+07	1.9647+07	1.9701+06	1.8867+04	1.0563+03	1.8026+02	9.9163+03
7	1.05000+00	6.4832+08	5.1990+08	2.7296+08	1.9745+07	5.2720+06	5.3170+03	1.3193+03	3.6536+02	6.2306+01	3.8484+06
8	1.20000+00	2.1322+09	9.2325+08	2.8939+08	5.4144+07	1.7594+07	2.2235+05	1.6194+03	1.4583+04	2.0028+14	0.0000
9	1.35000+00	1.4974+09	7.6139+08	2.6055+08	7.9231+07	3.3188+07	1.8201+06	1.3869+04	4.9966+00	3.0362+00	6.9541-02
10	1.50000+00	7.1819+08	4.9744+08	5.4191+08	2.5531+07	6.9526+06	4.7934+03	1.8663+03	3.9354+04	3.1704+04	1.2767+04
11	1.65000+00	1.3908+09	7.9098+08	2.6504+08	2.1236+07	2.7217+06	2.9815+04	2.6484+04	6.7803+03	1.1563+03	6.3994+05
12	1.80000+00	1.7683+09	1.1668+09	2.5089+08	5.7317+07	1.8054+07	1.2790+04	3.2201+03	1.2392+08	1.0723+08	8.9020+09
13	1.95000+00	4.3255+08	3.3933+08	4.3421+08	3.4394+07	2.6805+06	5.8591+02	1.6417+04	2.2504+17	2.4361+30	0.0000
14	2.10000+00	1.6319+09	1.2443+09	2.5718+08	1.8533+07	1.4468+06	5.3189+02	1.3053+04	5.2152+22	0.0000	0.0000
15	2.25000+00	7.9752+08	6.4820+08	5.1391+08	2.7684+07	1.6187+06	1.5318+01	2.0272+03	1.5327+03	1.2348+03	4.9726+04
16	2.40000+00	1.7697+09	1.3528+09	8.3868+08	6.0149+07	3.5228+06	3.3186+02	2.8465+02	7.8829+01	1.3443+01	7.4401+07
17	2.55000+00	4.7803+08	2.0606+08	3.8587+07	1.6547+06	9.6338+04	1.4403+03	1.2358+03	3.4222+02	5.8360+01	3.2300+06
18	2.70000+00	4.9111+08	4.3812+08	3.1745+08	5.9101+06	3.2081+05	8.1017+03	2.4897+18	0.0000	0.0000	0.0000
19	2.85000+00	4.0496+08	1.5510+08	1.6777+07	6.4508+05	3.7123+04	9.3952+04	4.8524+19	0.0000	0.0000	0.0000
20	3.00000+00	1.2466+08	1.7874+08	2.5556+05	2.3490+01	1.1098+01	3.2949+01	2.8269+01	7.8286+00	1.3350+00	7.3889+08
21	3.15000+00	1.5034+08	1.0971+08	1.1134+07	8.6559+05	4.0728+04	1.1546+01	9.9047+00	2.7429+00	4.6775+01	2.5888+08
22	3.30000+00	6.3778+07	4.6714+07	1.0252+07	8.3251+05	4.8786+04	1.2350+03	4.5565+19	0.0000	0.0000	0.0000
23	3.45000+00	1.8085+08	2.0786+08	1.3643+07	2.0056+04	3.2504+01	3.2523+07	1.5949+19	0.0000	0.0000	0.0000
24	3.60000+00	1.2759+08	1.7777+08	6.8871+06	4.7554+05	2.7867+04	7.0533+04	2.1675+19	0.0000	0.0000	0.0000
25	3.75000+00	1.0538+08	6.9998+07	6.1043+05	9.1938+03	5.3813+02	1.3619+05	4.1851+21	0.0000	0.0000	0.0000
26	3.90000+00	4.4532+07	5.1311+07	4.9621+08	1.3001+00	6.7039+03	7.8767+17	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	1.1342+08	7.8136+07	9.72+3+05	5.2969+04	3.1040+03	7.8564+05	2.4143+20	0.0000	0.0000	0.0000
28	4.20000+00	1.8466+07	1.0072+08	4.1103+05	3.0041+01	6.3782+08	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	1.6183+07	2.8968+07	1.6927+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	1.8732+07	9.0382+07	1.9455+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	2.6071+06	2.4128+07	1.1052+05	9.1444+03	5.3587+02	1.3563+05	4.1680+21	0.0000	0.0000	0.0000
32	4.80000+00	2.6926+06	2.2363+06	4.6542+06	3.8561+05	2.2597+04	5.7195+04	1.7576+19	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	2.3627+05	3.5313+05	2.9232+04	1.7130+03	4.3358+05	1.3324+20	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	4.2030+06	8.7450+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	1.1673+07	7.5217+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	7.5044+06	1.6495+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	1.9195+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	1.0649+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	1.7607+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	4.0722+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.16

SOURCE 1 (AIR), 500 DAYS, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.90000+01	1.8745+02	1.6117+02	3.1036+02	1.2578+01	1.8411+01	3.3004+01	3.2884+01	1.7242+01	5.3106+02	2.4680+07
2	3.00000+01	9.0856+02	6.2815+02	1.1385+01	3.4639+01	4.0041+01	3.8024+01	3.6299+01	2.0636+01	9.1297+02	2.4883+07
3	4.50000+01	1.3041+01	1.2279+01	1.0748+01	4.1862+01	5.3925+01	8.0559+01	8.9232+01	8.6599+01	8.2114+01	2.4921+07
4	6.00000+01	2.2257+01	1.9884+01	2.1016+01	5.9135+01	7.8140+01	8.9507+01	8.9694+01	8.7161+01	8.5602+01	9.8348+01
5	7.50000+01	2.6574+01	2.4143+01	2.5265+01	6.1814+01	8.1761+01	9.8064+01	9.9934+01	9.9919+01	9.9766+01	9.9999+01
6	9.00000+01	3.5289+01	3.4709+01	3.8046+01	6.6239+01	8.4923+01	9.9002+01	9.9954+01	9.9929+01	9.9794+01	1.0000+00
7	1.05000+00	3.8033+01	3.8020+01	4.1916+01	6.7886+01	8.5772+01	9.9004+01	9.9956+01	9.9932+01	9.9804+01	1.0000+00
8	1.20000+00	4.7057+01	4.3901+01	4.6063+01	7.2401+01	8.8604+01	9.9110+01	9.9957+01	9.9932+01	9.9804+01	1.0000+00
9	1.35000+00	5.3394+01	4.8752+01	4.9777+01	7.9008+01	9.3947+01	9.9976+01	9.9972+01	9.9932+01	9.9805+01	1.0000+00
10	1.50000+00	5.6434+01	5.1920+01	5.7500+01	8.1137+01	9.5066+01	9.9978+01	9.9972+01	9.9932+01	9.9805+01	1.0000+00
11	1.65000+00	6.2320+01	5.6959+01	6.1277+01	8.2908+01	9.5504+01	9.9993+01	9.9998+01	9.9996+01	9.9988+01	1.0000+00
12	1.80000+00	6.9888+01	6.4391+01	6.4853+01	8.7687+01	9.8410+01	9.9999+01	9.9998+01	9.9996+01	9.9988+01	1.0000+00
13	1.95000+00	7.1719+01	6.6553+01	7.1041+01	9.0556+01	9.8641+01	9.9999+01	9.9998+01	9.9996+01	9.9988+01	1.0000+00
14	2.10000+00	7.8625+01	7.4479+01	7.4767+01	9.1768+01	9.9074+01	9.9999+01	9.9998+01	9.9996+01	9.9988+01	1.0000+00
15	2.25000+00	8.2000+01	7.8608+01	8.2031+01	9.4076+01	9.9335+01	9.9999+01	9.9998+01	9.9996+01	9.9988+01	1.0000+00
16	2.40000+00	8.9236+01	8.7226+01	9.3984+01	9.9092+01	9.9902+01	9.9999+01	9.9999+01	9.9997+01	9.9990+01	1.0000+00
17	2.55000+00	9.1259+01	8.8538+01	9.0533+01	9.9230+01	9.9917+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	2.70000+00	9.3338+01	9.1329+01	9.9058+01	9.9723+01	9.9969+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	2.85000+00	9.5052+01	9.2317+01	9.9297+01	9.9777+01	9.9975+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	3.00000+00	9.6426+01	9.3456+01	9.9300+01	9.9777+01	9.9975+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	3.15000+00	9.7062+01	9.4155+01	9.9459+01	9.9849+01	9.9983+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.7312+01	9.4952+01	9.9605+01	9.9918+01	9.9991+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.8097+01	9.5776+01	9.9800+01	9.9920+01	9.9991+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.8637+01	9.6883+01	9.9898+01	9.9959+01	9.9995+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.9083+01	9.7456+01	9.9907+01	9.9960+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.9272+01	9.7783+01	9.9907+01	9.9960+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.9752+01	9.8281+01	9.9921+01	9.9965+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.9830+01	9.8923+01	9.9927+01	9.9965+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9898+01	9.9107+01	9.9927+01	9.9965+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9978+01	9.9683+01	9.9927+01	9.9965+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9989+01	9.9837+01	9.9929+01	9.9965+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	1.0000+00	9.9851+01	9.9995+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	1.0000+00	9.9852+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	1.0000+00	9.9879+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	1.0000+00	9.9952+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (AIR), 500 DAYS, 1 WATT, PURE U-235

Figure 3.10

SOURCE 1 (AIR), 500 DAYS, 1 WATT, PURE U-235

Figure 3.11
GAMMA CUMUL. SPECT (10⁶)

Table 3.17

SOURCE 1 (AIR), 500 DAYS, 1 WATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000-01	1.5708+09	6.3210+09	4.7561+09	2.6827+09	2.0287+09	1.0819+09	5.1910+08	5.1922+07	6.8651+06	4.8680+06
2	6.00000-01	3.5463+09	2.7688+09	1.6667+09	5.5878+08	2.6007+08	3.3679+07	1.6768+07	4.5181+06	2.4699+06	2.1789+06
3	9.00000-01	2.1091+09	1.4556+09	6.6468+08	1.7129+08	7.8307+07	3.3739+06	8.7107+04	4.5317+04	4.7722+04	3.9038+04
4	1.20000+00	1.6639+09	1.0166+09	3.0909+08	2.6067+07	1.1658+07	7.7542+05	1.2867+04	5.2198+03	4.2519+03	8.7617+01
5	1.50000+00	1.5085+09	8.6496+08	2.3104+08	7.3370+06	6.3388+05	1.0008+04	1.3209+03	9.7847+02	7.9002+02	2.2804+01
6	1.80000+00	1.3433+09	7.3969+08	1.9765+08	5.9980+06	3.0508+05	8.8130+01	4.7172+01	2.0905+01	9.5273+00	5.0427+00
7	2.10000+00	1.1267+09	5.9821+08	1.6500+08	5.4830+06	2.6404+05	2.0604+01	1.0771+01	5.1662+00	2.8442+00	1.9853+00
8	2.40000+00	8.9972+08	4.6049+08	1.3192+08	4.9962+06	2.3500+05	2.7491+00	1.7604+01	1.3905+01	1.4098+01	1.3304+01
9	2.70000+00	7.1768+08	3.5240+08	1.0358+08	4.5807+06	2.1568+05	4.5764+01	1.5476+03	1.6002+03	1.8660+03	9.2131+04
10	3.00000+00	5.7569+08	2.6413+08	8.1481+07	4.1903+06	1.9802+05	1.2177+02	2.4775+04	2.5829+04	3.0120+04	1.4871+04
11	3.30000+00	4.3911+08	1.8057+08	6.3501+07	3.6966+06	1.7536+05	2.7824+03	1.4893+17	0.0000	0.0000	0.0000
12	3.60000+00	3.1148+08	1.1580+08	4.8974+07	3.1357+06	1.4917+05	2.3497+03	3.3560+18	0.0000	0.0000	0.0000
13	3.90000+00	2.0450+08	6.3561+07	3.7591+07	2.5997+06	1.2051+05	1.8944+03	6.2427+19	0.0000	0.0000	0.0000
14	4.20000+00	1.2561+08	2.9997+07	2.7565+07	1.8775+06	8.9465+04	1.4064+03	4.6271+19	0.0000	0.0000	0.0000
15	4.50000+00	7.4992+07	1.2678+07	1.8016+07	1.2250+06	5.8564+04	9.2062+04	3.0289+19	0.0000	0.0000	0.0000
16	4.80000+00	4.7112+07	6.1831+06	9.5290+06	6.5032+05	3.0989+04	4.8714+04	1.6027+19	0.0000	0.0000	0.0000
17	5.10000+00	2.8027+07	2.9648+06	3.1922+06	2.1786+05	1.0381+04	1.6319+04	5.3692+20	0.0000	0.0000	0.0000
18	5.40000+00	1.4309+07	1.4590+06	2.3656+05	1.6145+04	7.6932+02	1.2094+05	3.9789+21	0.0000	0.0000	0.0000
19	5.70000+00	5.2226+06	6.3261+05	6.4691+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	7.9501+05	2.3530+05	2.6824+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	2.0075+03	3.8370+04	4.6148+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	5.0660+02	1.1850+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	2.9175+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	1.3120+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	2.9384+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.13

SOURCE 1 (AIR), 500 DAYS, 1 WATT, PURE U-235

BETA ENRGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	1.1356+09	9.4814+08	7.1341+08	4.0240+08	3.0431+08	1.6229+08	7.7865+07	7.7883+06	1.0298+06	7.3021+05
2	6.00000+01	1.5959+09	1.2460+09	7.5001+08	2.5145+08	1.1703+08	1.5156+07	7.5457+06	2.0331+06	1.1114+06	9.8051+05
3	9.00000+01	1.5818+09	1.0917+09	4.9851+08	1.2847+08	5.8730+07	2.5304+06	6.5330+06	3.3988+04	3.5792+04	2.9279+04
4	1.20000+00	1.7471+09	1.0674+09	3.2455+08	2.9470+07	1.2241+07	8.1419+05	1.3510+04	5.4808+03	4.4644+03	9.1998+01
5	1.50000+00	2.0365+09	1.1677+09	3.1190+08	9.9049+06	8.8273+05	1.3505+04	1.7832+03	1.3209+03	1.0665+03	3.0785+01
6	1.80000+00	2.2164+09	1.2205+09	3.2611+08	9.8967+06	5.0339+05	1.4541+02	7.7834+01	3.4493+01	1.5720+01	8.9805+00
7	2.10000+00	2.1971+09	1.1665+09	3.2176+08	1.0692+07	5.1488+05	4.0177+01	2.1003+01	1.0074+01	5.5462+00	3.8714+00
8	2.40000+00	2.0244+09	1.0361+09	2.9682+08	1.1241+07	5.2875+05	6.1854+00	3.9610+01	3.1285+01	3.1721+01	2.9935+01
9	2.70000+00	1.8301+09	8.9862+08	2.6414+08	1.1681+07	5.4999+05	1.1670+00	3.9464+03	4.0805+03	4.7584+03	2.3493+03
10	3.00000+00	1.6407+09	7.5278+08	2.3222+08	1.1942+07	5.6435+05	3.4705+02	7.0610+04	7.3612+04	8.5841+04	4.2382+04
11	3.30000+00	1.3832+09	5.8139+08	2.0015+08	1.1644+07	5.5237+05	8.7645+03	4.6914+17	0.0000	0.0000	0.0000
12	3.60000+00	1.0744+09	3.9950+08	1.6896+08	1.0818+07	5.1464+05	8.1065+03	1.1578+17	0.0000	0.0000	0.0000
13	3.90000+00	7.6689+08	2.3836+08	1.4097+08	9.4862+06	4.5190+05	7.1038+03	2.3410+18	0.0000	0.0000	0.0000
14	4.20000+00	5.0888+08	1.2149+08	1.1164+08	7.6038+06	3.6233+05	5.6959+03	1.6740+18	0.0000	0.0000	0.0000
15	4.50000+00	3.2622+08	5.5149+07	7.8368+07	5.3461+06	2.5475+05	4.0047+03	1.3176+18	0.0000	0.0000	0.0000
16	4.80000+00	2.1907+08	2.8751+07	4.4310+07	3.0280+06	1.4410+05	2.2652+03	7.4526+19	0.0000	0.0000	0.0000
17	5.10000+00	1.3873+08	1.4676+07	1.5802+07	1.0784+06	5.1388+04	8.0782+04	2.6577+19	0.0000	0.0000	0.0000
18	5.40000+00	7.5121+07	7.6596+06	1.2420+06	8.4759+04	4.0389+03	6.3492+05	2.0889+20	0.0000	0.0000	0.0000
19	5.70000+00	2.8985+07	3.5110+06	3.5903+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	4.6508+06	1.3765+06	1.5692+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.2346+04	2.3597+05	2.8381+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	3.2676+03	7.6432+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	1.9828+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	9.2495+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	2.1600+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.19

SOURCE 1 (AIR), 500 DAYS, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

-----COOLING TIMES-----											
GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	5.0401+02	7.8700+02	1.4860+01	4.3845+01	6.1083+01	8.9760+01	9.1079+01	7.8971+01	4.7182+01	4.1963+01
2	6.00000+01	1.2123+01	1.8212+01	3.0482+01	7.0593+01	8.4574+01	9.8143+01	9.9906+01	9.9586+01	9.8106+01	9.8310+01
3	9.00000+01	1.9183+01	2.7273+01	4.0866+01	8.4862+01	9.6363+01	9.9542+01	9.9982+01	9.9931+01	9.9746+01	9.9992+01
4	1.20000+00	2.6897+01	3.6134+01	4.7626+01	8.7644+01	9.8820+01	9.9992+01	9.9998+01	9.9986+01	9.9950+01	9.9997+01
5	1.50000+00	3.5935+01	4.5826+01	5.4123+01	8.8714+01	9.8997+01	1.0000+00	1.0000+00	1.0000+00	9.9999+01	9.9999+01
6	1.80000+00	4.5772+01	5.5957+01	6.0916+01	8.9782+01	9.9098+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
7	2.10000+00	5.5523+01	6.5639+01	6.7618+01	9.0936+01	9.9201+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
8	2.40000+00	6.4508+01	7.4239+01	7.3801+01	9.2150+01	9.9308+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	7.2630+01	8.1698+01	7.9302+01	9.3411+01	9.9418+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	7.9912+01	8.7947+01	8.4180+01	9.4700+01	9.9531+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	8.6051+01	9.2773+01	8.8309+01	9.5958+01	9.9642+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.0820+01	9.6089+01	9.1828+01	9.7126+01	9.9745+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.4223+01	9.8067+01	9.4764+01	9.8150+01	9.9836+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.6481+01	9.9076+01	9.7090+01	9.8971+01	9.9909+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.7929+01	9.9533+01	9.8722+01	9.9548+01	9.9960+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.8902+01	9.9772+01	9.9685+01	9.9874+01	9.9989+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9517+01	9.9894+01	9.9978+01	9.9991+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9851+01	9.9957+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9979+01	9.9987+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	1.0000+00	9.9995+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (AIR), 500 DAYS, 1 WATT, PURE U-235

Figure 3.12

SOURCE 1 (AIR), 500 DAYS, 1 WATT, PURE U-235

Table 3.20

SOURCE 1 (AIR), 200 DAYS, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	40.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000-01	5.9054+09	3.3735+09	2.9036+09	2.0111+09	1.5251+09	9.3602+08	4.1072+08	2.4540+07	4.8702+05	5.2033-02
2	3.00000-01	7.5728+09	4.6536+09	2.5826+09	1.1758+09	5.9723+08	4.3151+07	1.4214+07	1.6105+06	1.0716+05	1.4228-04
3	4.50000-01	2.4420+09	1.6736+09	6.2913+08	2.3099+08	2.3000+08	2.3638+08	1.3223+08	1.8775+07	1.2287+06	1.6057-05
4	6.00000-01	4.1480+09	2.2738+09	8.4019+08	3.9452+08	2.8653+08	3.5781+07	7.9206+05	9.0238+04	2.0201+04	1.2163-04
5	7.50000-01	1.5110+09	9.9065+08	4.3964+08	4.7602+07	3.3328+07	2.6684+07	1.4211+07	2.0175+06	1.3247+05	3.8684-02
6	9.00000-01	2.4462+09	2.0104+09	1.0870+09	6.4326+07	2.3815+07	2.3881+06	2.2871+04	1.2808+03	2.1912+02	1.2051-02
7	1.05000+00	6.6894+08	5.3323+08	2.7996+08	2.0252+07	5.4072+06	5.4536+03	1.3533+03	3.7485+02	6.4084+01	3.5459-06
8	1.20000+00	1.8953+09	8.2066+08	2.5741+08	4.8128+07	1.5641+07	1.9766+05	1.4399+03	1.2967+04	1.7853+14	0.0000
9	1.35000+00	1.1745+09	5.9717+08	2.0436+08	6.2142+07	2.6030+07	1.4276+06	1.0879+04	3.9202+00	2.3881+00	5.4683-02
10	1.50000+00	5.0399+08	3.4908+08	3.8029+08	1.7916+07	4.8791+06	3.3639+03	1.3098+03	2.7626+04	2.2311+04	8.9827-05
11	1.65000+00	8.8305+08	5.0221+08	1.6828+08	1.3483+07	1.7281+06	1.8931+04	1.5546+04	4.3064+03	7.3621+02	4.0736-05
12	1.80000+00	1.0367+09	6.7640+08	1.4544+08	3.3227+07	1.0466+07	7.4149+03	1.8669+03	7.1863+09	6.2340+09	5.1739-09
13	1.95000+00	2.3070+08	1.8097+08	2.3158+08	1.8345+07	1.4296+06	3.1250+02	8.7565+05	1.2006+17	1.3030+30	0.0000
14	2.10000+00	8.0587+08	2.1222+08	1.2700+08	7.1769+06	7.1448+05	2.6267+02	6.4465+05	2.5763+22	0.0000	0.0000
15	2.25000+00	3.6667+08	2.9802+08	2.3628+08	1.2728+07	7.4424+05	7.0431+02	9.3211+04	7.0494+04	5.6933+04	2.2921-04
16	2.40000+00	7.3556+08	5.8184+08	3.6072+08	2.5871+07	1.5152+06	1.4274+02	1.2244+02	3.3916+01	5.7983+00	3.2083-07
17	2.55000+00	1.8314+08	8.3257+07	1.5591+07	6.6857+05	3.8925+04	5.8198+02	4.9934+02	1.3832+02	2.3647+01	1.5084-06
18	2.70000+00	1.8709+08	1.6690+08	1.2093+08	2.2515+06	1.2221+05	7.9865+03	9.4851+19	0.0000	0.0000	0.0000
19	2.85000+00	1.4593+08	5.5893+07	6.0496+06	2.3244+05	1.3378+04	3.3858+04	1.7489+19	0.0000	0.0000	0.0000
20	3.00000+00	1.1099+08	6.1107+07	8.7372+04	8.0308+00	3.7944+00	1.1265+01	9.6654+00	2.6773+00	4.5771+01	2.5326-08
21	3.15000+00	4.8892+07	3.5679+07	3.6208+06	2.8149+05	1.6447+04	3.7548+00	3.2213+00	8.9230+01	1.5255+01	8.4408-09
22	3.30000+00	1.9776+07	1.4485+07	3.1790+06	2.5814+05	1.5127+04	3.8295+04	1.4130+19	0.0000	0.0000	0.0000
23	3.45000+00	5.3586+07	6.1587+07	4.0425+06	5.9425+03	9.6309+00	9.6368+08	4.7260+20	0.0000	0.0000	0.0000
24	3.60000+00	3.6197+07	4.9297+07	1.9538+06	1.3490+05	7.9055+03	2.0010+04	6.1493+20	0.0000	0.0000	0.0000
25	3.75000+00	2.8674+07	2.4489+07	1.6610+05	2.5017+03	1.4643+02	3.7060+06	1.1389+21	0.0000	0.0000	0.0000
26	3.90000+00	1.1642+07	1.3615+07	1.2973+05	3.3989+01	1.7527+03	2.0593+17	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	2.8934+07	1.9657+07	2.4453+05	1.3325+04	7.8086+02	1.9765+05	6.0741+21	0.0000	0.0000	0.0000
28	4.20000+00	4.4765+06	2.4017+07	9.9644+04	7.2827+02	1.5462+08	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	3.7855+06	6.7761+06	3.9595+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	4.2332+06	2.0025+07	4.3965+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	5.6986+05	5.2739+06	2.4157+04	1.9988+03	1.1713+02	2.9648+06	9.1111+22	0.0000	0.0000	0.0000
32	4.80000+00	5.6946+05	4.7329+05	9.8586+03	8.1610+04	4.7878+03	1.2105+04	3.7200+20	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	4.8466+04	7.2437+04	5.9964+03	3.5139+02	8.8944+06	2.7333+21	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	8.3643+05	1.7433+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	2.7169+06	4.8729+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	1.4093+06	3.0977+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	3.5059+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	1.8932+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	2.9449+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	6.8729+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.21

SOURCE 1 (AIR), 200 DAYS, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	COOLING TIMES									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	4.4291+08	2.5301+08	2.1777+08	1.5083+08	1.1438+08	7.0201+07	3.0804+07	1.8405+06	3.3527+04	3.9025+03
2	3.00000+01	1.7039+09	1.0471+09	5.8107+08	2.6456+08	1.3438+08	9.7090+06	3.1982+06	3.6236+05	2.4110+04	3.2014+05
3	4.50000+01	9.3451+08	6.2761+08	2.3592+08	8.6620+07	8.6251+07	8.9392+07	4.9585+07	7.0406+06	4.6076+05	6.0213+06
4	6.00000+01	2.1777+09	1.1937+09	4.4120+08	2.0712+08	1.5083+08	1.8785+07	4.1583+05	4.7375+04	1.0606+04	6.3858+03
5	7.50000+01	1.0199+09	6.6869+08	2.9676+08	3.2132+07	1.7985+07	1.7985+07	9.5922+06	1.3618+06	8.9414+04	2.6112+02
6	9.00000+01	2.0593+09	1.6586+09	8.9677+08	5.3069+07	1.9647+07	1.9702+07	1.8868+04	1.0566+03	1.8077+02	9.9419+03
7	1.05000+02	6.4832+08	3.1990+08	2.7296+08	1.9745+07	5.2720+06	5.3172+04	1.3194+03	3.6544+02	6.2482+01	3.4573+06
8	1.20000+02	2.1322+09	9.2325+08	2.8959+08	5.4144+07	1.7596+07	2.2336+05	1.6199+03	1.4584+04	2.0085+14	0.0000
9	1.35000+02	1.4974+09	7.6139+08	2.6055+08	7.9231+07	3.3188+07	1.8202+06	1.3870+04	4.9982+00	3.0448+00	6.9720+02
10	1.50000+02	7.1819+08	4.9744+08	5.4191+08	2.5531+07	8.9527+06	4.7936+03	1.8664+03	3.9367+04	3.1794+04	1.2800+04
11	1.65000+02	1.3908+09	7.9098+08	2.6504+08	2.1236+07	2.7217+06	2.9816+04	2.4486+04	6.7825+03	1.1595+03	6.6160+05
12	1.80000+02	1.7883+09	1.1668+09	2.9089+08	5.7317+07	1.8058+07	1.2791+04	3.2203+03	1.2396+06	1.0754+08	8.9256+09
13	1.95000+02	3.3255+08	3.3933+08	4.3471+08	3.4398+07	2.6805+06	5.8593+02	1.6418+04	2.2511+17	2.4430+30	0.0000
14	2.10000+02	1.6319+09	1.2443+09	2.5718+08	1.4533+07	1.4466+06	5.3191+02	1.3054+04	5.2169+22	0.0000	0.0000
15	2.25000+02	7.9752+08	6.4820+08	5.1391+08	2.7684+07	1.6187+06	1.5319+01	2.0273+03	1.5332+03	1.2383+03	4.9854+04
16	2.40000+02	1.7097+09	1.3528+09	8.3868+08	6.0149+07	3.5228+06	3.3187+02	2.8447+02	7.8855+01	1.3481+01	7.4593+07
17	2.55000+02	4.7803+08	2.0606+08	3.8587+07	1.6547+06	9.6339+04	1.4404+03	1.2359+03	3.4234+02	5.8525+01	3.2383+06
18	2.70000+02	4.9111+08	4.3812+08	3.1745+08	5.9101+06	3.2081+05	8.1020+03	2.4898+18	0.0000	0.0000	0.0000
19	2.85000+02	4.0496+08	1.5510+08	1.6777+07	6.4508+05	3.7123+04	9.3955+04	4.8533+19	0.0000	0.0000	0.0000
20	3.00000+02	3.2866+08	1.7874+08	2.5556+05	2.3490+01	1.1098+01	3.2950+01	2.8271+01	7.8312+00	1.3388+00	7.4080+08
21	3.15000+02	1.5034+08	1.0971+08	1.1134+07	8.6559+05	5.0728+04	1.1546+01	9.9055+00	2.7438+00	4.6908+01	2.5955+08
22	3.30000+02	6.3778+07	4.6714+07	1.0252+07	8.3251+05	4.8786+04	1.2350+03	4.5569+19	0.0000	0.0000	0.0000
23	3.45000+02	1.8885+08	2.0786+08	1.7643+07	2.0056+04	3.2504+01	3.2524+07	1.5950+19	0.0000	0.0000	0.0000
24	3.60000+02	1.2759+08	1.7377+08	6.8871+06	4.7554+05	2.7667+04	7.0536+04	2.1676+19	0.0000	0.0000	0.0000
25	3.75000+02	1.0536+08	8.9998+07	6.1083+05	9.1938+03	5.3813+02	1.3620+05	4.1854+21	0.0000	0.0000	0.0000
26	3.90000+02	4.4532+07	5.1311+07	4.9621+04	1.3001+00	6.7040+03	7.8770+17	0.0000	0.0000	0.0000	0.0000
27	4.05000+02	1.1342+08	7.8136+07	9.7203+05	5.2969+04	3.1040+03	7.8567+05	2.4144+20	0.0000	0.0000	0.0000
28	4.20000+02	1.8466+07	1.0072+08	1.1103+05	3.0041+01	6.3783+08	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+02	1.6183+07	2.8968+07	1.6927+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+02	1.8732+07	9.0382+07	1.9455+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+02	2.6071+06	2.4128+07	1.1052+05	9.1444+03	5.3588+02	1.3564+05	4.1683+21	0.0000	0.0000	0.0000
32	4.80000+02	2.6926+06	2.2763+06	4.6582+06	3.8561+05	2.2597+04	5.7197+04	1.7577+19	0.0000	0.0000	0.0000
33	4.95000+02	0.0000	2.3627+05	3.5313+05	2.9232+04	1.7130+03	4.3360+05	1.3325+20	0.0000	0.0000	0.0000
34	5.10000+02	0.0000	4.2030+06	8.7450+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+02	0.0000	1.1473+07	2.5217+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+02	0.0000	7.5084+06	1.6495+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+02	0.0000	1.9195+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+02	0.0000	1.0649+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+02	0.0000	1.7007+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+02	0.0000	4.0722+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.22

SOURCE 1 (AIR), 200 DAYS, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

-----COOLING TIMES-----												
GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	1.50000+01	1.8745+02	1.6117+02	3.1036+02	1.2578+01	1.0412+01	3.3407+01	3.2890+01	1.7263+01	5.4084+02	5.8710+07	
2	3.00000+01	9.0856+02	8.2815+02	1.1385+01	3.0639+01	4.0042+01	3.8027+01	3.6305+01	2.0662+01	9.2978+02	5.9192+07	
3	4.50000+01	1.3041+01	1.2279+01	1.4708+01	4.1863+01	5.3926+01	8.0566+01	8.9248+01	8.6701+01	8.3626+01	5.9283+07	
4	6.00000+01	2.2257+01	1.9884+01	2.1036+01	5.9134+01	7.8139+01	8.9506+01	8.9692+01	8.7145+01	8.5337+01	9.6070+01	
5	7.50000+01	2.6573+01	2.4143+01	2.5265+01	6.1814+01	8.1761+01	9.8064+01	9.9934+01	9.9914+01	9.9761+01	9.9999+01	
6	9.00000+01	3.5289+01	3.4709+01	3.8046+01	6.6239+01	8.4923+01	9.7002+01	9.9954+01	9.9929+01	9.9790+01	9.9999+01	
7	1.05000+00	3.8033+01	3.8020+01	4.1936+01	6.7886+01	8.5772+01	9.9004+01	9.9956+01	9.9932+01	9.9801+01	9.9999+01	
8	1.20000+00	4.7057+01	4.3901+01	4.6063+01	7.2401+01	8.8604+01	9.9110+01	9.9957+01	9.9932+01	9.9801+01	9.9999+01	
9	1.35000+00	5.3394+01	4.8751+01	4.9777+01	7.9008+01	9.3946+01	9.9972+01	9.9972+01	9.9932+01	9.9801+01	1.0000+00	
10	1.50000+00	5.6433+01	5.1920+01	5.7500+01	8.1137+01	9.5066+01	9.9978+01	9.9972+01	9.9932+01	9.9801+01	1.0000+00	
11	1.65000+00	6.2320+01	5.6959+01	6.1277+01	8.2908+01	9.5504+01	9.9993+01	9.9998+01	9.9996+01	9.9988+01	1.0000+00	
12	1.80000+00	6.9886+01	6.4391+01	6.4653+01	8.7467+01	9.8410+01	9.9999+01	9.9998+01	9.9996+01	9.9988+01	1.0000+00	
13	1.95000+00	7.1719+01	6.6553+01	7.1041+01	9.0556+01	9.8841+01	9.9999+01	9.9998+01	9.9996+01	9.9988+01	1.0000+00	
14	2.10000+00	7.8625+01	7.4479+01	7.0706+01	9.1768+01	9.9074+01	9.9999+01	9.9998+01	9.9996+01	9.9988+01	1.0000+00	
15	2.25000+00	8.2000+01	7.8408+01	8.2031+01	9.4078+01	9.9335+01	9.9999+01	9.9998+01	9.9996+01	9.9988+01	1.0000+00	
16	2.40000+00	8.9236+01	8.7226+01	9.3984+01	9.9092+01	9.9902+01	9.9999+01	9.9999+01	9.9997+01	9.9999+01	1.0000+00	
17	2.55000+00	9.1259+01	8.8538+01	9.4533+01	9.9230+01	9.9917+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
18	2.70000+00	9.3338+01	9.1329+01	9.9058+01	9.9723+01	9.9969+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
19	2.85000+00	9.5052+01	9.2317+01	9.9297+01	9.9777+01	9.9975+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
20	3.00000+00	9.6426+01	9.3456+01	9.9300+01	9.9777+01	9.9975+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
21	3.15000+00	9.7062+01	9.4155+01	9.9459+01	9.9849+01	9.9983+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
22	3.30000+00	9.7332+01	9.4452+01	9.9605+01	9.9918+01	9.9991+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
23	3.45000+00	9.8097+01	9.5776+01	9.9800+01	9.9920+01	9.9991+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
24	3.60000+00	9.8637+01	9.6883+01	9.9898+01	9.9950+01	9.9995+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
25	3.75000+00	9.9083+01	9.7456+01	9.9907+01	9.9960+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
26	3.90000+00	9.9272+01	9.7783+01	9.9907+01	9.9960+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
27	4.05000+00	9.9752+01	9.8281+01	9.9921+01	9.9965+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
28	4.20000+00	9.9830+01	9.8923+01	9.9927+01	9.9965+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
29	4.35000+00	9.9898+01	9.9107+01	9.9927+01	9.9965+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
30	4.50000+00	9.9978+01	9.9683+01	9.9927+01	9.9965+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
31	4.65000+00	9.9989+01	9.9837+01	9.9929+01	9.9965+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
32	4.80000+00	1.0000+00	9.9851+01	9.9995+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
33	4.95000+00	1.0000+00	9.9852+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
34	5.10000+00	1.0000+00	9.9879+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
35	5.25000+00	1.0000+00	9.9952+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
36	5.40000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
37	5.55000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
38	5.70000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
39	5.85000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
40	6.00000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	

SOURCE 1 (AIR), 200 DAYS, 1 WATT, PURE U-235

SOURCE 1 (AIR), 200 DAYS, 1 WATT, PURE U-235

Figure 3.15

Table 3.23

SOURCE 1 (AIR), 200 DAYS, 1 NATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

-----COOLING TIMES-----											
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	7.5674+09	6.3179+09	4.7931+09	2.6796+09	2.0254+09	1.0778+09	5.1496+08	4.8195+07	3.8183+06	1.9993+06
2	6.00000+01	3.5448+09	2.7674+09	1.6654+09	5.5750+08	2.5885+08	3.2659+07	1.5751+07	3.3758+06	1.1248+06	8.9487+05
3	9.00000+01	2.1091+09	1.4555+09	6.4465+08	1.7124+08	7.8254+07	3.3506+06	6.9767+04	2.5915+04	2.3572+04	1.6122+04
4	1.20000+00	1.6639+09	1.0166+09	3.0909+08	2.8063+07	1.1654+07	7.7401+05	1.2817+04	5.8733+03	4.1805+03	8.7616+01
5	1.50000+00	1.5085+09	8.6496+08	2.3104+08	7.3359+06	6.5360+05	9.9859+03	1.3158+03	9.5102+02	7.6190+02	2.2803+01
6	1.80000+00	1.3433+09	7.3949+08	1.9744+08	5.9971+06	3.0496+05	8.7971+01	4.6989+01	2.0318+01	9.1882+00	5.4426+00
7	2.10000+00	1.1267+09	5.9821+08	1.6500+08	5.4822+06	2.6393+05	2.0566+01	1.0729+01	5.0213+00	2.7430+00	1.9853+00
8	2.40000+00	8.9973+08	4.6049+08	1.3192+08	4.9955+06	2.3490+05	2.7441+00	1.7536+01	1.3514+01	1.3596+01	1.3308+01
9	2.70000+00	7.1768+08	3.5240+08	1.0358+08	4.5800+06	2.1559+05	4.5681+01	1.5416+03	1.5553+03	1.7996+03	9.2130+04
10	3.00000+00	5.7569+08	2.6413+08	8.1440+07	4.1897+06	1.9794+05	1.2155+02	2.4680+04	2.5104+04	2.9088+04	1.4871+04
11	3.30000+00	4.3911+08	1.8457+08	6.3540+07	3.6961+06	1.7528+05	2.7773+03	1.4836+17	0.0000	0.0000	0.0000
12	3.60000+00	3.1148+08	1.1580+08	4.8973+07	3.1352+06	1.4911+05	2.3454+03	3.3430+18	0.0000	0.0000	0.0000
13	3.90000+00	2.0450+08	6.3563+07	3.7591+07	2.5293+06	1.2046+05	1.4909+03	6.2186+19	0.0000	0.0000	0.0000
14	4.20000+00	1.2563+08	2.9997+07	2.7565+07	1.8772+06	8.9428+04	1.4036+03	4.6092+19	0.0000	0.0000	0.0000
15	4.50000+00	7.4991+07	1.2678+07	1.8015+07	1.2888+06	5.8539+04	9.1896+04	3.0171+19	0.0000	0.0000	0.0000
16	4.80000+00	4.7112+07	6.1831+06	9.5289+06	6.5822+05	3.0976+04	4.4626+04	1.5965+19	0.0000	0.0000	0.0000
17	5.10000+00	2.8027+07	2.9648+06	3.1922+06	2.1783+05	1.0377+04	1.6290+04	5.3684+20	0.0000	0.0000	0.0000
18	5.40000+00	1.8309+07	1.4590+06	2.3656+05	1.6142+04	7.6900+02	1.2072+05	3.9638+21	0.0000	0.0000	0.0000
19	5.70000+00	5.2226+06	6.3261+05	6.4690+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	7.9501+05	2.3530+05	2.6824+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	2.0075+03	3.8370+04	4.6188+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	5.0660+02	1.1850+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	2.9375+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	1.3120+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	2.9387+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.24

SOURCE 1 (AIR), 200 DAYS, 1 WATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

-----COOLING TIMES-----											
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000-01	1.1351+09	9.4769+08	7.1297+08	4.0194+08	3.0381+08	1.6167+08	7.7244+07	7.2293+06	5.7154+05	2.9990+05
2	6.00000-01	1.3952+09	1.2453+09	7.4941+08	2.5088+08	1.1648+08	1.4697+07	7.0877+06	1.5189+06	5.0579+05	4.0269+05
3	9.00000-01	1.5818+09	1.0917+09	4.9849+08	1.2843+08	5.8691+07	2.5130+06	5.2325+04	1.9436+04	1.7679+04	1.2091+04
4	1.20000+00	1.7471+09	1.0674+09	3.2054+08	2.9466+07	1.2236+07	8.1271+05	1.3458+04	5.3270+03	4.3055+03	9.1997+01
5	1.50000+00	2.0365+09	1.1677+09	3.1190+08	9.9034+06	8.8237+05	1.3481+04	1.7763+03	1.2839+03	1.0286+03	3.0784+01
6	1.80000+00	2.2164+09	1.2205+09	3.2611+08	9.8953+06	5.0318+05	1.4515+02	7.7532+01	3.3525+01	1.5161+01	8.9804+00
7	2.10000+00	2.1971+09	1.1665+09	3.2175+08	1.0690+07	5.1467+05	4.0104+01	2.9022+01	9.7915+00	5.3488+00	3.8713+00
8	2.40000+00	2.0244+09	1.0361+09	2.9642+08	1.1240+07	5.2853+05	6.1742+00	3.9456+01	3.0408+01	3.0592+01	2.9935+01
9	2.70000+00	1.8301+09	8.9862+08	2.6414+08	1.1679+07	5.4976+05	1.1649+00	3.9311+03	3.9660+03	4.5891+03	2.3493+03
10	3.00000+00	1.6407+09	7.5278+08	2.3222+08	1.1941+07	5.6412+05	3.4642+02	7.0337+04	7.1547+04	8.2786+04	4.2381+04
11	3.30000+00	1.3832+09	5.8139+08	2.0015+08	1.1643+07	5.5214+05	8.7486+03	4.6732+17	0.0000	0.0000	0.0000
12	3.60000+00	1.0746+09	3.9950+08	1.6896+08	1.0816+07	5.1443+05	8.0918+03	1.1533+17	0.0000	0.0000	0.0000
13	3.90000+00	7.6689+08	2.3836+08	1.4096+08	9.4848+06	4.5171+05	7.0910+03	2.3320+18	0.0000	0.0000	0.0000
14	4.20000+00	5.0841+08	1.2149+08	1.1164+08	7.6027+06	3.0218+05	5.4856+03	1.8667+18	0.0000	0.0000	0.0000
15	4.50000+00	3.2622+08	5.5149+07	7.8367+07	5.3453+06	2.5465+05	3.9975+03	1.3125+18	0.0000	0.0000	0.0000
16	4.80000+00	2.1907+08	2.8751+07	4.4309+07	3.0235+06	1.4804+05	2.2611+03	7.4238+19	0.0000	0.0000	0.0000
17	5.10000+00	1.3873+08	1.4676+07	1.5801+07	1.0782+06	5.1366+04	8.0635+04	2.6474+19	0.0000	0.0000	0.0000
18	5.40000+00	7.5122+07	7.6596+06	1.2419+06	8.4746+04	4.0372+03	6.3377+05	2.0808+20	0.0000	0.0000	0.0000
19	5.70000+00	2.8986+07	3.5110+06	3.5983+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	4.6508+06	1.3765+06	1.5692+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.2346+04	2.3597+05	2.8381+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	3.2676+03	7.6431+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	1.9828+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	9.2495+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	2.1600+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.25

SOURCE 1 (AIR), 200 DAYS, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	5.0380-02	7.8669-02	1.4854-01	4.3446-01	6.1117-01	8.9964-01	9.1522-01	8.2392-01	5.1941-01	4.1954-01
2	6.00000+01	1.2118-01	1.8205-01	3.0468-01	7.0564-01	8.8550-01	9.8182-01	9.9920-01	9.9703-01	9.7907-01	9.8289-01
3	9.00000+01	1.9139-01	2.7267-01	4.0853-01	8.4446-01	9.6356-01	9.9540-01	9.9982-01	9.9924-01	9.9513-01	9.9981-01
4	1.20000+00	2.6893+01	3.6128+01	4.7615+01	8.7631+01	9.8818+01	9.9992+01	9.9998+01	9.9985+01	9.9905+01	9.9994+01
5	1.50000+00	3.5932+01	4.5821+01	5.4113+01	8.8702+01	9.8995+01	1.0000+00	1.0000+00	1.0000+00	9.9998+01	9.9998+01
6	1.80000+00	4.5769+01	5.5953+01	6.8907+01	8.9771+01	9.9096+01	1.0000+00	1.0000+00	1.0000+00	9.9999+01	9.9999+01
7	2.10000+00	5.5521+01	6.5636+01	6.7611+01	9.0927+01	9.9200+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
8	2.40000+00	6.4506+01	7.4237+01	7.3795+01	9.2162+01	9.9306+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	7.2628+01	8.1697+01	7.9298+01	9.3606+01	9.9417+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	7.9911+01	8.7986+01	8.4136+01	9.4695+01	9.9530+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	8.6050+01	9.2772+01	8.8306+01	9.5954+01	9.9641+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.0819+01	9.6088+01	9.1826+01	9.7123+01	9.9745+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.4223+01	9.8067+01	9.4763+01	9.8148+01	9.9836+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.6481+01	9.9076+01	9.7089+01	9.8970+01	9.9909+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.7929+01	9.9533+01	9.8722+01	9.9547+01	9.9960+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.8901+01	9.9772+01	9.9685+01	9.9874+01	9.9989+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9517+01	9.9994+01	9.9974+01	9.9991+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9851+01	9.9957+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9979+01	9.9987+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	1.0000+00	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (AIR), 200 DAYS, 1 WATT, PURE U-235

Figure 3.16

SOURCE 1 (AIR), 200 DAYS, 1 WATT, PURE U-235

Figure 3.17

Table 3.26

SOURCE 1 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	2.7603+08	1.8766+08	1.1485+08	2.2038+08	1.7424+08	5.9266+07	3.6502+07	1.5153+07	8.4117+06	1.1423+06
2	3.00000+01	4.8194+08	2.7767+08	1.3308+08	1.8945+08	1.3544+08	2.1366+07	9.2765+06	1.5487+06	2.0159+05	7.8003+03
3	4.50000+01	7.7697+08	4.8513+08	2.7188+08	1.9838+08	1.8477+08	1.4172+08	8.3739+07	1.5508+07	1.3857+06	2.6290+04
4	6.00000+01	1.1621+09	8.8321+08	7.2077+08	3.8305+08	2.5261+08	4.3028+07	1.7600+07	8.5653+06	3.9740+06	1.6192+05
5	7.50000+01	9.9715+08	7.6572+08	5.0632+08	1.1321+08	8.5228+07	5.1666+07	3.6723+07	2.5454+07	2.2266+07	1.8464+07
6	9.00000+01	2.0024+09	1.5452+09	8.1800+08	8.9211+07	6.6477+07	4.4050+07	3.5678+07	2.8200+07	2.2295+07	1.2555+06
7	1.05000+00	3.9070+08	2.9503+08	1.5641+08	2.4987+07	9.9557+06	2.9333+06	1.5359+06	4.1533+05	9.5681+04	1.0916+04
8	1.20000+00	4.4501+08	3.4562+08	2.1472+08	4.2317+07	1.3242+07	5.4819+05	1.2249+05	1.2993+04	7.5880+03	3.6290+03
9	1.35000+00	7.8353+08	4.2620+08	1.6107+08	5.4705+07	2.0917+07	1.0816+06	1.0623+05	3.2628+04	2.1197+04	6.5715+02
10	1.50000+00	2.2475+08	1.6785+08	1.0185+08	1.6796+07	5.2668+06	7.3762+05	2.3573+05	4.9387+04	4.3769+04	2.2842+04
11	1.65000+00	1.0992+08	8.2068+07	4.7877+07	2.2976+07	2.0622+07	1.0078+07	1.3218+07	4.4561+06	5.8715+05	1.0995+03
12	1.80000+00	1.7196+08	1.3461+08	1.0209+08	2.8952+07	8.2737+06	1.7964+04	2.9336+03	7.2158+02	6.4337+02	3.9353+02
13	1.95000+00	7.3681+07	5.6149+07	2.6586+07	1.7379+06	6.1043+05	9.4821+04	2.5736+04	8.9383+02	2.3689+02	8.1404+01
14	2.10000+00	3.5934+07	2.3821+07	1.0583+07	1.4824+06	5.4503+05	1.3171+05	3.7988+04	2.1766+03	6.1107+02	1.6281+02
15	2.25000+00	2.0556+07	1.4915+07	4.5944+06	2.9401+05	7.1283+05	1.6572+05	1.3564+05	1.1848+05	1.1068+05	5.7599+04
16	2.40000+00	4.9867+07	2.6926+07	8.0303+06	2.4245+05	1.9458+05	1.6250+05	1.1004+05	3.5698+04	7.4003+03	2.4421+02
17	2.55000+00	4.2422+07	2.5203+07	6.1966+06	6.6611+05	6.4327+05	5.0556+05	4.2602+05	1.4329+05	2.8635+04	1.2216+02
18	2.70000+00	3.8314+07	2.0842+07	1.2467+06	2.7051+05	1.1307+05	3.0880+04	2.4104+04	2.3005+04	1.2968+04	1.3570+01
19	2.85000+00	4.7535+06	2.8847+06	3.0318+05	2.2224+05	2.0473+05	5.9792+04	4.8191+04	4.6010+04	4.3935+04	2.7139+01
20	3.00000+00	1.7301+07	8.5020+06	5.6709+05	1.6276+04	1.2306+04	1.1262+04	8.2405+03	2.7923+03	5.7241+02	1.3570+01
21	3.15000+00	2.2146+06	1.3856+06	2.8357+05	5.9320+03	4.0933+03	3.7450+03	2.7384+03	9.2293+02	1.8345+02	1.3132+05
22	3.30000+00	9.3971+05	6.0055+05	1.5099+05	1.0727+03	1.6159+01	2.9598+01	2.0313+03	1.3059+10	2.1702+21	0.0000
23	3.45000+00	4.8270+06	2.9215+06	2.4937+05	1.6173+03	2.6453+01	2.9598+01	2.0313+03	1.3059+10	2.1702+21	0.0000
24	3.60000+00	6.2577+06	3.2159+06	7.6785+04	3.4855+02	1.5785+00	1.6094+11	5.2255+27	0.0000	0.0000	0.0000
25	3.75000+00	1.9156+06	9.9516+05	2.8781+05	2.0040+03	9.0712+00	3.7528+13	9.6778+29	0.0000	0.0000	0.0000
26	3.90000+00	1.1956+06	5.5226+05	3.1373+04	2.1788+02	9.8626+01	8.4211+15	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	1.4069+05	7.6917+04	2.0384+04	8.7140+01	3.9450+01	1.5918+12	5.1615+28	0.0000	0.0000	0.0000
28	4.20000+00	3.3867+06	1.7800+06	2.4049+03	1.0437+03	1.8964+10	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	9.4251+05	4.1063+05	1.5915+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	2.2957+06	1.3572+06	3.5914+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	6.9187+05	3.7238+05	3.0899+01	2.5180+04	1.2953+05	2.3826+13	7.7423+29	0.0000	0.0000	0.0000
32	4.80000+00	2.4079+04	1.5866+04	1.2218+03	1.0281+02	5.2888+04	9.7282+12	3.1611+27	0.0000	0.0000	0.0000
33	4.95000+00	8.5819+04	3.9485+03	8.9777+01	7.5541+04	3.8860+05	7.1479+13	2.3227+28	0.0000	0.0000	0.0000
34	5.10000+00	1.2691+05	6.3659+04	1.6782+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	3.9029+05	1.6986+05	4.6990+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	2.1051+05	1.0798+05	2.9872+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	2.0156+04	2.4896+04	1.2155+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	1.0884+05	8.8894+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	1.6931+04	1.3797+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	3.9514+04	3.2260+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.27

SOURCE 1 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

-----COOLING TIMES-----											
GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	2.0702+07	1.4075+07	8.6136+06	1.6528+07	1.3068+07	4.4449+06	2.7376+06	1.1365+06	6.3088+05	8.5675+04
2	3.00000+01	1.0839+08	6.2474+07	2.9943+07	4.2627+07	3.0473+07	4.8073+06	2.0872+06	3.4844+05	4.5337+04	1.7551+03
3	4.50000+01	2.9136+08	1.8192+08	1.0195+08	7.4391+07	6.9287+07	5.3147+07	3.1402+07	5.8153+06	5.1966+05	9.8586+03
4	6.00000+01	6.1011+08	4.6369+08	3.7880+08	2.0110+08	1.3262+08	2.2590+07	9.2398+06	4.4968+06	2.0874+06	8.5006+04
5	7.50000+01	6.7308+08	5.1686+08	3.4176+08	7.6818+07	5.7526+07	3.4873+07	2.0788+07	1.7181+07	1.5029+07	1.2443+07
6	9.00000+01	1.6520+09	1.2748+09	6.7485+08	7.3599+07	5.4843+07	3.6341+07	2.9430+07	2.3265+07	1.8394+07	1.0358+06
7	1.05000+02	3.8093+08	2.8765+08	1.5250+08	2.4362+07	9.7068+06	2.8600+06	1.4975+06	4.0495+05	4.3289+04	1.0643+04
8	1.20000+02	5.0064+08	3.8883+08	2.4156+08	4.7606+07	1.4897+07	6.1671+05	1.3780+05	1.4617+04	8.5319+03	4.0826+03
9	1.35000+02	9.9900+08	5.4341+08	2.0536+08	6.9749+07	2.6669+07	1.3791+06	1.3545+05	4.1601+04	2.7026+04	8.3787+02
10	1.50000+02	3.2026+08	2.3918+08	1.4514+08	2.3934+07	7.5046+06	1.0511+06	3.3592+05	7.0376+04	6.2370+04	3.2550+04
11	1.65000+02	1.7313+08	1.2926+08	7.5407+07	3.6188+07	3.2880+07	2.8472+07	2.0818+07	7.0183+06	1.3973+06	1.7317+03
12	1.80000+02	2.9663+08	2.3220+08	1.7611+08	4.9942+07	1.4272+07	3.0987+04	5.0605+03	1.2447+03	1.1098+03	6.7484+02
13	1.95000+02	1.3808+08	1.0528+08	4.9849+07	3.2586+06	1.1445+06	1.7779+05	4.8255+04	1.6759+03	4.4417+02	1.5263+02
14	2.10000+02	7.2767+07	4.8237+07	2.1431+07	3.0020+06	1.1031+06	2.6676+05	7.6927+04	4.4076+03	1.2374+03	3.2949+02
15	2.25000+02	4.4710+07	3.2439+07	9.9927+06	6.3948+05	4.6204+05	3.6044+05	2.9503+05	2.5770+05	2.4073+05	1.2528+05
16	2.40000+02	1.1594+08	6.2602+07	9.1706+06	5.6370+05	4.5231+05	3.7780+05	2.5584+05	6.2997+04	1.7206+04	5.6779+02
17	2.55000+02	1.0499+08	6.2378+07	1.5336+07	1.6886+06	1.5921+06	1.4493+06	1.0548+06	3.5465+05	7.0872+04	3.9233+02
18	2.70000+02	1.0058+08	5.2610+07	3.2727+06	7.1009+05	2.9681+02	8.1585+01	6.3272+01	6.0388+01	5.7665+01	3.5620+01
19	2.85000+02	1.3191+07	8.0051+06	8.1133+05	4.1672+05	5.6813+02	1.6592+02	1.3373+02	1.2768+02	1.2192+02	7.5311+01
20	3.00000+02	5.0605+07	2.8868+07	1.6587+06	4.7607+04	3.5996+04	3.2941+04	2.4104+04	8.1673+03	1.6743+03	3.9691+01
21	3.15000+02	6.8100+06	4.2609+06	8.7199+05	1.8241+04	1.2587+04	1.1516+04	8.4205+03	2.8380+03	5.6412+02	4.0380+05
22	3.30000+02	3.0306+06	1.9368+06	4.8696+05	3.4594+03	5.2112+01	9.5440+01	6.5509+03	4.2116+01	7.0117+01	0.0000
23	3.45000+02	1.6291+07	9.8602+06	8.8162+05	5.4585+03	8.9280+01	9.9881+01	6.8556+03	4.4074+01	3.3378+01	0.0000
24	3.60000+02	2.2058+07	1.1336+07	2.7067+05	1.2288+03	5.5684+00	5.6733+01	1.8420+26	0.0000	0.0000	0.0000
25	3.75000+02	7.0399+06	3.6572+06	1.0577+06	7.3646+03	3.3317+01	1.3792+12	3.5566+28	0.0000	0.0000	0.0000
26	3.90000+02	4.5731+06	2.1124+06	1.2000+05	8.3340+02	3.7774+00	3.2211+14	0.0000	0.0000	0.0000	0.0000
27	4.05000+02	5.5425+05	3.0574+05	8.1027+04	3.4638+02	1.5682+00	6.3273+12	2.0517+27	0.0000	0.0000	0.0000
28	4.20000+02	1.3970+07	7.3423+06	9.9201+03	4.3052+03	7.6226+10	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+02	4.0292+06	1.7554+06	1.5354+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+02	1.0158+07	6.0057+06	1.5892+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+02	3.1618+06	1.7036+06	1.4136+02	1.1520+03	5.9241+05	1.0900+12	3.5421+28	0.0000	0.0000	0.0000
32	4.80000+02	1.1377+05	7.4966+04	5.7732+03	4.8578+02	2.4990+03	4.5946+11	1.4936+26	0.0000	0.0000	0.0000
33	4.95000+02	4.1837+05	1.9249+04	4.1766+02	3.6826+03	1.8944+04	3.4846+12	1.1323+27	0.0000	0.0000	0.0000
34	5.10000+02	6.3772+05	3.1989+05	8.4330+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+02	2.0197+06	8.7902+05	2.4317+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+02	1.1210+06	5.7899+05	1.5997+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+02	1.1035+05	1.3631+05	6.6548+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+02	6.1224+05	4.9891+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+02	9.7774+04	7.9678+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+02	2.3412+05	1.9078+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.23

SOURCE 1 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	3.0605+03	2.9426+03	3.2540+03	2.2166+02	2.7915+02	2.2996+02	2.2010+02	1.8782+02	1.6332+02	6.1821+03
2	3.00000+01	1.9078+02	1.6005+02	1.0565+02	7.9333+02	9.3008+02	4.7867+02	3.8790+02	2.4541+02	1.7506+02	6.3088+03
3	4.50000+01	6.2150+02	5.4040+02	5.3080+02	1.7910+01	2.4101+01	3.2282+01	2.9125+01	1.2065+01	3.0959+02	7.0201+03
4	6.00000+01	1.5238+01	1.5098+01	1.9603+01	4.4880+01	5.2429+01	4.3969+01	3.6558+01	1.9497+01	8.4997+02	1.5154+02
5	7.50000+01	2.5185+01	2.5904+01	3.2514+01	5.5128+01	6.4717+01	6.2011+01	5.6483+01	4.7893+01	4.7407+01	9.1247+01
6	9.00000+01	4.9606+01	5.2557+01	5.8008+01	4.4998+01	7.6432+01	8.0813+01	8.0148+01	8.6342+01	9.5021+01	9.8721+01
7	1.05000+00	5.5218+01	5.8571+01	6.3749+01	6.8266+01	7.8505+01	8.2292+01	8.1351+01	8.7012+01	9.5265+01	9.8797+01
8	1.20000+00	6.2639+01	6.6700+01	7.2894+01	7.4650+01	8.1688+01	8.2611+01	8.1462+01	8.7036+01	9.5287+01	9.8827+01
9	1.35000+00	7.7407+01	7.8061+01	8.0652+01	8.4004+01	8.7384+01	8.3325+01	8.1571+01	8.7105+01	9.5357+01	9.8833+01
10	1.50000+00	8.2142+01	8.3062+01	8.6135+01	8.7214+01	8.8987+01	8.3849+01	8.1841+01	8.7221+01	9.5518+01	9.9068+01
11	1.65000+00	8.4701+01	8.5764+01	8.8988+01	9.2067+01	9.5925+01	9.8599+01	9.8578+01	9.8820+01	9.9135+01	9.9080+01
12	1.80000+00	8.9087+01	9.0619+01	9.5637+01	9.8705+01	9.8974+01	9.8615+01	9.8582+01	9.8822+01	9.9138+01	9.9085+01
13	1.95000+00	9.1128+01	9.2820+01	9.7520+01	9.8201+01	9.9218+01	9.8707+01	9.8621+01	9.8822+01	9.9138+01	9.9086+01
14	2.10000+00	9.2203+01	9.3828+01	9.8330+01	9.9604+01	9.9454+01	9.8845+01	9.8683+01	9.8832+01	9.9143+01	9.9089+01
15	2.25000+00	9.2864+01	9.4506+01	9.8707+01	9.9690+01	9.9553+01	9.9032+01	9.8920+01	9.9256+01	9.9766+01	9.9993+01
16	2.40000+00	9.4578+01	9.5815+01	9.9061+01	9.9766+01	9.9649+01	9.9227+01	9.9126+01	9.9395+01	9.9810+01	9.9997+01
17	2.55000+00	9.6131+01	9.7119+01	9.9440+01	9.9987+01	9.9989+01	9.9977+01	9.9974+01	9.9982+01	9.9994+01	9.9999+01
18	2.70000+00	9.7617+01	9.8219+01	9.9764+01	9.9988+01	9.9989+01	9.9977+01	9.9974+01	9.9982+01	9.9994+01	9.9999+01
19	2.85000+00	9.8812+01	9.8387+01	9.9796+01	9.9989+01	9.9990+01	9.9977+01	9.9974+01	9.9982+01	9.9994+01	9.9999+01
20	3.00000+00	9.8561+01	9.8907+01	9.9858+01	9.9995+01	9.9997+01	9.9994+01	9.9993+01	9.9995+01	9.9999+01	1.0000+00
21	3.15000+00	9.8661+01	9.8996+01	9.9891+01	9.9997+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.8706+01	9.9036+01	9.9910+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.8947+01	9.9282+01	9.9942+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.9273+01	9.9479+01	9.9952+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.9377+01	9.9556+01	9.9992+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.9445+01	9.9600+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.9453+01	9.9606+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.9459+01	9.9610+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9479+01	9.9796+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9489+01	9.9822+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9416+01	9.9958+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	9.9918+01	9.9959+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	9.9924+01	9.9960+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	9.9933+01	9.9966+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	9.9931+01	9.9985+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	9.9980+01	9.9997+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	9.9981+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	9.9990+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	9.9992+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	9.9995+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235

Figure 3.18

SOURCE 1 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235

Figure 3.19

Table 3.29

SOURCE 1 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000-01	1.9018+09	1.3374+09	1.0146+09	6.8414+08	5.5398+08	3.3503+08	2.3549+08	1.2665+08	9.2815+07	4.7149+07
2	6.00000-01	1.3202+09	9.1399+08	6.2886+08	3.3004+08	2.2743+08	7.9928+07	5.1676+07	2.5857+07	1.6762+07	9.8316+06
3	9.00000-01	8.6000+08	5.7988+08	3.5514+08	1.4865+08	9.6379+07	2.8153+07	1.9305+07	1.3805+07	1.0430+07	5.0147+06
4	1.20000+00	4.7655+08	3.0297+08	1.9081+08	4.7011+07	3.1464+07	1.4381+07	1.1879+07	9.9244+06	8.3736+06	4.8377+06
5	1.50000+00	2.8361+08	1.6392+08	6.1027+07	1.3781+07	9.6270+06	7.1257+06	6.6976+06	6.1814+06	5.7107+06	4.0844+06
6	1.80000+00	2.0425+08	1.0766+08	3.1612+07	7.6741+06	5.5550+06	4.2447+06	4.1013+06	3.9629+06	3.8014+06	2.7859+06
7	2.10000+00	1.5464+08	7.4145+07	1.5866+07	4.4158+06	3.1312+06	2.4429+06	2.3919+06	2.3206+06	2.2078+06	1.4254+06
8	2.80000+00	1.1790+08	5.1413+07	6.7483+06	2.2717+06	1.5236+06	1.1635+06	1.1473+06	1.1100+06	1.0408+06	5.4055+05
9	2.70000+00	9.1974+07	3.7906+07	3.1125+06	1.0479+06	6.5780+05	5.1508+05	4.1814+05	4.9145+05	4.5992+05	2.3119+05
10	3.00000+00	6.9805+07	2.7854+07	1.5100+06	3.2626+05	1.4499+05	1.1024+05	1.0892+05	1.0555+05	9.9137+04	5.1797+04
11	3.30000+00	4.9227+07	1.9338+07	7.6156+05	1.0419+05	2.6147+04	1.4406+04	1.4241+04	1.3901+04	1.3199+04	7.6751+03
12	3.60000+00	3.1801+07	1.2172+07	3.1798+05	1.6721+04	3.8165+03	1.5798+03	1.5492+03	1.5122+03	1.4359+03	8.3492+02
13	3.90000+00	1.9081+07	6.9963+06	1.4428+05	4.0709+02	4.7566+01	3.6545+00	2.5541+02	1.6764+09	2.7752+20	0.0000
14	4.20000+00	1.0676+07	3.6605+06	7.6082+04	1.3835+02	8.5765+01	1.8492+02	1.2924+04	8.4825+12	1.4043+22	0.0000
15	4.50000+00	5.7015+06	1.7219+06	3.3801+04	2.4076+01	1.1606+01	1.6786+10	5.5537+26	0.0000	0.0000	0.0000
16	4.80000+00	3.2728+06	7.9571+05	1.3591+04	1.0398+01	5.0849+03	8.8624+11	2.9387+26	0.0000	0.0000	0.0000
17	5.10000+00	2.0294+06	3.2353+05	4.0865+03	3.3509+02	1.6976+03	2.9756+11	9.8448+27	0.0000	0.0000	0.0000
18	5.40000+00	1.4593+06	1.4812+05	3.0243+02	2.4832+03	1.2580+04	2.2051+12	7.2955+28	0.0000	0.0000	0.0000
19	5.70000+00	1.0824+06	6.9501+04	6.4320+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	7.9624+05	2.8363+04	2.6670+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	5.6181+05	6.3331+03	4.5843+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	3.7778+05	1.3436+03	1.1782+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	2.2544+05	5.6766+02	1.7588+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	1.0656+05	1.1525+02	3.0527+18	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	3.1347+04	2.5505+00	5.0583+20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.30

SOURCE 1 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

-----COOLING TIMES-----											
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	2.8527+08	2.0061+08	1.5219+08	1.0262+08	8.3097+07	5.0254+07	3.5324+07	1.8997+07	1.3922+07	7.0724+06
2	6.00000+01	5.9408+08	4.1130+08	2.8119+08	1.4852+08	1.0234+08	3.5968+07	2.3254+07	1.1635+07	7.5159+06	4.2442+06
3	9.00000+01	6.4500+08	4.3491+08	2.6636+08	1.1148+08	7.2284+07	2.1115+07	1.4479+07	1.0354+07	7.8226+06	3.7610+06
4	1.20000+00	5.0038+08	3.1812+08	1.5836+08	4.9362+07	3.3038+07	1.5100+07	1.2472+07	1.0421+07	8.7923+06	5.0795+06
5	1.50000+00	3.6287+08	2.2130+08	8.2386+07	1.8605+07	1.3266+07	9.6197+06	9.0418+06	8.3448+06	7.7095+06	5.8599+06
6	1.80000+00	3.3702+08	1.7764+08	5.2161+07	1.2662+07	9.1657+06	7.0038+06	6.7671+06	6.5388+06	6.2723+06	4.5968+06
7	2.10000+00	3.0155+08	1.4458+08	3.0938+07	8.6108+06	6.1058+06	4.7636+06	4.6642+06	4.5251+06	4.3052+06	2.7795+06
8	2.40000+00	2.6528+08	1.1568+08	1.5184+07	5.1113+06	3.4281+06	2.6178+06	2.5815+06	2.4975+06	2.3417+06	1.2162+06
9	2.70000+00	2.3453+08	9.6661+07	7.9369+06	2.6722+06	1.6774+06	1.3134+06	1.2963+06	1.2532+06	1.1728+06	5.8955+05
10	3.00000+00	1.9837+08	7.9388+07	4.3035+06	9.2984+05	4.1323+05	3.1819+05	3.1041+05	3.0082+05	2.8254+05	1.4762+05
11	3.30000+00	1.5506+08	6.0914+07	2.3989+06	3.2820+05	8.2365+04	4.5379+04	4.4858+04	4.3768+04	4.1577+04	2.4176+04
12	3.60000+00	1.0971+08	4.1995+07	1.0970+06	6.4586+04	1.3167+04	5.4503+03	5.3448+03	5.2171+03	4.9537+03	2.8805+03
13	3.90000+00	7.1552+07	2.6236+07	4.4106+05	1.5266+03	1.7837+02	1.3704+01	9.5777+02	8.2864+09	1.0467+19	0.0000
14	4.20000+00	4.3236+07	1.4825+07	3.0813+05	5.6030+02	3.8735+00	7.8892+02	5.2340+04	3.4354+11	5.8872+22	0.0000
15	4.50000+00	2.8802+07	7.4903+06	1.4783+05	1.0473+02	5.0486+01	7.3021+10	2.4159+25	0.0000	0.0000	0.0000
16	4.80000+00	1.5219+07	3.7001+06	6.3196+04	4.8350+01	2.3645+02	4.1303+10	1.3665+25	0.0000	0.0000	0.0000
17	5.10000+00	1.0047+07	1.6015+06	2.0228+04	1.6587+01	8.4030+03	1.4729+10	4.8732+26	0.0000	0.0000	0.0000
18	5.40000+00	7.6611+06	7.7765+05	1.5877+03	1.3037+02	6.6045+04	1.1577+11	3.8302+27	0.0000	0.0000	0.0000
19	5.70000+00	6.0074+06	3.8573+05	3.5698+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	4.6580+06	1.6593+05	1.5602+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	3.4551+06	3.8948+04	2.4218+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	2.4167+06	8.6664+03	7.5994+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	1.5217+06	3.8317+03	8.4972+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	7.5125+05	8.1251+02	2.1522+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	2.3040+05	1.8786+01	3.7179+19	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.31

SOURCE 1 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

-----COOLING TIMES-----

GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000-01	6.7910-02	8.5064-02	1.4418-01	2.2263-01	2.9575-01	3.3928-01	3.2043-01	2.5358-01	2.3133-01	2.0222-01
2	6.00000-01	2.0933-01	2.5947-01	4.1056-01	5.4481-01	5.7073-01	5.8211-01	5.3137-01	4.0889-01	3.5621-01	3.2357-01
3	9.00000-01	3.6288-01	4.4388-01	6.6249-01	7.8665-01	7.9321-01	7.2466-01	6.6270-01	5.4710-01	4.8619-01	4.3111-01
4	1.20000+00	4.8200-01	5.7877-01	8.1291-01	8.9373-01	8.9489-01	8.2660-01	7.7584-01	6.8619-01	6.3228-01	5.7635-01
5	1.50000+00	5.7314-01	6.7261-01	8.9096-01	9.3409-01	9.3572-01	8.9155-01	8.5786-01	7.9758-01	7.4038-01	7.3246-01
6	1.80000+00	6.5337-01	7.4793-01	9.4037-01	9.6156-01	9.6393-01	9.3883-01	9.1924-01	8.8486-01	8.4600-01	8.6390-01
7	2.10000+00	7.2515-01	8.0924-01	9.6968-01	9.8024-01	9.8272-01	9.7099-01	9.6155-01	9.4527-01	9.3614-01	9.4137-01
8	2.40000+00	7.8831-01	8.5829-01	9.8407-01	9.9133-01	9.9327-01	9.8867-01	9.8497-01	9.7860-01	9.7505-01	9.7815-01
9	2.70000+00	8.4414-01	8.9928-01	9.9159-01	9.9713-01	9.9843-01	9.9754-01	9.9673-01	9.9533-01	9.9453-01	9.9501-01
10	3.00000+00	8.9136-01	9.3294-01	9.9566-01	9.9914-01	9.9971-01	9.9966-01	9.9954-01	9.9933-01	9.9923-01	9.9923-01
11	3.30000+00	9.2828-01	9.5877-01	9.9794-01	9.9986-01	9.9996-01	9.9996-01	9.9995-01	9.9993-01	9.9992-01	9.9992-01
12	3.60000+00	9.5439-01	9.7658-01	9.9898-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.7143-01	9.8770-01	9.9949-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.8172-01	9.9399-01	9.9978-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.8762-01	9.9717-01	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.9125-01	9.9874-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9362-01	9.9941-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9546-01	9.9978-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9689-01	9.9991-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9800-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9882-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0300+00	1.0000+00
22	6.60000+00	9.9940-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9977-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235

SOURCE 1 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235

Table 3.32

SOURCE 1 (PLATE OUT), 5000 DAYS, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

COOLING TIMES

GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	2.7609+08	1.8764+08	1.1480+08	2.2008+08	1.7389+08	5.9002+07	3.6202+07	1.4860+07	8.1555+06	1.1123+06
2	3.00000+01	4.8166+08	2.7763+08	1.1303+08	1.8920+08	1.3516+08	2.1270+07	9.1999+06	1.5185+06	1.9522+05	7.4108+03
3	4.50000+01	7.7715+08	4.8507+08	2.7177+08	1.9812+08	1.8439+08	1.4109+08	8.3052+07	1.5208+07	1.3427+06	2.4816+04
4	6.00000+01	1.1624+09	8.8309+08	7.2049+08	3.8254+08	2.5209+08	4.2835+07	1.7454+07	6.3981+06	3.8533+06	1.5622+05
5	7.50000+01	9.8119+08	7.5281+08	4.9387+08	1.0082+08	7.2780+07	3.9044+07	2.4275+07	1.3053+07	9.7157+06	5.1818+06
6	9.00000+01	2.0029+09	1.5450+09	8.1760+08	8.9085+07	6.6333+07	4.3847+07	3.5379+07	2.7649+07	2.1611+07	1.2179+06
7	1.05000+00	3.9080+08	2.9499+08	1.5635+08	2.4952+07	9.9340+06	2.9191+06	1.5224+06	4.0698+05	9.2649+04	1.0576+04
8	1.20000+00	4.4512+08	3.4558+08	2.1464+08	4.2261+07	1.3215+07	5.4563+05	1.2137+05	1.2624+04	7.2386+03	3.4391+03
9	1.35000+00	7.8372+08	4.2615+08	1.6100+08	5.4633+07	2.0874+07	1.0766+06	1.0517+05	3.1932+04	2.0539+04	6.4001+02
10	1.50000+00	2.2480+08	1.6783+08	1.0181+08	1.6774+07	5.2555+06	7.3413+05	2.3359+05	4.8230+04	4.2239+04	2.2082+04
11	1.65000+00	1.0995+08	8.2056+07	4.7858+07	2.2945+07	2.0579+07	1.7997+07	1.3110+07	4.3701+06	8.6018+05	1.0707+03
12	1.80000+00	1.7200+08	1.3459+08	1.0205+08	2.8914+07	8.2569+06	1.7884+04	2.9096+03	7.0761+02	6.2376+02	3.8324+02
13	1.95000+00	7.3659+07	5.6141+07	2.6576+07	1.7356+06	6.0919+05	9.4401+04	2.5525+04	8.7658+02	2.2968+02	7.9275+01
14	2.10000+00	3.5963+07	2.3817+07	1.0579+07	1.4805+06	5.4393+05	1.3115+05	3.7678+04	2.1346+03	5.9247+02	1.5855+02
15	2.25000+00	2.0561+07	1.4913+07	4.5926+06	2.9362+05	2.1200+05	1.6498+05	1.3453+05	1.1620+05	1.0732+05	5.6097+04
16	2.40000+00	4.9879+07	2.6922+07	4.0288+06	2.4212+05	1.9414+05	1.8177+05	1.0914+05	3.5009+04	7.1753+03	2.3782+02
17	2.55000+00	4.2432+07	2.5200+07	6.1942+06	6.6518+05	6.4193+05	5.8296+05	4.2254+05	1.4053+05	2.7765+04	1.1896+02
18	2.70000+00	3.8324+07	2.0039+07	1.2463+06	2.7015+03	1.1284+02	3.0940+01	2.3905+01	2.2559+01	2.1298+01	1.3215+01
19	2.85000+00	4.7547+06	2.3843+06	3.0307+05	2.2195+03	2.0431+02	5.9523+01	4.7793+01	4.5119+01	4.2596+01	2.6429+01
20	3.00000+00	1.7395+07	8.5008+06	5.6688+05	1.6253+04	1.2281+04	1.1212+04	8.1731+03	2.7384+03	5.5501+02	1.3215+01
21	3.15000+00	2.2152+06	1.3855+06	2.8347+05	5.9239+03	4.0807+03	3.7283+03	2.7160+03	9.0513+02	1.7787+02	1.2789+05
22	3.30000+00	9.3994+05	6.0047+05	1.5094+05	1.0713+03	1.6126+03	2.9463+01	2.0147+03	2.1807+10	2.1081+21	0.0000
23	3.45000+00	4.8282+06	2.9211+06	2.4927+05	1.6152+03	2.6400+01	2.9463+01	2.0147+03	1.2807+10	2.1081+21	0.0000
24	3.60000+00	6.2593+06	3.2154+06	7.6756+04	3.4809+02	1.5753+00	1.6023+11	5.1827+27	0.0000	0.0000	0.0000
25	3.75000+00	1.9161+06	9.9503+05	2.8770+05	2.0013+03	9.0528+00	3.7362+13	9.5986+29	0.0000	0.0000	0.0000
26	3.90000+00	1.1959+06	5.5718+05	3.1361+04	2.1759+02	9.8425+01	8.3838+15	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	1.4073+05	7.6907+04	2.0376+04	8.7025+01	3.9370+01	1.5847+12	5.1193+28	0.0000	0.0000	0.0000
28	4.20000+00	3.3875+06	1.7797+06	2.4040+03	1.0422+03	1.8925+10	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	9.4274+05	4.1058+05	3.5901+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	2.2963+06	1.3570+06	3.5900+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	6.9124+05	3.7233+05	3.0847+01	2.5147+04	1.2927+05	2.3721+13	7.6789+29	0.0000	0.0000	0.0000
32	4.80000+00	2.4085+04	1.5864+04	1.2214+03	1.0267+02	5.2781+04	9.6850+12	3.1353+27	0.0000	0.0000	0.0000
33	4.95000+00	8.5841+04	3.9480+03	8.9743+01	7.5441+04	3.8781+05	7.1162+13	2.3037+28	0.0000	0.0000	0.0000
34	5.10000+00	1.2694+05	6.3651+04	1.6776+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	3.9038+05	1.6988+05	4.6972+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	2.1057+05	1.0796+05	2.9861+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	2.0161+04	2.4893+04	1.2150+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	1.0887+05	8.8684+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	1.6935+04	1.3795+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	3.9523+04	3.2195+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.33

SOURCE 1 (PLATE OUT), 5000 DAYS, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

-----COOLING TIMES-----												
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	1.50000+01	2.0707+07	1.4073+07	8.6101+06	1.6506+07	1.3042+07	4.4252+06	2.7152+06	1.1145+06	6.1166+05	8.3420+04	
2	3.00000+01	1.0837+08	6.2468+07	2.9931+07	4.2571+07	3.0411+07	4.7858+06	2.0700+06	3.8166+05	4.3925+04	1.6674+03	
3	4.50000+01	2.9143+08	1.8190+08	1.0191+08	7.4294+07	6.9146+07	5.2910+07	3.1145+07	5.7029+06	5.0351+05	9.3061+03	
4	6.00000+01	6.1026+08	4.6362+08	3.7826+08	2.0083+08	1.3235+08	2.2488+07	9.1631+06	4.4090+06	2.0230+06	8.2015+04	
5	7.50000+01	6.6231+08	5.0814+08	3.3336+08	6.8055+07	4.9126+07	2.6354+07	1.6385+07	8.8106+06	6.5581+06	3.4842+06	
6	9.00000+01	1.6524+09	1.2746+09	6.7459+08	7.3495+07	5.4725+07	3.6174+07	2.9187+07	2.2811+07	1.7829+07	1.0047+06	
7	1.05000+00	3.8103+08	2.8761+08	1.5244+08	2.4328+07	9.6857+06	1.4843+06	1.4843+06	3.9681+05	9.0333+04	1.0311+04	
8	1.20000+00	5.0076+08	3.8478+08	2.4147+08	4.7543+07	1.4867+07	6.1383+05	1.3654+05	1.4202+04	8.1435+03	3.8690+03	
9	1.35000+00	9.9924+08	5.4334+08	2.0528+08	6.4657+07	2.6615+07	1.3726+06	1.3409+05	4.0714+04	2.6187+04	8.1402+02	
10	1.50000+00	3.2634+08	2.3915+08	1.4508+08	2.3903+07	7.4890+06	1.0461+06	3.3287+05	6.8727+04	6.0191+04	3.1466+04	
11	1.65000+00	1.7317+08	1.2924+08	7.5376+07	3.6138+07	3.2412+07	2.8346+07	2.0648+07	6.8830+06	1.3548+06	1.6864+03	
12	1.80000+00	2.9670+08	2.3217+08	1.7604+08	4.9878+07	1.4243+07	3.0850+04	5.0190+03	1.2206+03	1.0760+03	6.6109+02	
13	1.95000+00	1.3811+08	1.0527+08	4.9831+07	3.2543+06	1.1422+06	1.7700+05	4.7860+04	1.6436+03	4.3064+02	1.4864+02	
14	2.10000+00	7.2785+07	4.8230+07	2.1423+07	2.9980+06	1.1015+06	2.6554+05	7.6297+04	4.3225+03	1.1997+03	3.2106+02	
15	2.25000+00	4.4721+07	3.2435+07	9.9890+06	6.3863+05	4.6110+05	3.5884+05	2.9261+05	2.5273+05	2.3341+05	1.2201+05	
16	2.40000+00	1.1597+08	6.2594+07	9.3670+06	5.6293+05	4.5137+05	3.7612+05	2.5375+05	8.1396+04	1.6683+04	5.5294+02	
17	2.55000+00	1.0502+08	6.2370+07	1.5331+07	1.6463+06	1.5848+06	1.4428+06	1.0458+06	3.4781+05	6.8717+04	2.9443+02	
18	2.70000+00	1.0060+08	5.2603+07	3.2714+06	7.0916+03	2.9620+02	8.1218+01	6.2740+01	5.9218+01	5.5907+01	3.4689+01	
19	2.85000+00	1.3194+07	8.0040+06	8.4101+05	1.5911+03	5.6697+02	1.6518+02	1.3263+02	1.2520+02	1.1820+02	7.3341+01	
20	3.00000+00	5.0618+07	2.4865+07	1.6581+06	4.7541+04	3.5921+04	3.2795+04	2.3906+04	8.0098+03	1.6234+03	8.853+01	
21	3.15000+00	6.8117+06	4.2603+06	8.7166+05	1.8216+04	1.2561+04	1.1464+04	8.3516+03	2.7833+03	5.4697+02	3.9328+05	
22	3.30000+00	3.0313+06	1.9365+06	4.8677+05	3.4508+03	5.2006+01	9.5017+01	6.4973+03	4.1303+01	6.7985+21	0.0000	
23	3.45000+00	1.6295+07	9.8549+06	8.4130+05	5.4513+03	8.9099+01	9.9438+01	6.7995+03	4.3224+10	7.1147+21	0.0000	
24	3.60000+00	2.2064+07	1.1334+07	2.7057+05	1.2270+04	5.5531+00	5.6481+11	1.8269+26	0.0000	0.0000	0.0000	
25	3.75000+00	7.0416+06	3.6567+06	1.0573+06	7.3549+03	3.3269+01	1.3730+12	3.5275+28	0.0000	0.0000	0.0000	
26	3.90000+00	4.5702+06	2.1121+06	1.1996+05	8.3230+02	3.7648+00	3.2068+14	0.0000	0.0000	0.0000	0.0000	
27	4.05000+00	5.5939+05	3.0570+05	8.4996+04	3.4592+02	1.5650+00	6.2993+12	2.0349+27	0.0000	0.0000	0.0000	
28	4.20000+00	1.3974+07	7.3414+06	9.9163+03	4.2956+03	7.8067+10	0.0000	0.0000	0.0000	0.0000	0.0000	
29	4.35000+00	4.0302+06	1.7552+06	1.5348+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
30	4.50000+00	1.0161+07	6.0049+06	1.5886+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
31	4.65000+00	3.1624+06	1.7034+06	1.4131+02	1.1505+03	5.9141+05	1.0852+12	3.5131+28	0.0000	0.0000	0.0000	
32	4.80000+00	1.1380+05	7.4957+04	5.7711+03	4.8514+02	2.4939+03	4.5762+11	1.4814+26	0.0000	0.0000	0.0000	
33	4.95000+00	4.1847+05	1.9246+04	4.3750+02	3.6778+03	1.8906+04	3.4691+12	1.1230+27	0.0000	0.0000	0.0000	
34	5.10000+00	6.3788+05	3.1984+05	8.4298+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
35	5.25000+00	2.0202+06	8.7891+05	2.4308+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
36	5.40000+00	1.1213+06	5.7491+05	1.5901+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
37	5.55000+00	1.1038+05	1.3629+05	6.6523+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
38	5.70000+00	6.1239+05	4.9885+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
39	5.85000+00	9.7800+04	7.9667+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
40	6.00000+00	2.3418+05	1.9076+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Table 3.34

SOURCE 1 (PLATE OUT), 5000 DAYS, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	3.0654+03	2.9479+03	3.2641+03	2.2415+02	2.8419+02	2.4042+02	2.3578+02	2.1728+02	2.0782+02	1.7244+02
2	3.00000+01	1.9108+02	1.6033+02	1.4611+02	8.0223+02	9.4689+02	5.0044+02	4.1554+02	2.8389+02	2.2274+02	1.7588+02
3	4.50000+01	6.2251+02	5.4137+02	5.1247+02	1.8111+01	2.4536+01	3.3751+01	3.1201+01	1.3957+01	3.9381+02	1.9512+02
4	6.00000+01	1.5259+01	1.5126+01	1.9665+01	4.5388+01	5.3377+01	4.5969+01	3.9158+01	2.2553+01	1.0811+01	3.6466+02
5	7.50000+01	2.5064+01	2.5770+01	3.2302+01	5.4625+01	6.4082+01	6.0288+01	5.3387+01	3.9730+01	3.3093+01	7.5669+01
6	9.00000+01	4.9525+01	5.2471+01	5.7876+01	6.4606+01	7.6007+01	7.9941+01	7.8734+01	8.4201+01	9.3669+01	9.6439+01
7	1.05000+00	5.5165+01	5.8496+01	6.3655+01	6.7909+01	7.8117+01	8.1487+01	8.0023+01	8.4975+01	9.3976+01	9.6652+01
8	1.20000+00	6.2578+01	6.6640+01	7.2809+01	7.4366+01	8.1357+01	8.1821+01	8.0141+01	8.5003+01	9.4003+01	9.6732+01
9	1.35000+00	7.7371+01	7.8021+01	8.0592+01	8.3825+01	8.7157+01	8.2567+01	8.0258+01	8.5082+01	9.4092+01	9.6749+01
10	1.50000+00	8.2113+01	8.3031+01	8.6092+01	8.7071+01	8.8749+01	8.3135+01	8.0547+01	8.5216+01	9.4297+01	9.7399+01
11	1.65000+00	8.4677+01	8.5738+01	8.8949+01	9.1978+01	9.5852+01	9.8535+01	9.8477+01	9.8635+01	9.8900+01	9.7434+01
12	1.80000+00	8.9069+01	9.0602+01	9.5623+01	9.8751+01	9.8955+01	9.8552+01	9.8481+01	9.8637+01	9.8903+01	9.7448+01
13	1.95000+00	9.1113+01	9.2807+01	9.7512+01	9.9193+01	9.9204+01	9.8648+01	9.8523+01	9.8641+01	9.8905+01	9.7451+01
14	2.10000+00	9.2191+01	9.3817+01	9.8324+01	9.9600+01	9.9444+01	9.8793+01	9.8589+01	9.8649+01	9.8909+01	9.7457+01
15	2.25000+00	9.2853+01	9.4496+01	9.8703+01	9.9687+01	9.9545+01	9.8988+01	9.8843+01	9.9142+01	9.9702+01	9.9979+01
16	2.40000+00	9.4570+01	9.5808+01	9.9058+01	9.9763+01	9.9643+01	9.9192+01	9.9064+01	9.9301+01	9.9759+01	9.9991+01
17	2.55000+00	9.6124+01	9.7114+01	9.9639+01	9.9487+01	9.9989+01	9.9976+01	9.9972+01	9.9979+01	9.9992+01	9.9997+01
18	2.70000+00	9.7614+01	9.8216+01	9.9763+01	9.9988+01	9.9989+01	9.9976+01	9.9972+01	9.9979+01	9.9992+01	9.9998+01
19	2.85000+00	9.7809+01	9.8384+01	9.9795+01	9.9989+01	9.9989+01	9.9976+01	9.9972+01	9.9979+01	9.9993+01	9.9999+01
20	3.00000+00	9.8558+01	9.8905+01	9.9858+01	9.9995+01	9.9997+01	9.9994+01	9.9993+01	9.9995+01	9.9998+01	1.0000+00
21	3.15000+00	9.8659+01	9.8994+01	9.9891+01	9.9997+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.8704+01	9.9034+01	9.9910+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.8945+01	9.9201+01	9.9941+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.9272+01	9.9478+01	9.9952+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.9376+01	9.9555+01	9.9992+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.9444+01	9.9599+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.9452+01	9.9606+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.9659+01	9.9759+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9718+01	9.9796+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9869+01	9.9922+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9916+01	9.9958+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	9.9917+01	9.9959+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	9.9924+01	9.9960+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	9.9933+01	9.9966+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	9.9963+01	9.9985+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	9.9980+01	9.9997+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	9.9981+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	9.9990+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	9.9992+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	9.9995+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (PLATE OUT), 5000 DAYS, 1 WATT, PURE U-235

SOURCE 1 (PLATE OUT), 5000 DAYS, 1 WATT, PURE U-235

(a)
GAMMA CUMUL. SPECT (10⁰)
Figure 3.23

Table 3.35

SOURCE 1 (PLATE OUT), 5000 DAYS, 1 WATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

-----COOLING TIMES-----												
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	3.00000+01	1.8679+09	1.3112+09	9.8992+08	6.5940+08	5.2904+08	3.0907+08	2.0972+08	1.0161+08	6.8025+07	2.3101+07	
2	6.00000+01	1.3133+09	9.0766+08	6.1846+08	3.2348+08	2.2080+08	7.3295+07	4.5147+07	1.9516+07	1.0463+07	3.2826+06	
3	9.00000+01	8.5750+08	5.7713+08	3.5223+08	1.4567+08	9.3387+07	2.5223+07	1.6397+07	1.0891+07	7.5362+06	2.2075+06	
4	1.20000+00	4.7346+08	3.0022+08	1.4811+08	4.4331+07	2.8799+07	1.1757+07	9.2412+06	7.2511+06	5.8967+06	2.2084+06	
5	1.50000+00	2.8092+08	1.6167+08	5.8873+07	1.1671+07	7.7377+06	5.0769+06	4.6326+06	4.0812+06	3.5983+06	1.9443+06	
6	1.80000+00	2.0266+08	1.0628+08	3.0287+07	6.3756+06	4.2693+06	2.9843+06	2.8298+06	2.6667+06	2.4942+06	1.4857+06	
7	2.10000+00	1.5424+08	7.3667+07	1.5382+07	3.9405+06	2.6599+06	1.9745+06	1.9162+06	1.8324+06	1.7131+06	9.4170+05	
8	2.40000+00	1.1812+08	5.1417+07	6.7158+06	2.2381+06	1.4895+06	1.1227+06	1.1026+06	1.0608+06	9.8842+05	4.9814+05	
9	2.70000+00	9.2186+07	3.7935+07	3.1123+06	1.0467+06	6.5630+05	5.1001+05	5.0153+05	4.8274+05	4.4982+05	2.2578+05	
10	3.00000+00	6.9765+07	2.7877+07	1.5099+06	3.2589+05	1.4466+05	1.0916+05	1.0746+05	1.0368+05	9.6958+04	5.0583+04	
11	3.30000+00	4.9340+07	1.9352+07	7.6150+05	1.0407+05	2.6077+04	1.4263+04	1.4049+04	1.3654+04	1.2908+04	7.4949+03	
12	3.60000+00	3.1875+07	1.2182+07	3.1795+05	1.8699+04	3.8077+03	1.5642+03	1.5284+03	1.4853+03	1.4042+03	8.1532+02	
13	3.90000+00	1.9125+07	7.0016+06	1.4427+05	4.0663+02	4.7458+01	3.6186+00	2.5199+02	1.6467+09	2.7143+20	0.0000	
14	4.20000+00	1.0700+07	3.6633+06	7.6076+04	1.3819+02	8.5570+01	1.8310+02	1.2751+04	8.3323+12	1.3734+22	0.0000	
15	4.50000+00	5.7147+06	1.7232+06	3.3798+04	2.4049+01	1.1580+01	1.6621+10	5.4794+26	0.0000	0.0000	0.0000	
16	4.80000+00	3.2804+06	7.9632+05	1.3589+04	1.0386+01	5.0734+03	8.7951+11	2.8994+26	0.0000	0.0000	0.0000	
17	5.10000+00	2.0344+06	3.2377+05	4.0861+03	3.3471+02	1.6937+03	2.9464+11	9.7131+27	0.0000	0.0000	0.0000	
18	5.40000+00	1.4824+06	1.4824+05	3.0240+02	2.4804+03	1.2551+04	2.1834+12	7.1979+28	0.0000	0.0000	0.0000	
19	5.70000+00	1.0849+06	6.9553+04	6.4315+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
20	6.00000+00	7.9407+05	2.8385+04	2.6668+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
21	6.30000+00	5.6310+05	6.3379+03	4.5880+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
22	6.60000+00	3.7865+05	1.3446+03	1.1781+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
23	6.90000+00	2.2596+05	5.6809+02	1.2587+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
24	7.20000+00	1.0681+05	1.1534+02	3.0525+18	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
25	7.50000+00	3.1419+04	2.5524+00	3.8579+20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Table 3-36

SOURCE 1 (PLATE OUT), 5000 DAYS, 1 WATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	2.8019+08	1.9668+08	1.4849+08	9.8911+07	7.9356+07	4.6361+07	3.1458+07	1.5242+07	1.0204+07	3.4652+06
2	6.00000+01	5.9100+08	4.0844+08	2.7831+08	1.4557+08	9.9361+07	3.2983+07	2.0316+07	8.7824+06	4.7085+06	1.4772+06
3	9.00000+01	6.4312+08	4.3285+08	2.6417+08	1.0925+08	7.0040+07	1.8917+07	1.2298+07	8.1683+06	5.6521+06	1.6557+06
4	1.20000+00	4.9713+08	3.1523+08	1.5551+08	4.6547+07	3.0239+07	1.2344+07	9.7032+06	7.6136+06	5.9816+06	2.3188+06
5	1.50000+00	3.7924+08	2.1825+08	7.9479+07	1.5756+07	1.0446+07	6.8539+06	6.2540+06	5.5097+06	4.8577+06	2.6249+06
6	1.80000+00	3.3440+08	1.7535+08	4.9973+07	1.0520+07	7.0444+06	4.9242+06	4.6692+06	4.4001+06	4.1154+06	2.4514+06
7	2.10000+00	3.0078+08	1.4365+08	2.9994+07	7.6839+06	5.1868+06	3.8503+06	3.7367+06	3.5732+06	3.3405+06	1.8363+06
8	2.40000+00	2.6578+08	1.1569+08	1.5111+07	5.6356+06	3.3513+06	2.5260+06	2.4809+06	2.3868+06	2.2240+06	1.1208+06
9	2.70000+00	2.3508+08	9.6734+07	7.9363+06	2.6692+06	1.6736+06	1.3005+06	1.2789+06	1.2310+06	1.1470+06	5.7574+05
10	3.00000+00	1.9883+08	7.9449+07	4.3032+06	9.2878+05	4.1228+05	3.1109+05	3.0625+05	2.9548+05	2.7633+05	1.4416+05
11	3.30000+00	1.5542+08	6.0960+07	2.3987+06	3.2782+05	8.2173+04	4.4930+04	4.4254+04	4.3009+04	4.0662+04	2.3609+04
12	3.60000+00	1.0997+08	4.2026+07	1.0969+06	6.4513+04	1.3136+04	5.3963+03	5.2729+03	5.1243+03	4.8446+03	2.8129+03
13	3.90000+00	7.1717+07	2.6250+07	5.4101+05	1.5249+03	1.7797+02	1.3570+01	9.4495+02	6.1751+09	1.0179+19	0.0000
14	4.20000+00	4.3336+07	1.4836+07	3.0811+05	5.5967+02	3.4654+00	7.4157+02	5.1640+04	3.3748+11	5.5624+22	0.0000
15	4.50000+00	2.4859+07	7.4960+06	1.4702+05	1.0461+02	5.0371+01	7.2303+10	2.3835+25	0.0000	0.0000	0.0000
16	4.80000+00	1.5254+07	3.7029+06	6.3191+04	4.8295+01	2.3591+02	4.0897+10	1.3482+25	0.0000	0.0000	0.0000
17	5.10000+00	1.0070+07	1.6027+06	2.0226+04	1.6538+01	8.3839+03	1.4585+10	4.8080+26	0.0000	0.0000	0.0000
18	5.40000+00	7.6788+06	7.7824+05	1.5876+03	1.3022+02	6.5895+04	1.1463+11	3.7789+27	0.0000	0.0000	0.0000
19	5.70000+00	6.0212+06	3.8602+05	3.5695+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	4.6687+06	1.6605+05	1.5601+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	3.4631+06	3.8978+04	2.8216+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	2.4423+06	8.6729+03	7.5987+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	1.5252+06	3.8346+03	8.4965+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	7.5298+05	8.1312+02	2.1520+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	2.3093+05	1.0760+01	3.7176+19	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.37

SOURCE 1 (PLATE OUT), 5000 DAYS, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	6.6984-02	8.4028-02	1.4307-01	2.2314-01	2.5832-01	3.5547-01	3.3990+01	2.6623+01	2.3979+01	1.9581+01
2	4.00000+01	2.0827+01	2.5853+01	4.1123+01	5.5154+01	5.8175+01	6.0836+01	5.5941+01	4.1963+01	3.5045+01	2.7928+01
3	9.00000+01	3.6202+01	4.4347+01	6.6577+01	7.9801+01	8.0974+01	7.5341+01	6.9229+01	5.6231+01	4.8327+01	3.7284+01
4	1.20000+00	4.8087+01	5.7814+01	8.1561+01	9.0302+01	9.0817+01	8.4806+01	7.9713+01	6.9530+01	6.2384+01	5.0387+01
5	1.50000+00	5.7153+01	6.7119+01	8.9219+01	9.3857+01	9.4218+01	9.0061+01	8.6471+01	7.9153+01	7.3800+01	6.5220+01
6	1.80000+00	6.5147+01	7.4631+01	9.4034+01	9.6230+01	9.6511+01	9.3837+01	9.1516+01	8.6839+01	8.3471+01	7.9072+01
7	2.10000+00	7.2338+01	8.0768+01	9.6924+01	9.7963+01	9.8199+01	9.6789+01	9.5553+01	9.3081+01	9.1322+01	8.9449+01
8	2.40000+00	7.8692+01	8.5711+01	9.8380+01	9.9099+01	9.9290+01	9.8726+01	9.8234+01	9.7250+01	9.6548+01	9.5783+01
9	2.70000+00	8.4312+01	8.9844+01	9.9144+01	9.9701+01	9.9835+01	9.9723+01	9.9616+01	9.9400+01	9.9244+01	9.9036+01
10	3.00000+00	8.9065+01	9.3238+01	9.9559+01	9.9911+01	9.9969+01	9.9961+01	9.9946+01	9.9916+01	9.9893+01	9.9851+01
11	3.30000+00	9.2781+01	9.5843+01	9.9790+01	9.9985+01	9.9996+01	9.9996+01	9.9994+01	9.9991+01	9.9989+01	9.9984+01
12	3.60000+00	9.5409+01	9.7638+01	9.9896+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.7124+01	9.8760+01	9.9948+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.8160+01	9.9394+01	9.9978+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.8754+01	9.9714+01	9.9992+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.9119+01	9.9872+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9360+01	9.9901+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9543+01	9.9974+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9687+01	9.9991+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9799+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9882+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	9.9940+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9976+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	9.9994+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (PLATE OUT), 5000 DAYS, 1 WATT, PURE U-235

SOURCE 1 (PLATE OUT), 5000 DAYS, 1 WATT, PURE U-235

Table 3.3

SOURCE 1 (PLATE OUT), 500 DAYS, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	2.7515+08	1.8686+08	1.1405+08	2.1926+08	1.7304+08	5.8177+07	3.5383+07	1.4078+07	7.4258+06	7.5885+05
2	3.00000+01	4.8170+08	2.7762+08	1.5301+08	1.8912+08	1.3507+08	2.1233+07	9.1673+06	1.5013+06	1.8767+05	3.2230+01
3	4.50000+01	7.7721+08	4.8503+08	2.7172+08	1.9801+08	1.8424+08	8.2784+07	1.5065+07	1.3039+06	7.3512+03	
4	6.00000+01	1.1624+09	8.8296+08	7.2030+08	3.8227+08	2.5182+08	4.2666+07	1.7301+07	8.2355+06	3.7079+06	9.5542+04
5	7.50000+01	9.7573+08	7.4838+08	4.8960+08	9.6574+07	6.8516+07	3.4735+07	2.0046+07	8.9060+06	5.5870+06	8.4667+05
6	9.00000+01	2.0027+09	1.5407+09	8.1732+08	8.8771+07	6.8014+07	4.3512+07	3.5026+07	2.7229+07	2.1151+07	1.1685+04
7	1.05000+00	3.9083+08	2.9497+08	1.5633+08	2.4934+07	9.9197+06	2.9070+06	1.5104+06	3.9668+05	8.4721+04	6.2179+03
8	1.20000+00	4.4517+08	3.4556+08	2.1461+08	4.2240+07	1.3204+07	5.4231+05	1.1858+05	1.0246+04	4.9982+03	2.0223+02
9	1.35000+00	7.8381+08	4.2613+08	1.6099+08	5.4609+07	2.8860+07	1.0748+06	1.0472+05	3.1564+04	2.0152+04	5.9631+02
10	1.50000+00	2.2481+08	1.6781+08	1.0179+08	1.6752+07	5.2371+06	7.1817+05	2.1855+05	3.4495+04	2.9310+04	1.4994+04
11	1.65000+00	1.0996+08	8.2052+07	4.7851+07	2.2934+07	2.0564+07	1.7970+07	1.3070+07	4.3340+06	2.4685+05	6.2955+02
12	1.80000+00	1.7202+08	1.3459+08	1.0204+08	2.8901+07	8.2511+06	1.7579+04	2.6312+03	4.4821+02	3.7670+02	2.2533+02
13	1.95000+00	7.3667+07	5.6140+07	2.6573+07	1.7348+06	6.0872+05	9.4202+04	2.5393+04	8.1700+02	1.7709+02	4.6610+01
14	2.10000+00	3.5947+07	2.3817+07	1.0578+07	1.4797+06	5.4345+05	1.3084+05	3.7453+04	2.0123+03	4.8533+02	9.3220+01
15	2.25000+00	2.0514+07	1.4473+07	4.5543+06	2.5586+05	1.7418+05	1.2699+05	9.7705+04	8.1372+04	7.4485+04	3.8116+04
16	2.40000+00	4.9884+07	2.6921+07	4.0282+06	2.4184+05	1.9383+05	1.6136+05	1.0864+05	3.4568+04	6.9221+03	1.5983+02
17	2.55000+00	4.2437+07	2.5199+07	6.1934+06	6.6481+05	6.4142+05	5.8200+05	4.2119+05	1.3931+05	2.7282+04	6.9944+01
18	2.70000+00	3.8328+07	2.0039+07	1.2461+06	2.8908+03	1.0319+02	2.1290+01	1.4534+01	1.3630+01	1.2782+01	7.7696+00
19	2.85000+00	4.7552+06	2.8842+06	3.0301+05	2.1994+03	1.8504+02	4.0227+01	2.9052+01	2.7260+01	2.5644+01	1.5539+01
20	3.00000+00	1.7387+07	8.5006+06	5.6680+05	1.6237+04	1.2263+04	1.1185+04	8.1394+03	2.7075+03	5.3864+02	7.7696+00
21	3.15000+00	2.2154+06	1.3854+06	2.8343+05	5.9214+03	4.0820+03	3.7227+03	2.7078+03	8.9780+02	1.7526+02	1.2345+05
22	3.30000+00	9.4004+05	6.0045+05	1.5092+05	1.0708+03	1.6115+01	2.9418+01	2.0087+03	1.2703+10	2.0770+21	0.0000
23	3.45000+00	4.8287+06	2.9210+06	2.4925+05	1.6145+03	2.6382+01	2.9419+01	2.0087+03	1.2703+10	2.0770+21	0.0000
24	3.60000+00	6.2600+06	3.2153+06	7.4747+04	3.4794+02	1.5743+00	1.5999+11	5.1672+27	0.0000	0.0000	0.0000
25	3.75000+00	1.9163+06	9.9494+05	2.8767+05	2.0005+03	9.8467+00	3.7306+13	9.5700+29	0.0000	0.0000	0.0000
26	3.90000+00	1.1960+06	5.5217+05	3.1357+04	2.1750+02	9.8360+01	8.5712+15	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	1.4074+05	7.6904+04	2.0374+04	8.6988+01	3.9344+01	1.5823+12	5.1040+28	0.0000	0.0000	0.0000
28	4.20000+00	3.3879+06	1.7797+06	2.4037+03	1.0419+03	1.8913+10	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	2.9285+05	4.1056+05	3.5897+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	2.2965+06	1.3570+06	3.5896+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	6.9131+05	3.7232+05	3.0884+01	2.5136+04	1.2918+05	2.3685+13	7.6560+29	0.0000	0.0000	0.0000
32	4.80000+00	2.4088+04	1.5863+04	1.2212+03	1.0263+02	5.2745+04	9.6705+12	3.1259+27	0.0000	0.0000	0.0000
33	4.95000+00	8.5850+04	3.9478+03	8.9732+01	7.5409+04	3.8755+05	7.1055+13	2.2968+28	0.0000	0.0000	0.0000
34	5.10000+00	1.7696+05	6.3649+04	1.6774+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	3.9043+05	1.6983+05	4.6967+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	2.1859+05	1.0796+05	2.9857+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	2.0163+04	2.4892+04	1.2149+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	1.0888+05	8.8681+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	1.6937+04	1.3795+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	3.9528+04	3.2194+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

SOURCE 1 (PLATE OUT), 500 DAYS, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

-----COOLING TIMES-----

GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.90000+01	2.0636+07	1.4015+07	8.5539+06	1.6444+07	1.2978+07	4.3633+06	2.6537+06	1.0559+06	5.5693+05	5.6914+04
2	3.00000+01	1.0838+08	6.2468+07	2.9927+07	4.2551+07	3.0390+07	4.7778+06	2.0627+06	3.3779+05	4.2227+04	7.2517+02
3	4.00000+01	2.9146+08	1.8189+08	1.0189+08	7.4254+07	6.0992+07	5.2823+07	3.1044+07	5.6493+06	4.8895+05	2.7567+03
4	6.00000+01	6.1026+08	4.6355+08	3.7816+08	2.0069+08	1.3270+08	2.2400+07	9.0828+06	4.3236+06	1.9467+06	5.0159+04
5	7.00000+01	6.5862+08	5.0515+08	3.7048+08	6.5187+07	4.6289+07	2.3446+07	1.3531+07	6.0115+06	3.7712+06	5.7150+05
6	9.00000+01	1.6523+09	1.2744+09	6.7429+08	7.3236+07	5.4462+07	3.5896+07	2.8896+07	2.2464+07	1.7450+07	9.6402+05
7	1.05000+00	3.8106+08	2.8760+08	1.5242+08	2.4311+07	9.6717+06	2.8343+06	1.4727+06	3.8676+05	8.2603+04	6.0624+03
8	1.20000+00	5.0081+08	3.8876+08	2.4144+08	4.7520+07	1.4854+07	6.1010+05	1.3341+05	1.1527+04	5.6230+03	2.2751+03
9	1.35000+00	9.9935+08	5.4332+08	2.0526+08	6.9627+07	2.6597+07	1.3704+06	1.3352+05	4.0244+04	2.5694+04	7.6030+02
10	1.50000+00	3.2035+08	2.3912+08	1.4505+08	2.3871+07	7.4629+06	1.0234+06	3.1143+05	4.9155+04	4.1766+04	2.1366+04
11	1.65000+00	1.7319+08	1.2923+08	7.5366+07	3.6121+07	3.2389+07	2.8302+07	2.0585+07	6.8261+06	1.3338+06	9.9155+02
12	1.80000+00	2.9674+08	2.3217+08	1.7602+08	4.9854+07	1.4233+07	3.0323+04	4.5388+03	7.7317+02	6.4980+02	3.8869+02
13	1.95000+00	1.3813+08	1.0526+08	4.9825+07	3.2528+06	1.1414+06	1.7663+05	4.7612+04	1.5319+03	3.3204+02	8.7394+01
14	2.10000+00	7.2793+07	4.8228+07	2.1421+07	2.9965+06	1.1005+06	2.6495+05	7.5843+04	4.0750+03	9.8278+02	1.8877+02
15	2.25000+00	4.4617+07	3.2348+07	9.9057+06	5.5650+05	3.885+05	2.7621+05	2.1251+05	1.7698+05	1.6201+05	2.9902+04
16	2.40000+00	1.1598+08	6.2592+07	9.3655+06	5.6229+05	2.5066+05	3.7516+05	2.5260+05	8.0370+04	1.6094+04	3.2510+02
17	2.55000+00	1.0503+08	6.2368+07	1.5329+07	1.6454+06	1.5875+06	1.4404+06	1.0424+06	3.4479+05	6.7523+04	1.7311+02
18	2.70000+00	1.0061+08	5.2601+07	3.2710+06	7.0635+03	2.7088+02	5.5887+01	3.8152+01	3.5779+01	3.3552+01	2.3095+01
19	2.85000+00	1.3196+07	8.0037+06	8.4086+05	6.1034+03	5.1347+02	1.1163+02	8.0619+01	7.5646+01	7.0939+01	4.3121+01
20	3.00000+00	5.0623+07	2.4864+07	1.6579+06	4.7493+04	3.5869+04	3.2717+04	2.3808+04	7.9193+03	1.5755+03	2.2726+01
21	3.15000+00	6.8124+06	6.8124+06	4.4022+06	8.1715+05	1.8208+04	1.2552+04	1.1447+04	8.3266+03	2.7607+03	5.3891+02
22	3.30000+00	3.0316+06	1.9646+06	4.8672+05	3.0533+03	5.1971+01	9.4874+01	6.4779+03	4.0969+01	6.6984+01	0.0000
23	3.45000+00	1.6297+07	9.8585+06	8.4120+05	5.4990+03	8.9039+01	9.9289+01	6.7792+03	4.2874+01	7.0100+01	0.0000
24	3.60000+00	2.2066+07	1.1334+07	2.7053+05	1.2265+03	5.5496+00	5.6397+11	1.8214+26	0.0000	0.0000	0.0000
25	3.75000+00	7.0424+06	3.6566+06	1.0572+06	7.3518+03	3.1247+01	1.3710+12	3.5170+28	0.0000	0.0000	0.0000
26	3.90000+00	4.5748+06	2.1120+06	1.1594+05	8.3194+02	3.7623+00	3.2020+14	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	5.5945+05	3.0569+05	8.0987+04	3.4578+02	1.5639+00	6.2898+12	2.0288+27	0.0000	0.0000	0.0000
28	4.20000+00	1.3975+07	7.3411+06	9.9152+03	4.2977+03	7.8015+10	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	4.0307+06	1.7552+06	1.5306+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	1.0162+07	6.0047+06	1.5884+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	1.6288+06	1.7034+06	1.4129+02	1.1500+03	4.9102+05	1.0836+12	3.5026+28	0.0000	0.0000	0.0000
32	4.80000+00	1.1382+05	7.4954+04	5.7704+03	4.8493+02	2.4922+03	4.5693+11	1.4770+26	0.0000	0.0000	0.0000
33	4.95000+00	4.1852+05	1.9246+04	4.3744+02	3.6762+03	1.8893+04	3.4639+12	1.1197+27	0.0000	0.0000	0.0000
34	5.10000+00	6.3795+05	3.1983+05	8.4289+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	2.0205+06	8.7888+05	2.4305+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	1.1214+06	5.7487+05	1.5899+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	1.1039+05	1.3628+05	6.6515+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	6.1245+05	4.9883+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	9.7811+04	7.9665+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	2.3420+05	1.9075+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.40

SOURCE 1 (PLATE OUT), 500 DAYS, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	3.0565+03	2.9379+03	3.2472+03	2.2441+02	2.8505+02	2.4179+02	2.3785+02	2.2101+02	2.1425+02	3.2306+02
2	3.00000+01	1.9110+02	1.6033+02	1.4608+02	8.0509+02	9.5253+02	5.0653+02	4.2271+02	2.9171+02	2.3049+02	3.2718+02
3	4.50000+01	6.2279+02	5.4163+02	5.3289+02	1.8184+01	2.4701+01	3.4337+01	3.2051+01	1.4742+01	4.1859+02	3.4283+02
4	6.00000+01	1.5267+01	1.5134+01	1.9685+01	4.5577+01	5.3736+01	4.6750+01	4.0191+01	2.3792+01	1.1674+01	6.2755+02
5	7.50000+01	2.5022+01	2.5724+01	3.2230+01	5.4468+01	6.3896+01	5.9743+01	5.2319+01	3.6375+01	2.6182+01	3.8716+01
6	9.00000+01	4.9494+01	5.2439+01	5.7878+01	6.4462+01	7.5858+01	7.9636+01	7.8217+01	8.3395+01	9.3309+01	9.3438+01
7	1.05000+00	5.5138+01	5.8368+01	6.3614+01	6.7780+01	7.7982+01	8.1207+01	7.9537+01	8.4205+01	9.3627+01	9.3782+01
8	1.20000+00	6.2556+01	6.6618+01	7.2779+01	7.4265+01	8.1245+01	8.1545+01	7.9657+01	8.4229+01	9.3649+01	9.3911+01
9	1.35000+00	7.7358+01	7.8008+01	8.0571+01	8.3766+01	8.7087+01	8.2304+01	7.9777+01	8.4313+01	9.3747+01	9.3954+01
10	1.50000+00	8.2103+01	8.3020+01	8.6078+01	8.7024+01	8.8726+01	8.2871+01	8.0056+01	8.4416+01	9.3908+01	9.5167+01
11	1.65000+00	8.4668+01	8.5730+01	8.8939+01	9.1953+01	9.5840+01	9.8555+01	9.8505+01	9.8704+01	9.9039+01	9.5223+01
12	1.80000+00	8.9063+01	9.0597+01	9.5621+01	9.8757+01	9.8966+01	9.8572+01	9.8509+01	9.8705+01	9.9042+01	9.5245+01
13	1.95000+00	9.1109+01	9.2803+01	9.7512+01	9.9201+01	9.9217+01	9.8869+01	9.8552+01	9.8709+01	9.9043+01	9.5250+01
14	2.10000+00	9.2187+01	9.3814+01	9.8325+01	9.9609+01	9.9858+01	9.8816+01	9.8620+01	9.8717+01	9.9047+01	9.5261+01
15	2.25000+00	9.2808+01	9.4492+01	9.8701+01	9.9685+01	9.9541+01	9.8969+01	9.8810+01	9.9087+01	9.9670+01	9.9987+01
16	2.40000+00	9.4566+01	9.5805+01	9.9057+01	9.9762+01	9.9640+01	9.9177+01	9.9037+01	9.9256+01	9.9732+01	9.9985+01
17	2.55000+00	9.6122+01	9.7112+01	9.9639+01	9.9987+01	9.9989+01	9.9975+01	9.9971+01	9.9977+01	9.9991+01	9.9995+01
18	2.70000+00	9.7612+01	9.8215+01	9.9763+01	9.9988+01	9.9989+01	9.9975+01	9.9971+01	9.9977+01	9.9992+01	9.9996+01
19	2.85000+00	9.7807+01	9.8383+01	9.9795+01	9.9988+01	9.9989+01	9.9975+01	9.9971+01	9.9977+01	9.9992+01	9.9999+01
20	3.00000+00	9.8557+01	9.8904+01	9.9858+01	9.9995+01	9.9997+01	9.9994+01	9.9993+01	9.9994+01	9.9998+01	1.0000+00
21	3.15000+00	9.8658+01	9.8993+01	9.9891+01	9.9997+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.8703+01	9.9034+01	9.9909+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.8944+01	9.9240+01	9.9941+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.9271+01	9.9478+01	9.9952+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.9376+01	9.9555+01	9.9992+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.9403+01	9.9599+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.9452+01	9.9605+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.9659+01	9.9759+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9718+01	9.9798+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9869+01	9.9922+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9916+01	9.9958+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	9.9917+01	9.9959+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	9.9924+01	9.9960+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	9.9933+01	9.9966+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	9.9963+01	9.9985+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	9.9980+01	9.9997+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	9.9981+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	9.9990+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	9.9992+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	9.9995+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (PLATE OUT), 500 DAYS, 1 WATT, PURE U-235

SOURCE 1 (PLATE OUT), 500 DAYS, 1 WATT, PURE U-235

(10)
GAMMA CUMUL. SPECT
Figure 3.27

Table 3.41

SOURCE 1 (PLATE OUT), 500 DAYS, 1 WATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	1.8416+09	1.2909+09	9.7111+08	6.4089+08	5.1052+08	2.8998+08	1.9078+08	8.3412+07	5.0462+07	9.4159+06
2	6.00000+01	1.3116+09	9.0534+08	6.1597+08	3.2088+08	2.1810+08	7.0352+07	4.2247+07	1.6758+07	7.8041+06	9.7336+05
3	9.00000+01	8.5645+08	5.7566+08	3.5062+08	1.4398+08	9.1658+07	2.3447+07	1.4641+07	9.1731+06	5.8789+06	9.4483+05
4	1.20000+00	4.7159+08	2.9847+08	1.4636+08	4.2570+07	2.7044+07	1.0031+07	7.5241+06	5.5589+06	4.0588+06	9.7157+05
5	1.50000+00	2.7898+08	1.6003+08	5.7290+07	1.0101+07	6.1842+06	3.5779+06	3.1417+06	2.6119+06	2.1776+06	8.9313+05
6	1.80000+00	2.0119+08	1.0502+08	2.9085+07	5.1909+06	3.0987+06	1.8594+06	1.7129+06	1.5694+06	1.4382+06	7.4875+05
7	2.10000+00	1.5340+08	7.2908+07	1.4683+07	3.2140+06	1.9421+06	1.2849+06	1.2324+06	1.1647+06	1.0768+06	5.5172+05
8	2.40000+00	1.1778+08	5.1044+07	6.3394+06	1.8689+06	1.1247+06	7.7210+05	7.5562+05	7.2470+05	6.7220+05	3.3969+05
9	2.70000+00	9.2111+07	3.7780+07	2.9420+06	8.7976+05	4.9130+05	3.5144+05	3.4460+05	3.3086+05	3.0709+05	1.5601+05
10	3.00000+00	6.9850+07	2.7859+07	1.4715+06	2.8785+05	1.0702+05	7.2998+04	7.1658+04	6.8952+04	6.4215+04	3.3813+04
11	3.30000+00	4.9434+07	1.9364+07	7.5588+05	9.8207+04	2.0252+04	8.6642+03	8.5002+03	8.2419+03	7.7638+03	4.5757+03
12	3.60000+00	3.1940+07	1.2192+07	3.1745+05	1.8068+04	3.1731+03	9.5499+02	9.2477+02	8.9658+02	8.4457+02	4.9776+02
13	3.90000+00	1.9165+07	7.0082+06	1.4436+05	4.0688+02	4.7470+01	3.6026+00	2.5030+02	1.6319+09	2.6801+20	0.0000
14	4.20000+00	1.0723+07	3.6667+06	7.6122+04	1.3827+02	8.5592+01	1.8229+02	1.2665+04	8.2573+12	1.3561+22	0.0000
15	4.50000+00	5.7266+06	1.7249+06	3.3819+04	2.4063+01	1.1583+01	1.6548+10	5.4427+26	0.0000	0.0000	0.0000
16	4.80000+00	3.2872+06	7.9706+05	1.3598+04	1.0392+01	5.0747+03	8.7562+11	2.8800+26	0.0000	0.0000	0.0000
17	5.10000+00	2.0387+06	3.2408+05	4.8866+03	3.3491+02	1.6941+03	2.9333+11	9.6480+27	0.0000	0.0000	0.0000
18	5.40000+00	1.4657+06	1.4838+05	3.0259+02	2.0819+03	1.2555+04	2.1738+12	7.1497+28	0.0000	0.0000	0.0000
19	5.70000+00	1.0872+06	6.9619+04	6.4354+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	7.9974+05	2.8412+04	2.6685+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	5.6428+05	6.3438+03	4.5908+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	3.7944+05	1.3459+03	1.1788+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	2.2643+05	5.6863+02	1.2595+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	1.0703+05	1.1544+02	3.0543+18	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	3.1485+04	2.5548+00	5.0610+20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.42

SOURCE 1 (PLATE OUT), 500 DAYS, 1 WATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

-----COOLING TIMES-----												
GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	3.00000+01	2.7624+08	1.9364+08	1.4567+08	9.6133+07	7.6578+07	4.3498+07	2.8616+07	1.2512+07	7.5692+06	1.4124+06	
2	6.00000+01	5.9023+08	4.0740+08	2.7719+08	1.4440+08	9.8147+07	3.1659+07	1.9011+07	7.5412+06	3.5119+06	4.3801+05	
3	9.00000+01	6.4234+08	4.3174+08	2.6297+08	1.0798+08	6.8744+07	1.7585+07	1.0981+07	6.8798+06	4.4092+06	7.0862+05	
4	1.20000+00	4.9517+08	3.1339+08	1.5368+08	4.4699+07	2.8397+07	1.0533+07	7.9003+06	5.8368+06	4.2617+06	1.0201+06	
5	1.50000+00	3.7663+08	2.1604+08	7.7341+07	1.3636+07	8.3487+06	4.8302+06	4.2413+06	3.5261+06	2.9397+06	1.2057+06	
6	1.80000+00	3.3196+08	1.7129+08	4.7990+07	8.5650+06	5.1128+06	3.0681+06	2.8264+06	2.5895+06	2.3730+06	1.2354+06	
7	2.10000+00	2.9913+08	1.4217+08	2.8553+07	6.2672+06	3.7871+06	2.5055+06	2.4032+06	2.2711+06	2.0997+06	1.0759+06	
8	2.40000+00	2.6500+08	1.1485+08	1.4264+07	4.2050+06	2.5305+06	1.7372+06	1.7001+06	1.6306+06	1.5124+06	7.6430+05	
9	2.70000+00	2.3488+08	9.6339+07	7.5022+06	2.2434+06	1.2528+06	8.9618+05	8.7872+05	8.4368+05	7.8509+05	3.9782+05	
10	3.00000+00	1.9907+08	7.9399+07	4.1939+06	8.2037+05	3.0500+05	2.0805+05	2.0422+05	1.9651+05	1.8501+05	9.6568+04	
11	3.30000+00	1.5572+08	6.0996+07	2.3810+06	3.0935+05	6.3793+04	2.7292+04	2.6775+04	2.5962+04	2.4456+04	1.4413+04	
12	3.60000+00	1.1019+08	4.2063+07	1.0953+06	6.2328+04	1.0947+04	3.2947+03	3.1904+03	3.0932+03	2.9138+03	1.7173+03	
13	3.90000+00	7.1867+07	2.6281+07	5.4114+05	1.5258+03	1.7801+02	1.3510+01	9.3863+02	6.1195+09	1.0050+19	0.0000	
14	4.20000+00	4.3427+07	1.4850+07	3.0830+05	5.6001+02	3.4665+00	7.3828+02	5.1294+04	3.3442+11	5.9924+22	0.0000	
15	4.50000+00	2.4911+07	7.5030+06	1.4711+05	1.0468+02	5.0364+01	7.1983+10	2.3676+25	0.0000	0.0000	0.0000	
16	4.80000+00	1.5286+07	3.7063+06	6.3230+04	4.8325+01	2.3597+02	4.8716+10	1.3392+25	0.0000	0.0000	0.0000	
17	5.10000+00	1.0092+07	1.6042+06	2.0239+04	1.6574+01	8.3860+03	1.4520+10	4.7758+26	0.0000	0.0000	0.0000	
18	5.40000+00	7.6948+06	7.7897+05	1.5886+03	1.3030+02	6.5911+04	1.1412+11	3.7536+27	0.0000	0.0000	0.0000	
19	5.70000+00	6.0338+06	3.8638+05	5.5716+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
20	6.00000+00	4.6785+06	1.6621+05	1.5611+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
21	6.30000+00	3.4703+06	3.9814+04	2.8233+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
22	6.60000+00	2.4474+06	6.6811+03	7.8034+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
23	6.90000+00	1.5784+06	3.8382+03	8.5017+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
24	7.20000+00	7.5456+05	8.1389+02	2.1533+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
25	7.50000+00	2.3141+05	1.8778+01	3.7198+19	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Table 3.43

SOURCE 1 (PLATE OUT), 500 DAYS, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	6.6261+02	8.3226+02	1.4227+01	2.2392+01	2.6111+01	3.7321+01	3.6319+01	2.8529+01	2.5511+01	1.6873+01
2	6.00000+01	2.0784+01	2.5833+01	4.1298+01	5.6025+01	5.9577+01	6.4486+01	6.0447+01	4.5724+01	3.7347+01	2.2105+01
3	9.00000+01	3.6191+01	4.4389+01	6.6981+01	8.1178+01	8.3017+01	7.9572+01	7.4383+01	6.1412+01	5.2208+01	3.0571+01
4	1.20000+00	4.8069+01	5.7859+01	8.1990+01	9.1589+01	9.2699+01	8.8609+01	8.4410+01	7.4721+01	6.6571+01	4.2758+01
5	1.50000+00	5.7103+01	6.7144+01	8.9544+01	9.4765+01	9.5546+01	9.2754+01	8.9793+01	8.2761+01	7.6479+01	5.7162+01
6	1.80000+00	6.5065+01	7.4592+01	9.4231+01	9.6760+01	9.7289+01	9.5386+01	9.3380+01	8.8665+01	8.4477+01	7.1920+01
7	2.10000+00	7.2241+01	8.0703+01	9.7019+01	9.8220+01	9.8580+01	9.7536+01	9.6430+01	9.3844+01	9.1554+01	8.4773+01
8	2.40000+00	7.8597+01	8.5639+01	9.8413+01	9.9199+01	9.9403+01	9.9026+01	9.8588+01	9.7562+01	9.6652+01	9.3904+01
9	2.70000+00	8.4231+01	8.9780+01	9.9145+01	9.9722+01	9.9870+01	9.9795+01	9.9703+01	9.9486+01	9.9291+01	9.8656+01
10	3.00000+00	1.9006+01	9.3192+01	9.9555+01	9.9913+01	9.9974+01	9.9974+01	9.9962+01	9.9934+01	9.9908+01	9.9807+01
11	3.30000+00	9.2741+01	9.5814+01	9.9787+01	9.9985+01	9.9996+01	9.9997+01	9.9996+01	9.9993+01	9.9990+01	9.9979+01
12	3.60000+00	9.5384+01	9.7622+01	9.9894+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.7108+01	9.8752+01	9.9947+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.8150+01	9.9390+01	9.9977+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.8748+01	9.9712+01	9.9992+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.9114+01	9.9872+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9356+01	9.9941+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9541+01	9.9974+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9686+01	9.9991+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9798+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9881+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	9.9940+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9976+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	9.9994+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (PLATE OUT), 500 DAYS, 1 WATT, PURE U-235

SOURCE 1 (PLATE OUT), 500 DAYS, 1 WATT, PURE U-235

Table 3.44

SOURCE 1 (PLATE OUT), 200 DAYS, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

-----COOLING TIMES-----											
GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	2.7364+08	1.8561+08	1.1285+08	2.1812+08	1.7192+08	5.7062+07	3.4319+07	1.3132+07	6.6216+06	4.1225+05
2	3.00000+01	4.8185+08	2.7764+08	1.3301+08	1.8916+08	1.3512+08	2.1257+07	9.1701+06	1.4936+06	1.8177+05	2.0392+03
3	4.50000+01	7.7746+08	4.8507+08	2.7174+08	1.9806+08	1.8433+08	1.4108+08	8.2883+07	1.5053+07	1.2950+06	3.2115+03
4	6.00000+01	1.1623+09	8.8269+08	7.2002+08	3.8204+08	2.5161+08	4.2405+07	1.7026+07	8.0106+06	3.5835+06	5.0429+04
5	7.50000+01	9.7409+08	7.4690+08	4.8815+08	9.5118+07	6.7069+07	3.3327+07	1.8703+07	7.7500+06	4.6382+06	4.3851+05
6	9.00000+01	1.9956+09	1.5387+09	8.1149+08	8.2937+07	6.0202+07	3.7848+07	2.9782+07	2.2998+07	1.8006+07	1.0013+06
7	1.05000+00	3.9095+08	2.9500+08	1.5633+08	2.4935+07	9.9190+06	2.9057+06	1.5067+06	3.9122+05	7.9514+04	3.1063+02
8	1.20000+00	4.4531+08	3.4560+08	2.1463+08	4.2251+07	1.3208+07	5.4123+05	1.1686+05	8.4949+03	3.3598+03	1.0110+02
9	1.35000+00	7.8406+08	4.2617+08	1.6100+08	5.4622+07	2.0867+07	1.0729+06	1.0151+05	2.8976+04	1.8299+04	5.1445+02
10	1.50000+00	2.2486+08	1.6781+08	1.0178+08	1.6741+07	5.2238+06	7.0331+05	2.0340+05	2.0151+04	1.6041+04	7.9750+02
11	1.65000+00	1.0999+08	8.2060+07	4.7854+07	2.2940+07	2.0574+07	1.7997+07	1.3086+07	4.3317+06	8.4384+05	3.1453+02
12	1.80000+00	1.7208+08	1.3460+08	1.0205+08	2.8910+07	8.2551+06	1.7395+04	2.4301+03	2.5608+02	1.9604+02	1.1256+02
13	1.95000+00	7.3692+07	5.6146+07	2.6575+07	1.7353+06	6.0899+05	9.4307+04	2.5383+04	7.7693+02	1.3942+02	2.3284+02
14	2.10000+00	3.5959+07	2.3819+07	1.0579+07	1.4801+06	5.4364+05	1.3096+05	3.7416+04	1.9320+03	4.0959+02	4.6569+02
15	2.25000+00	2.0467+07	1.4832+07	4.5141+06	2.1544+05	1.3371+05	8.6519+04	5.8588+04	4.8899+04	4.0745+04	2.0278+02
16	2.40000+00	4.9901+07	2.6924+07	4.0284+06	2.4178+05	1.9380+05	1.6148+05	1.0865+05	3.4435+04	8.7901+03	6.9854+02
17	2.55000+00	4.2451+07	2.5202+07	6.1938+06	6.6493+05	6.4166+05	5.8284+05	4.2165+05	1.3919+05	2.7145+04	3.4922+02
18	2.70000+00	3.8341+07	2.0041+07	1.2462+06	2.6844+03	9.5998+01	1.4042+01	7.5039+00	7.0058+00	6.5531+00	3.8814+00
19	2.85000+00	4.7547+06	2.8845+06	3.0302+05	2.1856+03	1.7063+02	2.5727+01	1.4992+01	1.4012+01	1.3166+01	7.7627+00
20	3.00000+00	1.7313+07	8.5015+06	5.6644+05	1.6234+04	1.2262+04	1.1196+04	8.1425+03	2.6997+03	5.3085+02	3.8814+00
21	3.15000+00	2.2162+06	1.3856+06	2.8346+05	5.9230+03	4.0840+03	3.7285+03	2.7112+03	8.9743+02	1.7474+02	1.1993+00
22	3.30000+00	9.4036+05	6.0051+05	1.5093+05	1.0711+03	1.6123+01	2.9465+01	2.0112+03	1.2698+10	2.0709+21	0.0000
23	3.45000+00	4.8303+06	2.9214+06	2.4927+05	1.6150+03	2.6396+01	2.9466+01	2.0112+03	1.2698+10	2.0709+21	0.0000
24	3.60000+00	6.2620+06	3.2157+06	7.6754+04	3.4805+02	1.5751+00	1.6024+11	5.1738+27	0.0000	0.0000	0.0000
25	3.75000+00	1.9169+06	9.9510+05	2.8769+05	2.0011+03	9.0513+00	3.7365+13	9.5821+29	0.0000	0.0000	0.0000
26	3.90000+00	1.1964+06	5.5223+05	3.1360+04	2.1757+02	9.8410+01	8.3845+15	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	1.4679+05	7.6912+04	2.0376+04	8.7013+01	3.9384+01	1.5848+12	5.1105+28	0.0000	0.0000	0.0000
28	4.20000+00	3.3890+06	1.7799+06	2.4039+03	1.0422+03	1.8922+10	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	9.4316+05	4.1061+05	3.5900+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	2.2973+06	1.3571+06	3.5899+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	6.9154+05	7.7236+05	3.0886+01	2.5144+04	1.2925+05	2.3722+13	7.6657+29	0.0000	0.0000	0.0000
32	4.80000+00	2.4096+04	1.5865+04	1.2214+03	1.1626+02	5.2772+04	9.6858+12	3.1299+27	0.0000	0.0000	0.0000
33	4.95000+00	8.5879+04	3.9483+03	8.9740+01	7.5432+04	3.8775+05	7.1167+13	2.2997+28	0.0000	0.0000	0.0000
34	5.10000+00	1.2700+03	6.3655+04	1.6775+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	3.9036+05	1.6985+05	4.6971+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	2.1066+05	1.0797+05	7.9880+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	2.0170+04	2.4895+04	1.2150+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	1.0892+05	8.8690+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	1.6943+05	1.3796+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	3.9541+04	3.2198+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.45

SOURCE 1 (PLATE OUT), 200 DAYS, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	2.0523+07	1.3921+07	8.0638+06	1.6359+07	1.2894+07	4.2811+06	2.5739+06	9.8494+05	4.9663+05	3.0919+04
2	3.00000+01	1.0842+08	6.2469+07	2.9927+07	4.2562+07	3.0403+07	4.7828+06	2.0633+06	3.3605+05	4.0898+04	4.5882+02
3	4.50000+01	2.9155+08	1.8190+08	1.0190+08	7.4274+07	6.9125+07	5.2904+07	3.1081+07	5.6450+06	4.8561+05	1.2043+03
4	6.00000+01	6.1022+08	4.6341+08	3.7881+08	2.0057+08	1.3209+08	2.2263+07	8.9389+06	4.2055+06	1.8604+06	2.8575+04
5	7.50000+01	6.5751+08	5.0416+08	3.2950+08	6.4205+07	4.5272+07	2.2496+07	1.2625+07	5.2312+06	3.1308+06	2.9600+05
6	9.00000+01	1.6464+09	1.2694+09	6.6948+08	6.8423+07	4.9666+07	3.1225+07	2.4570+07	1.8973+07	1.0855+07	8.2605+05
7	1.05000+00	3.8118+08	2.8762+08	1.5242+08	2.4312+07	9.6710+06	2.8331+06	1.4690+06	3.8144+05	7.7526+04	3.0286+03
8	1.20000+00	5.0098+08	3.8880+08	2.4106+08	4.7532+07	1.4859+07	6.0888+05	1.3147+05	9.5568+03	3.7798+03	1.1375+03
9	1.35000+00	9.9968+08	5.4337+08	2.0527+08	6.9643+07	2.6605+07	1.3679+06	1.2943+05	3.6945+04	2.3332+04	6.5592+02
10	1.50000+00	3.2603+08	2.3913+08	1.4594+08	2.3856+07	7.4440+06	1.0022+06	2.8984+05	2.8716+04	2.2858+04	1.1364+04
11	1.65000+00	1.7324+08	1.2924+08	7.5371+07	3.6130+07	3.2404+07	2.8345+07	2.0610+07	6.8224+06	1.3290+06	4.9538+02
12	1.80000+00	2.9684+08	2.3219+08	1.7603+08	4.9869+07	1.4240+07	3.0007+04	4.1919+03	4.4174+02	3.3817+02	1.9417+02
13	1.95000+00	1.3817+08	1.0527+08	4.9829+07	3.2537+06	1.1419+06	1.7683+05	4.7594+04	1.4567+03	2.6140+02	4.3658+01
14	2.10000+00	7.2817+07	4.8233+07	2.1422+07	2.9972+06	1.1009+06	2.6519+05	7.5768+04	3.9123+03	8.2941+02	9.4302+01
15	2.25000+00	4.4515+07	3.2259+07	9.8182+06	4.6858+05	2.9083+05	1.8818+05	1.2743+05	9.7656+04	8.8620+04	4.4104+04
16	2.40000+00	1.1602+08	6.2598+07	9.1660+06	5.6214+05	4.5058+05	3.7544+05	2.5262+05	8.0060+04	1.5787+04	1.6241+02
17	2.55000+00	1.0507+08	6.2374+07	1.5330+07	1.6493+07	1.5881+06	1.4425+06	1.0436+06	3.4450+05	6.7185+04	8.6481+01
18	2.70000+00	1.0064+08	5.2607+07	3.2713+06	7.0466+03	2.5200+02	3.6861+01	1.9698+01	1.8390+01	1.7202+01	1.0189+01
19	2.85000+00	1.3200+07	8.0045+06	8.4089+05	6.0650+03	4.7351+02	7.1394+01	4.1602+01	3.8882+01	3.6370+01	2.1542+01
20	3.00000+00	5.0640+07	2.4067+07	1.6580+06	4.7085+04	3.5866+04	3.2747+04	2.3817+04	7.8677+03	1.5527+03	1.1353+01
21	3.15000+00	6.8147+06	4.2606+06	8.7164+05	1.8213+04	1.2558+04	1.1465+04	8.3371+03	2.7594+03	5.3732+02	3.6880+05
22	3.30000+00	3.0327+06	1.9367+06	4.8676+05	3.4544+03	5.1998+01	9.5024+01	6.4881+03	4.0952+10	6.8787+21	0.0000
23	3.45000+00	1.6302+07	9.8596+06	4.128+05	5.4508+03	8.9085+01	9.9446+01	6.7878+03	4.2857+10	6.9894+21	0.0000
24	3.60000+00	2.2074+07	1.1335+07	2.7056+05	1.2269+03	5.5522+00	5.6486+11	1.8238+26	0.0000	0.0000	0.0000
25	3.75000+00	7.0447+06	3.6570+06	1.0573+06	7.3540+03	3.3264+01	1.3732+12	3.5214+28	0.0000	0.0000	0.0000
26	3.90000+00	4.5763+06	2.1123+06	1.1995+05	8.3219+02	3.7642+00	3.2071+14	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	5.5964+05	3.0573+05	8.0994+04	3.4588+02	1.5647+00	6.2998+12	2.0314+27	0.0000	0.0000	0.0000
28	4.20000+00	1.3980+07	7.3419+06	9.0160+03	4.2990+03	7.8055+10	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	4.0320+06	1.7553+06	1.5347+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	1.0166+07	6.0054+06	1.5885+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	3.1638+06	1.7035+06	1.4130+02	1.1503+03	5.9132+05	1.0853+12	3.5071+28	0.0000	0.0000	0.0000
32	4.80000+00	1.1385+05	7.4962+04	5.7709+03	4.8508+02	2.4935+03	4.5765+11	1.4789+26	0.0000	0.0000	0.0000
33	4.95000+00	4.1866+05	1.9248+04	4.3748+02	3.6773+03	1.8993+04	3.4694+12	1.1211+27	0.0000	0.0000	0.0000
34	5.10000+00	6.3816+05	3.1987+05	8.4296+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	2.0211+06	8.7897+05	2.4307+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	1.1218+06	5.7496+05	1.5900+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	1.1043+05	1.3630+05	6.6521+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	6.1266+05	4.9888+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	9.7844+04	7.9673+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	2.3428+05	1.9077+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.46

SOURCE 1 (PLATE OUT), 200 DAYS, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	CONCLING TIMES										
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	1.50000+01	3.0425-03	2.9220-03	3.2204-03	2.2509-02	2.8698-02	2.4515-02	2.4267-02	2.2803-02	2.2072-02	2.4842-02	
2	3.00000+01	1.9115-02	1.6034-02	1.4607-02	8.1073-02	9.6366-02	5.1903-02	4.3720-02	3.0583-02	2.3889-02	2.5211-02	
3	4.50000+01	6.2337-02	5.4216-02	5.3390-02	1.8327-01	2.5022-01	3.5485-01	3.3676-01	1.6127-01	4.5471-02	2.6178-02	
4	6.00000+01	1.5280-01	1.5149-01	1.9721-01	4.5925-01	5.4422-01	4.8234-01	4.2104-01	2.5864-01	1.2815-01	4.9157-02	
5	7.50000+01	2.5027-01	2.5731-01	3.2259-01	5.4760-01	6.4498-01	6.1116-01	5.4006-01	3.7975-01	2.6729-01	2.8696-01	
6	9.00000+01	4.9435-01	5.2766-01	5.7732-01	6.4174-01	7.5552-01	7.8996-01	7.7172-01	8.1901-01	9.2748-01	9.5066-01	
7	1.05000+02	5.5086-01	5.8413-01	6.3532-01	6.7520-01	7.7704-01	8.0618-01	7.8557-01	8.2784-01	9.3093-01	9.5309-01	
8	1.20000+02	6.2513-01	6.6574-01	7.2719-01	7.4060-01	8.1012-01	8.0967-01	7.8681-01	8.2806-01	9.3110-01	9.5401-01	
9	1.35000+02	7.7333-01	7.7980-01	8.0529-01	8.3643-01	8.6933-01	8.1750-01	7.8803-01	8.2891-01	9.3213-01	9.5453-01	
10	1.50000+02	8.2083-01	8.2999-01	8.6048-01	8.6925-01	8.8590-01	8.2324-01	7.9076-01	8.2958-01	9.3315-01	9.6366-01	
11	1.65000+02	8.4651-01	8.5712-01	8.8916-01	8.8916-01	9.1896-01	9.5802-01	9.8556-01	9.8507-01	9.9222-01	9.9406-01	
12	1.80000+02	8.9052-01	9.0586-01	9.5614-01	9.8754-01	9.8971-01	9.8573-01	9.8511-01	9.8754-01	9.9223-01	9.9422-01	
13	1.95000+02	9.1100-01	9.2795-01	9.7510-01	9.9206-01	9.9226-01	9.8674-01	9.8556-01	9.8757-01	9.9224-01	9.9425-01	
14	2.10000+02	9.2180-01	9.3808-01	9.8325-01	9.9618-01	9.9471-01	9.8826-01	9.8627-01	9.8766-01	9.9228-01	9.9433-01	
15	2.25000+02	9.2839-01	9.4485-01	9.8698-01	9.9683-01	9.9535-01	9.8934-01	9.8748-01	9.8992-01	9.9622-01	9.9977-01	
16	2.40000+02	9.4559-01	9.5799-01	9.9055-01	9.9760-01	9.9636-01	9.9110-01	9.8986-01	9.9178-01	9.9692-01	9.9990-01	
17	2.55000+02	9.6117-01	9.7108-01	9.9638-01	9.9987-01	9.9989-01	9.9975-01	9.9970-01	9.9975-01	9.9991-01	9.9997-01	
18	2.70000+02	9.7609-01	9.8212-01	9.9762-01	9.9988-01	9.9989-01	9.9975-01	9.9970-01	9.9975-01	9.9991-01	9.9997-01	
19	2.85000+02	9.7805-01	9.8380-01	9.9794-01	9.9984-01	9.9989-01	9.9975-01	9.9970-01	9.9975-01	9.9991-01	9.9997-01	
20	3.00000+02	9.7855-01	9.8902-01	9.9858-01	9.9995-01	9.9997-01	9.9975-01	9.9970-01	9.9975-01	9.9991-01	9.9997-01	
21	3.15000+02	9.8656-01	9.8992-01	9.9891-01	9.9997-01	9.9997-01	9.9993-01	9.9992-01	9.9994-01	9.9998-01	1.0000+00	
22	3.30000+02	9.8701-01	9.9032-01	9.9909-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
23	3.45000+02	9.8943-01	9.9239-01	9.9941-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
24	3.60000+02	9.9270-01	9.9477-01	9.9952-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
25	3.75000+02	9.9375-01	9.9554-01	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
26	3.90000+02	9.9443-01	9.9598-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
27	4.05000+02	9.9451-01	9.9605-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
28	4.20000+02	9.9658-01	9.9759-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
29	4.35000+02	9.9718-01	9.9796-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
30	4.50000+02	9.9869-01	9.9922-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
31	4.65000+02	9.9916-01	9.9958-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
32	4.80000+02	9.9917-01	9.9959-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
33	4.95000+02	9.9923-01	9.9959-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
34	5.10000+02	9.9933-01	9.9966-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
35	5.25000+02	9.9963-01	9.9985-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
36	5.40000+02	9.9979-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
37	5.55000+02	9.9981-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
38	5.70000+02	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
39	5.85000+02	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
40	6.00000+02	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	

SOURCE 1 (PLATE OUT), 200 DAYS, 1 WATT, PURE U-235

SOURCE 1 (PLATE OUT), 200 DAYS, 1 WATT, PURF. U-235

Table 3.47

SOURCE 1 (PLATE OUT), 200 DAYS, 1 WATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	1.8198+09	1.2743+09	9.5582+08	6.2605+08	4.9581+08	2.7522+08	1.7647+08	7.0750+07	3.9612+07	5.2645+06
2	6.00000+01	1.3111+09	9.0416+08	6.1469+08	3.1955+08	2.1669+08	6.8676+07	4.0625+07	1.5362+07	6.6443+06	5.3372+05
3	9.00000+01	8.5535+08	5.7433+08	3.4925+08	1.8255+08	9.0195+07	2.1942+07	1.3192+07	7.8823+06	4.7740+06	5.3064+05
4	1.20000+00	4.7020+08	2.716+08	1.4506+08	4.1246+07	2.5725+07	8.7502+06	6.2802+06	4.4178+06	3.0477+06	5.3145+05
5	1.50000+00	2.7782+08	1.5900+08	5.6282+07	9.0880+06	5.1822+06	2.6218+06	2.2038+06	1.7204+06	1.3546+06	4.7662+05
6	1.80000+00	2.0025+08	1.0420+08	2.8283+07	4.3933+06	2.3103+06	1.1089+06	9.7399+05	8.5736+05	7.7116+05	3.9864+05
7	2.10000+00	1.5270+08	7.2287+07	1.4036+07	2.6157+06	1.3512+06	7.2290+05	6.7929+05	6.3215+05	5.7866+05	2.9662+05
8	2.40000+00	1.1738+08	5.0661+07	5.9548+06	1.4955+06	7.5596+05	4.2165+05	4.1076+05	3.9289+05	3.6219+05	1.8407+05
9	2.70000+00	9.1994+07	3.7617+07	2.7680+06	7.0900+05	3.2260+05	1.9113+05	1.8682+05	1.7900+05	1.6514+05	8.4385+04
10	3.00000+00	6.9911+07	2.7842+07	1.8355+06	2.5199+05	7.1067+04	3.9202+04	3.8375+04	3.6847+04	3.4104+04	1.8042+04
11	3.30000+00	4.9511+07	1.9375+07	7.5186+05	9.5812+04	1.5849+04	4.4662+03	4.3574+03	4.2164+03	3.9483+03	2.3434+03
12	3.60000+00	3.1994+07	1.2202+07	3.1723+05	1.7599+04	2.6954+03	4.9830+02	4.7410+02	4.5868+02	4.2952+02	2.5493+02
13	3.90000+00	1.9197+07	7.0143+06	1.4447+05	4.0736+02	4.7529+01	3.5969+00	2.4953+02	1.6236+09	2.6507+20	0.0000
14	4.20000+00	1.0741+07	3.6699+06	7.6181+04	1.3844+02	8.5697+01	1.8200+02	1.2626+04	8.2153+12	1.3413+22	0.0000
15	4.50000+00	5.7364+06	1.7263+06	3.3845+04	2.4092+01	1.1597+01	1.6522+10	5.4259+26	0.0000	0.0000	0.0000
16	4.80000+00	3.2929+06	7.9775+05	1.3608+04	1.0405+01	5.0809+03	8.7423+11	2.8711+26	0.0000	0.0000	0.0000
17	5.10000+00	2.0422+06	3.2435+05	4.0918+03	3.3531+02	1.6962+03	2.9287+11	9.6182+27	0.0000	0.0000	0.0000
18	5.40000+00	1.4682+06	1.4850+05	3.0242+02	2.4848+03	1.2570+04	2.1703+12	7.1276+28	0.0000	0.0000	0.0000
19	5.70000+00	1.0890+06	6.9679+04	6.4404+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	8.0111+05	2.8436+04	2.6705+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	5.6525+05	6.3493+03	4.5943+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	3.8009+05	1.3471+03	1.1797+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	2.2682+05	5.6912+02	1.2605+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	1.0721+05	1.1554+02	3.0567+14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	3.1539+04	2.5570+00	5.0649+20	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.48

SOURCE 1 (PLATE OUT), 200 DAYS, 1 WATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	2.7297+08	1.9114+08	1.4337+08	9.3907+07	7.4371+07	4.1283+07	2.6470+07	1.0613+07	5.9518+06	7.8967+05
2	6.00000+01	5.9001+08	4.0687+08	2.7661+08	1.4380+08	9.7510+07	3.0904+07	1.8281+07	6.9157+06	2.9899+06	2.4017+05
3	9.00000+01	6.4151+08	4.3075+08	2.6193+08	1.0691+08	6.7646+07	1.6456+07	9.8939+06	5.9117+06	3.5805+06	3.9798+05
4	1.20000+00	4.9371+08	3.1202+08	1.5232+08	4.3309+07	2.7012+07	9.1877+06	6.5943+06	4.6387+06	3.2001+06	5.5802+05
5	1.50000+00	3.7506+08	2.1465+08	7.5981+07	1.2269+07	6.9960+06	3.5394+06	2.9751+06	2.3225+06	1.8287+06	6.4344+05
6	1.80000+00	3.3041+08	1.7193+08	4.6666+07	7.2489+06	3.8121+06	1.8296+06	1.6071+06	1.4146+06	1.2724+06	6.5776+05
7	2.10000+00	2.9777+08	1.4096+08	2.7370+07	5.1006+06	2.6347+06	1.4097+06	1.3246+06	1.2327+06	1.1284+06	5.7841+05
8	2.80000+00	2.6410+08	1.1399+08	1.3407+07	3.3649+06	1.7009+06	9.4872+05	9.2421+05	8.8401+05	8.1493+05	4.1415+05
9	2.70000+00	2.3458+08	9.5925+07	7.0583+06	1.8080+06	8.2262+05	4.8737+05	4.7639+05	4.5645+05	4.2111+05	2.1518+05
10	3.00000+00	1.9925+08	7.9350+07	4.0913+06	7.1816+05	2.0368+05	1.1173+05	1.0937+05	1.0501+05	9.7198+04	5.1419+04
11	3.30000+00	1.5596+08	6.1033+07	2.3684+06	2.9557+05	4.9924+04	1.4069+04	1.3726+04	1.3282+04	1.2437+04	7.3818+03
12	3.60000+00	1.1038+08	4.2098+07	1.0904+06	6.0716+04	9.2991+03	1.7191+03	1.6357+03	1.5824+03	1.4818+03	8.7950+02
13	3.90000+00	7.1990+07	2.6303+07	5.4176+05	1.5276+03	1.7823+02	1.3488+01	9.3572+02	6.0884+09	9.9402+20	0.0000
14	4.20000+00	4.3501+07	1.4863+07	3.0853+05	5.6667+02	3.4707+00	7.3711+02	5.1136+04	3.3272+11	5.4321+22	0.0000
15	4.50000+00	2.4953+07	7.5095+06	1.4723+05	1.0480+02	5.0446+01	7.1869+10	2.3602+25	0.0000	0.0000	0.0000
16	4.80000+00	1.5312+07	3.7095+06	6.3279+04	4.8382+01	2.3626+02	4.0652+10	1.3350+23	0.0000	0.0000	0.0000
17	5.10000+00	1.0109+07	1.6056+06	2.0254+04	1.6598+01	8.3963+03	1.4497+10	4.7610+26	0.0000	0.0000	0.0000
18	5.40000+00	7.7080+06	7.7965+05	1.5898+03	1.3045+02	6.5993+00	1.1394+11	3.7420+27	0.0000	0.0000	0.0000
19	5.70000+00	6.0441+06	3.8672+05	3.5744+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	4.6865+06	1.6635+05	1.5623+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	3.4763+06	3.9048+04	2.8255+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	2.4516+06	8.6885+03	7.6093+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	1.5310+06	3.8415+03	8.5083+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	7.5585+05	8.1459+02	2.1550+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	2.3181+05	1.8794+01	3.7227+19	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.49

SOURCE 1 (PLATE OUT), 200 DAYS, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	6.5641+02	8.2527+02	1.4148+01	2.2423+01	2.6301+01	3.8882+01	3.8546+01	3.0753+01	2.7910+01	1.7338+01
2	6.00000+01	2.0752+01	2.5820+01	4.1445+01	5.6760+01	6.0785+01	6.7990+01	6.5167+01	5.0794+01	4.1955+01	2.2612+01
3	9.00000+01	3.6179+01	4.4418+01	6.7293+01	8.2288+01	8.4708+01	8.3489+01	7.9575+01	6.7925+01	5.8774+01	3.1350+01
4	1.20000+00	4.8051+01	5.7890+01	8.2324+01	9.2629+01	9.4261+01	9.2143+01	8.9177+01	8.1367+01	7.3805+01	4.3602+01
5	1.50000+00	5.7071+01	6.7158+01	8.9822+01	9.5559+01	9.6735+01	9.5476+01	9.3510+01	8.8097+01	8.2395+01	5.7730+01
6	1.80000+00	6.5016+01	7.4581+01	9.4427+01	9.7290+01	9.7807+01	9.7200+01	9.5850+01	9.2196+01	8.8372+01	7.2172+01
7	2.10000+00	7.2177+01	8.0667+01	9.7128+01	9.8508+01	9.915+01	9.8527+01	9.7779+01	9.5768+01	9.3672+01	8.4872+01
8	2.40000+00	7.8528+01	8.5589+01	9.8451+01	9.9311+01	9.9616+01	9.9421+01	9.9125+01	9.8330+01	9.7500+01	9.3965+01
9	2.70000+00	8.4169+01	8.9730+01	9.9148+01	9.9743+01	9.9907+01	9.9880+01	9.9818+01	9.9653+01	9.9478+01	9.8690+01
10	3.00000+00	8.8960+01	9.3156+01	9.9551+01	9.9918+01	9.9979+01	9.9985+01	9.9978+01	9.9957+01	9.9935+01	9.9819+01
11	3.30000+00	9.2711+01	9.5791+01	9.9785+01	9.9985+01	9.9997+01	9.9998+01	9.9998+01	9.9995+01	9.9993+01	9.9981+01
12	3.60000+00	9.5365+01	9.7609+01	9.9893+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.7096+01	9.8745+01	9.9947+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.8142+01	9.9386+01	9.9977+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.8742+01	9.9711+01	9.9992+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.9110+01	9.9871+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9353+01	9.9940+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9539+01	9.9974+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9684+01	9.9991+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9797+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9880+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	9.9939+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9976+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	9.9994+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0600+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (PLATE OUT), 200 DAYS, 1 WATT, PURE U-235

Figure 3.32

SOURCE 1 (PLATE OUT), 200 DAYS, 1 WATT, PURE U-235

Table 3.50

SOURCE 1 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	4.1293+08	2.5914+08	1.7119+08	3.9250+08	3.0325+08	8.5999+07	5.0329+07	1.6445+07	8.4679+06	1.1447+06
2	3.00000+01	8.9770+08	4.5291+08	2.2614+08	3.5733+08	2.5270+08	3.4875+07	1.6104+07	2.7060+06	2.9066+05	7.8162+03
3	4.50000+01	1.5802+09	8.8061+08	5.2162+08	3.8724+08	3.6103+08	2.7976+08	1.6430+08	2.9665+07	2.4577+06	2.6343+04
4	6.00000+01	2.3612+09	1.6527+09	1.3894+09	7.3278+08	4.7637+08	6.3945+07	1.8182+07	8.6275+06	3.9830+06	1.6225+05
5	7.50000+01	2.0995+09	1.4229+09	9.1983+08	1.5432+08	1.1093+08	6.7441+07	4.5577+07	2.6996+07	2.2397+07	1.8501+07
6	9.00000+01	4.3983+09	3.0640+09	1.5884+09	1.2793+08	8.3966+07	4.5835+07	3.5936+07	2.8232+07	2.2312+07	1.2580+06
7	1.05000+00	7.4268+08	5.0923+08	2.8888+08	4.1191+07	1.4069+07	2.9633+06	1.5465+06	4.1581+05	9.5752+04	1.0938+04
8	1.20000+00	9.4689+08	6.6703+08	4.2425+08	8.3123+07	2.5361+07	6.6680+05	1.2421+05	1.3007+04	7.5896+03	3.6363+03
9	1.35000+00	1.7273+09	8.3575+08	3.2034+08	1.0888+08	4.1179+07	1.9110+06	1.1355+05	3.2666+04	2.1213+04	6.5849+02
10	1.50000+00	8.6516+08	4.3656+08	1.8316+08	3.0769+07	8.9770+06	7.4656+05	2.3737+05	4.9443+04	4.3801+04	2.2889+04
11	1.65000+00	3.6665+08	1.9108+08	7.3889+07	2.6096+07	2.1503+07	1.8250+07	1.3309+07	4.4612+06	8.8781+05	1.1017+03
12	1.80000+00	3.7198+08	2.6264+08	2.0267+08	5.7595+07	1.6406+07	2.2387+04	2.9540+03	7.2241+02	6.4388+02	3.9433+02
13	1.95000+00	1.8337+08	1.2756+08	5.7250+07	3.0862+06	9.5676+05	9.5902+04	2.5914+04	8.9485+02	2.3707+02	8.1570+01
14	2.10000+00	8.9928+07	5.0422+07	2.0580+07	2.6814+06	8.3799+05	1.3314+05	3.8252+04	2.1791+03	6.1152+02	1.6314+02
15	2.25000+00	3.0210+07	2.0498+07	7.2751+06	3.5112+05	2.1400+05	1.6730+05	1.3659+05	1.1862+05	1.1076+05	5.7717+04
16	2.40000+00	1.2200+08	5.4956+07	5.7362+06	2.8283+05	1.9583+05	1.6404+05	1.1080+05	3.5738+04	7.4059+03	2.4471+02
17	2.55000+00	9.9191+07	5.4929+07	1.2810+07	6.7348+05	6.4317+05	5.9113+05	4.2898+05	1.4346+05	2.8657+04	1.2240+02
18	2.70000+00	9.6078+07	4.1721+07	2.0353+06	4.5788+05	1.6698+02	3.1375+01	2.4271+01	2.3031+01	2.1984+01	1.3547+01
19	2.85000+00	5.3732+07	2.0589+07	9.7581+05	2.3533+05	2.1045+02	6.0361+01	4.8525+01	4.6063+01	4.3968+01	2.7194+01
20	3.00000+00	4.0602+07	1.7620+07	6.3842+05	1.6258+04	1.2300+04	1.1369+04	8.2976+03	2.7955+03	5.7284+02	1.3597+01
21	3.15000+00	7.9725+06	5.3961+06	1.3082+06	6.0650+03	4.0984+03	3.7806+03	2.7574+03	9.2399+02	1.8359+02	1.3159+05
22	3.30000+00	6.0096+06	4.1200+06	1.0730+06	1.1993+03	2.2704+01	2.9875+01	2.0454+03	1.3074+10	2.1758+21	0.0000
23	3.45000+00	1.1687+07	7.6515+06	1.4378+06	1.6445+03	2.9876+01	2.9876+01	2.0450+03	1.3074+10	2.1758+21	0.0000
24	3.60000+00	6.9152+06	3.4438+06	7.9207+04	4.1470+02	5.0021+00	6.3634+08	2.0625+23	0.0000	0.0000	0.0000
25	3.75000+00	2.1169+06	1.1076+06	2.8777+05	2.0030+03	9.1302+00	1.1786+04	3.8198+25	0.0000	0.0000	0.0000
26	3.90000+00	1.3212+06	6.1525+05	3.1413+04	2.1765+02	9.8578+01	8.5012+15	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	1.5165+07	1.0613+07	2.7989+06	9.5186+01	7.3256+01	6.2855+09	2.0372+24	0.0000	0.0000	0.0000
28	4.20000+00	7.7045+07	1.6746+07	1.1662+05	6.5507+02	1.0083+08	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	1.0415+06	4.4196+05	3.8535+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	2.5369+06	1.4842+06	3.8826+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	7.6367+05	4.0448+05	4.4117+01	9.8596+01	5.0750+02	9.4282+10	3.0559+25	0.0000	0.0000	0.0000
32	4.80000+00	2.6609+04	1.7769+04	1.7585+01	4.0756+01	2.0721+00	3.8495+08	1.2477+23	0.0000	0.0000	0.0000
33	4.95000+00	9.4836+04	3.9663+03	1.2921+02	2.9579+00	1.5275+01	2.8285+09	9.1676+25	0.0000	0.0000	0.0000
34	5.10000+00	1.4024+05	6.8853+04	1.7987+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	4.3129+05	1.8434+05	5.0362+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	2.3263+05	1.1718+05	3.2016+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	1.4994+07	5.0209+06	2.0404+13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	1.2028+05	9.0043+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	1.8710+04	1.4007+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	4.3665+04	3.2689+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.51

SOURCE 1 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	3.0970+07	1.9436+07	1.2839+07	2.9437+07	2.2744+07	6.4500+06	3.7747+06	1.2334+06	6.3509+05	8.5849+04
2	3.00000+01	2.0198+08	1.0191+08	5.0881+07	8.0400+07	5.8857+07	7.8469+06	3.6234+06	6.0884+05	6.5398+04	1.7586+03
3	4.50000+01	5.9257+08	3.3023+08	1.9561+08	1.4521+08	1.3539+08	1.0491+08	6.1612+07	1.1102+07	9.2162+05	9.8787+03
4	6.00000+01	1.2396+09	8.6768+08	7.2944+08	3.8471+08	2.5010+08	3.3571+07	9.5453+06	4.5295+06	2.0911+06	8.5180+04
5	7.50000+01	1.4172+09	9.6047+08	6.2049+08	1.0417+08	7.4880+07	4.5522+07	3.0764+07	1.8222+07	1.5118+07	1.2488+07
6	9.00000+01	3.6286+09	2.5278+09	1.3104+09	1.0554+08	6.9272+07	3.7814+07	2.9647+07	2.3291+07	1.8407+07	1.0379+06
7	1.05000+00	7.2811+08	4.9650+08	2.8166+08	4.0161+07	1.3717+07	2.8893+06	1.5078+06	4.0541+05	9.3359+04	1.0665+04
8	1.20000+00	1.0652+09	7.5041+08	4.7728+08	9.3514+07	2.8531+07	7.5015+05	1.3974+05	1.4633+04	8.5383+03	4.0909+03
9	1.35000+00	2.2022+09	1.0656+09	4.0843+08	1.3832+08	5.2503+07	2.4365+06	1.4478+05	4.1649+04	2.7047+04	8.3957+02
10	1.50000+00	1.2329+09	6.2209+08	2.6100+08	4.3846+07	1.2792+07	1.0638+06	3.3825+05	7.0456+04	6.2417+04	3.2616+04
11	1.65000+00	5.7747+08	3.0096+08	1.1638+08	4.1101+07	3.3867+07	2.8744+07	2.0962+07	7.0264+06	1.3983+06	1.7352+03
12	1.80000+00	6.4167+08	4.5306+08	3.4960+08	9.9351+07	2.8300+07	3.8618+04	5.0956+03	1.2462+03	1.1107+03	6.8023+02
13	1.95000+00	3.4381+08	2.3917+08	1.0734+08	5.7866+06	1.7939+06	1.7982+05	4.8589+04	1.6778+03	4.4450+02	1.5294+02
14	2.10000+00	1.8210+08	1.0210+08	4.1674+07	5.4299+06	1.6969+06	2.6960+05	7.7460+04	4.4126+03	1.2383+03	3.3036+02
15	2.25000+00	6.5707+07	4.4582+07	1.5823+07	7.6369+05	4.6545+05	3.6387+05	2.9707+05	2.5800+05	2.4091+05	1.2553+05
16	2.40000+00	2.8364+08	1.2777+08	1.3337+07	6.5758+05	4.5531+05	3.8139+05	2.5761+05	3.3092+04	1.7219+04	5.6895+02
17	2.55000+00	2.4550+08	1.3595+08	3.1705+07	1.6669+06	1.5918+06	1.4630+06	1.0617+06	3.5505+05	7.0925+04	3.0295+02
18	2.70000+00	2.5221+08	1.0952+08	5.3427+06	1.2019+04	4.3833+02	8.2360+01	6.3711+01	6.0457+01	5.7708+01	3.5693+01
19	2.85000+00	1.4910+08	5.7134+07	2.7079+06	6.5305+03	5.8401+02	1.3466+02	1.3466+02	1.2782+02	1.2201+02	7.9464+01
20	3.00000+00	1.1876+08	5.1537+07	1.8674+06	4.7555+04	3.5979+04	3.3255+04	2.4271+04	8.1767+03	1.6756+03	3.9772+01
21	3.15000+00	2.4515+07	1.6593+07	4.0228+06	1.8650+04	1.2603+04	1.2655+04	8.4789+03	2.8413+03	5.6454+02	4.0463+05
22	3.30000+00	1.9381+07	1.3287+07	3.4603+06	3.8679+03	7.3219+01	9.6347+01	6.5963+03	4.2164+10	7.0169+21	0.0000
23	3.45000+00	3.9444+07	2.5824+07	4.8525+06	5.5502+03	8.9371+01	1.0083+00	6.9031+03	4.4125+10	7.3435+21	0.0000
24	3.60000+00	2.4376+07	1.2139+07	2.7921+05	1.4618+03	1.7633+01	2.2431+07	7.2702+23	0.0000	0.0000	0.0000
25	3.75000+00	7.7795+06	4.0705+06	1.0575+06	7.3612+03	3.3553+01	4.3314+09	1.4038+24	0.0000	0.0000	0.0000
26	3.90000+00	5.0536+06	2.3533+06	1.2016+05	8.3250+02	3.7706+00	3.2517+14	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	6.0279+07	4.2188+07	1.1126+07	3.7837+02	2.9119+00	2.4985+08	8.0980+24	0.0000	0.0000	0.0000
28	4.20000+00	1.9406+08	6.9076+07	4.8108+05	2.7022+01	4.1593+08	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	4.4526+06	1.8894+06	1.6474+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	1.1226+07	6.5676+06	1.7181+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	3.4938+06	1.8505+06	2.0183+02	4.5107+00	2.3218+01	4.3134+09	1.3981+24	0.0000	0.0000	0.0000
32	4.80000+00	1.2573+05	8.3959+04	8.1089+03	1.9021+02	9.7907+00	1.8189+07	5.8954+23	0.0000	0.0000	0.0000
33	4.95000+00	4.6233+05	1.9336+04	6.2989+02	1.4420+01	7.4222+01	1.3789+08	4.4692+24	0.0000	0.0000	0.0000
34	5.10000+00	7.0472+05	3.4599+05	9.0383+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	2.2319+06	9.5395+05	2.6063+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	1.2388+06	6.2400+05	1.7049+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	8.2093+07	2.7489+07	1.1171+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	6.7456+05	5.0649+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	1.0805+05	8.0889+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	2.5872+05	1.9368+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.52

SOURCE 1 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.9739+03	2.0260+03	2.5376+03	2.2298+02	2.8973+02	2.3477+02	2.3039+02	1.8338+02	1.6217+02	6.1821+01
2	3.00000+01	1.4847+02	1.2649+02	1.2594+02	8.3199+02	1.0140+01	5.2038+02	4.5154+02	2.7390+02	1.7887+02	6.3088+01
3	4.50000+01	5.2615+02	4.7071+02	5.1255+02	1.9320+01	2.7387+01	4.3389+01	4.2120+01	1.9245+01	4.1420+02	7.0201+01
4	6.00000+01	1.3162+01	1.3752+01	1.9542+01	4.8446+01	5.9246+01	5.5808+01	4.7946+01	2.5979+01	4.4815+02	1.3154+01
5	7.50000+01	2.2195+01	2.3764+01	3.1814+01	5.6351+01	6.7885+01	7.2178+01	6.6723+01	5.3071+01	4.8085+01	9.1247+01
6	9.00000+01	4.5321+01	5.0113+01	5.7713+01	6.4346+01	7.7610+01	8.5941+01	8.4818+01	8.7700+01	9.5087+01	9.8721+01
7	1.05000+00	4.9936+01	5.5288+01	6.3280+01	6.7388+01	7.9357+01	8.6993+01	8.5739+01	8.8302+01	9.5326+01	9.8797+01
8	1.20000+00	5.6726+01	6.3111+01	7.2713+01	7.4471+01	8.2992+01	8.7266+01	8.5824+01	8.8324+01	9.5348+01	9.8827+01
9	1.35000+00	7.0762+01	7.4218+01	8.0786+01	8.4948+01	8.9680+01	8.8153+01	8.5912+01	8.8386+01	9.5417+01	9.8833+01
10	1.50000+00	7.8619+01	8.0703+01	8.5944+01	8.8270+01	9.1310+01	8.8540+01	8.6119+01	8.8491+01	9.5576+01	9.9086+01
11	1.65000+00	8.2300+01	8.3840+01	8.8244+01	9.1383+01	9.5624+01	9.9002+01	9.8913+01	9.8937+01	9.9146+01	9.9080+01
12	1.80000+00	8.6390+01	8.8562+01	9.5154+01	9.8909+01	9.9279+01	9.9016+01	9.8916+01	9.8939+01	9.9149+01	9.9085+01
13	1.95000+00	8.8581+01	9.1055+01	9.7275+01	9.9347+01	9.9457+01	9.9082+01	9.8946+01	9.8942+01	9.9150+01	9.9086+01
14	2.10000+00	8.9742+01	9.2120+01	9.8099+01	9.9758+01	9.9674+01	9.9180+01	9.8993+01	9.8948+01	9.9154+01	9.9089+01
15	2.25000+00	9.0160+01	9.2585+01	9.8412+01	9.9816+01	9.9733+01	9.9312+01	9.9175+01	9.9332+01	9.9769+01	9.9993+01
16	2.40000+00	9.1968+01	9.3916+01	9.8675+01	9.9866+01	9.9791+01	9.9451+01	9.9332+01	9.9455+01	9.9813+01	9.9997+01
17	2.55000+00	9.3533+01	9.5334+01	9.9302+01	9.9929+01	9.9994+01	9.9984+01	9.9980+01	9.9983+01	9.9994+01	9.9999+01
18	2.70000+00	9.5140+01	9.6475+01	9.9407+01	9.9993+01	9.9994+01	9.9984+01	9.9980+01	9.9983+01	9.9994+01	9.9999+01
19	2.85000+00	9.6091+01	9.7071+01	9.9461+01	9.9994+01	9.9994+01	9.9984+01	9.9980+01	9.9984+01	9.9994+01	1.0000+01
20	3.00000+00	9.6847+01	9.7608+01	9.9498+01	9.9997+01	9.9998+01	9.9996+01	9.9995+01	9.9996+01	9.9999+01	1.0000+01
21	3.15000+00	9.7004+01	9.7781+01	9.9577+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+01
22	3.30000+00	9.7127+01	9.7919+01	9.9646+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+01
23	3.45000+00	9.7379+01	9.8189+01	9.9742+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+01
24	3.60000+00	9.7534+01	9.8315+01	9.9747+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+01
25	3.75000+00	9.7584+01	9.8358+01	9.9768+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+01
26	3.90000+00	9.7616+01	9.8382+01	9.9770+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+01
27	4.05000+00	9.8000+01	9.8822+01	9.9990+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+01
28	4.20000+00	9.9237+01	9.9542+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+01
29	4.35000+00	9.9265+01	9.9562+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+01
30	4.50000+00	9.9377+01	9.9630+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+01
31	4.65000+00	9.9359+01	9.9648+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+01
32	4.80000+00	9.9360+01	9.9650+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+01
33	4.95000+00	9.9363+01	9.9650+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+01
34	5.10000+00	9.9367+01	9.9654+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+01
35	5.25000+00	9.9381+01	9.9664+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+01
36	5.40000+00	9.9389+01	9.9670+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+01
37	5.55000+00	9.9391+01	9.9675+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+01
38	5.70000+00	9.9391+01	9.9675+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+01
39	5.85000+00	9.9391+01	9.9675+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+01
40	6.00000+00	9.9391+01	9.9675+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+01

SOURCE 1 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235

SOURCE 1 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235

Figure 3.35

Table 3.53

SOURCE 1 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	4.3554+09	2.3553+09	1.8003+09	1.1641+09	9.1514+08	5.0337+08	3.2733+08	1.4088+08	9.3848+07	4.7209+07
2	6.00000+01	3.2178+09	1.7044+09	1.1638+09	5.8951+08	3.9276+08	1.1416+08	6.7969+07	2.8870+07	1.6944+07	9.4435+06
3	9.00000+01	2.1478+09	1.0984+09	6.5308+08	2.5587+08	1.5793+08	3.1899+07	1.9093+07	1.3770+07	1.0435+07	5.0210+06
4	1.20000+00	1.2345+09	5.8671+08	2.6552+08	7.1571+07	4.4664+07	1.5166+07	1.1721+07	9.8954+06	8.3774+06	4.8438+06
5	1.50000+00	7.7288+08	3.3044+08	1.0001+08	1.5452+07	1.0271+07	7.0416+06	6.6041+06	6.1633+06	5.7133+06	4.0495+06
6	1.80000+00	5.7449+08	2.2535+08	4.9806+07	7.9905+06	5.6004+06	4.1881+06	4.0440+06	3.9514+06	3.8031+06	2.7894+06
7	2.10000+00	4.3577+08	1.5811+08	2.4581+07	4.5128+06	3.1451+06	2.4103+06	2.3585+06	2.3138+06	2.2088+06	1.4272+06
8	2.40000+00	3.2450+08	1.0899+08	1.0398+07	2.2838+06	1.5252+06	1.1479+06	1.1313+06	1.1068+06	1.0412+06	5.4123+05
9	2.70000+00	2.5214+08	8.1124+07	5.2820+06	1.0538+06	6.5848+05	5.0820+05	5.0124+05	4.9001+05	4.6012+05	2.3149+05
10	3.00000+00	1.9994+08	6.3063+07	3.2090+06	3.2985+05	1.4524+05	1.0877+05	1.0740+05	1.0524+05	9.9182+04	5.1862+04
11	3.30000+00	1.5251+08	4.7191+07	2.0324+06	1.0679+05	2.6281+04	1.4214+04	1.4042+04	1.3860+04	1.3205+04	7.6847+03
12	3.60000+00	1.1003+08	3.3149+07	1.1769+06	2.0694+04	3.9153+03	1.5587+03	1.5276+03	1.5078+03	1.4365+03	8.3597+02
13	3.90000+00	7.6750+07	2.2339+07	6.6744+05	1.9413+03	1.2490+02	3.6058+00	2.5184+02	1.6715+09	2.7765+20	0.0000
14	4.20000+00	5.2584+07	1.4713+07	3.5053+05	1.2735+03	5.8235+01	1.8246+02	1.2743+04	8.4577+12	1.4049+22	0.0000
15	4.50000+00	3.5621+07	9.4677+06	1.2561+05	7.6693+02	3.7675+01	6.4921+07	2.1465+22	0.0000	0.0000	0.0000
16	4.80000+00	2.4623+07	6.2130+06	2.3581+04	3.9313+02	1.9879+01	3.4353+07	1.1358+22	0.0000	0.0000	0.0000
17	5.10000+00	1.6790+07	4.0443+06	5.9526+03	1.3170+02	6.6596+00	1.1508+07	3.8051+23	0.0000	0.0000	0.0000
18	5.40000+00	1.0914+07	2.5152+06	4.4072+02	9.7595+00	4.9351+01	8.5283+09	2.8198+24	0.0000	0.0000	0.0000
19	5.70000+00	6.1973+06	1.3263+06	6.9879+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	2.9645+06	5.3411+05	2.8947+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.5148+06	2.1107+05	4.9759+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	9.4906+05	1.2074+05	1.2787+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	5.0310+05	5.5462+04	2.1399+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	1.8893+05	1.3427+04	5.1892+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	4.1281+04	2.2316+02	8.5985+18	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.54

SOURCE 1 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	6.5331+08	3.5329+08	2.7004+08	1.7461+08	1.3727+08	7.5505+07	4.9099+07	2.1131+07	1.4077+07	7.0813+06
2	6.00000+01	1.4480+09	7.6698+08	5.2372+08	2.6528+08	1.7674+08	5.1371+07	3.0586+07	1.2991+07	7.6246+06	4.2496+06
3	9.00000+01	1.6109+09	8.2379+08	4.8981+08	1.9190+08	1.1845+08	2.3924+07	1.4320+07	1.0327+07	7.8264+06	3.7658+06
4	1.20000+00	1.2962+09	6.1604+08	2.7879+08	7.5150+07	4.6897+07	1.5924+07	1.2307+07	1.0390+07	8.7963+06	5.0859+06
5	1.50000+00	1.0434+09	4.4609+08	1.3501+08	2.0861+07	1.3866+07	9.5061+06	8.9156+06	8.3205+06	7.7129+06	5.4668+06
6	1.80000+00	9.4791+08	3.7182+08	8.2180+07	1.3184+07	9.2407+06	6.9104+06	6.6726+06	6.5197+06	6.2751+06	4.6026+06
7	2.10000+00	8.4975+08	3.0831+08	4.7934+07	8.7999+06	6.1330+06	4.7001+06	4.5990+06	4.5119+06	4.3071+06	2.7830+06
8	2.40000+00	7.3013+08	2.4524+08	2.3396+07	5.1384+06	3.4317+06	2.5629+06	2.5454+06	2.4902+06	2.3428+06	1.2178+06
9	2.70000+00	6.4297+08	2.0687+08	1.3469+07	2.6872+06	1.6791+06	1.2959+06	1.2782+06	1.2495+06	1.1733+06	5.9029+05
10	3.00000+00	5.6982+08	1.7973+08	9.1457+06	9.4008+05	4.1393+05	3.1000+05	3.0608+05	2.9994+05	2.8287+05	1.4781+05
11	3.30000+00	4.8042+08	1.4865+08	6.4020+06	3.3640+05	8.2786+04	4.4774+04	4.4231+04	4.3660+04	4.1596+04	2.4207+04
12	3.60000+00	3.7961+08	1.1436+08	4.0604+06	7.1396+04	1.3508+04	5.3776+03	5.2702+03	5.2019+03	4.9560+03	2.8841+03
13	3.90000+00	2.8781+08	8.3769+07	2.5029+06	7.2798+03	4.6836+02	1.3522+01	9.4439+02	6.2681+09	1.0412+14	0.0000
14	4.20000+00	2.1296+08	5.9586+07	1.4197+06	5.1577+03	2.3585+02	7.3897+02	5.1609+04	3.4254+11	5.6898+22	0.0000
15	4.50000+00	1.5495+08	4.1184+07	5.4640+05	3.3362+03	1.6389+02	2.8241+06	9.3374+22	0.0000	0.0000	0.0000
16	4.80000+00	1.1450+08	2.8890+07	1.0965+05	1.8280+03	9.2438+01	1.5974+06	5.2816+22	0.0000	0.0000	0.0000
17	5.10000+00	8.3110+07	2.0019+07	2.9465+04	6.5190+02	3.2965+01	5.6966+07	1.8835+22	0.0000	0.0000	0.0000
18	5.40000+00	5.7301+07	1.3205+07	2.3138+03	5.1237+01	2.5909+00	4.4773+08	1.4804+23	0.0000	0.0000	0.0000
19	5.70000+00	3.4395+07	7.3612+06	3.8744+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	1.7343+07	3.1265+06	1.6934+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	9.3161+06	1.2981+06	3.0627+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	6.1215+06	7.7875+05	8.2479+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	3.3959+06	3.7437+05	1.4444+14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	1.3319+06	9.4662+04	3.6584+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	3.0342+05	1.6402+03	6.3199+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.55

SOURCE 1 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E(MFV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000-01	5.6149-02	7.2982-02	1.4299-01	2.3006-01	2.6695-01	3.9309-01	3.7573-01	2.6994-01	2.3282-01	2.0222-01
2	6.00000-01	1.8060-01	2.3142-01	4.2030-01	5.7958-01	6.1065-01	6.6054-01	6.0978-01	4.3590-01	3.5892-01	3.2357-01
3	9.00000-01	3.1905-01	4.0159-01	6.7965-01	8.3242-01	8.4100-01	7.8509-01	7.1936-01	5.6783-01	4.8355-01	4.3111-01
4	1.20000+00	4.3045-01	5.2885-01	8.2727-01	9.3144-01	9.3220-01	8.6800-01	8.1354-01	7.0056-01	6.3383-01	5.7635-01
5	1.50000+00	5.2013-01	6.2100-01	8.9876-01	9.5892-01	9.5917-01	9.1749-01	8.8176-01	8.0685-01	7.6139-01	7.3246-01
6	1.80000+00	6.0160-01	6.9781-01	9.4228-01	9.7629-01	9.7714-01	9.5346-01	9.3283-01	8.9013-01	8.6517-01	8.6390-01
7	2.10000+00	6.7463-01	7.6150-01	9.6766-01	9.8789-01	9.8907-01	9.7793-01	9.6802-01	9.4777-01	9.3640-01	9.4337-01
8	2.40000+00	7.3738-01	8.1216-01	9.8004-01	9.9466-01	9.9574-01	9.9138-01	9.8750-01	9.7958-01	9.7515-01	9.7815-01
9	2.70000+00	7.9264-01	8.5490-01	9.8718-01	9.9820-01	9.9901-01	9.9812-01	9.9728-01	9.9554-01	9.9456-01	9.9501-01
10	3.00000+00	8.4161-01	8.9202-01	9.9202-01	9.9944-01	9.9981-01	9.9974-01	9.9962-01	9.9938-01	9.9923-01	9.9923-01
11	3.30000+00	8.8290-01	9.2273-01	9.9541-01	9.9988-01	9.9997-01	9.9997-01	9.9996-01	9.9993-01	9.9992-01	9.9992-01
12	3.60000+00	9.1553-01	9.4636-01	9.9756-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.4027-01	9.6366-01	9.9888-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.5857-01	9.7597-01	9.9964-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.7189-01	9.8448-01	9.9993-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.8173-01	9.9044-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.8887-01	9.9458-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9379-01	9.9731-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9675-01	9.9883-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9824-01	9.9947-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9904-01	9.9974-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	9.9957-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9986-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235

Figure 3.36

Figure 3.37

X - 1 minute
O - 1 hour
□ - 1 day
• - 30 days

Table 3.56

SOURCE 1 (WATER), 5000 DAYS, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

-----COOLING TIMES-----											
GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	4.1300+08	2.5912+08	1.7115+08	3.9219+08	3.0287+08	8.5750+07	5.0031+07	1.6158+07	8.2083+06	1.1123+06
2	3.00000+01	8.9785+08	4.5288+08	2.2609+08	3.5705+08	2.5238+08	3.4774+07	1.6008+07	2.6585+06	2.8153+05	7.4108+03
3	4.50000+01	1.5805+09	8.8054+08	5.2151+08	3.8693+08	3.6058+08	2.7895+08	1.6332+08	2.9089+07	2.3815+06	2.4816+04
4	6.00000+01	2.3616+09	1.6526+09	1.3891+09	7.3220+08	4.7577+08	6.3758+07	1.8072+07	8.4755+06	3.8593+06	1.5622+05
5	7.50000+01	2.0820+09	1.4161+09	9.0739+08	1.4197+08	9.8519+07	5.4717+07	3.3047+07	1.4579+07	9.8326+06	5.1618+06
6	9.00000+01	4.3990+09	3.0637+09	1.5880+09	1.2782+08	8.3852+07	4.5695+07	3.5716+07	2.7734+07	2.1623+07	1.2179+06
7	1.05000+00	7.4281+08	5.0918+08	2.8882+08	4.1157+07	1.4050+07	2.9535+06	1.5365+06	4.0823+05	9.2700+04	1.0576+04
8	1.20000+00	9.4705+08	6.6698+08	4.2416+08	8.3058+07	2.5329+07	6.6475+05	1.2335+05	1.2663+04	7.2426+03	3.4391+03
9	1.35000+00	1.7276+09	8.3568+08	3.2027+08	1.0840+08	4.1127+07	1.9052+06	1.1268+05	3.2030+04	2.0550+04	6.4002+02
10	1.50000+00	8.6532+08	4.3652+08	1.8312+08	3.0745+07	8.9655+06	7.4418+05	2.3575+05	4.8378+04	4.2262+04	2.2082+04
11	1.65000+00	3.6671+08	1.9107+08	7.3872+07	2.6074+07	2.1474+07	1.8197+07	1.3231+07	4.3836+06	8.6065+05	1.0707+05
12	1.80000+00	3.7205+08	2.6262+08	2.0262+08	5.7549+07	1.6385+07	2.2323+04	2.9364+03	7.0978+02	6.2410+02	3.8324+02
13	1.95000+00	1.8340+08	1.2755+08	5.7238+07	3.0837+06	9.5556+05	9.5625+04	2.5761+04	8.7927+02	2.2980+02	7.9273+01
14	2.10000+00	8.9944+07	5.0418+07	2.0575+07	2.6793+06	8.3694+05	1.3275+05	3.8025+04	2.1411+03	5.9279+02	1.5855+02
15	2.25000+00	3.0215+07	2.0496+07	7.2735+06	3.5085+05	2.1373+05	1.6681+05	1.3578+05	1.1655+05	1.0737+05	5.6047+04
16	2.40000+00	1.2202+08	5.4952+07	5.7350+06	2.8267+05	1.9558+05	1.6356+05	1.1014+05	3.5116+04	7.1792+03	2.3782+03
17	2.55000+00	9.9208+07	5.4924+07	1.2807+07	6.7291+05	6.4232+05	5.8941+05	4.2643+05	1.4096+05	2.7780+04	1.1896+04
18	2.70000+00	9.6095+07	4.1718+07	2.0349+06	4.5752+03	1.6677+02	3.1283+01	2.4125+01	2.2629+01	2.1309+01	1.3215+01
19	2.85000+00	5.3741+07	2.0587+07	9.7560+05	2.3515+03	2.1018+02	6.0182+01	4.4234+01	4.5257+01	4.2619+01	2.6429+01
20	3.00000+00	4.0610+07	1.7613+07	6.3829+05	1.6245+04	1.2284+04	1.1336+04	8.2485+03	2.7468+03	1.7797+02	1.3215+01
21	3.15000+00	7.9739+06	5.3957+06	1.3080+06	6.0600+03	4.0930+03	3.7696+03	2.7410+03	9.0791+02	1.5991+02	1.2789+01
22	3.30000+00	6.0106+06	4.1197+06	1.0727+06	1.1984+03	2.2675+01	2.9789+01	2.0333+03	1.2847+10	2.1092+21	0.0000
23	3.45000+00	1.1689+07	7.6509+06	1.0375+06	1.6432+03	2.6407+01	2.9790+01	2.0333+03	1.2847+10	2.1092+21	0.0000
24	3.60000+00	6.9164+06	3.4435+06	7.9191+04	4.1438+02	4.9959+00	6.3450+08	2.0503+23	0.0000	0.0000	0.0000
25	3.75000+00	2.1172+06	1.1375+06	2.8771+05	2.0015+03	9.1187+00	1.1752+09	3.7972+25	0.0000	0.0000	0.0000
26	3.90000+00	1.3214+06	6.1521+05	3.1407+04	2.1748+02	9.8454+01	8.4767+15	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	1.5167+07	1.0613+07	2.7983+06	9.5112+01	7.3164+01	6.2673+09	2.0252+24	0.0000	0.0000	0.0000
28	4.20000+00	4.7053+07	1.6744+07	1.1660+05	6.5455+02	1.0070+08	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	1.0417+06	4.4192+05	3.8527+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	2.5374+06	1.4841+06	3.8818+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	7.6381+05	4.0445+05	4.4108+01	9.8518+01	5.0686+02	9.4010+10	3.0378+25	0.0000	0.0000	0.0000
32	4.80000+00	2.6614+04	1.7768+04	1.7581+03	4.0225+01	2.0695+00	3.8384+08	1.2403+23	0.0000	0.0000	0.0000
33	4.95000+00	9.4853+04	3.9660+04	1.2918+02	2.9556+00	1.5206+01	2.8203+09	9.1133+25	0.0000	0.0000	0.0000
34	5.10000+00	1.4027+05	6.8848+04	1.7983+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	4.3137+05	1.8432+05	5.0352+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	2.3267+05	1.1717+05	3.2009+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	1.4997+07	5.0204+06	2.0399+13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	1.2030+05	9.0036+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	1.8713+04	1.4006+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	4.3673+04	3.7688+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3-95

Table 3.57

SOURCE 1 (WATER), 5000 DAYS, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	3.0975+07	1.9434+07	1.2836+07	2.9414+07	2.2715+07	6.4313+06	3.7523+06	1.2119+06	6.1563+05	8.3420+04
2	3.00000+01	2.0202+08	1.0190+08	5.0370+07	8.0337+07	5.6785+07	7.8240+06	3.6018+06	5.9817+05	6.3343+04	1.6674+03
3	4.50000+01	5.9267+08	3.3020+08	1.9557+08	1.4510+08	1.3522+08	1.0461+08	6.1247+07	1.0908+07	8.9308+05	9.3062+03
4	6.00000+01	1.2399+09	8.6761+08	7.2929+08	3.8041+08	2.9978+08	3.3473+07	9.0877+06	4.4496+06	2.0261+06	8.2015+04
5	7.50000+01	1.4054+09	9.5181+08	6.1249+08	9.5830+07	6.6500+07	3.6934+07	2.2307+07	9.8411+06	6.6370+06	3.4842+06
6	9.00000+01	3.6292+09	2.5276+09	1.3101+09	1.0545+08	6.9178+07	3.7698+07	2.9466+07	2.2881+07	1.7839+07	1.0048+06
7	1.05000+00	7.2424+08	4.9646+08	2.8160+08	4.0124+07	1.3698+07	2.8797+06	1.4980+06	3.9802+05	9.0382+04	1.0311+04
8	1.20000+00	1.0654+09	7.5035+08	4.7718+08	9.3441+07	2.8495+07	7.4784+05	1.3877+05	1.4245+04	8.1479+03	3.8690+03
9	1.35000+00	2.2026+09	1.0655+09	4.0835+08	1.3A21+0A	5.2437+07	2.4292+06	1.4366+05	4.0839+04	2.6202+04	8.1802+02
10	1.50000+00	1.2331+09	6.2204+08	2.6094+08	4.3A11+07	1.2776+07	1.0605+06	3.3594+05	6.8938+04	6.0224+04	3.1466+04
11	1.65000+00	5.7757+08	3.0093+08	1.1635+08	4.1067+07	3.3822+07	2.8660+07	2.0838+07	6.9041+06	1.3555+06	1.6864+03
12	1.80000+00	6.4179+08	4.5303+08	3.4952+08	9.9273+07	2.8265+07	3.8506+04	5.0653+03	1.2244+03	1.0766+03	6.6109+02
13	1.95000+00	3.4387+08	2.3915+08	1.0732+08	5.7820+06	1.7917+06	1.7930+05	4.8302+04	1.6486+03	4.3088+02	1.4864+02
14	2.10000+00	1.8214+08	1.0210+08	4.1665+07	5.4256+06	1.6948+06	2.6882+05	7.7001+04	4.3358+03	1.2004+03	3.2106+02
15	2.25000+00	6.5714+07	4.4579+07	1.5870+07	7.6309+05	4.6486+05	3.6282+05	2.9531+05	2.5351+05	2.3354+05	1.2201+05
16	2.40000+00	2.8369+08	1.2776+08	1.3334+07	6.5704+05	4.5472+05	3.8029+05	2.5609+05	8.1646+04	1.6692+04	5.5294+02
17	2.55000+00	2.4554+08	1.3594+08	3.1698+07	1.6654+06	1.5897+06	1.4588+06	1.0554+06	3.0887+05	6.8755+04	2.9443+02
18	2.70000+00	2.5225+08	1.0951+08	5.3416+06	1.2010+04	4.3778+02	8.2117+01	6.3328+01	5.9400+01	5.5937+01	3.4689+01
19	2.85000+00	1.4913+08	5.7130+07	2.7073+06	6.5250+03	5.8326+02	1.6701+02	1.3385+02	1.2559+02	1.1827+02	7.3341+01
20	3.00000+00	1.1878+08	5.1533+07	1.8670+06	4.7515+04	3.5932+04	3.3158+04	2.4127+04	8.0344+03	1.6243+03	3.8653+01
21	3.15000+00	2.4520+07	1.6592+07	4.0220+06	1.8634+04	1.2586+04	1.1591+04	8.4287+03	2.7918+03	5.4726+02	3.9328+05
22	3.30000+00	1.93A4+07	1.3286+07	3.4596+06	3.8644+03	7.3127+01	9.6069+01	6.5573+03	4.1430+10	6.8022+21	0.0000
23	3.45000+00	3.9451+07	2.5822+07	4.8515+06	5.5458+03	8.2594+01	1.0054+00	6.8623+03	4.3357+10	7.1186+21	0.0000
24	3.60000+00	2.43A0+07	1.2138+07	2.7915+05	1.4607+03	1.7610+01	2.2366+07	7.2722+23	0.0000	0.0000	0.0000
25	3.75000+00	7.7A09+06	4.3702+06	1.0573+06	7.3554+03	3.3511+01	4.3189+09	1.3955+24	0.0000	0.0000	0.0000
26	3.90000+00	5.0545+06	2.3532+06	1.2013+05	8.3184+02	3.7659+00	3.2423+14	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	6.0290+07	4.2185+07	1.1123+07	3.7A07+02	2.9083+00	2.4913+08	8.0501+24	0.0000	0.0000	0.0000
28	4.20000+00	1.9409+08	6.9070+07	4.8098+05	2.7000+01	4.1541+08	3.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	4.4534+06	1.8892+06	1.6470+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	1.122A+07	6.5671+06	1.7177+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	3.4044+0A	1.8503+06	2.0179+02	4.5072+00	2.3189+01	4.3010+09	1.3894+24	0.0000	0.0000	0.0000
32	4.80000+00	1.2675+05	8.3952+04	8.1072+03	1.900A+02	9.77A4+00	1.8136+07	5.8605+23	0.0000	0.0000	0.0000
33	4.95000+00	4.6241+05	1.9334+04	6.2976+02	1.440A+01	7.4128+01	1.3749+08	4.4427+24	0.0000	0.0000	0.0000
34	5.10000+00	7.0A85+05	3.4596+05	9.0364+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	2.2323+0A	9.5387+05	2.6057+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	1.2390+0A	6.2345+05	1.7045+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	A.210A+07	2.7487+07	1.11A9+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	6.766A+05	5.0645+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	1.0807+05	8.08A2+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	2.5A7A+05	1.9367+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.58

SOURCE 1 (WATER), 5000 DAYS, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	-----COOLING TIMES-----										
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	1.50000+01	1.9754+03	2.0278+03	2.5417+03	2.2439+02	2.9283+02	2.4225+02	2.4273+02	2.0888+02	2.0563+02	1.7244+02	
2	3.00000+01	1.4859+02	1.2660+02	1.2614+02	8.3724+02	1.0249+01	5.3696+02	4.7573+02	3.1198+02	2.2679+02	1.7588+02	
3	4.50000+01	5.2655+02	4.7113+02	5.1338+02	1.9441+01	2.7680+01	4.4773+01	4.4377+01	2.1921+01	5.2509+02	1.9512+02	
4	6.00000+01	1.3172+01	1.3764+01	1.9574+01	4.8766+01	5.9880+01	5.7381+01	5.0515+01	2.9591+01	1.2018+01	3.6466+02	
5	7.50000+01	2.2135+01	2.3695+01	3.1702+01	5.6076+01	6.8453+01	7.1294+01	6.4945+01	4.6553+01	3.4187+01	7.5669+01	
6	9.00000+01	4.5279+01	5.0068+01	5.7644+01	6.4121+01	7.7371+01	8.5494+01	8.4006+01	8.5990+01	9.3772+01	1.6439+01	
7	1.05000+00	4.9898+01	5.5248+01	6.3220+01	6.7182+01	7.9137+01	8.6578+01	8.4975+01	8.6676+01	9.4074+01	9.6652+01	
8	1.20000+00	5.6692+01	6.3077+01	7.2668+01	7.4310+01	8.2810+01	8.6860+01	8.5065+01	8.6700+01	9.4101+01	9.6732+01	
9	1.35000+00	7.0739+01	7.4195+01	8.0754+01	8.4854+01	8.9570+01	8.7775+01	8.5158+01	8.6771+01	9.4189+01	9.6749+01	
10	1.50000+00	7.8603+01	8.0685+01	8.5921+01	8.8196+01	9.1217+01	8.8175+01	8.5375+01	8.6890+01	9.4390+01	9.7399+01	
11	1.65000+00	8.2286+01	8.3825+01	8.8225+01	9.1329+01	9.5577+01	9.8970+01	9.8855+01	9.8790+01	9.8918+01	9.7434+01	
12	1.80000+00	8.6379+01	8.8552+01	9.5146+01	9.8902+01	9.9221+01	9.8985+01	9.8858+01	9.8792+01	9.8921+01	9.7448+01	
13	1.95000+00	8.8572+01	9.1047+01	9.7271+01	9.9343+01	9.9452+01	9.9052+01	9.8890+01	9.8795+01	9.8923+01	9.7451+01	
14	2.10000+00	8.9734+01	9.2113+01	9.8096+01	9.9757+01	9.9670+01	9.9154+01	9.8939+01	9.8802+01	9.8927+01	9.7457+01	
15	2.25000+00	9.0153+01	9.2578+01	9.8409+01	9.9815+01	9.9730+01	9.9290+01	9.9130+01	9.9239+01	9.9707+01	9.9979+01	
16	2.40000+00	9.1962+01	9.3911+01	9.8673+01	9.9865+01	9.9789+01	9.9434+01	9.9296+01	9.9380+01	9.9763+01	9.9991+01	
17	2.55000+00	9.3528+01	9.5329+01	9.9301+01	9.9992+01	9.9994+01	9.9983+01	9.9979+01	9.9981+01	9.9992+01	9.9997+01	
18	2.70000+00	9.5136+01	9.6472+01	9.9406+01	9.9993+01	9.9994+01	9.9983+01	9.9979+01	9.9981+01	9.9992+01	9.9998+01	
19	2.85000+00	9.6088+01	9.7068+01	9.9460+01	9.9993+01	9.9994+01	9.9983+01	9.9979+01	9.9981+01	9.9993+01	9.9999+01	
20	3.00000+00	9.6845+01	9.7606+01	9.9497+01	9.9997+01	9.9998+01	9.9998+01	9.9995+01	9.9995+01	9.9995+01	1.0000+00	
21	3.15000+00	9.7001+01	9.7779+01	9.9577+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
22	3.30000+00	9.7125+01	9.7918+01	9.9645+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
23	3.45000+00	9.7377+01	9.8187+01	9.9741+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
24	3.60000+00	9.7532+01	9.8314+01	9.9747+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
25	3.75000+00	9.7582+01	9.8356+01	9.9768+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
26	3.90000+00	9.7614+01	9.8381+01	9.9770+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
27	4.05000+00	9.7998+01	9.8821+01	9.9990+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
28	4.20000+00	9.9236+01	9.9541+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
29	4.35000+00	9.9265+01	9.9561+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
30	4.50000+00	9.9336+01	9.9630+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
31	4.65000+00	9.9359+01	9.9649+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
32	4.80000+00	9.9359+01	9.9650+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
33	4.95000+00	9.9362+01	9.9650+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
34	5.10000+00	9.9367+01	9.9654+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
35	5.25000+00	9.9381+01	9.9664+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
36	5.40000+00	9.9389+01	9.9670+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
37	5.55000+00	9.9913+01	9.9957+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
38	5.70000+00	9.9917+01	9.9957+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
39	5.85000+00	9.9918+01	9.9957+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
40	6.00000+00	9.9919+01	9.9957+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	

SOURCE 1 (WATER), 5000 DAYS, 1 WATT, PURE U-235

SOURCE 1 (WATER), 5000 DAYS, 1 WATT, PURE U-235

Figure 3-39

Table 3.59

SOURCE 1 (WATER), 5000 DAYS, 1 WATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

-----COOLING TIMES-----											
GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	4.3127+09	2.3290+09	1.7754+09	1.1392+09	8.9008+08	4.7653+08	3.0065+08	1.1559+08	6.8976+07	2.3101+07
2	6.00000+01	3.2100+09	1.6980+09	1.1574+09	5.8290+08	3.8606+08	1.0737+08	6.1105+07	2.2481+07	1.0689+07	3.2826+06
3	9.00000+01	2.1453+09	1.0956+09	6.5019+08	2.5288+08	1.5492+08	2.8995+07	1.6226+07	1.0858+07	7.5346+06	2.2075+06
4	1.20000+00	1.2310+09	5.8193+08	2.6280+08	6.8887+07	4.2001+07	1.2580+07	9.1203+06	7.2261+06	5.6953+06	2.2084+06
5	1.40000+00	7.6974+08	3.2819+08	9.7835+07	1.3341+07	8.1860+06	5.0250+06	4.5681+06	4.0672+06	3.5973+06	1.9443+06
6	1.80000+00	5.7270+08	2.2397+08	4.8469+07	6.6912+06	4.3171+06	2.9474+06	2.7403+06	2.6575+06	2.4935+06	1.4857+06
7	2.10000+00	4.3546+08	1.5763+08	2.4094+07	4.0379+06	2.6755+06	1.9501+06	1.8895+06	1.8261+06	1.7126+06	9.4170+05
8	2.40000+00	3.2493+08	1.0900+08	1.0366+07	2.2510+06	1.4922+06	1.1088+06	1.0873+06	1.0571+06	9.8816+05	4.9814+05
9	2.70000+00	2.5252+08	8.1152+07	5.2822+06	1.0531+06	6.5750+05	5.0370+05	4.9454+05	4.8107+05	4.4970+05	2.2578+05
10	3.00000+00	2.0024+08	6.3084+07	3.2092+06	3.2963+05	1.4502+05	1.0780+05	1.0596+05	1.0312+05	9.6913+04	5.0583+04
11	3.30000+00	1.5274+08	4.7207+07	2.0325+06	1.0672+05	2.6241+04	1.4087+04	1.3853+04	1.3607+04	1.2905+04	7.4949+03
12	3.60000+00	1.1020+08	3.3160+07	1.1770+06	2.0680+04	3.7094+03	1.5448+03	1.5071+03	1.4802+03	1.4039+03	8.1532+02
13	3.90000+00	7.6866+07	2.2346+07	6.6747+05	1.9400+03	1.2471+02	3.5738+00	2.4847+02	1.6410+09	2.7136+20	0.0000
14	4.20000+00	5.2663+07	1.4718+07	3.5055+05	1.2727+03	5.8149+01	1.8085+02	1.2573+04	8.3036+12	1.3731+22	0.0000
15	4.50000+00	3.5675+07	9.4709+06	1.2561+05	7.6642+02	3.7616+01	6.4346+07	2.1179+22	0.0000	0.0000	0.0000
16	4.80000+00	2.4660+07	6.2151+06	2.3582+04	3.9286+02	1.9850+01	3.4049+07	1.1207+22	0.0000	0.0000	0.0000
17	5.10000+00	1.6815+07	4.0457+06	5.9529+03	1.3161+02	6.6498+00	1.1406+07	3.7542+23	0.0000	0.0000	0.0000
18	5.40000+00	1.0931+07	2.5160+06	4.4074+02	9.7529+00	4.9279+01	8.4528+09	2.7821+24	0.0000	0.0000	0.0000
19	5.70000+00	6.2067+06	1.3268+06	6.9812+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	2.9690+06	5.3429+05	2.8948+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.5171+06	2.1114+05	4.9802+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	9.5050+05	1.2078+05	1.2788+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	5.0386+05	5.5481+04	2.1400+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	1.8927+05	1.3432+04	5.1895+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	4.1344+04	2.2323+02	8.5989+18	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3-100

Table 3.60

SOURCE 1 (WATER), 5000 DAYS, 1 WATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	6.4690+08	3.4935+08	2.6631+08	1.7088+08	1.3351+08	7.1480+07	4.5097+07	1.7339+07	1.0346+07	3.4652+06
2	6.00000+01	1.4445+09	7.6409+08	5.2085+08	2.6231+08	1.7373+08	4.8318+07	2.7587+07	1.0117+07	4.8102+06	1.4772+06
3	9.00000+01	1.6090+09	8.7169+08	4.8765+08	1.8966+08	1.1619+08	2.1746+07	1.2169+07	8.1435+06	5.6509+06	1.6557+06
4	1.20000+00	1.2925+09	6.1313+08	2.7594+08	7.2331+07	4.4101+07	1.3209+07	9.5763+06	7.5874+06	5.9800+06	2.3188+06
5	1.50000+00	1.0391+09	4.4305+08	1.3208+08	1.8010+07	1.1051+07	6.7837+06	6.1669+06	5.4907+06	4.8564+06	2.6249+06
6	1.80000+00	9.4496+08	3.6954+08	7.9974+07	1.1040+07	7.1232+06	4.8633+06	4.6041+06	4.3850+06	4.1143+06	2.4514+06
7	2.10000+00	8.4914+08	3.0737+08	4.6983+07	7.8739+06	5.2173+06	3.8027+06	3.6846+06	3.5609+06	3.3396+06	1.8363+06
8	2.40000+00	7.3109+08	2.4524+08	2.3324+07	5.0648+06	3.3576+06	2.4947+06	2.4464+06	2.3786+06	2.2234+06	1.1208+06
9	2.70000+00	6.4394+08	2.0694+08	1.3470+07	2.6854+06	1.6766+06	1.2844+06	1.2611+06	1.2267+06	1.1467+06	5.7574+05
10	3.00000+00	5.7068+08	1.7979+08	9.1461+06	9.3944+05	4.1331+05	1.0724+05	3.0198+05	2.9446+05	2.7626+05	1.4416+05
11	3.30000+00	4.8115+08	1.4870+08	6.4023+06	3.3617+05	8.2660+04	4.4374+04	4.3637+04	4.2861+04	4.0651+04	2.3609+04
12	3.60000+00	3.8019+08	1.1440+08	4.0606+06	7.1347+04	1.3487+04	5.3296+03	5.1994+03	5.1067+03	4.8433+03	2.8129+03
13	3.90000+00	2.8825+08	8.3798+07	2.5030+06	7.2749+03	4.6767+02	1.3402+01	9.3178+02	6.1538+09	1.0176+19	0.0000
14	4.20000+00	2.1329+08	5.9607+07	1.4197+06	5.1543+03	2.3551+02	7.5243+02	5.0920+04	3.3630+11	5.5610+22	0.0000
15	4.50000+00	1.5518+08	4.1198+07	5.4642+05	3.3339+03	1.6364+02	2.7991+06	9.2127+22	0.0000	0.0000	0.0000
16	4.80000+00	1.1467+08	2.8900+07	1.0966+05	1.8268+03	9.2302+01	1.5833+06	5.2111+22	0.0000	0.0000	0.0000
17	5.10000+00	8.3235+07	2.0026+07	2.9467+04	6.5146+02	3.2916+01	5.6462+07	1.8584+22	0.0000	0.0000	0.0000
18	5.40000+00	5.7387+07	1.3209+07	2.3139+03	5.1203+01	2.5871+00	4.4377+08	1.4606+23	0.0000	0.0000	0.0000
19	5.70000+00	3.4447+07	7.3637+06	3.8746+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	1.7369+07	3.1256+06	1.6935+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	9.3301+06	1.2985+06	3.0628+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	6.1307+06	7.7901+05	8.2483+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	3.4010+06	3.7449+05	1.4445+14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	1.3339+06	9.4694+04	3.6586+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	3.0388+05	1.6408+03	6.3202+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.61

SOURCE 1 (WATER), 5000 DAYS, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

-----COOLING TIMES-----											
GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	5.5683-02	7.2433-02	1.4235+01	2.3054-01	2.6892+01	4.1001+01	3.9929+01	2.8626+01	2.4180+01	1.9581+01
2	6.00000+01	1.8002-01	2.3086-01	4.2077+01	5.8443-01	6.1885+01	6.8715+01	6.4354+01	4.5328+01	3.5421+01	2.7928+01
3	9.00000+01	3.1852-01	4.0122-01	6.8143+01	8.4030+01	8.5289+01	8.1189+01	7.5129+01	5.8773+01	4.8627+01	3.7284+01
4	1.20000+00	4.2977-01	5.2835-01	8.2892+01	9.3789+01	9.4172+01	8.8766+01	8.3608+01	7.1299+01	6.2603+01	5.0387+01
5	1.40000+00	5.1922-01	6.2021-01	8.9952+01	9.6218+01	9.6398+01	9.2657+01	8.9088+01	8.0364+01	7.3952+01	6.5220+01
6	1.60000+00	6.0056-01	6.9683-01	9.4227+01	9.7708+01	9.7832+01	9.5446+01	9.3145+01	8.7603+01	8.3567+01	7.9072+01
7	2.10000+00	6.7365-01	7.6056-01	9.6739+01	9.8770+01	9.8883+01	9.7628+01	9.6407+01	9.3482+01	9.1372+01	8.9449+01
8	2.40000+00	7.3658-01	8.1141-01	9.7985+01	9.9454+01	9.9599+01	9.9059+01	9.8573+01	9.7409+01	9.6568+01	9.5783+01
9	2.70000+00	7.9201-01	8.5431-01	9.8705+01	9.9816+01	9.9897+01	9.9795+01	9.9689+01	9.9435+01	9.9248+01	9.9036+01
10	3.00000+00	8.4113-01	8.9159+01	9.9194+01	9.9943+01	9.9980+01	9.9971+01	9.9957+01	9.9921+01	9.9894+01	9.9851+01
11	3.30000+00	8.8255-01	9.2242+01	9.9537+01	9.9988+01	9.9997+01	9.9997+01	9.9995+01	9.9992+01	9.9989+01	9.9984+01
12	3.60000+00	9.1527-01	9.4614+01	9.9754+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.4008-01	9.6351+01	9.9887+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.5844-01	9.7587+01	9.9963+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.7180-01	9.8441+01	9.9992+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.8167-01	9.9041+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.8884-01	9.9456+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9378-01	9.9730+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9674-01	9.9882+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9824-01	9.9947+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9904-01	9.9974+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	9.9957+01	9.9990+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9986+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	9.9997+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (WATER), 5000 DAYS, 1 WATT, PURE U-235

Figure 3.10

SOURCE 1 (WATER), 5000 DAYS, 1 WATT, PURE U-235

Figure 3.41

Table 3.62

SOURCE 1 (WATER), 500 DAYS, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	4.1196+08	2.5835+08	1.7041+08	3.9136+08	3.0201+08	8.4928+07	4.9212+07	1.5382+07	7.4800+06	7.5885+05
2	3.00000+01	8.9792+08	4.5286+08	2.2607+08	3.5696+08	2.5227+08	3.4737+07	1.5971+07	2.6352+06	2.7280+05	3.2230+03
3	4.50000+01	1.5806+09	8.8050+08	5.2146+08	3.8682+08	3.6041+08	2.7808+08	1.6298+08	2.8867+07	2.3282+06	7.3512+03
4	6.00000+01	2.3617+09	1.6524+09	1.3889+09	7.3192+08	4.7548+08	6.3596+07	1.7934+07	8.3216+06	3.7150+06	4.5542+04
5	7.50000+01	2.0760+09	1.4437+09	9.0312+08	1.3773+08	9.4263+07	5.0369+07	2.8782+07	1.0420+07	5.7019+06	8.4668+05
6	9.00000+01	4.3990+09	3.0834+09	1.5877+09	1.2751+08	8.3544+07	4.5382+07	3.5344+07	2.7345+07	2.1170+07	1.1685+06
7	1.05000+00	7.4285+08	5.0917+08	2.8879+08	4.1139+07	1.4037+07	2.9431+06	1.5258+06	3.9837+05	8.4796+04	6.2179+03
8	1.20000+00	9.4712+08	6.6697+08	4.2413+08	8.3036+07	2.5317+07	6.6163+05	1.2066+05	1.0790+04	5.0027+03	2.0223+03
9	1.35000+00	1.7277+09	8.3567+08	3.2025+08	1.0837+08	4.1111+07	1.9034+06	1.1232+05	3.1698+04	2.0170+04	5.9632+02
10	1.50000+00	8.6536+08	4.3650+08	1.8309+08	3.0723+07	8.9471+06	7.2848+05	2.2078+05	3.4641+04	2.9336+04	1.4994+04
11	1.65000+00	3.6674+08	1.9106+08	7.3867+07	2.4667+07	2.1465+07	1.8180+07	1.3203+07	4.3524+06	8.4760+05	6.2955+02
12	1.80000+00	3.7208+08	2.6262+08	2.0261+08	5.7535+07	1.6379+07	2.2221+04	2.6581+03	4.5012+02	3.7703+02	2.2533+02
13	1.95000+00	1.8341+08	1.2754+08	5.7234+07	3.0829+06	9.5513+05	9.5481+04	2.5653+04	8.2047+02	1.7725+02	4.6610+01
14	2.10000+00	8.9951+07	5.0417+07	2.0574+07	2.6786+06	8.3649+05	1.3252+05	3.7836+04	2.0209+03	4.8576+02	9.3220+01
15	2.25000+00	3.0162+07	2.0456+07	7.2354+06	3.1314+05	1.7595+05	1.2848+05	9.8703+04	1.1717+04	7.4552+04	3.8116+04
16	2.40000+00	1.2203+08	5.4950+07	5.7347+06	2.8236+05	1.9533+05	1.6324+05	1.0975+05	3.4715+04	6.9282+03	1.3983+02
17	2.55000+00	9.9215+07	5.4923+07	1.2806+07	6.7266+05	6.4198+05	5.8880+05	4.2549+05	1.3990+05	2.7306+04	6.9944+01
18	2.70000+00	9.6103+07	4.1717+07	2.0348+06	4.5646+03	1.5713+02	2.1539+01	1.4682+01	1.3688+01	1.2793+01	7.7696+00
19	2.85000+00	5.3745+07	2.0587+07	9.7552+05	2.3318+03	1.9095+02	4.0697+01	2.9349+01	2.7376+01	2.5589+01	1.5539+01
20	3.00000+00	4.0613+07	1.7618+07	6.3824+05	1.6231+04	1.2270+04	1.1316+04	8.2225+03	2.7190+03	5.3912+02	7.7696+00
21	3.15000+00	7.9745+06	3.9556+06	1.3079+06	6.0585+03	4.0914+03	3.7662+03	2.7355+03	9.0161+02	1.7541+02	1.2345+05
22	3.30000+00	6.0111+06	4.1196+06	1.0727+06	1.1981+03	2.2666+01	2.4762+01	2.0292+03	1.2757+10	2.0789+21	0.0000
23	3.45000+00	1.1690+07	7.6508+06	1.4374+06	1.6428+03	2.6437+01	2.9763+01	2.0292+03	1.2757+10	2.0789+21	0.0000
24	3.60000+00	6.9169+06	3.4434+06	7.9186+04	4.1428+02	4.9939+00	6.3393+08	2.0481+23	0.0000	0.0000	0.0000
25	3.75000+00	2.1174+06	1.1075+06	2.8769+05	2.0010+03	9.1151+00	1.1742+09	3.7896+25	0.0000	0.0000	0.0000
26	3.90000+00	1.3215+06	6.1519+05	3.1405+04	2.1747+02	9.8415+01	8.4691+15	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	1.5168+07	1.0612+07	2.7981+06	9.5089+01	7.3135+01	6.2617+09	2.0211+24	0.0000	0.0000	0.0000
28	4.20000+00	4.7056+07	1.6744+07	1.1659+05	6.5440+02	1.0067+08	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	1.0418+06	4.4191+05	3.8524+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	2.5375+06	1.4841+06	3.8816+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	7.6387+05	4.0444+05	4.4105+01	9.8495+01	5.0666+02	9.3926+10	3.0316+25	0.0000	0.0000	0.0000
32	4.80000+00	2.6616+04	1.7767+04	1.7580+03	4.0215+01	2.0687+00	3.8350+08	1.2378+23	0.0000	0.0000	0.0000
33	4.95000+00	9.4860+04	3.9659+03	1.2917+02	2.9548+00	1.5280+01	2.8178+09	9.0949+25	0.0000	0.0000	0.0000
34	5.10000+00	1.4028+05	6.8846+04	1.7982+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	4.3140+05	1.8432+05	5.0349+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	2.3269+05	1.1717+05	3.2007+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	1.4998+07	5.0704+06	2.0398+13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	1.2031+05	9.0034+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	1.8715+04	1.4005+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	4.3676+04	3.2686+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.63

SOURCE 1 (WATER), 500 DAYS, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

-----COOLING TIMES-----												
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	1.50000+01	3.0897+07	1.9376+07	1.2780+07	2.9352+07	2.2651+07	6.3696+06	3.6909+06	1.1537+06	5.6100+05	5.6914+04	
2	3.00000+01	2.0203+08	1.0189+08	5.0866+07	8.0316+07	5.6752+07	7.8159+06	3.5934+06	5.9291+05	6.1380+04	7.2517+02	
3	4.50000+01	5.9271+08	3.3019+08	1.9555+08	1.4506+08	1.3516+08	1.0451+08	6.1116+07	1.0825+07	8.7308+05	2.7567+03	
4	6.00000+01	1.2399+09	8.6753+08	7.2919+08	3.8426+08	2.4963+08	3.3388+07	9.4151+06	4.3689+06	1.9504+06	5.0160+04	
5	7.50000+01	1.4013+09	9.4884+08	6.0961+08	9.2969+07	6.3628+07	3.3999+07	1.9428+07	7.0335+06	3.8488+06	5.7151+05	
6	9.00000+01	3.6291+09	2.5273+09	1.3098+09	1.0520+08	6.8924+07	3.7440+07	2.9200+07	2.2560+07	1.7465+07	9.6402+05	
7	1.05000+00	7.2428+08	4.9644+08	2.8157+08	4.0111+07	1.3686+07	2.8695+06	1.4877+06	3.6841+05	8.2676+04	6.0624+03	
8	1.20000+00	1.0655+09	7.5034+08	4.7715+08	9.3415+07	2.8481+07	7.4433+05	1.3574+05	1.1576+04	5.6280+03	2.2751+03	
9	1.35000+00	2.2028+09	1.0655+09	4.0832+08	1.3818+08	5.2416+07	2.4268+06	1.4320+05	4.0414+04	2.5716+04	7.6030+02	
10	1.50000+00	1.2331+09	6.2201+08	2.6091+08	4.3780+07	1.2750+07	1.0381+06	3.1461+05	4.9364+04	4.1803+04	2.1366+04	
11	1.65000+00	5.7761+08	3.0092+08	1.1634+08	4.1055+07	3.3808+07	2.8634+07	2.0795+07	6.8551+06	1.3350+06	9.9155+02	
12	1.80000+00	8.4184+08	4.5302+08	3.4950+08	9.9248+07	2.8253+07	3.7986+04	4.5851+03	7.7645+02	6.5038+02	3.8869+02	
13	1.95000+00	3.4390+08	2.3915+08	1.0731+08	5.7805+06	1.7909+06	1.7903+05	4.8099+04	1.5384+03	3.3233+02	8.7394+01	
14	2.10000+00	1.8215+08	1.0209+08	4.1662+07	5.4241+06	1.6939+06	2.6835+05	7.6618+04	4.0923+03	9.8367+02	1.8877+02	
15	2.25000+00	6.5603+07	4.4493+07	1.5737+07	6.8108+05	3.8268+05	2.7944+05	2.1468+05	1.7774+05	1.6215+05	8.2902+04	
16	2.40000+00	2.8371+08	1.2776+08	1.3333+07	6.5648+05	4.5414+05	3.7954+05	2.5518+05	8.0712+04	1.6108+04	3.2511+02	
17	2.55000+00	2.4556+08	1.3593+08	3.1696+07	1.6648+06	1.5889+06	1.4573+06	1.0531+06	3.4626+05	6.7583+04	1.7311+02	
18	2.70000+00	2.5227+08	1.0951+08	5.3412+06	1.1982+04	4.1247+02	5.6544+01	3.8541+01	3.5931+01	3.3582+01	2.0395+01	
19	2.85000+00	1.4914+08	5.7129+07	2.7071+06	6.4708+03	5.2989+02	1.1293+02	8.1443+01	7.5967+01	7.1002+01	4.3121+01	
20	3.00000+00	1.1879+08	5.1532+07	1.8688+06	4.7478+04	3.5889+04	3.3100+04	2.4051+04	7.9530+03	1.5769+03	2.2726+01	
21	3.15000+00	2.4522+07	1.6591+07	4.0217+06	1.8630+04	1.2581+04	1.1581+04	8.4117+03	2.7725+03	5.3939+02	3.7961+05	
22	3.30000+00	1.9386+07	1.3286+07	3.4594+06	3.8639+03	7.3098+01	9.5983+01	6.5441+03	4.1143+03	6.7044+01	0.0000	
23	3.45000+00	3.9454+07	2.5821+07	4.8512+06	5.5445+03	8.8224+01	1.0045+00	6.8485+03	4.3056+03	7.0162+01	0.0000	
24	3.60000+00	2.4382+07	1.2138+07	2.7913+05	1.4603+03	1.7604+01	2.2346+07	7.2126+23	0.0000	0.0000	0.0000	
25	3.75000+00	7.7815+06	4.0701+06	1.0573+06	7.3537+03	3.3498+01	4.3150+09	1.3927+24	0.0000	0.0000	0.0000	
26	3.90000+00	5.0549+06	2.3531+06	1.2012+05	8.3164+02	3.7644+00	3.2394+14	0.0000	0.0000	0.0000	0.0000	
27	4.05000+00	6.0294+07	4.2184+07	1.1127+07	3.7798+02	2.9071+00	2.4890+08	8.0339+24	0.0000	0.0000	0.0000	
28	4.20000+00	1.9411+08	6.9069+07	4.8095+05	2.6994+01	4.1524+08	0.0000	0.0000	0.0000	0.0000	0.0000	
29	4.35000+00	4.4537+06	1.8892+06	1.6469+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
30	4.50000+00	1.1229+07	6.5670+06	1.7176+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
31	4.65000+00	3.4947+06	1.8501+06	2.0178+02	4.5061+00	2.3180+01	4.2971+09	1.3870+24	0.0000	0.0000	0.0000	
32	4.80000+00	1.2576+05	8.3951+04	8.3067+03	1.9002+02	9.7745+00	1.8120+07	5.8487+23	0.0000	0.0000	0.0000	
33	4.95000+00	4.6244+05	1.9334+04	6.2972+02	1.4405+01	7.4099+01	1.3737+08	4.4338+24	0.0000	0.0000	0.0000	
34	5.10000+00	7.0490+05	3.4595+05	9.0358+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
35	5.25000+00	2.2325+06	9.5385+05	2.6056+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
36	5.40000+00	1.2391+06	6.2394+05	1.7044+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
37	5.55000+00	8.2114+07	2.7487+07	1.1168+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
38	5.70000+00	4.7673+05	5.0644+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
39	5.85000+00	1.0808+05	8.0885+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
40	6.00000+00	2.5878+05	1.9366+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

3-106

Table 3.64

SOURCE 1 (WATER), 500 DAYS, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.90000+01	1.9708+03	2.0225+03	2.5324+03	2.2453+02	2.9337+02	2.4323+02	2.4442+02	2.1168+02	2.1169+02	3.2306+02
2	3.00000+01	1.4858+02	1.2658+02	1.2611+02	8.3892+02	1.0285+01	5.4168+02	4.8239+02	3.2047+02	2.3485+02	3.2718+02
3	4.50000+01	5.2665+02	4.7123+02	5.1359+02	1.9486+01	2.7790+01	4.5323+01	4.5297+01	2.3067+01	5.6431+02	3.4283+02
4	6.00000+01	1.3175+01	1.3768+01	1.9585+01	4.8888+01	6.0121+01	5.8073+01	5.1532+01	3.1083+01	1.3003+01	6.2755+02
5	7.50000+01	2.2114+01	2.3672+01	3.1664+01	5.5992+01	6.8362+01	7.1856+01	6.4397+01	4.3989+01	2.7526+01	3.8716+01
6	9.00000+01	4.5263+01	5.0052+01	5.7619+01	6.4039+01	7.7289+01	8.5357+01	8.3735+01	8.5382+01	9.3431+01	9.3438+01
7	1.05000+00	4.9883+01	5.5233+01	6.3198+01	6.7108+01	7.9061+01	8.6448+01	8.4720+01	8.6095+01	9.3743+01	9.3762+01
8	1.20000+00	5.6680+01	6.3065+01	7.2653+01	7.4254+01	8.2750+01	8.6732+01	8.4810+01	8.6116+01	9.3764+01	9.3911+01
9	1.35000+00	7.0731+01	7.4187+01	8.4823+01	8.9539+01	8.7659+01	8.4905+01	8.6190+01	8.6281+01	9.3861+01	9.3954+01
10	1.50000+00	7.8597+01	8.0679+01	8.5913+01	8.8172+01	9.1190+01	8.8055+01	8.5113+01	8.6281+01	9.4019+01	9.5167+01
11	1.65000+00	8.2282+01	8.3820+01	8.8219+01	9.1313+01	9.5569+01	9.8889+01	9.8884+01	9.8859+01	9.9057+01	9.5223+01
12	1.80000+00	8.6376+01	8.8549+01	9.5144+01	9.8905+01	9.9228+01	9.9004+01	9.8887+01	9.8860+01	9.9059+01	9.5245+01
13	1.95000+00	8.8569+01	9.1045+01	9.7271+01	9.9347+01	9.9460+01	9.9072+01	9.8919+01	9.8863+01	9.9060+01	9.5250+01
14	2.10000+00	8.9731+01	9.2111+01	9.8096+01	9.9762+01	9.9679+01	9.9175+01	9.8970+01	9.8871+01	9.9064+01	9.5261+01
15	2.25000+00	9.0150+01	9.2575+01	9.8408+01	9.9814+01	9.9729+01	9.9281+01	9.9112+01	9.9197+01	9.9076+01	9.9967+01
16	2.40000+00	9.1959+01	9.3909+01	9.8672+01	9.9865+01	9.9788+01	9.9426+01	9.9281+01	9.9345+01	9.9737+01	9.9985+01
17	2.55000+00	9.3526+01	9.5328+01	9.9300+01	9.9992+01	9.9994+01	9.9983+01	9.9978+01	9.9980+01	9.9992+01	9.9995+01
18	2.70000+00	9.5135+01	9.6471+01	9.9406+01	9.9993+01	9.9994+01	9.9983+01	9.9978+01	9.9980+01	9.9992+01	9.9996+01
19	2.85000+00	9.6086+01	9.7067+01	9.9460+01	9.9993+01	9.9994+01	9.9983+01	9.9979+01	9.9980+01	9.9992+01	9.9999+01
20	3.00000+00	9.6844+01	9.7605+01	9.9497+01	9.9997+01	9.9998+01	9.9996+01	9.9996+01	9.9995+01	9.9998+01	1.0000+00
21	3.15000+00	9.7000+01	9.7778+01	9.9576+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.7124+01	9.7917+01	9.9645+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.7376+01	9.8186+01	9.9741+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.7531+01	9.8313+01	9.9747+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.7581+01	9.8355+01	9.9768+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.7613+01	9.8380+01	9.9770+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.7998+01	9.8820+01	9.9990+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.9236+01	9.9541+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9264+01	9.9561+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9336+01	9.9630+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9358+01	9.9649+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	9.9359+01	9.9650+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	9.9362+01	9.9650+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	9.9367+01	9.9654+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	9.9381+01	9.9663+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	9.9389+01	9.9670+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	9.9412+01	9.9677+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	9.9417+01	9.9677+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	9.9417+01	9.9677+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	9.9419+01	9.9657+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (WATER), 500 DAYS, 1 WATT, PURE U-235

SOURCE 1 (WATER), 500 DAYS, 1 WATT, PURE U-235

Figure 3.43

Table 3.65

SOURCE 1 (WATER). 500 DAYS, 1 WATT, PURE U-235

BETA SPECTRA (RETS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	4.2794+09	2.3086+09	1.7565+09	1.1207+09	8.7157+08	4.5701+08	2.8121+08	9.7296+07	5.1405+07	9.4160+06
2	6.00000+01	3.2084+09	1.6956+09	1.1551+09	5.8035+08	3.8338+08	1.0433+08	5.8305+07	1.9699+07	8.0279+06	9.7337+05
3	9.00000+01	2.1445+09	1.0941+09	6.4863+08	2.5120+08	1.5320+08	2.7228+07	1.4487+07	9.1431+06	5.8777+06	9.4483+05
4	1.20000+00	1.2289+09	5.8217+08	2.6106+08	6.7123+07	4.0244+07	1.0874+07	7.4237+06	5.5380+06	4.0577+06	9.7157+05
5	1.50000+00	7.6750+08	3.2655+08	9.6238+07	1.1764+07	6.6298+06	3.5451+06	3.0965+06	2.6021+06	2.1770+06	8.9313+05
6	1.80000+00	5.7101+08	2.2272+08	4.7255+07	5.5020+06	3.1444+06	1.8368+06	1.6883+06	1.5635+06	1.4378+06	7.4875+05
7	2.10000+00	4.3453+08	1.5687+08	2.3347+07	3.3086+06	1.9565+06	1.2692+06	1.2146+06	1.1603+06	1.0765+06	5.5172+05
8	2.40000+00	3.2459+08	1.0862+08	9.9858+06	1.8803+06	1.1268+06	7.6268+05	7.4473+05	7.2197+05	6.7202+05	3.3969+05
9	2.70000+00	2.5251+08	8.0998+07	5.1103+06	8.8542+05	4.9221+05	3.4716+05	3.3963+05	3.2961+05	3.0701+05	1.5601+05
10	3.00000+00	2.0042+08	6.3068+07	3.1708+06	2.9142+05	1.0731+05	7.2108+04	7.0625+04	6.8693+04	6.4198+04	3.3813+04
11	3.30000+00	1.5293+08	4.7221+07	2.0272+06	1.0082+05	2.0396+04	8.5585+03	8.3777+03	8.2109+03	7.7617+03	4.5757+03
12	3.60000+00	1.1034+08	3.3174+07	1.1768+06	2.0042+04	3.2737+03	9.4335+02	5.1144+02	8.9321+02	8.4435+02	4.9776+02
13	3.90000+00	7.6967+07	2.2356+07	6.6776+05	1.9408+03	1.2474+02	3.5587+00	2.6669+02	1.6257+09	2.6794+20	0.0000
14	4.20000+00	5.2732+07	1.4724+07	3.5070+05	1.2732+03	5.8161+01	1.8008+02	1.2483+04	8.2263+12	1.3558+22	0.0000
15	4.50000+00	3.5722+07	9.4751+06	1.2567+05	7.6674+02	3.7627+01	6.4073+07	2.1027+22	0.0000	0.0000	0.0000
16	4.80000+00	2.4693+07	6.2178+06	2.3593+04	1.9303+02	1.9854+01	3.3904+07	1.1126+22	0.0000	0.0000	0.0000
17	5.10000+00	1.6837+07	4.0475+06	5.9554+03	1.3166+02	6.6511+00	1.1358+07	3.7274+23	0.0000	0.0000	0.0000
18	5.40000+00	1.0945+07	2.5171+06	4.4093+02	9.7570+00	4.9288+01	8.4169+09	2.7622+24	0.0000	0.0000	0.0000
19	5.70000+00	6.2148+06	1.3274+06	6.9842+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	2.9729+06	5.3453+05	2.8960+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.5191+06	2.1123+05	4.9823+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	9.5175+05	1.2083+05	1.2794+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	5.0452+05	5.5505+04	2.1409+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	1.8946+05	1.3438+04	5.1917+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	4.1398+04	2.2333+02	8.6026+18	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.66

SOURCE 1 (WATER), 500 DAYS, 1 MAT, PURE U-235

HFTA ENERGY SPECTRA (MEV/SEC)

COOLING TIMES												
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	3.00000+01	6.4191+08	3.4629+08	2.6348+08	1.6811+08	1.3074+08	6.8551+07	4.2181+07	1.4594+07	7.7107+06	1.4124+06	
2	6.00000+01	1.4438+09	7.6301+08	5.1977+08	2.6116+08	1.7252+08	4.6949+07	2.6237+07	8.8647+06	3.6126+06	4.3802+05	
3	9.00000+01	1.6084+09	8.2054+08	4.8667+08	1.8840+08	1.1490+08	2.0421+07	1.0865+07	6.6573+06	4.4083+06	7.0862+05	
4	1.20000+00	1.2904+09	6.1128+08	2.7411+08	7.0480+07	4.2256+07	1.1417+07	7.7948+06	5.8149+06	4.2606+06	1.0201+06	
5	1.50000+00	1.0361+09	4.4084+08	1.2992+08	1.5882+07	8.9502+06	4.7859+06	4.1803+06	3.5128+06	2.9389+06	1.2057+06	
6	1.80000+00	9.4217+08	3.6749+08	7.7971+07	9.0783+06	5.1883+06	3.0307+06	2.7856+06	2.5798+06	2.3724+06	1.2354+06	
7	2.10000+00	8.4733+08	3.0590+08	4.5527+07	6.4517+06	3.8152+06	2.4749+06	2.3686+06	2.2626+06	2.0992+06	1.0759+06	
8	2.40000+00	7.3034+08	2.4441+08	2.2468+07	4.2308+06	2.5354+06	1.7160+06	1.6756+06	1.6244+06	1.5120+06	7.6430+05	
9	2.70000+00	6.4391+08	2.0654+08	1.3031+07	2.2578+06	1.2551+06	8.8525+05	8.6606+05	8.4051+05	7.8288+05	3.9782+05	
10	3.00000+00	5.7121+08	1.7974+08	9.0368+06	8.3054+05	3.0584+05	2.0551+05	2.0128+05	1.9578+05	1.8296+05	9.6368+04	
11	3.30000+00	4.8174+08	1.4875+08	6.3857+06	3.1759+05	6.4247+04	2.6959+04	2.6390+04	2.5884+04	2.4449+04	1.4413+04	
12	3.60000+00	3.8068+08	1.1445+08	4.0600+06	6.9146+04	1.1294+04	3.2546+03	3.1445+03	3.0816+03	2.9130+03	1.7173+03	
13	3.90000+00	2.8863+08	8.3835+07	2.5041+06	7.2780+03	4.6774+02	1.3345+01	9.2510+02	6.0963+09	1.0048+19	0.0000	
14	4.20000+00	2.1357+08	5.9633+07	1.4203+06	5.1564+03	2.3555+02	7.2932+02	5.6555+04	3.3316+11	5.4909+22	0.0000	
15	4.50000+00	1.5539+08	4.1217+07	5.4666+05	3.3353+03	1.6368+02	2.7872+06	9.1467+22	0.0000	0.0000	0.0000	
16	4.80000+00	1.1482+08	2.8913+07	1.0971+05	1.8276+03	9.2320+01	1.5765+06	5.1737+22	0.0000	0.0000	0.0000	
17	5.10000+00	8.3344+07	2.0035+07	2.9479+04	6.5173+02	3.2923+01	5.6222+07	1.8450+22	0.0000	0.0000	0.0000	
18	5.40000+00	5.7463+07	1.3215+07	2.3149+03	5.1224+01	2.5876+00	4.4189+08	1.4501+23	0.0000	0.0000	0.0000	
19	5.70000+00	3.4492+07	7.3670+06	3.8763+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
20	6.00000+00	1.7392+07	3.1270+06	1.6942+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
21	6.30000+00	9.3424+06	1.2991+06	3.0641+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
22	6.60000+00	6.1388+06	7.7935+05	8.2518+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
23	6.90000+00	3.4055+06	3.7466+05	1.4451+14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
24	7.20000+00	1.3357+06	9.4736+04	3.6602+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
25	7.50000+00	3.0428+05	1.6415+03	6.3229+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Table 3.67

SOURCE 1 (WATER), 500 DAYS, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

-----COOLING TIMES-----												
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	3.00000+01	5.5321-02	7.2008-02	1.4190-01	2.3115-01	2.7093-01	4.2720-01	4.2528-01	3.0936-01	2.5782-01	1.6873-01	
2	6.00000+01	1.7975-01	2.3067-01	4.2182-01	5.9023-01	6.2846-01	7.1977-01	6.8980-01	4.9727-01	3.7861-01	2.2106-01	
3	9.00000+01	3.1836-01	4.0129-01	6.8381-01	8.4928-01	8.6658-01	8.4703-01	7.9935-01	6.4267-01	5.2600-01	3.0571-01	
4	1.20000+00	4.2956-01	5.2840-01	8.3143-01	9.4619-01	9.5415-01	9.1818-01	8.7794-01	7.6588-01	6.8846-01	4.2758-01	
5	1.50000+00	5.1885-01	6.2006-01	9.0140-01	9.6803-01	9.7269-01	9.4801-01	9.2008-01	8.4034-01	7.6672-01	5.7162-01	
6	1.80000+00	6.0005-01	6.9608-01	9.4339-01	9.8051-01	9.8345-01	9.6690-01	9.4817-01	8.9503-01	8.4605-01	7.1921-01	
7	2.10000+00	6.7307-01	7.6009-01	9.6791-01	9.8938-01	9.9135-01	9.8232-01	9.7205-01	9.4299-01	9.1623-01	8.4773-01	
8	2.40000+00	7.3602-01	8.1091-01	9.8001-01	9.9520-01	9.9661-01	9.9301-01	9.8894-01	9.7742-01	9.6679-01	9.3904-01	
9	2.70000+00	7.9151-01	8.5385-01	9.8702-01	9.9830-01	9.9921-01	9.9853-01	9.9767-01	9.9524-01	9.9297-01	9.8656-01	
10	3.00000+00	8.4073-01	8.9123-01	9.9189-01	9.9944-01	9.9984-01	9.9981-01	9.9970-01	9.9939-01	9.9909-01	9.9807-01	
11	3.30000+00	8.8225-01	9.2216-01	9.9533-01	9.9988-01	9.9997-01	9.9998-01	9.9997-01	9.9993-01	9.9990-01	9.9979-01	
12	3.60000+00	9.1506-01	9.4596-01	9.9752-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
13	3.90000+00	9.3993-01	9.6339-01	9.9886-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
14	4.20000+00	9.5834-01	9.7579-01	9.9963-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
15	4.50000+00	9.7173-01	9.8436-01	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
16	4.80000+00	9.8162-01	9.9037-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
17	5.10000+00	9.8881-01	9.9454-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
18	5.40000+00	9.9376-01	9.9729-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
19	5.70000+00	9.9673-01	9.9882-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
20	6.00000+00	9.9823-01	9.9947-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
21	6.30000+00	9.9904-01	9.9974-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
22	6.60000+00	9.9957-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
23	6.90000+00	9.9986-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
24	7.20000+00	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	

SOURCE 1 (WATER), 500 DAYS, 1 WATT, PURE U-235

SOURCE 1 (WATER), 500 DAYS, 1 WATT, PURE U-235

Figure 3.45

Table 3.68

SOURCE 1 (WATER), 200 DAYS, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

-----COOLING TIMES-----											
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	4.1027+08	2.5711+08	1.6920+08	3.9022+08	3.0090+08	8.3843+07	4.8156+07	1.4438+07	6.6765+06	4.1225+05
2	3.00000+01	8.9808+08	4.5288+08	2.2607+08	3.5701+08	2.5234+08	3.4775+07	1.5983+07	2.6281+06	2.6669+05	2.0392+03
3	4.50000+01	1.5809+09	8.8054+08	5.2148+08	3.8687+08	3.6052+08	2.7905+08	1.6318+08	2.8863+07	2.3167+06	5.2115+03
4	6.00000+01	2.3616+09	1.6522+09	1.3887+09	7.3170+08	4.7529+08	6.3350+07	1.7658+07	8.0993+06	3.5512+06	5.4429+04
5	7.50000+01	2.0742+09	1.4042+09	9.0167+08	1.3627+08	9.2809+07	4.8957+07	2.7437+07	9.2626+06	4.7529+06	4.3852+05
6	9.00000+01	4.3912+09	3.0574+09	1.5818+09	1.2168+08	7.7721+07	3.9645+07	3.0099+07	2.3106+07	1.8026+07	1.0013+06
7	1.05000+00	7.4299+08	5.0919+08	2.8880+08	4.1140+07	1.4035+07	2.9412+06	1.5221+06	3.9305+05	7.9600+04	3.1063+03
8	1.20000+00	9.4711+08	6.6700+08	4.2415+08	8.3048+07	2.5322+07	6.6056+05	1.1893+05	8.5348+03	3.3655+03	1.0110+03
9	1.35000+00	1.7280+09	8.3570+08	3.2026+08	1.0839+08	4.1120+07	1.9022+06	1.0909+05	2.9112+04	1.8319+04	5.1445+02
10	1.50000+00	8.6551+08	4.3650+08	1.8308+08	3.0712+07	8.9339+06	7.1329+05	2.0548+05	2.0246+04	1.6058+04	7.9750+03
11	1.65000+00	3.6681+08	1.9107+08	7.3869+07	2.6070+07	2.1471+07	1.8204+07	1.3220+07	4.3520+06	8.4476+05	3.1453+02
12	1.80000+00	3.7215+08	2.6263+08	2.0262+08	5.7545+07	1.6383+07	2.1837+04	2.4551+03	2.5728+02	1.9625+02	1.1256+02
13	1.95000+00	1.8345+08	1.2755+08	5.7237+07	3.0834+06	9.5537+05	9.5567+04	2.5644+04	7.8058+02	1.3957+02	2.3284+01
14	2.10000+00	8.9968+07	5.0019+07	2.0575+07	2.6789+06	8.3666+05	1.3261+05	3.7800+04	1.9410+03	4.1003+02	4.6564+01
15	2.25000+00	3.0109+07	2.0415+07	7.1951+06	2.7271+05	1.3543+05	8.7510+04	5.9189+04	4.5110+04	4.0789+04	2.0278+04
16	2.40000+00	1.2205+08	5.4953+07	5.7346+06	2.8227+05	1.9525+05	1.6333+05	1.0977+05	3.4596+04	6.7975+03	6.9854+01
17	2.55000+00	9.9235+07	5.4926+07	1.2807+07	6.7269+05	6.4210+05	5.8952+05	4.2598+05	1.3985+05	2.7175+04	3.4442+01
18	2.70000+00	9.6122+07	4.1719+07	2.0348+06	4.5581+03	1.4993+02	1.4203+01	7.5810+00	7.0386+00	6.5602+00	3.8814+00
19	2.85000+00	5.3756+07	2.0588+07	9.7555+05	2.3177+03	1.7651+02	2.6022+01	1.5146+01	1.4077+01	1.3120+01	7.7628+00
20	3.00000+00	4.0621+07	1.7619+07	6.3876+05	1.6226+04	1.2266+04	1.1324+04	8.2261+03	7.2124+03	5.3143+02	3.8814+00
21	3.15000+00	7.9761+06	5.3959+06	1.3079+06	6.0594+03	4.0926+03	3.7713+03	2.7391+03	9.0164+02	1.7493+02	1.1993+05
22	3.30000+00	6.0123+06	4.1198+06	1.0727+06	1.1983+03	2.2673+01	2.9803+01	2.0319+03	1.2758+10	2.0732+21	0.0000
23	3.45000+00	1.1692+07	7.6511+06	1.4375+06	1.6431+03	2.6445+01	2.9803+01	2.0319+03	1.2758+10	2.0732+21	0.0000
24	3.60000+00	6.9183+06	3.4436+06	7.9189+04	4.1435+02	4.9954+00	6.3479+08	2.0489+23	0.0000	0.0000	0.0000
25	3.75000+00	2.1178+06	1.1076+06	2.8770+05	2.0013+03	9.1179+00	1.1757+09	3.7946+25	0.0000	0.0000	0.0000
26	3.90000+00	1.3718+06	6.1522+05	3.1406+04	2.1746+02	9.8445+01	8.4806+15	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	1.5171+07	1.0613+07	2.7983+06	9.5105+01	7.3157+01	6.2702+09	2.0238+24	0.0000	0.0000	0.0000
28	4.20000+00	4.7066+07	1.6745+07	1.1660+05	6.5450+02	1.0070+08	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	1.0420+06	4.4193+05	3.8526+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	2.5381+06	1.4841+06	3.8817+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	7.6620+05	4.0446+05	4.4107+01	9.8511+01	5.0682+02	9.4053+10	3.0357+25	0.0000	0.0000	0.0000
32	4.80000+00	2.6621+04	1.7768+04	1.7581+03	4.0722+01	2.0693+00	3.8402+08	1.2395+23	0.0000	0.0000	0.0000
33	4.95000+00	9.4879+04	3.9661+03	1.2918+02	2.9553+00	1.5204+01	2.8216+09	9.1070+25	0.0000	0.0000	0.0000
34	5.10000+00	1.4031+05	6.8850+04	1.7983+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	4.3149+05	1.8433+05	5.0351+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	2.3274+05	1.1718+05	3.2009+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	1.5001+05	5.0206+06	2.0399+13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	1.2033+05	9.0039+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	1.8718+04	1.4006+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	4.3685+04	3.2687+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.69

SOURCE 1 (WATER), 200 DAYS, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	COOLING TIMES									
		SHUT-DOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	3.0770+07	1.9283+07	1.2690+07	2.9267+07	2.2568+07	6.2882+06	3.6117+06	1.0829+06	5.0074+05	3.0919+04
2	3.00000+01	2.0207+08	1.0190+08	5.0866+07	8.0327+07	5.6777+07	7.8243+06	3.5961+06	5.9133+05	6.0006+04	4.5882+02
3	4.50000+01	5.9282+08	3.3020+08	1.9555+08	1.4508+08	1.3519+08	1.0465+08	6.1194+07	1.0824+07	8.6877+05	1.2043+03
4	6.00000+01	1.2399+09	8.6739+08	7.2904+08	3.8414+08	2.4953+08	3.3259+07	9.2705+06	4.2521+06	1.8644+06	2.8575+04
5	7.50000+01	1.4001+09	9.4784+08	6.0863+08	9.1983+07	6.2646+07	3.3046+07	1.8520+07	6.2523+06	3.2082+06	2.9600+05
6	9.00000+01	3.6228+09	2.5224+09	1.3050+09	1.0038+08	6.4120+07	3.2707+07	2.4831+07	1.9062+07	1.4871+07	8.2605+05
7	1.05000+00	7.2442+08	4.9646+08	2.8158+08	4.0112+07	1.3684+07	2.8676+06	1.4841+06	3.8323+05	7.7610+04	3.0286+03
8	1.20000+00	1.0657+09	7.5037+08	4.7717+08	9.3029+07	2.8488+07	7.4314+05	1.3379+05	9.6016+03	3.7839+03	1.1374+03
9	1.35000+00	2.2032+09	1.0655+09	4.0834+08	1.3819+08	2.5227+07	2.4254+06	1.3909+05	3.7118+04	2.3357+04	6.5593+02
10	1.50000+00	1.2334+09	6.2202+08	2.6089+08	4.3764+07	1.2731+07	1.0164+06	2.9282+05	2.8850+04	2.2883+04	1.1364+04
11	1.65000+00	5.7772+08	3.0094+08	1.1634+08	4.1061+07	3.3816+07	2.8671+07	2.0821+07	6.8544+06	1.3305+06	4.9538+02
12	1.80000+00	6.4196+08	4.5304+08	3.4952+08	9.9264+07	2.8261+07	3.7669+04	4.2350+03	4.4381+02	3.3854+02	1.9417+02
13	1.95000+00	3.4397+08	2.3916+08	1.0732+08	5.7814+06	1.7913+06	1.7919+05	4.8082+04	1.4636+03	2.6169+02	4.3658+01
14	2.10000+00	1.8219+08	1.0210+08	4.1664+07	5.4248+06	1.6942+06	2.6853+05	7.6546+04	3.9306+03	6.3032+02	9.4302+01
15	2.25000+00	6.5487+07	4.4403+07	1.5649+07	5.9314+05	2.9456+05	1.9034+05	1.2874+05	9.8114+04	8.8716+04	4.4104+04
16	2.40000+00	2.8377+08	1.2777+08	1.3333+07	6.5628+05	4.5397+05	3.7974+05	2.5521+05	8.0436+04	1.5804+04	1.6241+02
17	2.55000+00	2.4561+08	1.3594+08	3.1697+07	1.6649+06	1.5892+06	1.4591+06	1.0543+06	3.4612+05	6.7258+04	8.6482+01
18	2.70000+00	2.5232+08	1.0951+08	5.3415+06	1.1965+04	3.9356+02	3.7284+01	1.9900+01	1.8476+01	1.7221+01	1.0189+01
19	2.85000+00	1.4917+08	5.7131+07	2.7072+06	6.4317+03	4.8981+02	7.2212+01	4.2029+01	3.9064+01	3.6409+01	2.1542+01
20	3.00000+00	1.1882+08	5.1535+07	1.8649+06	4.7462+04	3.5878+04	3.3123+04	2.4061+04	7.9338+03	1.5544+03	1.1353+01
21	3.15000+00	2.4527+07	1.6592+07	4.0219+06	1.8633+04	1.2585+04	1.1597+04	8.4227+03	2.7725+03	5.1790+02	3.6880+05
22	3.30000+00	1.9390+07	1.3286+07	3.4595+06	3.8645+03	7.3120+01	9.6113+01	6.5527+03	4.1145+01	6.6860+21	0.0000
23	3.45000+00	3.9462+07	2.5823+07	4.8514+06	5.5454+03	8.9251+01	1.0059+00	6.8575+03	4.3058+01	6.9969+21	0.0000
24	3.60000+00	2.4387+07	1.2139+07	2.7914+05	1.4606+03	1.7609+01	2.2376+07	7.2222+23	0.0000	0.0000	0.0000
25	3.75000+00	7.7830+06	4.0703+06	1.0573+06	7.3549+03	3.3508+01	4.3209+09	1.3945+24	0.0000	0.0000	0.0000
26	3.90000+00	5.0559+06	2.3532+06	1.2013+05	8.3178+02	3.7655+00	3.2438+14	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	6.0306+07	4.2186+07	1.1123+07	3.7804+02	2.9080+00	2.4924+08	8.0445+24	0.0000	0.0000	0.0000
28	4.20000+00	1.9415+08	6.9072+07	4.8097+05	2.6998+01	4.1537+08	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	4.4546+06	1.8893+06	1.4470+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	1.1231+07	6.5673+06	1.7177+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	3.4954+06	1.8504+06	2.0179+02	4.5069+00	2.3187+01	4.3029+09	1.3888+24	0.0000	0.0000	0.0000
32	4.80000+00	1.2579+05	8.3955+04	8.3071+03	1.9005+02	9.7775+00	1.8145+07	5.8564+23	0.0000	0.0000	0.0000
33	4.95000+00	4.6254+05	1.9335+04	8.2974+02	1.4007+01	7.4122+01	1.3755+08	4.4397+24	0.0000	0.0000	0.0000
34	5.10000+00	7.0504+05	3.4597+05	9.0362+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	2.2730+06	9.5390+05	2.8057+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	1.2933+06	6.2397+05	1.7045+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	8.2130+07	2.7488+07	1.1168+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	6.7687+05	5.0647+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	1.0810+05	8.0885+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	2.5883+05	1.9367+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.70

SOURCE 1 (WATER), 200 DAYS, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.9635+03	2.0140+03	2.5176+03	2.2491+02	2.9457+02	2.4558+02	2.4824+02	2.1693+02	2.1765+02	2.4842+02
2	3.00000+01	1.4858+02	1.2657+02	1.2609+02	8.4223+02	1.0357+01	5.5116+02	4.9540+02	3.3539+02	2.4373+02	2.5210+02
3	4.50000+01	5.2687+02	4.7145+02	5.1404+02	1.9572+01	2.8004+01	4.6380+01	4.7013+01	2.5036+01	6.2135+02	2.6178+02
4	6.00000+01	1.3181+01	1.3774+01	1.9604+01	4.9093+01	6.0574+01	5.9369+01	5.3385+01	3.3554+01	1.4317+01	4.9137+02
5	7.50000+01	2.2115+01	2.3674+01	3.1678+01	5.6162+01	6.8751+01	7.2275+01	6.6114+01	4.6079+01	2.8262+01	2.8696+01
6	9.00000+01	4.5233+01	5.0019+01	5.7568+01	6.3877+01	7.7121+01	8.5049+01	8.3181+01	8.4265+01	9.2900+01	9.5066+01
7	1.05000+00	4.9855+01	5.5204+01	6.3154+01	6.6959+01	7.8907+01	8.6169+01	8.4201+01	8.5033+01	9.3237+01	9.5309+01
8	1.20000+00	5.6656+01	6.3042+01	7.2671+01	7.4139+01	8.2625+01	8.6459+01	8.4293+01	8.5052+01	9.3254+01	9.5401+01
9	1.35000+00	7.0715+01	7.4170+01	8.0722+01	8.4760+01	8.9469+01	8.7406+01	8.4389+01	8.5127+01	9.3355+01	9.5453+01
10	1.50000+00	7.8585+01	8.0667+01	8.5898+01	8.8123+01	9.1130+01	8.7803+01	8.4590+01	8.5185+01	9.3455+01	9.6366+01
11	1.65000+00	8.2272+01	8.3810+01	8.8206+01	9.1278+01	9.5545+01	9.9000+01	9.8901+01	9.8916+01	9.9238+01	9.6406+01
12	1.80000+00	8.6369+01	8.8542+01	9.5140+01	9.8907+01	9.9233+01	9.9015+01	9.8903+01	9.8917+01	9.9239+01	9.6422+01
13	1.95000+00	8.8564+01	9.1040+01	9.7269+01	9.9351+01	9.9467+01	9.9085+01	9.8936+01	9.8920+01	9.9240+01	9.6425+01
14	2.10000+00	8.9726+01	9.2106+01	9.8096+01	9.9768+01	9.9688+01	9.9190+01	9.8989+01	9.8927+01	9.9244+01	9.6453+01
15	2.25000+00	9.0144+01	9.2570+01	9.8406+01	9.9814+01	9.9727+01	9.9264+01	9.9078+01	9.9124+01	9.9630+01	9.9977+01
16	2.40000+00	9.1955+01	9.3905+01	9.8671+01	9.9864+01	9.9786+01	9.9413+01	9.9253+01	9.9285+01	9.9696+01	9.9990+01
17	2.55000+00	9.3522+01	9.5324+01	9.9299+01	9.9992+01	9.9994+01	9.9982+01	9.9978+01	9.9978+01	9.9991+01	9.9997+01
18	2.70000+00	9.5132+01	9.6468+01	9.9405+01	9.9993+01	9.9994+01	9.9983+01	9.9978+01	9.9978+01	9.9991+01	9.9997+01
19	2.85000+00	9.6084+01	9.7065+01	9.9459+01	9.9993+01	9.9994+01	9.9983+01	9.9978+01	9.9979+01	9.9991+01	9.9997+01
20	3.00000+00	9.6842+01	9.7603+01	9.9496+01	9.9997+01	9.9998+01	9.9995+01	9.9994+01	9.9994+01	9.9998+01	1.0000+00
21	3.15000+00	9.6999+01	9.7777+01	9.9576+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.7122+01	9.7915+01	9.9644+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.7174+01	9.8185+01	9.9741+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.7530+01	9.8312+01	9.9746+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.7580+01	9.8354+01	9.9767+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.7612+01	9.8379+01	9.9770+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.7997+01	9.8820+01	9.9900+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.9236+01	9.9541+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9264+01	9.9561+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9336+01	9.9629+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9358+01	9.9649+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	9.9359+01	9.9649+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	9.9362+01	9.9650+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	9.9366+01	9.9653+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	9.9380+01	9.9663+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	9.9388+01	9.9670+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	9.9412+01	9.9657+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	9.9417+01	9.9657+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	9.9417+01	9.9657+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	9.9419+01	9.9657+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (WATER), 200 DAYS, 1 WATT, PURE U-235

SOURCE 1 (WATER), 200 DAYS, 1 WATT, PURE U-235

Figure 3.47

Table 3.71

SOURCE 1 (WATER), 200 DAYS, 1 WATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	4.2518+09	2.2919+09	1.7412+09	1.1059+09	8.5689+08	4.4199+08	2.6658+08	8.4571+07	4.0548+07	5.2645+06
2	6.00000+01	3.2083+09	1.6943+09	1.1538+09	5.7904+08	3.8199+08	1.0258+08	5.6605+07	1.8291+07	6.8661+06	5.3373+05
3	9.00000+01	2.1434+09	1.0927+09	6.4728+08	2.4978+08	1.5174+08	2.5726+07	1.3047+07	7.8535+06	4.7732+06	5.3064+05
4	1.20000+00	1.2274+09	5.8085+08	2.5976+08	6.5795+07	3.8921+07	9.6032+06	6.1922+06	4.3992+06	3.0469+06	5.3145+05
5	1.50000+00	7.6620+08	3.2552+08	9.5222+07	1.0746+07	5.6242+06	2.5997+06	2.1702+06	1.7131+06	1.3542+06	4.7662+05
6	1.80000+00	5.6996+08	2.2190+08	4.6444+07	4.7002+06	2.3538+06	1.0950+06	9.5910+05	8.5374+05	7.7097+05	3.9864+05
7	2.10000+00	4.3375+08	1.5626+08	2.2734+07	2.7074+06	1.3640+06	7.1383+05	6.6891+05	6.2948+05	5.7851+05	2.9662+05
8	2.40000+00	3.2416+08	1.0824+08	9.6008+06	1.5052+06	7.5718+05	4.1636+05	4.0448+05	3.9124+05	3.6210+05	1.8407+05
9	2.70000+00	2.5242+08	8.0836+07	4.9344+06	7.1385+05	3.2309+05	1.8873+05	1.8396+05	1.7824+05	1.6510+05	8.4385+04
10	3.00000+00	2.0056+08	6.3053+07	3.1348+06	2.5534+05	7.1674+04	3.8710+04	3.7789+04	3.6691+04	3.4096+04	1.8042+04
11	3.30000+00	1.5308+08	4.7235+07	2.0235+06	9.6392+04	1.5979+04	4.4101+03	4.2908+03	4.1987+03	3.9474+03	2.3434+03
12	3.60000+00	1.1046+08	3.3187+07	1.1769+06	1.9567+04	2.7940+03	4.9205+02	4.6686+02	4.5675+02	4.2941+02	2.5493+02
13	3.90000+00	7.7048+07	2.2765+07	6.6809+05	1.9422+03	1.2483+02	3.5518+00	2.4571+02	1.6167+09	2.6501+20	0.0000
14	4.20000+00	5.2788+07	1.4730+07	3.5087+05	1.2741+03	5.8206+01	1.7973+02	1.2433+04	8.1807+12	1.3409+22	0.0000
15	4.50000+00	3.5759+07	9.4789+06	1.2573+05	7.6730+02	3.7656+01	6.3949+07	2.0943+22	0.0000	0.0000	0.0000
16	4.80000+00	2.4719+07	6.2203+06	2.3604+04	3.9332+02	1.9869+01	3.3838+07	1.1082+22	0.0000	0.0000	0.0000
17	5.10000+00	1.6855+07	4.0491+06	5.9584+03	1.3176+02	6.6562+00	1.1336+07	3.7125+23	0.0000	0.0000	0.0000
18	5.40000+00	1.0957+07	2.5182+06	4.4115+02	9.7642+00	4.9327+01	8.4005+09	2.7512+24	0.0000	0.0000	0.0000
19	5.70000+00	6.2214+06	1.3279+06	6.9877+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	2.9760+06	5.3474+05	2.8975+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.5207+06	2.1132+05	4.9848+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	9.5275+05	1.2088+05	1.2800+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	5.0505+05	5.5527+04	2.1420+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	1.8966+05	1.3443+04	5.1943+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	4.1442+04	2.2342+02	8.6069+18	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.72

SOURCE 1 (WATER), 200 DAYS, 1 WATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	6.3776+08	3.4378+08	2.6118+08	1.6589+08	1.2853+08	6.6298+07	3.9988+07	1.2686+07	6.0823+06	7.8968+05
2	6.00000+01	1.4437+09	7.6744+08	5.1923+08	2.6058+08	1.7190+08	4.6162+07	2.5472+07	8.2310+06	3.0897+06	2.4018+05
3	9.00000+01	1.6076+09	8.1951+08	4.8546+08	1.8733+08	1.1381+08	1.9294+07	9.7851+06	5.8901+06	3.5799+06	3.9798+05
4	1.20000+00	1.2887+09	6.0989+08	2.7274+08	6.9085+07	4.0867+07	1.0083+07	6.5018+06	4.6142+06	3.1993+06	5.5802+05
5	1.50000+00	1.0344+09	4.3945+08	1.2855+08	1.4507+07	7.5927+06	3.5096+06	2.9297+06	2.3127+06	1.8282+06	6.4344+05
6	1.80000+00	9.4043+08	3.6614+08	7.6632+07	7.7554+06	3.8838+06	1.8067+06	1.5825+06	1.4087+06	1.2721+06	6.5776+05
7	2.10000+00	8.4581+08	3.0470+08	4.4330+07	5.2795+06	2.6598+06	1.3920+06	1.3044+06	1.2275+06	1.1281+06	5.7841+05
8	2.40000+00	7.2937+08	2.4355+08	2.1602+07	3.3868+06	1.7036+06	9.3681+05	9.1008+05	8.8028+05	8.1473+05	4.1415+05
9	2.70000+00	6.4368+08	2.0613+08	1.2583+07	1.8203+06	8.2388+05	4.8125+05	4.6911+05	4.5452+05	4.2101+05	2.1518+05
10	3.00000+00	5.7160+08	1.7970+08	8.9342+06	7.2772+05	2.0427+05	1.1032+05	1.0770+05	1.0457+05	9.7174+04	5.1419+04
11	3.30000+00	4.8222+08	1.4879+08	6.3742+06	3.0364+05	5.0333+04	1.3892+04	1.3516+04	1.3226+04	1.2434+04	7.3818+03
12	3.60000+00	3.8108+08	1.1449+08	4.0603+06	6.7507+04	9.6394+03	1.6976+03	1.6107+03	1.5758+03	1.4815+03	8.7950+02
13	3.90000+00	2.8893+08	8.3868+07	2.5054+06	7.2834+03	4.6812+02	1.3319+01	9.2142+02	6.0628+09	9.9378+20	0.0000
14	4.20000+00	2.1379+08	5.9657+07	1.4210+06	5.1672+03	2.3573+02	7.2790+02	5.0354+04	3.3152+11	5.4308+22	0.0000
15	4.50000+00	1.5555+08	4.1233+07	5.4693+05	3.3378+03	1.6380+02	2.7818+06	9.1103+22	0.0000	0.0000	0.0000
16	4.80000+00	1.1494+08	2.8924+07	1.0976+05	1.8289+03	9.2392+01	1.5735+06	5.1532+22	0.0000	0.0000	0.0000
17	5.10000+00	8.3432+07	2.0043+07	2.9494+04	6.5222+02	3.2948+01	5.6113+07	1.8377+22	0.0000	0.0000	0.0000
18	5.40000+00	5.7423+07	1.3220+07	2.3160+03	5.1262+01	2.5896+00	4.4103+08	1.4444+23	0.0000	0.0000	0.0000
19	5.70000+00	3.4529+07	7.3699+06	3.8782+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	1.7410+07	3.1282+06	1.6950+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	9.3522+06	1.2996+06	3.0657+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	6.1452+06	7.7967+05	8.2560+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	3.4091+06	3.7481+05	1.4458+14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	1.3371+06	9.4774+04	3.6620+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	3.0466+05	1.6421+03	6.3261+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.73

SOURCE 1 (WATER), 200 DAYS, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	5.5013-02	7.1643-02	1.4146-01	2.3144-01	2.7230-01	4.4172-01	4.4897-01	3.3534-01	2.8255-01	1.7339-01
2	6.00000+01	1.7955-01	2.3053-01	4.2269-01	5.9500-01	6.3646-01	7.4928-01	7.3496-01	5.5293-01	4.2608-01	2.2612-01
3	9.00000+01	3.1821-01	4.0131-01	6.8563-01	8.5636-01	8.7756-01	8.7784-01	8.4483-01	7.0863-01	5.9238-01	3.1350-01
4	1.20000+00	4.2938-01	5.2841-01	8.3335-01	9.5275-01	9.8414-01	9.4502-01	9.1783-01	8.3074-01	7.4101-01	4.3602-01
5	1.50000+00	5.1860-01	6.1999-01	9.0298-01	9.7299-01	9.8022-01	9.6840-01	9.5072-01	8.9187-01	8.2593-01	5.7730-01
6	1.80000+00	5.9972-01	6.9629-01	9.4448-01	9.8381-01	9.8845-01	9.8044-01	9.6849-01	9.2911-01	8.6503-01	7.2172-01
7	2.10000+00	6.7268-01	7.5979-01	9.6849-01	9.9118-01	9.9408-01	9.8971-01	9.8314-01	9.5156-01	9.3743-01	8.4872-01
8	2.40000+00	7.3560-01	8.1855-01	9.8019-01	9.9590-01	9.9769-01	9.9595-01	9.9335-01	9.8483-01	9.7528-01	9.3965-01
9	2.70000+00	7.9112-01	8.5350-01	9.8701-01	9.9844-01	9.9944-01	9.9916-01	9.9862-01	9.9684-01	9.9484-01	9.8890-01
10	3.00000+00	8.4043-01	8.9095-01	9.9185-01	9.9986-01	9.9987-01	9.9990-01	9.9983-01	9.9961-01	9.9935-01	9.9819-01
11	3.30000+00	8.8202-01	9.2196-01	9.9530-01	9.9988-01	9.9998-01	9.9999-01	9.9998-01	9.9996-01	9.9993-01	9.9981-01
12	3.60000+00	9.1489-01	9.4582-01	9.9750-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.3981-01	9.6330-01	9.9886-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.5826-01	9.7573-01	9.9993-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.7187-01	9.8832-01	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.8159-01	9.9035-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.8879-01	9.9453-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9375-01	9.9728-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9673-01	9.9882-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9823-01	9.9947-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9903-01	9.9974-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	9.9956-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9986-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (WATER), 200 DAYS, 1 WATT, PURE U-235

Figure 3.48

SOURCE 1 (WATER), 200 DAYS, 1 WATT, PURE U-235

Figure 3.49

Table 3.74

SOURCE 2 (A1¹³), EQUILIBRIUM, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

-----COOLING TIMES-----												
GROUP	E(MEV)	SMUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	1.50000+01	6.0012+08	3.4410+08	2.9398+08	2.1098+08	1.5414+08	8.1963+07	3.6562+07	2.3225+06	4.7112+04	5.7213+03	
2	3.00000+01	8.6509+08	5.4521+08	3.1925+08	1.4099+08	6.9921+07	5.5395+06	2.1432+06	2.7889+05	1.9541+04	2.0252+05	
3	4.50000+01	3.2383+08	2.1744+08	9.7413+07	4.4363+07	4.1876+07	3.9794+07	2.2316+07	3.3231+06	2.2956+05	2.1903+06	
4	6.00000+01	5.0592+08	3.0302+08	1.5095+08	7.5520+07	5.2379+07	6.1411+06	2.9012+05	1.4658+05	1.2311+05	1.1529+05	
5	7.50000+01	2.2484+08	1.5954+08	8.5202+07	8.9885+06	6.0432+06	4.4489+06	2.3989+06	3.5709+05	2.4704+04	4.3067+01	
6	9.00000+01	4.2171+08	3.4167+08	1.8358+08	1.0327+07	4.2156+06	3.9823+05	3.4710+03	1.1347+02	2.0491+01	1.5232+03	
7	1.05000+00	9.1009+07	7.3029+07	4.0817+07	3.6829+06	9.7346+05	7.6490+02	1.1433+02	3.3209+01	5.9929+00	3.8971+07	
8	1.20000+00	2.2794+08	1.1346+08	4.6656+07	8.9976+06	2.8409+06	3.3006+04	2.4307+02	2.2949+05	2.0685+15	0.0000	
9	1.35000+00	1.8679+08	9.8572+07	3.6277+07	1.1735+07	4.7386+06	2.3839+05	1.8359+03	3.4705+01	2.2311+01	6.0040+03	
10	1.50000+00	6.3716+07	4.5818+07	4.5868+07	3.2186+06	8.7809+05	5.6131+02	1.7953+04	2.4452+05	2.0845+05	9.8630+06	
11	1.65000+00	9.4704+07	5.5139+07	1.9275+07	1.6277+06	2.6147+05	1.6498+03	1.3135+03	3.8152+02	6.8848+01	4.4771+06	
12	1.80000+00	1.1852+08	7.9805+07	2.4503+07	6.2624+06	1.9035+06	1.2380+03	3.0979+04	6.3604+10	5.8242+10	5.6808+10	
13	1.95000+00	2.8663+07	2.2658+07	2.5406+07	1.8997+06	1.7076+05	5.2162+01	1.3803+05	1.0626+18	0.0000	0.0000	
14	2.10000+00	8.3075+07	6.3117+07	1.3510+07	8.1551+05	9.9334+04	4.3860+01	1.0835+05	2.2803+23	0.0000	0.0000	
15	2.25000+00	3.7099+07	3.0118+07	2.3667+07	1.2234+06	6.8026+04	5.8806+03	7.8677+05	6.2394+05	5.3191+05	2.5168+05	
16	2.40000+00	7.7421+07	6.0180+07	3.5967+07	2.4785+06	1.3826+05	1.1929+01	1.0345+01	3.0047+00	5.4223+01	3.5260+08	
17	2.55000+00	2.2495+07	1.0235+07	1.9387+06	6.4808+04	3.5716+03	4.8638+01	4.2188+01	1.2254+01	2.2113+00	1.4380+07	
18	2.70000+00	2.1120+07	1.7902+07	1.2032+07	2.1544+05	1.1145+04	2.5770+04	8.0060+20	0.0000	0.0000	0.0000	
19	2.85000+00	1.4605+07	5.5877+06	6.0029+05	2.2244+04	1.2199+03	2.8269+05	1.4762+20	0.0000	0.0000	0.0000	
20	3.00000+00	1.2469+07	6.7957+06	8.6791+03	7.6877+01	3.4634+01	9.4145+01	8.1660+01	2.3719+01	4.2804+02	2.7834+09	
21	3.15000+00	4.8931+06	3.5664+06	3.5950+05	2.6936+04	1.5044+03	3.1380+01	2.7216+01	7.9052+02	1.4266+02	9.2767+10	
22	3.30000+00	1.9792+06	1.4480+06	3.1563+05	2.4701+04	1.3795+03	3.1973+05	1.1926+20	0.0000	0.0000	0.0000	
23	3.45000+00	5.3629+06	6.1556+06	4.0145+05	5.8863+02	8.7826+01	8.0461+09	3.9890+21	0.0000	0.0000	0.0000	
24	3.60000+00	3.6226+06	4.4270+06	1.9398+05	1.2909+04	7.2092+02	1.6707+05	5.1904+21	0.0000	0.0000	0.0000	
25	3.75000+00	2.8697+06	2.4475+06	1.6498+04	2.3939+02	1.9353+01	3.0942+07	9.6129+23	0.0000	0.0000	0.0000	
26	3.90000+00	1.1652+06	1.3407+06	1.2883+03	3.2532+02	1.5987+04	1.7198+18	0.0000	0.0000	0.0000	0.0000	
27	4.05000+00	2.8557+06	1.9646+06	2.4283+04	1.2751+03	7.1210+01	1.6503+06	5.1269+22	0.0000	0.0000	0.0000	
28	4.20000+00	4.4801+05	2.4403+06	9.8971+03	6.9722+03	1.4108+09	0.0000	0.0000	0.0000	0.0000	0.0000	
29	4.35000+00	3.7885+05	6.7721+05	3.9312+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
30	4.50000+00	4.7366+05	2.0413+06	4.3651+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
31	4.65000+00	5.7031+04	5.2710+05	2.3984+03	1.9126+02	1.0681+01	2.4754+07	7.6903+23	0.0000	0.0000	0.0000	
32	4.80000+00	5.7031+04	4.7305+04	9.7881+04	7.8091+03	4.3612+02	1.0107+05	3.1399+21	0.0000	0.0000	0.0000	
33	4.95000+00	0.0000	4.8488+03	7.1919+03	5.7378+02	3.2044+01	7.4262+07	2.3071+22	0.0000	0.0000	0.0000	
34	5.10000+00	0.0000	8.3596+04	1.7279+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
35	5.25000+00	0.0000	2.2156+05	4.8380+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
36	5.40000+00	0.0000	1.4084+05	3.0756+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
37	5.55000+00	0.0000	3.5038+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
38	5.70000+00	0.0000	1.8920+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
39	5.85000+00	0.0000	2.9432+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
40	6.00000+00	0.0000	6.8888+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Table 3.75

SOURCE 2 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

-----COOLING TIMES-----												
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	1.50000+01	4.5009+07	2.5807+07	2.2049+07	1.5823+07	1.1560+07	6.1472+06	2.7421+06	1.7419+05	3.5334+03	4.2910+04	
2	3.00000+01	1.9465+08	1.2267+08	7.1832+07	3.1722+07	1.5732+07	1.2464+06	4.8221+05	6.2751+04	4.3967+03	4.5568+06	
3	4.50000+01	1.2144+08	6.1542+07	3.6530+07	1.6636+07	1.5703+07	1.4923+07	6.3687+06	1.2462+06	8.6085+04	8.2136+07	
4	6.00000+01	2.6561+08	1.5908+08	7.9249+07	3.9648+07	2.7499+07	3.2241+06	1.5231+05	7.6954+04	6.4630+04	6.0525+04	
5	7.50000+01	1.5177+08	1.0769+08	5.7511+07	6.0672+06	4.0791+06	3.0030+06	1.6192+06	2.4104+05	1.6678+04	2.9070+01	
6	9.00000+01	3.4791+08	2.8188+08	1.5145+08	8.5200+06	3.4779+06	3.2854+05	2.6635+03	4.3612+01	1.6905+01	1.0916+03	
7	1.05000+00	8.8733+07	7.1203+07	3.9796+07	3.5904+06	9.4913+05	7.4578+02	1.1147+02	3.2379+01	5.8431+00	3.7997+07	
8	1.20000+00	2.5643+08	1.2764+08	5.2488+07	1.0122+07	3.1960+06	3.7131+04	2.7346+02	2.5818+05	2.3270+15	0.0000	
9	1.35000+00	2.3816+08	1.2568+08	4.6190+07	1.4962+07	6.0417+06	3.0395+05	2.3408+03	4.4249+01	2.8447+01	7.6551+03	
10	1.50000+00	9.0796+07	6.5291+07	6.5361+07	4.5865+06	1.2513+06	7.9987+02	2.5583+04	3.4844+05	2.9704+05	1.4055+06	
11	1.65000+00	1.4916+08	8.6843+07	3.0357+07	2.5637+06	4.1181+05	2.5984+03	2.6687+03	6.0089+02	1.0844+02	7.0514+06	
12	1.80000+00	2.0444+08	1.3766+08	4.2267+07	1.0803+07	3.2836+06	2.1355+03	5.3439+04	1.0972+09	1.0047+09	9.7994+10	
13	1.95000+00	5.3743+07	4.2484+07	4.7635+07	3.5620+06	3.2017+05	9.7805+01	2.5881+05	1.9925+18	0.0000	0.0000	
14	2.10000+00	1.6823+08	1.2781+08	2.7358+07	1.6514+06	2.0117+05	8.8817+01	2.1940+05	4.6175+23	0.0000	0.0000	
15	2.25000+00	8.0690+07	6.5506+07	5.1477+07	2.6610+06	1.4796+05	1.2790+02	1.7112+04	1.3571+04	1.1569+04	5.4740+05	
16	2.40000+00	1.8000+08	1.3992+08	8.3623+07	5.7624+06	3.2195+05	2.7736+01	2.4051+01	6.9860+00	1.2607+00	8.1980+08	
17	2.55000+00	5.5676+07	2.5331+07	4.7982+06	1.6040+05	8.8397+03	1.2038+02	1.0441+02	3.0329+01	5.4731+00	3.5590+07	
18	2.70000+00	5.5440+07	4.6994+07	3.1584+07	5.6554+05	2.9255+04	6.7646+04	2.1016+19	0.0000	0.0000	0.0000	
19	2.85000+00	4.0528+07	1.5506+07	1.6658+06	6.1727+04	3.3853+03	7.0446+05	4.0965+20	0.0000	0.0000	0.0000	
20	3.00000+00	3.6472+07	1.9877+07	2.5386+06	2.2486+00	1.0131+00	2.7536+00	2.3886+00	6.9379+01	1.2520+01	8.1416+09	
21	3.15000+00	1.5046+07	1.0967+07	1.1055+06	8.2827+04	4.6260+03	9.6494+01	8.3688+01	2.4308+01	4.3867+02	2.8526+09	
22	3.30000+00	6.3829+06	4.6698+06	1.0179+06	7.9662+04	4.4489+03	1.0311+04	3.8643+20	0.0000	0.0000	0.0000	
23	3.45000+00	1.8100+07	2.0775+07	1.3549+06	1.9191+03	2.9641+00	2.7155+08	1.3463+20	0.0000	0.0000	0.0000	
24	3.60000+00	1.2770+07	1.7368+07	6.8379+05	4.5504+04	2.5012+03	5.8893+05	1.8296+20	0.0000	0.0000	0.0000	
25	3.75000+00	1.0546+07	8.9947+06	6.0632+04	8.7975+02	4.9073+01	1.1371+06	3.5327+22	0.0000	0.0000	0.0000	
26	3.90000+00	4.4567+06	5.1283+06	4.9279+03	1.2443+01	6.1149+04	6.5783+18	0.0000	0.0000	0.0000	0.0000	
27	4.05000+00	1.1352+07	7.8091+06	9.6524+04	5.0685+03	2.8306+02	6.5598+06	2.0379+21	0.0000	0.0000	0.0000	
28	4.20000+00	1.4811+06	1.0066+07	4.0826+04	2.8760+02	5.8194+09	0.0000	0.0000	0.0000	0.0000	0.0000	
29	4.35000+00	1.6196+06	2.8951+06	1.6806+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
30	4.50000+00	1.8747+06	9.0328+06	1.9315+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
31	4.65000+00	2.6092+05	2.4115+06	1.0973+04	8.7502+02	4.8868+01	1.1325+06	3.5183+22	0.0000	0.0000	0.0000	
32	4.80000+00	2.6947+05	2.2352+05	4.6249+05	3.6894+04	2.0607+03	4.7755+05	1.4836+20	0.0000	0.0000	0.0000	
33	4.95000+00	0.0000	2.3634+04	3.5061+04	2.7972+03	1.5622+02	3.6203+06	1.1247+21	0.0000	0.0000	0.0000	
34	5.10000+00	0.0000	4.2007+05	8.6825+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
35	5.25000+00	0.0000	1.1466+06	2.5037+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
36	5.40000+00	0.0000	7.4999+05	1.6378+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
37	5.55000+00	0.0000	1.9183+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
38	5.70000+00	0.0000	1.0643+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
39	5.85000+00	0.0000	1.6997+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
40	6.00000+00	0.0000	4.0697+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Table 3.76

SOURCE 2 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.5470+02	1.3040+02	2.3255+02	8.8042+02	1.2268+01	2.1038+01	2.0508+01	9.6672+02	2.0138+02	7.0862+09
2	3.00000+01	8.2372+02	7.5023+02	9.9018+02	2.6454+01	2.8963+01	2.5303+01	2.4112+01	1.3150+01	8.5193+02	7.1613+09
3	4.50000+01	1.2411+01	1.1622+01	1.3755+01	3.5711+01	4.5678+01	7.6375+01	8.6694+01	8.2310+01	5.3581+01	7.1750+09
4	6.00000+01	2.1540+01	1.9661+01	2.2113+01	5.7771+01	7.4810+01	8.7408+01	8.7833+01	8.6581+01	9.0416+01	9.9952+01
5	7.50000+01	2.6757+01	2.5102+01	2.8179+01	6.1147+01	7.9139+01	9.7686+01	9.9942+01	9.9958+01	9.9921+01	1.0000+00
6	9.00000+01	3.8715+01	3.9345+01	4.4153+01	6.5888+01	8.2830+01	9.8810+01	9.9963+01	9.9963+01	9.9931+01	1.0000+00
7	1.05000+00	4.1765+01	4.2943+01	4.8350+01	6.7886+01	8.3837+01	9.8813+01	9.9954+01	9.9965+01	9.9934+01	1.0000+00
8	1.20000+00	5.0579+01	4.9392+01	5.3886+01	7.3518+01	8.7229+01	9.8940+01	9.9966+01	9.9965+01	9.9934+01	1.0000+00
9	1.35000+00	5.8765+01	5.5742+01	5.8758+01	8.1842+01	9.3640+01	9.9980+01	9.9984+01	9.9965+01	9.9934+01	1.0000+00
10	1.50000+00	6.1886+01	5.9041+01	6.5652+01	8.4394+01	9.4968+01	9.9983+01	9.9984+01	9.9965+01	9.9934+01	1.0000+00
11	1.65000+00	6.7012+01	6.3429+01	6.8853+01	8.5821+01	9.5405+01	9.9992+01	9.9999+01	9.9998+01	9.9996+01	1.0000+00
12	1.80000+00	7.4039+01	7.0385+01	7.3311+01	9.1831+01	9.8890+01	9.9999+01	9.9999+01	9.9998+01	9.9996+01	1.0000+00
13	1.95000+00	7.5886+01	7.2532+01	7.8336+01	9.3813+01	9.9229+01	9.9999+01	9.9999+01	9.9998+01	9.9996+01	1.0000+00
14	2.10000+00	8.1669+01	7.8990+01	8.1221+01	9.4732+01	9.9443+01	9.9999+01	9.9999+01	9.9998+01	9.9996+01	1.0000+00
15	2.25000+00	8.4442+01	8.2300+01	8.6650+01	9.6213+01	9.9600+01	9.9999+01	9.9999+01	9.9998+01	9.9996+01	1.0000+00
16	2.40000+00	9.0629+01	8.9369+01	9.5470+01	9.9419+01	9.9941+01	1.0000+00	9.9999+01	9.9998+01	9.9997+01	1.0000+00
17	2.55000+00	9.2543+01	9.0649+01	9.5976+01	9.9508+01	9.9950+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	2.70000+00	9.4448+01	9.3024+01	9.9308+01	9.9823+01	9.9981+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	2.85000+00	9.5841+01	9.3807+01	9.9481+01	9.9857+01	9.9985+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	3.00000+00	9.7095+01	9.4812+01	9.9886+01	9.9857+01	9.9985+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	3.15000+00	9.7612+01	9.5366+01	9.9603+01	9.9903+01	9.9990+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.7831+01	9.5602+01	9.9710+01	9.9948+01	9.9995+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.8453+01	9.6652+01	9.9853+01	9.9949+01	9.9995+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.8892+01	9.7529+01	9.9925+01	9.9978+01	9.9997+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.9255+01	9.7984+01	9.9931+01	9.9975+01	9.9997+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.9608+01	9.8243+01	9.9932+01	9.9977+01	9.9997+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.9798+01	9.8637+01	9.9942+01	9.9977+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.9862+01	9.9146+01	9.9946+01	9.9977+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9917+01	9.9292+01	9.9946+01	9.9977+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9982+01	9.9749+01	9.9946+01	9.9977+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9991+01	9.9870+01	9.9948+01	9.9978+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	1.0000+00	9.9882+01	9.9996+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	1.0000+00	9.9883+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	1.0000+00	9.9904+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	1.0000+00	9.9962+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235

SOURCE 2 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235

Figure 3.51

Table 3.77

SOURCE 2 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235

RFTA SPECTRA (BETAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+00	9.4077+08	7.7782+08	5.9795+08	3.4171+08	2.6269+08	1.4815+08	8.2798+07	2.5015+07	1.8508+07	1.7279+07
2	6.00000+00	4.8067+08	3.7818+08	2.4677+08	9.2518+07	4.9821+07	1.2967+07	9.9089+06	8.5029+06	8.1990+06	7.7340+06
3	9.00000+00	2.6981+08	1.9127+08	9.8085+07	2.8341+07	1.4055+07	8.3988+05	1.3025+05	1.4207+05	1.4629+05	1.3804+05
4	1.20000+00	1.9423+08	1.2130+08	4.1531+07	5.1843+06	2.4281+06	1.7026+05	2.2097+03	6.5085+02	4.4154+02	8.7756+00
5	1.50000+00	1.6649+08	9.5801+07	2.6502+07	9.0725+05	1.0883+05	2.0559+03	1.6032+02	1.2201+02	8.2040+01	2.2836+00
6	1.80000+00	1.4565+08	7.9778+07	2.1210+07	6.4365+05	3.5865+04	1.2985+01	5.4563+00	2.6084+00	9.8978+01	5.4505+01
7	2.10000+00	1.2149+08	6.3851+07	1.7076+07	5.7092+05	2.8847+04	2.6971+00	1.2424+00	6.4457+01	2.9544+01	1.9882+01
8	2.40000+00	9.6823+07	4.8885+07	1.3318+07	5.1348+05	2.4786+04	3.1105+01	2.0299+02	1.7341+02	1.4641+02	1.3324+02
9	2.70000+00	7.7265+07	3.7435+07	1.0383+07	4.7056+05	2.2730+04	5.0476+02	1.7837+04	1.9952+04	1.9378+04	9.2265+05
10	3.00000+00	6.1868+07	2.8100+07	8.1656+06	4.5046+05	2.0868+04	1.3431+03	2.8555+05	3.2205+05	3.1278+05	1.4892+05
11	3.30000+00	4.6996+07	1.9632+07	6.3677+06	3.7974+05	1.8480+04	3.0889+04	1.7165+18	0.0000	0.0000	0.0000
12	3.60000+00	3.3143+07	1.2306+07	4.9078+06	3.2212+05	1.5720+04	2.5916+04	3.8679+19	0.0000	0.0000	0.0000
13	3.90000+00	2.1624+07	6.7801+06	1.7671+06	2.5986+05	1.2700+04	2.0949+04	7.1949+20	0.0000	0.0000	0.0000
14	4.20000+00	1.3192+07	3.2029+06	2.7674+06	1.9287+05	9.4283+03	1.5512+04	5.3588+20	0.0000	0.0000	0.0000
15	4.50000+00	7.8004+06	1.3537+06	1.8054+06	1.2625+05	6.1717+03	1.0154+04	3.1989+20	0.0000	0.0000	0.0000
16	4.80000+00	4.8548+06	6.4939+05	9.5492+05	6.6805+04	3.2658+03	5.3730+05	1.8472+20	0.0000	0.0000	0.0000
17	5.10000+00	2.8673+06	3.0392+05	3.1990+05	2.2380+04	1.0940+03	1.8000+05	6.1881+21	0.0000	0.0000	0.0000
18	5.40000+00	1.4636+06	1.4954+05	2.3707+04	1.6585+03	8.1074+01	1.3339+06	4.5857+22	0.0000	0.0000	0.0000
19	5.70000+00	5.5535+05	6.5227+04	8.4828+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	8.2309+04	2.8310+04	2.6881+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	4.0621+02	3.9577+03	4.6246+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	5.0863+01	1.1875+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	2.9493+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	1.3172+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	2.9505+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.70

SOURCE 2 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	1.4112+08	1.1667+08	9.9693+07	5.1256+07	3.9403+07	2.2223+07	1.2420+07	3.7523+06	2.7762+06	2.5918+06
2	6.00000+01	2.1630+08	1.7018+08	1.1105+08	4.1633+07	2.2419+07	5.8351+06	4.4590+06	3.8263+06	3.6895+06	3.4803+06
3	9.00000+01	2.0236+08	1.4346+08	7.3564+07	2.1255+07	1.0541+07	6.2991+05	9.7685+04	1.0655+05	1.0972+05	1.0353+05
4	1.20000+00	2.0394+08	1.2736+08	4.3608+07	5.4435+06	2.5495+06	1.7878+05	2.3202+03	6.8339+02	4.6361+02	9.2144+01
5	1.50000+00	2.2476+08	1.2933+08	1.5778+07	1.2248+06	1.4666+05	2.7754+03	2.1643+02	1.6471+02	1.1075+02	3.0829+00
6	1.80000+00	2.4033+08	1.3163+08	3.4996+07	1.0620+06	5.9177+04	2.1425+01	9.0029+00	4.3039+00	1.6331+00	8.9934+01
7	2.10000+00	2.3691+08	1.2451+08	3.3298+07	1.1133+06	5.0251+04	5.2594+00	2.4227+00	1.2569+00	5.7611+01	3.6770+01
8	2.40000+00	2.1785+08	1.0999+08	2.9964+07	1.1553+06	5.5769+04	5.9987+01	4.5673+02	3.9016+02	3.2942+02	2.9978+02
9	2.70000+00	1.9703+08	9.5458+07	2.6476+07	1.1999+06	5.7960+04	1.2871+01	4.5484+04	5.0878+04	4.9414+04	2.3528+04
10	3.00000+00	1.7632+08	8.0085+07	2.3272+07	1.2268+06	5.9474+04	3.8279+03	8.1382+05	9.1783+05	8.9143+05	4.2443+05
11	3.30000+00	1.4804+08	6.1840+07	2.0058+07	1.1962+06	5.8212+04	9.6669+04	5.4070+18	0.0000	0.0000	0.0000
12	3.60000+00	1.1434+08	4.2456+07	1.6932+07	1.1113+06	5.4236+04	8.9411+04	1.3344+18	0.0000	0.0000	0.0000
13	3.90000+00	8.1090+07	2.5351+07	1.4127+07	9.7449+05	4.7624+04	7.8353+04	2.6481+19	0.0000	0.0000	0.0000
14	4.20000+00	5.3430+07	1.2972+07	1.1188+07	7.8111+05	3.8185+04	6.2824+04	2.1598+19	0.0000	0.0000	0.0000
15	4.50000+00	3.3932+07	5.8887+06	7.8534+06	5.4919+05	2.6847+04	4.4170+04	1.5185+19	0.0000	0.0000	0.0000
16	4.80000+00	2.2675+07	3.0197+06	4.4404+06	3.1064+05	1.5186+04	2.4985+04	8.5894+20	0.0000	0.0000	0.0000
17	5.10000+00	1.4193+07	1.5044+06	1.5835+06	1.1078+05	5.4155+03	8.9099+05	3.0631+20	0.0000	0.0000	0.0000
18	5.40000+00	7.6839+06	7.8510+05	1.2446+05	8.7070+03	4.2564+02	7.0029+06	2.4075+21	0.0000	0.0000	0.0000
19	5.70000+00	2.9712+06	3.6201+05	3.5980+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	4.8151+05	1.4221+05	1.5726+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	2.4982+03	2.4340+04	2.8441+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	3.2807+02	7.6594+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	1.9908+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	9.2865+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	2.1686+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.79

SOURCE 2 (AIR), EQUILIBRIUM, 1 WATT, PWF U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	5.5653-02	8.4361-02	1.5518-01	3.8944-01	5.2124-01	7.6977-01	7.3148-01	4.8A20-01	4.2217-01	4.1968-01
2	6.00000+01	1.4096-01	2.0741-01	1.0710-01	7.057A-01	8.17A2-01	9.7189-01	9.9410-01	9.8603-01	9.8123-01	9.8123-01
3	9.00000+01	2.2076-01	3.1114-01	4.7457-01	8.6728-01	9.5726-01	9.4371-01	9.9985-01	9.9989-01	9.9991-01	1.0000+00
4	1.20000+00	3.0119-01	4.0323-01	5.5002-01	9.0864-01	9.4099-01	9.9940-01	9.9990-01	9.9998-01	9.9998-01	1.0000+00
5	1.50000+00	3.89A3-01	4.9674-01	6.1192-01	9.1794-01	9.9293-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
6	1.80000+00	4.8461-01	5.9192-01	6.7246-01	9.2601-01	9.9371-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
7	2.10000+00	5.7804-01	6.8194-01	7.3007-01	9.3447-01	9.9445-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
8	2.40000+00	6.6396-01	7.6147-01	7.8191-01	9.4325-01	9.9519-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	7.4166-01	8.3049-01	8.2772-01	9.5237-01	9.9596-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	8.1120-01	8.8A40-01	8.6798-01	9.6169-01	9.9674-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	8.6958-01	9.3311-01	9.0269-01	9.7078-01	9.9751-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.1467-01	9.6381-01	9.3198-01	9.7922-01	9.9823-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.4665-01	9.8214-01	9.5642-01	9.8662-01	9.98A6-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.6772-01	9.9152-01	9.7578-01	9.9256-01	9.9937-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.8111-01	9.9578-01	9.8936-01	9.9671-01	9.9972-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.9001-01	9.9796-01	9.9705-01	9.9909-01	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9561-01	9.9905-01	9.9978-01	9.9993-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9864-01	9.9962-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.99A1-01	9.9988-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	1.0000+00	9.999A-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235

SOURCE 2 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235

Figure 3.53

Table 3.80

SOURCE 2 (AIR), 5000 DAYS, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

-----COOLING TIMES-----											
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	6.0010+08	3.4408+08	2.9396+08	2.1096+08	1.5413+08	8.1978+07	3.6574+07	2.3216+06	4.6139+04	5.1881+03
2	3.00000+01	8.6508+08	5.4519+08	3.1924+08	1.4098+08	6.9916+07	5.5405+06	2.1439+06	2.7879+05	1.9138+04	1.8365+05
3	4.50000+01	3.2383+08	2.1744+08	9.7411+07	4.4361+07	4.1874+07	3.9804+07	2.2325+07	3.3219+06	2.2483+05	1.9862+06
4	6.00000+01	5.0585+08	3.0296+08	1.5090+08	7.5466+07	5.2322+07	6.0718+06	2.2371+05	9.1222+04	7.1137+04	6.1365+04
5	7.50000+01	2.2484+08	1.5954+08	8.5201+07	8.9881+06	6.0429+06	4.4499+06	2.3997+06	3.5696+05	2.4199+04	3.0053+01
6	9.00000+01	4.2171+08	3.4167+08	1.8358+08	1.0327+07	4.2155+06	3.9832+05	3.4723+03	1.1343+02	2.0069+01	1.1998+03
7	1.05000+00	9.1008+07	7.3028+07	4.0816+07	3.6827+06	9.7343+05	7.6508+02	1.1438+02	3.3197+01	5.8694+00	3.5339+07
8	1.20000+00	2.2794+08	1.1346+08	4.6655+07	8.9972+06	2.8408+06	3.3013+04	2.4316+02	2.2940+05	2.0258+15	0.0000
9	1.35000+00	1.8679+08	9.8572+07	3.6227+07	1.1734+07	4.7384+06	2.3844+05	1.8366+03	3.4692+01	2.1851+01	5.4444+03
10	1.50000+00	6.3716+07	4.5818+07	4.5867+07	3.2185+06	8.7806+05	5.6144+02	1.7960+04	2.4443+05	2.0415+05	8.9438+06
11	1.65000+00	9.4704+07	5.5138+07	1.9274+07	1.6277+06	2.6146+05	1.6502+03	1.3140+03	3.8137+02	6.7429+01	4.0598+06
12	1.80000+00	1.1852+08	7.9805+07	2.4502+07	6.2621+06	1.9035+06	1.2383+03	3.0991+04	6.3581+10	5.7041+10	5.1514+10
13	1.95000+00	2.6663+07	2.2658+07	2.5405+07	1.8996+06	1.7075+05	5.2174+01	1.3888+05	1.0622+18	0.0000	0.0000
14	2.10000+00	8.3074+07	6.3116+07	1.3510+07	8.1547+05	9.9339+04	4.3870+01	1.0839+05	2.2794+23	0.0000	0.0000
15	2.25000+00	3.7099+07	3.0118+07	2.3667+07	1.2234+06	6.8023+04	5.8819+03	7.8706+05	6.2371+05	5.2095+05	2.2822+05
16	2.40000+00	7.7421+07	7.0179+07	3.5966+07	2.4784+06	1.3825+05	1.1932+01	1.0348+01	3.0036+00	5.3105+01	3.1974+08
17	2.55000+00	2.2495+07	1.0235+07	1.9386+06	6.4805+04	3.5715+03	4.8649+01	4.2203+01	1.2249+01	2.1658+00	1.3040+07
18	2.70000+00	2.1120+07	1.7902+07	1.7032+07	2.1544+05	1.1144+04	2.5776+04	8.0089+20	0.0000	0.0000	0.0000
19	2.85000+00	1.4605+07	5.5877+06	6.0028+05	2.2243+04	1.2149+03	2.8275+05	1.4768+20	0.0000	0.0000	0.0000
20	3.00000+00	1.2459+07	6.7957+06	8.6700+03	7.6874+01	3.4633+01	9.4167+01	8.1690+01	2.3711+01	4.1921+02	2.5240+09
21	3.15000+00	4.8931+06	3.5664+06	3.5950+05	2.6935+04	1.5081+03	3.1387+01	2.7226+01	7.9022+02	1.3972+02	8.4121+10
22	3.30000+00	1.9792+06	1.4480+06	3.1563+05	2.4700+04	1.3746+03	3.1981+05	1.1931+20	0.0000	0.0000	0.0000
23	3.45000+00	5.3628+06	6.1556+06	4.0144+05	5.6880+02	8.7822+01	8.0479+09	3.9905+21	0.0000	0.0000	0.0000
24	3.60000+00	3.6226+06	4.9270+06	1.9398+05	1.2908+04	7.2089+02	1.6711+05	5.1923+21	0.0000	0.0000	0.0000
25	3.75000+00	2.8697+06	2.4475+06	1.6498+04	2.3938+02	1.3353+01	3.0950+07	9.6164+23	0.0000	0.0000	0.0000
26	3.90000+00	1.1652+06	1.3407+06	1.2883+03	3.2530+02	1.5986+04	1.7202+18	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	2.8557+06	1.9645+06	2.4282+04	1.2750+03	7.1207+01	1.6506+06	5.1288+22	0.0000	0.0000	0.0000
28	4.20000+00	4.4801+05	2.4402+06	9.8970+03	4.9719+03	1.4107+09	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	3.7885+05	6.7721+05	3.9311+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	4.2368+05	2.0413+06	4.3650+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	5.7031+04	5.2710+05	2.3984+03	1.9125+02	1.0681+01	2.4760+07	7.6931+23	0.0000	0.0000	0.0000
32	4.80000+00	5.7031+04	4.7305+04	9.7880+04	4.7088+03	4.3610+02	1.0109+05	3.1411+21	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	4.8479+03	7.1918+03	5.3787+02	3.2043+01	7.4279+07	2.3079+22	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	8.3596+04	1.7278+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	2.2156+05	4.8310+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	1.4084+05	3.0110+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	3.5037+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	1.8920+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	2.9431+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	6.8687+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.31

SOURCE 2 (AIR), 5000 DAYS, 1 WAIT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

[illegible]

Table 3.32

SOURCE 2 (AIR), 5000 DAYS, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	SHUTDOWN	COOLING TIMES								
			60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.5470+02	1.3039+02	2.3255+02	8.8052+02	1.2271+01	2.1064+01	2.0559+01	9.8252+02	2.3719+02	1.2068+08
2	3.00000+01	8.2372+02	7.5023+02	9.9017+02	2.6458+02	2.8971+01	2.5335+01	2.4175+01	1.3365+01	5.3234+02	1.2190+08
3	4.50000+01	1.2411+01	1.1622+01	1.3755+01	3.5716+01	4.5641+01	7.6471+01	8.6921+01	8.3658+01	6.3112+01	1.2249+08
4	6.00000+01	2.1539+01	1.9659+01	2.2111+01	5.7764+01	7.4802+01	8.7392+01	8.7801+01	8.6311+01	8.8711+01	9.9918+01
5	7.50000+01	2.6756+01	2.5101+01	2.8177+01	6.1141+01	7.9132+01	9.7683+01	9.9942+01	9.9957+01	9.9907+01	1.0000+00
6	9.00000+01	3.8714+01	3.9344+01	4.4151+01	6.5887+01	8.2824+01	9.8809+01	9.9963+01	9.9962+01	9.9918+01	1.0000+00
7	1.75000+00	4.1764+01	4.2942+01	4.8349+01	6.7880+01	8.3832+01	9.8811+01	9.9964+01	9.9964+01	9.9922+01	1.0000+00
8	1.20000+00	5.0578+01	4.9391+01	5.3885+01	7.3513+01	8.7224+01	9.8938+01	9.9966+01	9.9964+01	9.9922+01	1.0000+00
9	1.35000+00	5.8764+01	5.5741+01	5.8757+01	8.1840+01	9.3638+01	9.9980+01	9.9984+01	9.9964+01	9.9923+01	1.0000+00
10	1.50000+00	6.1885+01	5.9041+01	6.5651+01	8.4392+01	9.4966+01	9.9983+01	9.9984+01	9.9964+01	9.9923+01	1.0000+00
11	1.65000+00	7.6012+01	6.3429+01	6.8852+01	8.5819+01	9.5403+01	9.9992+01	9.9999+01	9.9998+01	9.9995+01	1.0000+00
12	1.80000+00	7.4039+01	7.0385+01	7.3311+01	9.1830+01	9.8899+01	9.9999+01	9.9999+01	9.9998+01	9.9995+01	1.0000+00
13	1.95000+00	7.5886+01	7.2531+01	7.8335+01	9.3812+01	9.9229+01	9.9999+01	9.9999+01	9.9998+01	9.9995+01	1.0000+00
14	2.10000+00	8.1668+01	7.8989+01	8.1221+01	9.4731+01	9.9403+01	9.9999+01	9.9999+01	9.9998+01	9.9995+01	1.0000+00
15	2.25000+00	8.4442+01	8.2299+01	8.6650+01	9.6212+01	9.9600+01	9.9999+01	9.9999+01	9.9998+01	9.9995+01	1.0000+00
16	2.40000+00	9.0629+01	8.9367+01	9.5470+01	9.9119+01	9.9941+01	1.0000+00	9.9999+01	9.9998+01	9.9995+01	1.0000+00
17	2.55000+00	9.2543+01	9.0649+01	9.5976+01	9.9908+01	9.9950+01	1.0000+00	1.0000+00	9.9998+01	9.9995+01	1.0000+00
18	2.70000+00	9.4448+01	9.3024+01	9.9308+01	9.9823+01	9.9981+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	2.85000+00	9.5841+01	9.3807+01	9.9833+01	9.9857+01	9.9985+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	3.00000+00	9.7095+01	9.4812+01	9.9846+01	9.9857+01	9.9985+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	3.15000+00	9.7812+01	9.5368+01	9.9833+01	9.9903+01	9.9990+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.7831+01	9.5602+01	9.9710+01	9.9948+01	9.9995+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.8854+01	9.6651+01	9.9853+01	9.9949+01	9.9995+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.8892+01	9.7529+01	9.9925+01	9.9974+01	9.9997+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.9256+01	9.7984+01	9.9931+01	9.9975+01	9.9997+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.9408+01	9.8243+01	9.9932+01	9.9975+01	9.9997+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.9798+01	9.8637+01	9.9942+01	9.9977+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.9862+01	9.9146+01	9.9946+01	9.9977+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9917+01	9.9292+01	9.9946+01	9.9977+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9982+01	9.9749+01	9.9946+01	9.9977+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9991+01	9.9870+01	9.9948+01	9.9978+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	1.0000+00	9.9982+01	9.9999+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	1.0000+00	9.9983+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	1.0000+00	9.9990+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	1.0000+00	9.9992+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (AIR), 5000 DAYS, 1 WATT, PURE U-235

SOURCE 2 (AIR), 5000 DAYS, 1 WATT, PURE U-235

Figure 3.55

Table 3.33

SOURCE 2 (AIR), 5000 DAYS, 1 WATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	9.3202+08	7.7023+08	5.9053+08	3.3413+08	2.5477+08	1.3296+08	7.3902+07	1.7342+07	1.0962+07	1.0128+07
2	6.00000+01	4.7677+08	3.7479+08	2.4345+08	8.9265+07	4.6654+07	1.0095+07	6.9117+06	5.1352+06	4.8215+06	4.5333+06
3	9.00000+01	2.8979+08	1.9121+08	9.8005+07	2.8222+07	1.3926+07	7.7448+05	7.8440+04	8.2207+04	8.6014+04	8.0982+04
4	1.20000+00	1.9426+08	1.2129+08	4.1523+07	5.1726+06	2.4148+06	1.6630+05	2.1298+03	6.3473+02	4.4038+02	8.7631+00
5	1.50000+00	1.6652+08	9.5799+07	2.6497+07	9.0521+05	1.0804+05	2.0081+03	1.5453+02	1.1898+02	8.1824+01	2.2804+00
6	1.80000+00	1.4568+08	7.9777+07	2.1206+07	6.4220+05	3.6687+04	1.2683+01	5.2592+00	2.5439+00	9.4716+01	5.4428+01
7	2.10000+00	1.2151+08	6.3850+07	1.7072+07	5.6963+05	2.6688+04	2.6344+00	1.1975+00	6.2661+01	2.9467+01	1.9853+01
8	2.40000+00	9.6840+07	4.8885+07	1.3315+07	5.1233+05	2.4650+04	3.0382+01	1.9566+02	1.6911+02	1.4602+02	1.3305+02
9	2.70000+00	7.7279+07	3.7434+07	1.0381+07	4.6950+05	2.2604+04	4.9303+02	1.7192+04	1.9458+04	1.9327+04	9.2133+05
10	3.00000+00	6.1879+07	2.8100+07	8.1639+06	4.2949+05	2.0753+04	1.3119+03	2.7523+05	3.1407+05	3.1196+05	1.4871+05
11	3.30000+00	4.7004+07	1.9631+07	6.3683+06	3.7889+05	1.8378+04	2.9975+04	1.6545+18	0.0000	0.0000	0.0000
12	3.60000+00	3.3149+07	1.2306+07	4.9068+06	3.2139+05	1.5634+04	2.5314+04	3.7282+19	0.0000	0.0000	0.0000
13	3.90000+00	2.1828+07	6.7600+06	3.7663+06	2.5928+05	1.2630+04	2.0408+04	6.4350+20	0.0000	0.0000	0.0000
14	4.20000+00	1.3195+07	3.2028+06	2.7618+06	1.9243+05	9.3764+03	1.5151+04	5.1402+20	0.0000	0.0000	0.0000
15	4.50000+00	7.8018+06	1.3537+06	1.8050+06	1.2597+05	6.1378+03	9.9181+05	3.3647+20	0.0000	0.0000	0.0000
16	4.80000+00	4.8557+06	6.4938+05	9.5472+05	6.6655+04	3.2478+03	5.2481+05	1.7804+20	0.0000	0.0000	0.0000
17	5.10000+00	2.8678+06	3.0392+05	3.1983+05	2.2337+04	1.0889+03	1.7581+05	5.9645+21	0.0000	0.0000	0.0000
18	5.40000+00	1.4039+06	1.4954+05	2.3702+04	1.6547+03	8.0628+01	1.3029+05	4.4201+22	0.0000	0.0000	0.0000
19	5.70000+00	5.3545+05	6.5226+04	6.4814+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	0.2324+04	2.4310+04	2.8870+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	4.0628+02	3.9576+03	4.6236+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	5.0862+01	1.1873+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	2.9492+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	1.3172+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	2.9565+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.34

SOURCE 2 (AIR), 5000 DAYS, 1 WATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

-----CONLINING TIMES-----												
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	3.00000+01	1.3980+08	1.1553+08	8.8579+07	5.0120+07	3.2216+07	2.0844+07	1.1086+07	2.6013+06	1.6443+06	1.5192+06	
2	6.00000+01	2.1454+08	1.6865+08	1.0955+08	4.0169+07	2.0454+07	4.5427+06	3.1103+06	2.3108+06	2.1697+06	2.0400+06	
3	9.00000+01	2.0234+08	1.4341+08	7.3504+07	2.1167+07	1.0444+07	5.8086+05	5.8830+04	6.1656+04	6.4511+04	6.0692+04	
4	1.20000+00	2.0398+08	1.2736+08	4.3599+07	5.4313+06	2.5355+06	1.7462+05	2.2363+03	6.6647+02	4.6239+02	9.2013+00	
5	1.50000+00	2.2480+08	1.2933+08	3.5771+07	1.2220+06	1.4585+05	2.7109+03	2.0861+02	1.6063+02	1.1046+02	3.0785+00	
6	1.80000+00	2.4037+08	1.3163+08	3.4989+07	1.0596+06	5.8851+04	2.0927+01	8.6727+00	4.1974+00	1.6288+00	8.9806+01	
7	2.10000+00	2.3695+08	1.2451+08	3.3291+07	1.1108+06	5.5941+04	5.1371+00	2.3352+00	1.2758+00	5.7460+01	3.8714+01	
8	2.40000+00	2.1789+08	1.0999+08	2.9458+07	1.1527+06	5.5462+04	6.8360+01	4.4023+02	3.8050+02	3.2855+02	2.9935+02	
9	2.70000+00	1.9706+08	9.5457+07	2.6470+07	1.1972+06	5.7641+04	1.2572+01	4.3841+04	4.9618+04	4.9284+04	2.3494+04	
10	3.00000+00	1.7636+08	8.0084+07	2.3267+07	1.2241+06	5.9147+04	3.7389+03	7.8441+05	8.9510+05	8.8908+05	4.2363+05	
11	3.30000+00	1.4806+08	6.1839+07	2.0054+07	1.1935+06	5.7891+04	9.4422+04	5.2116+18	0.0000	0.0000	0.0000	
12	3.60000+00	1.1437+08	4.2455+07	1.6978+07	1.1088+06	5.3937+04	8.7333+04	1.2862+18	0.0000	0.0000	0.0000	
13	3.90000+00	8.1105+07	2.5350+07	1.4124+07	9.7230+05	4.7361+04	7.6531+04	2.6006+19	0.0000	0.0000	0.0000	
14	4.20000+00	5.3439+07	1.2971+07	1.1185+07	7.7936+05	3.7974+04	6.1363+04	2.0818+19	0.0000	0.0000	0.0000	
15	4.50000+00	3.3938+07	5.8886+06	7.8517+06	5.4795+05	2.6699+04	4.3144+04	1.4637+19	0.0000	0.0000	0.0000	
16	4.80000+00	2.2579+07	3.0196+06	4.4194+06	3.0994+05	1.5102+04	2.4404+04	8.2791+20	0.0000	0.0000	0.0000	
17	5.10000+00	1.4198+07	1.5044+06	1.5832+06	1.1053+05	5.3857+03	8.7028+05	2.9525+20	0.0000	0.0000	0.0000	
18	5.40000+00	7.6853+06	7.8508+05	1.2443+05	8.6874+03	4.2330+02	6.8401+06	3.2205+21	0.0000	0.0000	0.0000	
19	5.70000+00	2.9717+06	3.6201+05	3.5972+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
20	6.00000+00	4.8159+05	1.4221+05	1.5722+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
21	6.30000+00	2.4986+03	2.4339+04	2.8435+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
22	6.60000+00	0.0000	3.2406+02	7.6578+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
23	6.90000+00	0.0000	1.9907+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
24	7.20000+00	0.0000	9.2864+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
25	7.50000+00	0.0000	2.1686+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Table 3.85

SOURCE 2 (AIR), 5000 DAYS, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	5.5195+02	8.3702+02	1.5398+01	3.8887+01	5.2446+01	7.9725+01	7.7756+01	5.2292+01	4.2789+01	4.1968+01
2	6.00000+01	1.3990+01	2.0589+01	3.6442+01	7.0054+01	8.1257+01	9.7100+01	9.9570+01	9.8744+01	9.8322+01	9.8323+01
3	9.00000+01	2.1978+01	3.0979+01	4.7219+01	6.6477+01	9.5590+01	9.9322+01	9.9983+01	9.9983+01	9.9985+01	1.0000+00
4	1.20000+00	3.0031+01	4.0205+01	5.4798+01	9.0691+01	9.9070+01	9.9990+01	9.9998+01	9.9997+01	9.9997+01	1.0000+00
5	1.50000+00	3.8906+01	4.9575+01	6.1016+01	9.1639+01	9.9270+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
6	1.80000+00	4.8396+01	5.9112+01	6.7098+01	9.2462+01	9.9351+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
7	2.10000+00	5.7751+01	6.8132+01	7.2885+01	9.3323+01	9.9428+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
8	2.40000+00	6.8353+01	7.6101+01	7.8093+01	9.4218+01	9.9504+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	7.4133+01	8.3016+01	8.2694+01	9.5147+01	9.9583+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	8.1096+01	8.8818+01	8.8738+01	9.6096+01	9.9664+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	8.9941+01	9.7298+01	9.8224+01	9.7022+01	9.9744+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.1457+01	9.8374+01	9.3167+01	9.7883+01	9.9818+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.4659+01	9.8211+01	9.5622+01	9.8637+01	9.9883+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.6768+01	9.8150+01	9.7567+01	9.9242+01	9.9935+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.8108+01	9.9577+01	9.8931+01	9.9687+01	9.9971+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.9000+01	9.9796+01	9.9703+01	9.9908+01	9.9992+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9560+01	9.9905+01	9.9978+01	9.9993+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9864+01	9.9967+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9981+01	9.9988+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	1.0000+00	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (AIR), 5000 DAYS, 1 WATT, PURE U-235

SOURCE 2 (AIR), 5000 DAYS, 1 WATT, PURE U-235

Table 3.86

SOURCE 2 (AIR), 500 DAYS, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	6.0011+08	3.4408+08	2.9396+08	2.1096+08	1.5414+08	8.2023+07	3.6610+07	2.3297+06	4.7135+04	5.1909+03
2	3.00000+01	8.7508+08	5.4519+08	3.1924+08	1.4098+08	6.9920+07	5.5435+06	2.1460+06	2.7976+05	1.9551+04	1.8375+05
3	4.50000+01	3.2383+08	2.1744+08	9.7411+07	4.4362+07	4.1877+07	3.9825+07	2.2347+07	3.3335+06	2.2968+05	1.8872+06
4	6.00000+01	5.0578+08	3.0290+08	1.5084+08	7.5405+07	5.2258+07	5.9890+06	1.4295+05	2.4038+04	1.1248+04	8.8523+03
5	7.50000+01	2.2484+08	1.5954+08	8.5201+07	8.9881+06	6.0433+06	4.4523+06	2.4021+06	3.5820+05	2.4722+04	3.9074+01
6	9.00000+01	4.2171+08	3.4167+08	1.8358+08	1.0327+07	4.2157+06	3.9853+05	3.4757+03	1.1382+02	2.0502+01	1.2005+03
7	1.05000+00	9.1009+07	7.3028+07	4.0816+07	3.6828+06	9.7349+05	7.6549+02	1.1449+02	3.3313+01	5.9961+00	3.5358+07
8	1.20000+00	2.2794+08	1.1346+08	4.6655+07	8.9974+06	2.8410+06	3.3031+04	2.4340+02	2.3021+05	2.0695+15	0.0000
9	1.35000+00	1.8679+08	9.8572+07	3.6227+07	1.1735+07	4.7387+06	2.3857+05	1.8384+03	3.4813+01	2.2323+01	5.4474+03
10	1.50000+00	6.3717+07	4.5818+07	4.5867+07	3.2185+06	8.7812+05	5.6174+02	1.7977+04	2.4528+05	2.0856+05	8.9486+06
11	1.65000+00	9.4704+07	5.5138+07	1.9274+07	1.6277+06	2.6147+05	1.6511+03	1.3153+03	3.8271+02	6.8884+01	4.0620+06
12	1.80000+00	1.1852+08	7.9805+07	2.4502+07	6.2622+06	1.9036+06	1.2389+03	3.1021+04	6.3803+10	5.8273+10	5.1542+10
13	1.95000+00	2.8663+07	2.2658+07	2.5405+07	1.8997+06	1.7076+05	5.2203+01	1.3822+05	1.0660+18	0.0000	0.0000
14	2.10000+00	8.3075+07	6.3116+07	1.3510+07	8.1549+05	9.9346+04	4.3894+01	1.0849+05	2.2874+23	0.0000	0.0000
15	2.25000+00	3.7099+07	3.0118+07	2.3667+07	1.2234+06	6.8028+04	5.8851+03	7.8784+05	6.2589+05	5.3219+05	2.2834+05
16	2.40000+00	7.7421+07	6.0179+07	3.5967+07	2.4785+06	1.3826+05	1.1939+01	1.0359+01	3.0141+00	5.4252+01	3.1992+08
17	2.55000+00	2.2495+07	1.0235+07	1.9386+06	6.4807+04	3.5717+03	4.8676+01	4.2245+01	1.2292+01	2.2125+00	1.3047+07
18	2.70000+00	2.1120+07	1.7902+07	1.2032+07	2.1544+05	1.1145+04	2.5790+04	8.0168+23	0.0000	0.0000	0.0000
19	2.85000+00	1.4605+07	5.5877+06	6.0028+05	2.2744+04	1.2200+03	2.8291+05	1.4782+20	0.0000	0.0000	0.0000
20	3.00000+00	1.2409+07	6.7957+06	8.6790+03	7.6875+01	3.4635+01	9.4218+01	8.1771+01	2.3793+01	4.2826+02	2.5254+09
21	3.15000+00	4.8931+06	3.5664+06	3.5950+05	2.6935+04	1.5044+03	3.1404+01	2.7253+01	7.9298+02	1.4273+02	8.4167+10
22	3.30000+00	1.9792+06	1.4480+06	3.1563+05	2.4701+04	1.3795+03	3.1998+05	1.1943+20	0.0000	0.0000	0.0000
23	3.45000+00	5.3629+06	6.1556+06	4.0144+05	5.6861+02	8.7828+01	8.0523+09	3.9944+21	0.0000	0.0000	0.0000
24	3.60000+00	3.6226+06	4.4270+06	1.9398+05	1.2909+04	7.2094+02	1.6720+05	5.1474+21	0.0000	0.0000	0.0000
25	3.75000+00	2.8697+06	2.4475+06	1.6498+04	2.3938+02	1.3354+01	5.0966+07	4.6259+23	0.0000	0.0000	0.0000
26	3.90000+00	1.1652+06	1.3007+06	1.2883+03	3.2531+02	1.5987+04	1.7211+18	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	2.8557+06	1.9645+06	2.4282+04	1.2751+03	7.1212+01	1.6515+06	5.1338+22	0.0000	0.0000	0.0000
28	4.20000+00	4.4801+05	2.4402+06	9.8970+03	6.9721+03	1.4108+09	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	3.7885+05	6.7721+05	3.9311+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	4.2366+05	2.0413+06	2.3650+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	5.7031+04	5.2710+05	2.3984+03	1.9126+02	1.0682+01	2.4773+07	7.7007+23	0.0000	0.0000	0.0000
32	4.80000+00	5.7031+04	4.7305+04	9.7880+04	7.8090+03	4.3613+02	1.0115+05	3.1442+21	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	4.8479+03	7.1918+03	5.7377+02	3.2045+01	7.4319+07	2.3102+22	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	8.3596+04	1.7278+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	2.2158+05	4.8380+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	1.4084+05	3.0756+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	3.5037+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	1.8920+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	2.9431+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	6.8687+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.87

SOURCE 2 (AIR), 500 DAYS, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

-----COOLING TIMES-----												
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	1.50000+01	4.5000+07	2.5806+07	2.2047+07	1.5822+07	1.1560+07	6.1517+06	2.7458+06	1.7473+05	3.5351+03	3.8932+04	
2	3.00000+01	1.9464+08	1.2267+08	7.1829+07	3.1720+07	1.5732+07	1.2473+06	4.8285+05	6.2946+04	4.3990+03	4.1344+06	
3	4.50000+01	1.2144+08	8.1541+07	3.6529+07	1.6636+07	1.5704+07	1.4944+07	8.3400+06	1.2501+06	8.6130+04	7.4521+07	
4	6.00000+01	2.6553+08	1.5902+08	7.9193+07	3.9588+07	2.7435+07	3.1442+06	7.5050+04	1.2620+04	5.9052+03	4.6475+03	
5	7.50000+01	1.5177+08	1.0769+08	5.7510+07	6.0671+06	4.0793+06	3.0053+06	1.6214+06	2.4179+05	1.6687+04	2.6375+01	
6	9.00000+01	3.4791+08	2.8187+08	1.5145+08	8.5194+06	3.4780+06	3.2879+05	2.8674+03	9.1903+01	1.6914+01	9.9040+04	
7	1.05000+00	8.8733+07	7.1203+07	3.9706+07	3.5907+06	9.4915+05	2.7436+02	1.1163+02	3.2480+01	5.8462+00	3.4474+07	
8	1.20000+00	2.5643+08	1.2764+08	5.2487+07	1.0122+07	3.1961+06	1.7160+04	2.7383+02	2.5898+05	2.3282+15	0.0000	
9	1.35000+00	2.3816+06	1.2568+08	4.6189+07	1.4967+07	6.0419+06	3.0418+05	2.3440+03	4.4387+01	2.8461+01	6.9455+03	
10	1.50000+00	9.0796+07	6.5291+07	6.5360+07	4.5864+06	1.2513+06	8.0049+02	2.5618+04	3.4952+05	2.9720+05	1.2752+05	
11	1.65000+00	1.4916+08	8.6843+07	3.0357+07	2.5636+06	4.1182+05	2.6004+03	2.0715+03	6.0276+02	1.0849+02	6.3977+06	
12	1.80000+00	2.0444+08	1.3766+08	4.2267+07	1.0802+07	3.2837+06	2.1371+03	5.3511+04	1.1006+09	1.0052+09	8.8910+10	
13	1.95000+00	5.3744+07	4.2484+07	4.7635+07	3.5619+06	3.2018+05	9.7800+01	2.5916+05	1.9987+18	0.0000	0.0000	
14	2.10000+00	1.6823+08	1.2781+08	2.7358+07	1.6514+06	2.0118+05	8.8886+01	2.1970+05	4.6319+23	0.0000	0.0000	
15	2.25000+00	8.0690+07	6.5506+07	5.1476+07	2.6609+06	1.4796+05	1.2800+02	1.7135+04	1.3613+04	1.1575+04	4.9665+05	
16	2.40000+00	1.8000+08	1.3992+08	8.3622+07	5.7624+06	3.2146+05	2.7757+01	2.4084+01	7.0078+00	1.2613+00	7.4380+08	
17	2.55000+00	5.5676+07	2.5731+07	4.7981+06	1.6040+05	8.8399+03	1.2047+02	1.0456+02	3.0423+01	5.4759+00	3.2291+07	
18	2.70000+00	5.5440+07	4.6994+07	3.1584+07	5.6553+05	2.9256+04	6.7699+04	2.1044+19	0.0000	0.0000	0.0000	
19	2.85000+00	4.0528+07	1.5506+07	1.6658+06	6.1726+04	3.3854+03	7.6507+05	4.1020+20	0.0000	0.0000	0.0000	
20	3.00000+00	3.6472+07	1.9877+07	2.5386+04	2.2486+00	1.0131+00	2.7559+00	2.3918+00	6.9595+01	1.2527+01	7.3868+09	
21	3.15000+00	1.5046+07	1.0967+07	1.1055+06	8.2825+04	4.6261+03	9.6569+01	8.3802+01	2.4384+01	3.8900+02	2.5681+09	
22	3.30000+00	6.3829+06	4.8608+06	1.0174+06	7.9606+04	4.4496+03	1.0319+04	3.8515+20	0.0000	0.0000	0.0000	
23	3.45000+00	1.8100+07	2.0775+07	1.3549+06	1.9191+03	2.9642+00	2.7176+08	1.3481+20	0.0000	0.0000	0.0000	
24	3.60000+00	1.2770+07	1.7368+07	6.8378+05	4.5502+04	2.5413+03	5.8938+05	1.8321+20	0.0000	0.0000	0.0000	
25	3.75000+00	1.0546+07	8.9946+06	6.0631+04	8.7973+02	4.9075+01	1.1380+06	3.5375+22	0.0000	0.0000	0.0000	
26	3.90000+00	4.4647+06	5.1283+06	4.9279+03	1.2443+01	6.1151+04	6.5634+18	0.0000	0.0000	0.0000	0.0000	
27	4.05000+00	1.1352+07	7.8091+06	9.6523+04	5.0684+03	2.8307+02	6.5649+06	2.0407+21	0.0000	0.0000	0.0000	
28	4.20000+00	1.8481+06	1.0066+07	4.0825+04	2.8760+02	5.8195+09	0.0000	0.0000	0.0000	0.0000	0.0000	
29	4.35000+00	1.6196+06	2.8951+06	1.6806+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
30	4.50000+00	1.8747+06	9.0327+06	1.9315+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
31	4.65000+00	2.6092+05	2.4115+06	1.0971+04	8.7500+02	4.8869+01	1.1334+06	3.5231+22	0.0000	0.0000	0.0000	
32	4.80000+00	2.6947+05	2.2351+05	4.6248+05	3.6897+04	2.6067+03	4.7792+05	1.4856+20	0.0000	0.0000	0.0000	
33	4.95000+00	0.0000	2.3634+04	3.5060+04	2.7971+03	1.5622+02	3.6231+06	1.1262+21	0.0000	0.0000	0.0000	
34	5.10000+00	0.0000	4.2007+05	8.6824+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
35	5.25000+00	0.0000	1.1466+06	2.5037+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
36	5.40000+00	0.0000	7.4994+05	1.8377+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
37	5.55000+00	0.0000	1.9183+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
38	5.70000+00	0.0000	1.0643+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
39	5.85000+00	0.0000	1.8997+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
40	6.00000+00	0.0000	4.0697+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Table 3.89

SOURCE 2 (AIR), 500 DAYS, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.5470-02	1.3040-02	2.3255-02	8.8068-02	1.2276-01	2.1097-01	2.0625-01	1.0025-01	3.0268-02	8.3247-08
2	3.00000+01	8.2373-02	7.5024-02	9.9020-02	2.6462-01	2.8982-01	2.5374-01	2.4252-01	1.3637-01	6.7932-02	8.4181-08
3	4.50000+01	1.2411-01	1.1623-01	1.3755-01	3.5722-01	4.5658-01	7.6590-01	8.7198-01	8.5359-01	8.0538-01	8.4361-08
4	6.00000+01	2.1538-01	1.9658-01	2.2108-01	5.7757-01	7.4793-01	8.7373-01	8.7762-01	8.6083-01	8.5594-01	9.4436-01
5	7.50000+01	2.6755-01	2.5100-01	2.8174-01	6.1134-01	7.9124-01	9.7679-01	9.9441-01	9.9956-01	9.9881-01	1.0000+00
6	9.00000+01	3.8713-01	3.9343-01	4.4149-01	6.5876-01	8.2818-01	9.8807-01	9.9963-01	9.9961-01	9.9896-01	1.0000+00
7	1.05000+00	4.1763-01	4.2941-01	4.8347-01	6.7875-01	8.3826-01	9.8809-01	9.9964-01	9.9963-01	9.9961-01	1.0000+00
8	1.20000+00	5.0578-01	4.9390-01	5.3883-01	7.3509-01	8.7220-01	9.8937-01	9.9966-01	9.9963-01	9.9961-01	1.0000+00
9	1.35000+00	5.8764-01	5.5741-01	5.8755-01	8.1836-01	9.3636-01	9.9980-01	9.9983-01	9.9963-01	9.9961-01	1.0000+00
10	1.50000+00	6.1885-01	5.9040-01	6.5649-01	8.4389-01	9.4964-01	9.9983-01	9.9983-01	9.9963-01	9.9961-01	1.0000+00
11	1.65000+00	6.7011-01	6.3428-01	6.8851-01	8.5816-01	9.5402-01	9.9992-01	9.9999-01	9.9998-01	9.9994-01	1.0000+00
12	1.80000+00	7.4039-01	7.0384-01	7.3310-01	9.1829-01	9.8889-01	9.9999-01	9.9999-01	9.9998-01	9.9994-01	1.0000+00
13	1.95000+00	7.5886-01	7.2531-01	7.8334-01	9.3811-01	9.9229-01	9.9999-01	9.9999-01	9.9998-01	9.9994-01	1.0000+00
14	2.10000+00	8.1668-01	7.8989-01	8.1220-01	9.4730-01	9.9442-01	9.9999-01	9.9999-01	9.9998-01	9.9994-01	1.0000+00
15	2.25000+00	8.4442-01	8.2299-01	8.6650-01	9.6211-01	9.9599-01	9.9999-01	9.9999-01	9.9998-01	9.9994-01	1.0000+00
16	2.40000+00	9.0629-01	8.9369-01	9.5470-01	9.9419-01	9.9941-01	1.0000+00	9.9999-01	9.9998-01	9.9995-01	1.0000+00
17	2.55000+00	9.2542-01	9.0647-01	9.5976-01	9.9508-01	9.9950-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	2.70000+00	9.4448-01	9.3024-01	9.9308-01	9.9823-01	9.9981-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	2.85000+00	9.5841-01	9.3807-01	9.9483-01	9.9857-01	9.9985-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	3.00000+00	9.7095-01	9.4812-01	9.9486-01	9.9857-01	9.9985-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	3.15000+00	9.7812-01	9.5366-01	9.9633-01	9.9903-01	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.7831-01	9.5602-01	9.9710-01	9.9948-01	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.8453-01	9.6651-01	9.9853-01	9.9949-01	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.8892-01	9.7529-01	9.9925-01	9.9974-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.9255-01	9.7984-01	9.9931-01	9.9975-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.9408-01	9.8243-01	9.9932-01	9.9975-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.9798-01	9.8637-01	9.9942-01	9.9977-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.9862-01	9.9146-01	9.9946-01	9.9977-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9917-01	9.9292-01	9.9946-01	9.9977-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9982-01	9.9749-01	9.9946-01	9.9977-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9991-01	9.9870-01	9.9946-01	9.9977-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	1.0000+00	9.9882-01	9.9946-01	9.9977-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	1.0000+00	9.9883-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	1.0000+00	9.9904-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	1.0000+00	9.9927-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (AIR), 500 DAYS, 1 WATT, PURE U-235

Table 3.99

SOURCE 2 (AIR), 500 DAYS, 1 WATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	9.2140+08	7.6101+08	5.8152+08	3.2496+08	2.4517+08	1.2748+08	8.2539+07	7.7487+06	1.8115+06	1.4603+06
2	6.00000+01	4.7203+08	3.7066+08	2.3943+08	8.5327+07	4.2832+07	6.7308+06	3.4687+06	1.1452+06	7.2719+05	6.5363+05
3	9.00000+01	2.6976+08	1.9113+08	9.7911+07	2.8076+07	1.3765+07	6.9419+05	1.9817+04	1.2089+04	1.2943+04	1.1681+04
4	1.20000+00	1.9431+08	1.2129+08	4.1513+07	5.1583+06	2.3977+06	1.6064+05	1.9959+03	5.6129+02	4.3304+02	8.7631+00
5	1.40000+00	1.6655+08	9.5798+07	2.6490+07	9.0271+05	1.0727+05	1.9397+03	1.4481+02	1.0522+02	8.0460+01	2.2804+00
6	1.60000+00	1.4571+08	7.9776+07	2.1200+07	8.4042+05	3.5215+04	1.2251+01	4.9284+00	2.2495+00	9.7071+01	5.4427+01
7	2.10000+00	1.2154+08	6.3849+07	1.7068+07	5.6806+05	2.8485+04	2.5447+00	1.1222+00	5.5586+01	2.8975+01	1.9853+01
8	2.40000+00	9.6862+07	4.8884+07	1.3312+07	5.1091+05	2.4476+04	2.9347+01	1.8335+02	1.4954+02	1.4359+02	1.3305+02
9	2.70000+00	7.7296+07	3.7834+07	1.0378+07	4.6820+05	2.2445+04	4.7623+02	1.6111+04	1.7207+04	1.9005+04	9.2133+05
10	3.00000+00	6.1893+07	2.8099+07	8.1619+06	4.2830+05	2.0607+04	1.2672+03	2.5792+05	2.7773+05	3.0676+05	1.4871+05
11	3.30000+00	4.7015+07	1.9631+07	6.3688+06	3.7788+05	1.8248+04	2.8954+04	1.5504+18	0.0000	0.0000	0.0000
12	3.60000+00	3.3157+07	1.2306+07	4.9056+06	3.2050+05	1.5523+04	2.4451+04	3.4937+19	0.0000	0.0000	0.0000
13	3.90000+00	2.1633+07	6.7400+06	3.7654+06	2.5856+05	1.2540+04	1.9713+04	6.4488+20	0.0000	0.0000	0.0000
14	4.20000+00	1.3198+07	3.2028+06	2.7611+06	1.9190+05	9.3101+03	1.4635+04	4.8169+20	0.0000	0.0000	0.0000
15	4.50000+00	7.8035+06	1.3537+06	1.8046+06	1.2562+05	6.0943+03	9.5802+05	3.1531+20	0.0000	0.0000	0.0000
16	4.80000+00	4.8568+06	6.4937+05	9.5449+05	6.6470+04	3.2248+03	5.0693+05	1.6685+20	0.0000	0.0000	0.0000
17	5.10000+00	2.8685+06	3.0301+05	3.1976+05	2.2268+04	1.0803+03	1.8982+05	5.5894+21	0.0000	0.0000	0.0000
18	5.40000+00	1.4642+06	1.4054+05	2.3696+04	1.6502+03	8.0058+01	1.2585+06	4.1421+22	0.0000	0.0000	0.0000
19	5.70000+00	5.3557+05	6.5226+04	6.4799+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	8.2342+04	2.2309+04	2.8869+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	4.0637+02	3.9576+03	4.6225+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	5.0862+01	1.1870+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	2.9492+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	1.3172+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	2.9504+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.90

SOURCE 2 (AIR), 500 DAYS, 1 WATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	1.3821+08	1.1415+08	8.7228+07	4.8744+07	3.6776+07	1.9122+07	9.3808+06	1.1623+06	2.7173+05	2.1905+05
2	6.00000+01	2.1241+08	1.6680+08	1.0774+08	3.8397+07	1.9274+07	3.0289+06	1.5609+06	5.1532+05	3.2723+05	2.9413+05
3	9.00000+01	2.0232+08	1.4335+08	7.3433+07	2.1059+07	1.0324+07	5.2064+05	1.4862+04	9.0665+03	9.7070+03	8.7604+03
4	1.20000+00	2.0402+08	1.2736+08	4.3588+07	5.4162+06	2.5176+06	1.6867+05	2.0957+03	5.8945+02	4.5469+02	9.2012+00
5	1.50000+00	2.2485+08	1.2933+08	3.5762+07	1.2187+06	1.4482+05	2.6186+03	1.9549+02	1.4204+02	1.0862+02	3.0785+00
6	1.80000+00	2.4042+08	1.3163+08	3.4981+07	1.0567+06	5.8435+04	2.0214+01	8.1319+00	3.7117+00	1.6017+00	8.9805+01
7	2.10000+00	2.3700+08	1.2451+08	3.3283+07	1.1077+06	5.5545+04	4.9621+00	2.1883+00	1.0840+00	5.6502+01	3.8714+01
8	2.40000+00	2.1794+08	1.0999+08	2.0951+07	1.1495+06	5.5070+04	6.6031+01	4.1254+02	3.3648+02	3.2308+02	2.9935+02
9	2.70000+00	1.9711+08	9.5456+07	2.6464+07	1.1939+06	5.7234+04	1.2144+01	4.1084+04	4.3877+04	4.6463+04	2.3494+04
10	3.00000+00	1.7640+08	8.0083+07	2.3261+07	1.2207+06	5.8729+04	3.6115+03	7.3508+05	7.9154+05	8.7426+05	4.2383+05
11	3.30000+00	1.4410+08	6.1839+07	2.0049+07	1.1902+06	5.7482+04	9.1205+04	4.8839+18	0.0000	0.0000	0.0000
12	3.60000+00	1.1439+08	4.2455+07	1.6924+07	1.1057+06	5.3555+04	8.4358+04	1.2053+18	0.0000	0.0000	0.0000
13	3.90000+00	8.1123+07	2.5350+07	1.4120+07	9.6960+05	4.7026+04	7.3924+04	2.4371+19	0.0000	0.0000	0.0000
14	4.20000+00	5.3451+07	1.2971+07	1.1183+07	7.7720+05	3.7706+04	5.9273+04	1.9508+19	0.0000	0.0000	0.0000
15	4.50000+00	3.3945+07	5.8885+06	7.8498+06	5.4644+05	2.6510+04	4.1674+04	1.3716+19	0.0000	0.0000	0.0000
16	4.80000+00	2.2584+07	3.0196+06	4.4384+06	3.0909+05	1.4995+04	2.3572+04	7.7584+20	0.0000	0.0000	0.0000
17	5.10000+00	1.4199+07	1.5044+06	1.5828+06	1.1023+05	5.3476+03	8.4063+05	2.7668+20	0.0000	0.0000	0.0000
18	5.40000+00	7.6470+06	7.8508+05	1.2440+05	8.6634+03	4.2630+02	6.6071+06	2.1746+21	0.0000	0.0000	0.0000
19	5.70000+00	2.9724+06	3.6200+05	3.5963+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	4.8170+05	1.4221+05	1.5718+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	2.4492+03	2.4339+04	2.8429+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	3.2806+02	7.6560+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	1.9907+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	9.2863+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	2.1686+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.91

SOURCE 2 (AIR), 500 DAYS, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000-01	5.4637-02	8.2900-02	1.5251-01	3.8815-01	5.2866-01	8.3711-01	8.5600-01	4.8880-01	4.4601-01	4.1967-01
2	6.00000-01	1.3861-01	2.0403-01	3.4088-01	6.9391-01	8.0573-01	9.6971-01	9.9843-01	9.9419-01	9.8314-01	9.8319-01
3	9.00000-01	2.1859-01	3.0814-01	4.6927-01	8.6160-01	9.5414-01	9.9250-01	9.9979-01	9.9956-01	9.9907-01	9.9997-01
4	1.20000+00	2.9924-01	4.0063-01	5.8547-01	9.0873-01	9.9033-01	9.9988-01	9.9998-01	9.9991-01	9.9982-01	9.9999-01
5	1.50000+00	3.8813-01	4.9455-01	6.0800-01	9.1443-01	9.9241-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
6	1.80000+00	4.8317-01	5.9014-01	6.6916-01	9.2285-01	9.9325-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
7	2.10000+00	5.7686-01	6.8056-01	7.2735-01	9.3167-01	9.9405-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
8	2.40000+00	6.6302-01	7.6043-01	7.7971-01	9.4082-01	9.9484-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	7.4094-01	8.2976-01	8.2598-01	9.5033-01	9.9566-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	8.1067-01	8.8791-01	8.6665-01	9.6005-01	9.9651-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	8.6921-01	9.3282-01	9.0170-01	9.6953-01	9.9733-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.1444-01	9.6365-01	9.3129-01	9.7833-01	9.9810-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.4650-01	9.8206-01	9.5598-01	9.8605-01	9.9878-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.6763-01	9.9148-01	9.7553-01	9.9224-01	9.9932-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.8105-01	9.9576-01	9.8926-01	9.9659-01	9.9970-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.8998-01	9.9795-01	9.9742-01	9.9905-01	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9559-01	9.9905-01	9.9978-01	9.9993-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9863-01	9.9962-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9981-01	9.9988-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	1.0000+00	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (AIR), 500 DAYS, 1 WATT, PURE U-235

SOURCE 2 (AIR), 500 DAYS, 1 WATT, PURE U-235

Table 3.92

SOURCE 2 (AIR), 200 DAYS, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

-----COOLING TIMES-----											
GROUP	E(MeV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	6.0011+08	3.4408+08	2.9396+08	2.1097+08	1.5414+08	8.2027+07	3.6614+07	2.3305+06	4.7264+04	5.1956+03
2	1.60000+01	8.6508+08	5.4519+08	3.1924+08	1.4098+08	6.9921+07	5.5438+06	2.1462+06	2.7986+05	1.9605+04	1.8391+03
3	4.50000+01	3.7383+08	2.1744+08	9.7412+07	4.4362+07	4.1877+07	3.9827+07	2.2349+07	3.3346+06	2.3031+05	1.9898+06
4	6.00000+01	5.0577+08	3.0289+08	1.5084+08	7.5399+07	5.2252+07	5.9808+06	1.3492+05	1.7342+04	5.1633+03	3.6384+03
5	7.50000+01	2.2484+08	1.5954+08	8.5201+07	8.9881+06	6.0434+06	4.4526+06	2.4023+06	3.5833+05	2.4790+04	3.9110+01
6	9.00000+01	4.2171+08	3.4167+08	1.8358+08	1.0327+07	4.2158+06	3.9856+05	3.4760+03	1.1386+02	2.0554+01	1.2016+03
7	1.05000+00	9.1009+07	7.3028+07	4.0816+07	3.6828+06	9.7350+05	7.6553+02	1.1450+02	3.3325+01	8.0126+00	3.5390+07
8	1.20000+00	2.2794+08	1.1346+08	4.6655+07	8.9974+06	2.8410+06	3.3033+04	2.4343+02	2.3029+05	2.0752+15	0.0000
9	1.35000+00	1.8679+08	9.8572+07	3.6227+07	1.1735+07	4.7387+06	2.3859+05	1.8386+03	3.4826+01	2.2364+01	5.4524+03
10	1.50000+00	6.3717+07	4.5818+07	4.5867+07	3.2185+06	8.7812+05	5.6177+02	1.7979+04	2.4537+05	2.0914+05	8.9568+06
11	1.65000+00	9.4704+07	5.5138+07	1.9274+07	1.6277+06	2.6147+05	1.6511+03	1.3154+03	3.8284+02	6.9074+01	4.0657+06
12	1.80000+00	1.1852+08	7.9805+07	2.4502+07	6.2622+06	1.9036+06	1.2390+03	3.1024+04	4.3825+10	5.8433+10	5.1589+10
13	1.95000+00	2.8663+07	2.2658+07	2.5405+07	1.8997+06	1.7076+05	5.2205+01	1.3823+05	1.0663+10	0.0000	0.0000
14	2.10000+00	8.3075+07	6.3118+07	1.3510+07	8.1549+05	9.4346+04	4.3896+01	1.0851+05	2.2882+23	0.0000	0.0000
15	2.25000+00	3.7099+07	3.0118+07	2.3667+07	1.2234+06	6.8028+04	5.8854+03	7.8792+05	6.2611+05	5.3366+05	2.2855+05
16	2.40000+00	7.7421+07	6.0179+07	3.5967+07	2.4785+06	1.3826+05	1.1939+01	1.0360+01	3.0152+00	5.4401+01	3.2021+08
17	2.55000+00	2.2495+07	1.0235+07	1.9386+06	6.8807+04	3.5717+03	4.8678+01	4.2249+01	1.2297+01	2.2186+00	1.3059+07
18	2.70000+00	2.1120+07	1.7902+07	1.2032+07	2.1544+05	1.1145+04	2.5791+04	8.0176+20	0.0000	0.0000	0.0000
19	2.85000+00	1.4605+07	5.5877+06	6.0028+05	2.2244+04	1.2220+03	2.8292+05	1.4784+20	0.0000	0.0000	0.0000
20	3.00000+00	1.2469+07	6.7957+06	8.6790+03	7.6475+01	3.4636+01	9.4223+01	8.1779+01	2.3602+01	4.2944+02	2.5277+09
21	3.15000+00	4.8931+06	3.5664+06	3.5950+05	2.6935+04	1.5044+03	3.1406+01	2.7255+01	7.9326+02	1.4312+02	8.2423+10
22	3.30000+00	1.9792+04	1.4480+06	3.1563+05	2.4701+04	1.3795+03	3.7000+05	1.1944+20	0.0000	0.0000	0.0000
23	3.45000+00	5.3629+06	6.1558+06	4.0144+05	5.8862+02	8.7829+01	8.0527+09	3.9988+21	0.0000	0.0000	0.0000
24	3.60000+00	3.6226+06	4.9270+06	1.9398+05	1.2909+04	7.2094+02	1.6721+05	5.1979+21	0.0000	0.0000	0.0000
25	3.75000+00	2.8697+06	2.4475+06	1.6498+04	2.3938+02	1.3354+01	3.0968+07	9.6269+23	0.0000	0.0000	0.0000
26	3.90000+00	1.1652+06	1.3407+06	1.2883+03	3.2531+02	1.5987+04	1.7212+18	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	2.8557+06	1.9645+06	2.4282+04	1.2751+03	7.1212+01	1.6516+06	5.1543+22	0.0000	0.0000	0.0000
28	4.20000+00	4.4801+05	2.4402+06	9.8970+03	6.9721+03	1.1108+09	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	3.7885+05	6.7721+05	3.9311+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	4.2366+05	2.0413+06	4.3650+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	5.7031+04	5.2710+05	2.3984+03	1.9126+02	1.0682+01	2.4774+07	7.7015+23	0.0000	0.0000	0.0000
32	4.80000+00	5.7031+04	4.7305+04	9.7880+04	7.8090+03	4.3613+02	1.0115+05	3.1445+21	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	4.8479+03	7.1918+03	5.7377+02	3.2045+01	7.4323+07	2.3104+22	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	8.3596+04	1.7278+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	2.2156+05	4.8380+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	1.4084+05	3.0756+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	3.5037+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	1.8920+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	2.9431+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	6.8667+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.93

SOURCE 2 (AIR), 200 DAYS, 1 MAT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

-----COOLING TIMES-----												
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	1.50000-01	4.5008+07	2.5804+07	2.2047+07	1.5822+07	1.1560+07	6.1520+06	2.7460+06	1.7479+05	3.5448+03	3.8967+04	
2	3.60000-01	1.4468+08	1.2267+08	7.1829+07	3.1720+07	1.5732+07	1.2474+06	4.8290+05	6.2968+04	4.4111+03	4.1381+06	
3	4.50000-01	1.2144+08	8.1541+07	3.6529+07	1.6636+07	1.5704+07	1.4935+07	8.3808+06	1.2505+06	8.6367+04	7.4580+07	
4	6.00000-01	2.6553+08	1.5902+08	7.9189+07	3.9585+07	2.7432+07	3.1399+06	7.0636+04	9.1047+03	2.7106+03	1.9102+03	
5	7.50000-01	1.5177+08	1.0769+08	5.7510+07	6.0671+06	4.0793+06	3.0055+06	1.6216+06	2.4187+05	1.6733+04	2.6399+04	
6	9.00000-01	3.4791+08	2.8187+08	1.5185+08	8.5198+06	3.4780+06	3.2881+05	2.8677+03	9.3937+01	1.4961+01	9.4130+04	
7	1.05000+00	8.8733+07	7.1203+07	3.9796+07	3.5907+06	4.4916+05	7.4640+02	1.1164+02	3.2492+01	5.8623+00	3.4506+07	
8	1.20000+00	2.5644+08	1.2764+08	5.7487+07	1.0122+07	3.1961+06	3.7162+04	2.7386+02	2.5907+05	2.3346+15	0.0000	
9	1.35000+00	2.3816+08	1.2568+08	4.6189+07	1.4962+07	6.0819+06	3.0420+05	2.3442+03	4.4403+01	2.8540+01	6.9518+03	
10	1.50000+00	9.0796+07	6.5291+07	6.5360+07	4.5866+06	1.2513+06	8.0053+02	2.5620+04	3.8965+05	2.9802+05	1.2763+05	
11	1.65000+00	1.4916+08	8.6843+07	3.0357+07	2.5636+06	4.1182+05	2.6006+03	2.0717+03	6.0297+02	1.0879+02	6.4035+06	
12	1.80000+00	2.0444+08	1.3766+08	4.2267+07	1.8802+07	3.2637+06	2.1373+03	5.3517+04	1.1010+09	1.8080+09	8.8990+10	
13	1.95000+00	5.3744+07	4.2484+07	4.7635+07	3.5619+06	3.2018+05	9.7885+01	2.5919+05	1.9994+05	0.0000	0.0000	
14	2.10000+00	1.6823+08	1.2781+08	2.7358+07	1.6514+06	2.0118+05	8.8890+01	2.1972+05	4.6336+23	0.0000	0.0000	
15	2.25000+00	8.0690+07	6.5506+07	5.1476+07	2.6609+06	1.4796+05	1.2801+02	1.7137+04	1.3618+04	1.1607+04	4.9710+05	
16	2.40000+00	1.8000+08	1.3992+08	8.3622+07	5.7625+06	3.2146+05	2.7759+01	2.4086+01	7.0103+00	1.2648+00	7.4448+08	
17	2.55000+00	5.5676+07	2.5331+07	4.7981+06	1.6080+05	8.8800+03	1.2048+02	1.0457+02	3.0434+01	5.4910+00	3.2320+07	
18	2.70000+00	5.5400+07	4.6994+07	3.1584+07	5.6553+05	2.9256+04	6.7702+04	2.1046+19	0.0000	0.0000	0.0000	
19	2.85000+00	4.0528+07	1.5506+07	1.6658+06	6.1726+04	3.3854+03	7.8511+05	4.1024+20	0.0000	0.0000	0.0000	
20	3.00000+00	3.6472+07	1.9877+07	2.5386+04	2.2486+00	1.0131+00	2.7560+00	2.3920+00	6.9620+01	1.2561+01	7.3935+09	
21	3.15000+00	1.5046+07	1.0967+07	1.1055+06	8.2822+04	4.6261+03	9.6578+01	8.3810+01	2.3393+01	4.4011+02	2.5905+09	
22	3.30000+00	6.3829+06	4.6698+06	1.0179+06	7.9660+04	4.4490+03	1.0320+04	3.8519+20	0.0000	0.0000	0.0000	
23	3.45000+00	1.8100+07	2.9775+07	1.3529+06	1.9191+05	2.9642+00	2.7178+08	1.3482+20	0.0000	0.0000	0.0000	
24	3.60000+00	1.2770+07	1.7368+07	6.8378+05	4.5503+04	2.5413+03	5.8941+05	1.8323+20	0.0000	0.0000	0.0000	
25	3.75000+00	1.0546+07	8.9946+06	6.0631+04	8.7973+02	4.9075+01	1.1381+06	3.5379+22	0.0000	0.0000	0.0000	
26	3.90000+00	4.4567+06	5.1283+06	4.9279+03	1.2443+01	6.1151+04	6.5837+18	0.0000	0.0000	0.0000	0.0000	
27	4.05000+00	1.1352+07	7.8091+06	9.6523+04	5.0688+03	2.8307+02	6.5652+06	2.0409+21	0.0000	0.0000	0.0000	
28	4.20000+00	1.8481+06	1.0666+07	1.8825+04	2.8760+02	5.8196+09	0.0000	0.0000	0.0000	0.0000	0.0000	
29	4.35000+00	1.6196+06	2.8951+06	1.6806+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
30	4.50000+00	1.8747+06	9.0327+06	1.9315+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
31	4.65000+00	2.6092+05	2.4115+06	1.0973+04	8.7500+02	4.8869+01	1.1334+06	3.5234+22	0.0000	0.0000	0.0000	
32	4.80000+00	2.6947+05	2.2351+05	4.6248+05	3.6897+04	2.0607+03	4.7795+05	1.4858+20	0.0000	0.0000	0.0000	
33	4.95000+00	0.0000	2.3634+04	3.5060+04	2.7971+03	1.5622+02	3.6233+06	1.1263+21	0.0000	0.0000	0.0000	
34	5.10000+00	0.0000	4.2007+05	8.8824+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
35	5.25000+00	0.0000	1.1466+06	2.5037+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
36	5.40000+00	0.0000	7.4998+05	1.6377+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
37	5.55000+00	0.0000	1.9183+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
38	5.70000+00	0.0000	1.0643+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
39	5.85000+00	0.0000	1.6997+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
40	6.00000+00	0.0000	4.0697+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Table 3.94

SOURCE 2 (AIR), 200 DAYS, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.5470-02	1.3040-02	2.3255-02	8.8070-02	1.2277-01	2.1100+01	2.0631+01	1.0045-01	3.1121-02	2.0122-07
2	3.00000+01	8.2373-02	7.5024-02	9.9020-02	2.6463-01	2.8983-01	2.5378+01	2.4259+01	1.3664-01	6.9847-02	2.0335-07
3	4.50000+01	1.2411-01	1.1623-01	1.3755-01	3.5723-01	4.5660-01	7.6602-01	8.7226-01	8.5532-01	8.2808-01	2.0374-07
4	6.00000+01	2.1538-01	1.9658-01	2.2108-01	5.7756-01	7.4792-01	8.7371-01	8.7758-01	8.6055-01	8.5188-01	9.8636-01
5	7.50000+01	2.6755-01	2.5100-01	2.8174-01	6.1153-01	7.9124-01	9.7679-01	9.9941-01	9.9956-01	9.9878-01	1.0000+00
6	9.00000+01	3.8713-01	3.9343-01	4.4149-01	6.5875-01	8.2817-01	9.8807-01	9.9963-01	9.9961-01	9.9893-01	1.0000+00
7	1.05000+00	4.1763-01	4.2941-01	4.8347-01	6.7874-01	8.3825-01	9.8809-01	9.9464-01	9.9963-01	9.9898-01	1.0000+00
8	1.20000+00	5.0577-01	4.9390-01	5.3883-01	7.3508-01	8.7210-01	9.8937-01	9.9966-01	9.9963-01	9.9898-01	1.0000+00
9	1.35000+00	5.8764-01	5.5741-01	5.8755-01	8.1836-01	9.3635-01	9.9980-01	9.9983-01	9.9963-01	9.9898-01	1.0000+00
10	1.50000+00	6.1880-01	5.9040-01	6.5649-01	8.4389-01	9.4964-01	9.9983-01	9.9983-01	9.9963-01	9.9898-01	1.0000+00
11	1.65000+00	6.7011-01	6.3428-01	6.8851-01	8.5816-01	9.5402-01	9.9992-01	9.9999-01	9.9998-01	9.9994-01	1.0000+00
12	1.80000+00	7.4039-01	7.0384-01	7.3310-01	9.1828-01	9.8880-01	9.9999-01	9.9999-01	9.9998-01	9.9994-01	1.0000+00
13	1.95000+00	7.5886-01	7.2531-01	7.8334-01	9.3811-01	9.9229-01	9.9999-01	9.9999-01	9.9998-01	9.9994-01	1.0000+00
14	2.10000+00	8.1685-01	7.8989-01	8.1220-01	9.4730-01	9.9442-01	9.9999-01	9.9999-01	9.9998-01	9.9994-01	1.0000+00
15	2.25000+00	8.4442-01	8.2299-01	8.6650-01	9.6211-01	9.9599-01	9.9999-01	9.9999-01	9.9998-01	9.9994-01	1.0000+00
16	2.40000+00	9.0629-01	8.9369-01	9.5470-01	9.9419-01	9.9941-01	1.0000+00	9.9999-01	9.9998-01	9.9995-01	1.0000+00
17	2.55000+00	9.2542-01	9.0649-01	9.5976-01	9.9503-01	9.9950-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	2.70000+00	9.4448-01	9.3024-01	9.9308-01	9.9833-01	9.9941-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	2.85000+00	9.5841-01	9.3807-01	9.9483-01	9.9857-01	9.9985-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	3.00000+00	9.7095-01	9.4812-01	9.9486-01	9.9857-01	9.9985-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	3.15000+00	9.7612-01	9.5366-01	9.9683-01	9.9903-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.7831-01	9.5602-01	9.9710-01	9.9948-01	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.8453-01	9.6651-01	9.9853-01	9.9949-01	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.8492-01	9.7529-01	9.9925-01	9.9974-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.9255-01	9.7984-01	9.9931-01	9.9975-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.9408-01	9.8243-01	9.9932-01	9.9975-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.9798-01	9.8637-01	9.9942-01	9.9977-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.9862-01	9.9146-01	9.9946-01	9.9977-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9917-01	9.9292-01	9.9946-01	9.9977-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9982-01	9.9749-01	9.9946-01	9.9977-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9991-01	9.9770-01	9.9946-01	9.9978-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	1.0000+00	9.9882-01	9.9996-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	1.0000+00	9.9883-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	1.0000+00	9.9904-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	1.0000+00	9.9902-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (AIR), 200 DAYS, 1 WATT, PURE U-235

SOURCE 2 (AIR), 200 DAYS, 1 WATT, PURE U-235

Figure 3.63
GAMMA CUMUL. SPECT (10⁶)

Table 3.95

SOURCE 2 (AIR), 200 DAYS, 1 WATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

-----COOLING TIMES-----												
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	3.00000+01	9.2034+08	7.6010+08	5.8063+08	3.2405+08	2.4421+08	1.2631+08	6.1358+07	6.7135+06	9.0079+05	5.9969+05	
2	6.00000+01	4.7155+08	3.7025+08	2.3903+08	8.4936+07	4.2853+07	6.4058+06	3.1437+06	7.7542+05	3.2139+05	2.6842+05	
3	9.00000+01	2.6976+08	1.9113+08	9.7902+07	2.8064+07	1.3749+07	6.8614+05	1.4366+04	5.8264+03	5.7012+03	4.8056+03	
4	1.20000+00	1.9431+08	1.2129+08	4.1512+07	5.1569+06	2.3959+06	1.6001+05	1.9793+03	5.3867+02	4.2348+02	8.7630+00	
5	1.50000+00	1.6656+08	9.5798+07	2.6490+07	9.0245+05	1.0719+05	1.9321+03	1.4361+02	1.0098+02	7.8685+01	2.2804+00	
6	1.80000+00	1.4571+08	7.9776+07	2.1200+07	6.4024+05	3.5389+04	1.2203+01	4.8875+00	2.1589+00	9.4930+01	5.4427+01	
7	2.10000+00	1.2154+08	6.3849+07	1.7068+07	5.6790+05	2.8464+04	2.5347+00	1.1129+00	5.3348+01	2.8336+01	1.9853+01	
8	2.40000+00	9.6864+07	4.8884+07	1.3311+07	5.1077+05	2.4457+04	2.9232+01	1.8183+02	1.4352+02	1.4042+02	1.3304+02	
9	2.70000+00	7.7294+07	3.7434+07	1.0378+07	4.6807+05	2.2426+04	4.7437+02	1.5977+04	1.6513+04	1.8586+04	9.2133+05	
10	3.00000+00	6.1895+07	2.8899+07	8.1617+06	4.2816+05	2.0591+04	1.2622+03	2.5578+05	2.6654+05	2.9999+05	1.4871+05	
11	3.30000+00	4.7016+07	1.9631+07	6.3647+06	3.7773+05	1.8235+04	2.8841+04	1.5376+18	0.0000	0.0000	0.0000	
12	3.60000+00	3.3158+07	1.2306+07	4.9055+06	3.2041+05	1.5512+04	2.4356+04	3.4647+19	0.0000	0.0000	0.0000	
13	3.90000+00	2.1633+07	6.7599+06	3.7653+06	2.5849+05	1.2531+04	1.9636+04	6.4448+20	0.0000	0.0000	0.0000	
14	4.20000+00	1.3198+07	3.2028+06	2.7610+06	1.9185+05	9.3032+03	1.4578+04	4.7769+20	0.0000	0.0000	0.0000	
15	4.50000+00	7.8037+06	1.3537+06	1.8045+06	1.2558+05	6.0898+03	9.5427+05	3.1266+20	0.0000	0.0000	0.0000	
16	4.80000+00	4.8569+06	6.4937+05	9.5447+05	6.6451+04	3.2224+03	5.0495+05	1.6546+20	0.0000	0.0000	0.0000	
17	5.10000+00	2.8685+06	3.0391+05	3.1975+05	2.2261+04	1.0795+03	1.6916+05	5.5430+21	0.0000	0.0000	0.0000	
18	5.40000+00	1.4642+06	1.4954+05	2.3695+04	1.6497+03	7.9999+01	1.2536+06	4.1077+22	0.0000	0.0000	0.0000	
19	5.70000+00	5.3558+05	5.5226+04	6.4797+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
20	6.00000+00	8.2344+04	2.4309+04	2.4869+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
21	6.30000+00	4.0638+02	3.9576+03	4.6224+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
22	6.60000+00	0.0000	5.0862+01	1.1869+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
23	6.90000+00	0.0000	2.9492+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
24	7.20000+00	0.0000	1.3172+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
25	7.50000+00	0.0000	2.9504+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Table 3.96

SOURCE 2 (AIR), 200 DAYS, 1 WATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

-----COOLING TIMES-----											
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	1.3805+08	1.1401+08	8.7094+07	4.8607+07	3.6632+07	1.8947+07	9.2037+06	1.0070+06	1.3512+05	8.9953+04
2	6.00000+01	2.1220+08	1.6661+08	1.0756+08	3.8221+07	1.9104+07	2.8826+06	1.4147+06	3.8894+05	1.4463+05	1.2079+05
3	9.00000+01	2.0232+08	1.4334+08	7.3426+07	2.1048+07	1.0312+07	5.1461+05	1.0774+04	4.3698+03	4.2759+03	3.6042+03
4	1.20000+00	2.0403+08	1.2736+08	4.3587+07	5.4147+06	2.5157+06	1.6801+05	2.0783+03	5.6560+02	4.4466+02	9.2012+00
5	1.50000+00	2.2445+08	1.2933+08	3.5761+07	1.2183+06	1.4471+05	2.6083+03	1.9387+02	1.3632+02	1.0623+02	3.0785+00
6	1.80000+00	2.4043+08	1.3163+08	3.4980+07	1.0564+06	5.8392+04	2.0135+01	8.0643+00	3.5621+00	1.5663+00	8.9805+01
7	2.10000+00	2.3701+08	1.2451+08	3.3282+07	1.1074+06	5.5504+04	4.9427+00	2.1701+00	1.0403+00	5.5256+01	3.8714+01
8	2.40000+00	2.1794+08	1.0999+08	2.9950+07	1.1492+06	5.5029+04	6.5773+01	4.0911+02	3.2292+02	3.1595+02	2.9955+02
9	2.70000+00	1.9711+08	9.5456+07	2.6463+07	1.1936+06	5.7191+04	1.2096+01	4.0742+04	4.2109+04	4.7394+04	2.3494+04
10	3.00000+00	1.7640+08	8.0083+07	2.3261+07	1.2203+06	5.8685+04	3.5974+03	7.2898+05	7.5964+05	8.5498+05	4.2383+05
11	3.30000+00	1.4810+08	6.1838+07	2.0049+07	1.1899+06	5.7439+04	9.0848+04	4.8433+18	0.0000	0.0000	0.0000
12	3.60000+00	1.1439+08	4.2455+07	1.6924+07	1.1054+06	5.3516+04	8.4027+04	1.1955+18	0.0000	0.0000	0.0000
13	3.90000+00	8.1125+07	2.5350+07	1.4120+07	9.6933+05	4.6992+04	7.3635+04	2.4168+19	0.0000	0.0000	0.0000
14	4.20000+00	5.3452+07	1.2971+07	1.1182+07	7.7698+05	3.7678+04	5.9041+04	1.9346+19	0.0000	0.0000	0.0000
15	4.50000+00	3.3946+07	5.8885+06	7.8497+06	5.4628+05	2.6491+04	4.1511+04	1.3602+19	0.0000	0.0000	0.0000
16	4.80000+00	2.2584+07	3.0196+06	4.4383+06	3.0900+05	1.4984+04	2.3480+04	7.6939+20	0.0000	0.0000	0.0000
17	5.10000+00	1.4199+07	1.5044+06	1.5828+06	1.1019+05	5.3436+03	8.3734+05	2.7438+20	0.0000	0.0000	0.0000
18	5.40000+00	7.6872+06	7.8507+05	1.2440+05	8.6609+03	4.1999+02	6.5812+06	2.1565+21	0.0000	0.0000	0.0000
19	5.70000+00	2.9725+06	3.6200+05	3.5963+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	4.8171+05	1.4221+05	1.5718+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	2.4992+03	2.4339+04	2.8428+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	3.2806+02	7.8558+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	1.9907+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	9.2863+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	2.1688+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.97

SOURCE 2 (AIR), 200 DAYS, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E(MFV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	5.4581-02	8.2820-02	1.5236-01	3.8868-01	5.2909-01	8.4153-01	8.6571-01	7.3989-01	4.7481-01	4.1964-01
2	6.00000+01	1.3848+01	2.0385+01	3.4053+01	6.9323+01	8.0502+01	9.6956+01	9.9877+01	9.9627+01	9.8303+01	9.8312+01
3	9.00000+01	2.1847+01	3.0797+01	4.6897+01	8.6127+01	9.5395+01	9.9242+01	9.9979+01	9.9948+01	9.9806+01	9.9994+01
4	1.20000+00	2.9914+01	4.0048+01	5.4522+01	9.0450+01	9.9029+01	9.9988+01	9.9998+01	9.9990+01	9.9962+01	9.9998+01
5	1.50000+00	3.8803+01	4.9443+01	6.0778+01	9.1423+01	9.9238+01	1.0000+00	1.0000+00	1.0000+00	9.9999+01	9.9999+01
6	1.80000+00	4.8309+01	5.9004+01	6.6898+01	9.2267+01	9.9322+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
7	2.10000+00	5.7630+01	6.8048+01	7.2720+01	9.3151+01	9.9482+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
8	2.40000+00	6.6297+01	7.6038+01	7.7959+01	9.4068+01	9.9482+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	7.4090+01	8.2972+01	8.2589+01	9.5021+01	9.9564+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	8.1064+01	8.8789+01	8.6658+01	9.5995+01	9.9649+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	8.6919+01	9.3281+01	9.0165+01	9.6945+01	9.9732+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.1442+01	9.6365+01	9.3126+01	9.7828+01	9.9809+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.4650+01	9.8206+01	9.5596+01	9.8602+01	9.9877+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.6763+01	9.9148+01	9.7552+01	9.9222+01	9.9932+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.8105+01	9.9576+01	9.8925+01	9.9658+01	9.9970+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.8998+01	9.9795+01	9.9701+01	9.9905+01	9.9992+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9559+01	9.9905+01	9.9978+01	9.9993+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9863+01	9.9962+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9981+01	9.9988+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	1.0000+00	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (AIR), 200 DAYS, 1 WATT, PURE U-235

SOURCE 2 (AIR), 200 DAYS, 1 WATT, PURE U-235

Table 3.93

SOURCE 2 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000-01	1.8507+07	1.3971+07	1.1263+07	3.4402+07	2.5796+07	5.3543+06	2.7756+06	2.5766+05	1.0547+04	1.1599-01
2	3.00000-01	6.2588+07	3.4305+07	1.8257+07	3.3495+07	2.3437+07	2.7224+06	1.3829+06	2.3349+05	1.8800+04	6.5408-02
3	4.50000-01	1.2762+08	7.7439+07	4.9528+07	3.7727+07	3.5239+07	2.7966+07	1.6353+07	2.8450+06	2.2642+05	6.0364-03
4	6.00000-01	1.8455+08	1.5233+08	1.3361+08	6.9888+07	4.4739+07	4.1959+06	9.4028+04	1.0603+04	8.4391+02	6.1253+05
5	7.50000-01	1.4990+08	1.2191+08	8.2374+07	5.1457+06	3.1277+06	1.7582+06	3.0571+05	2.4331+04	8.3657+03	
6	9.00000-01	3.5001+08	2.8343+08	1.4008+08	7.7450+06	1.5012+06	2.7955+05	2.2583+03	1.8699-01	3.8824+02	1.8084+05
7	1.05000+00	4.9806+07	3.9746+07	2.5813+07	3.2394+06	8.2286+05	4.3523+02	1.6121+01	5.4665+02	1.1365+02	5.2921+06
8	1.20000+00	7.7903+07	6.3310+07	4.1827+07	8.1538+06	2.4230+06	2.3202+04	1.7816+02	1.9645+05	7.9008+16	0.0000
9	1.35000+00	1.4101+08	7.8315+07	3.1596+07	1.0746+07	4.0510+06	1.6758+05	1.3452+03	1.4834+04	5.9568+15	0.0000
10	1.50000+00	2.7033+07	2.2012+07	1.6078+07	2.7924+06	7.4199+05	3.9429+02	1.0111+04	7.3494+10	7.2180+10	2.4456+06
11	1.65000+00	1.2886+07	9.9636+06	5.0889+06	6.2662+05	1.7794+05	9.7279+01	1.8508+00	6.2800-01	1.3056+01	6.0797+05
12	1.80000+00	3.0061+07	2.4579+07	1.9948+07	5.7231+06	1.6258+06	8.7011+02	2.2713+04	2.4834+26	0.0000	0.0000
13	1.95000+00	1.1352+07	9.2056+06	4.7842+06	2.6787+05	6.9181+04	3.6654+01	9.3497+06	1.0462+27	0.0000	0.0000
14	2.10000+00	4.9331+06	3.4344+06	1.7858+06	2.3902+05	5.8564+04	3.0831+01	7.9063+06	8.7946+28	0.0000	0.0000
15	2.25000+00	8.1784+05	6.7161+05	4.1254+05	1.0215+04	2.6897+02	9.4515+08	2.6185+09	1.8754+09	1.8418+09	6.2406+06
16	2.40000+00	7.7908+06	4.0893+06	3.0232+05	5.5685+03	1.4678+02	1.6118+02	1.4576+02	4.9460+03	1.0283+03	4.7882+07
17	2.55000+00	6.4456+06	3.8544+06	7.7464+05	1.5471+03	3.7622+01	6.5731-02	5.9445+07	2.0171-02	4.1935+03	1.9528+06
18	2.70000+00	4.8793+06	2.4613+06	4.9757+04	7.8189+00	5.9594+04	6.3164+21	0.0000	0.0000	0.0000	0.0000
19	2.85000+00	0.0000	3.5858+03	8.6026+01	1.8604+04	5.2027+07	4.5936+21	0.0000	0.0000	0.0000	0.0000
20	3.00000+00	2.7707+06	1.3868+06	8.7457+00	5.7924+04	5.6671+04	1.2723+01	1.1506+03	3.9044+04	8.1171+05	3.7798+08
21	3.15000+00	0.0000	1.3079+03	2.0155+01	2.4198+04	1.8903+04	4.2404+04	3.8468+04	1.3013+04	2.7053+05	1.2547+08
22	3.30000+00	0.0000	7.5679+02	3.5468+00	6.8791+05	2.9916+07	2.6415+21	0.0000	0.0000	0.0000	0.0000
23	3.45000+00	0.0000	1.1907+03	1.8192+02	2.4921+04	4.4227+07	3.9048+21	0.0000	0.0000	0.0000	0.0000
24	3.60000+00	0.0000	5.8040+02	6.9689+01	2.2946+05	1.0405+07	9.1873+22	0.0000	0.0000	0.0000	0.0000
25	3.75000+00	0.0000	1.9654+02	1.3376+01	1.4212+04	5.9826+07	5.2824+21	0.0000	0.0000	0.0000	0.0000
26	3.90000+00	0.0000	1.7383+02	6.5032+01	1.4345+05	6.5046+08	5.7433+22	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	0.0000	1.2895+02	7.8283+00	1.2238+05	2.6014+08	2.2968+22	0.0000	0.0000	0.0000	0.0000
28	4.20000+00	0.0000	5.3156+01	7.7505+00	6.5011+06	1.2138+12	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	0.0000	2.8359+01	6.0529+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	0.0000	7.7085+01	7.9153+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	0.0000	5.8990+01	1.2571+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
32	4.80000+00	0.0000	8.7259+00	1.8624+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	8.7259+00	1.8624+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	8.7259+00	1.8624+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.99

SOURCE 2 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

-----COOLING TIMES-----											
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.3881+06	1.0478+06	8.4474+05	2.5802+06	1.9347+06	4.0157+05	2.0817+05	1.9325+04	7.9106+02	8.6993+03
2	3.00000+01	1.4082+07	7.7186+06	4.1079+06	7.5364+06	5.2733+06	6.1254+05	3.1114+05	5.2536+04	4.2300+03	1.4716+02
3	4.50000+01	4.5981+07	2.9040+07	1.8573+07	1.4148+07	1.3215+07	1.0487+07	6.1324+06	1.0669+06	8.4906+04	2.2636+03
4	6.00000+01	9.6490+07	7.9974+07	7.0107+07	3.6691+07	2.3488+07	2.2029+06	4.9365+04	5.5068+03	4.4305+02	3.2158+05
5	7.50000+01	1.0118+08	8.2286+07	5.5603+07	5.5554+06	3.4733+06	2.1109+06	1.1868+06	2.0635+05	1.6423+04	5.6469+03
6	9.00000+01	2.8876+08	2.3383+08	1.2374+08	6.3896+06	2.8885+06	2.3063+05	1.8631+03	1.5427+01	3.2029+02	1.4919+05
7	1.05000+00	4.8561+07	3.8752+07	2.5168+07	3.1584+06	8.0279+05	4.2435+02	1.5718+04	5.3299+02	1.1081+02	5.1598+06
8	1.20000+00	8.7641+07	7.1224+07	4.7055+07	9.1730+06	2.7259+06	2.6102+04	2.0043+02	2.2101+05	8.8884+16	0.0000
9	1.35000+00	1.7979+08	9.9851+07	4.0284+07	1.3701+07	5.1650+06	2.1367+05	1.7152+03	1.8913+04	7.5949+15	0.0000
10	1.50000+00	3.8523+07	3.1367+07	2.2912+07	3.9792+06	1.0573+06	5.6187+02	1.4409+04	1.0473+09	1.0286+09	3.4850+06
11	1.65000+00	2.0295+07	1.5693+07	8.0150+06	9.8692+05	2.8025+05	1.5321+02	2.9150+00	9.8911+01	2.0563+01	9.5755+05
12	1.80000+00	5.1856+07	4.2399+07	3.4410+07	9.8724+06	2.8046+06	1.5009+03	3.8490+04	4.8239+26	0.0000	0.0000
13	1.95000+00	2.1284+07	1.7261+07	8.9704+06	5.0217+05	1.2971+05	6.8727+01	1.7624+05	1.9616+27	0.0000	0.0000
14	2.10000+00	9.9894+06	6.9546+06	3.6162+06	4.8402+05	1.1859+05	6.2432+01	1.6010+05	1.7819+27	0.0000	0.0000
15	2.25000+00	1.7788+06	1.4608+06	8.9728+05	2.2717+04	5.8500+02	2.0557+07	4.3903+09	4.0789+09	4.0060+09	1.3573+05
16	2.40000+00	1.8114+07	9.5077+06	7.0290+05	1.2947+04	3.4009+02	3.7474+02	3.3889+02	1.1499+02	2.3907+03	1.1133+06
17	2.55000+00	1.5953+07	9.5397+06	1.9172+06	3.6291+03	9.3116+01	1.6268+01	1.4713+01	4.9923+02	1.0379+02	4.8331+06
18	2.70000+00	1.2608+07	6.4608+06	1.3061+05	2.0525+01	1.5643+03	1.6582+20	0.0000	0.0000	0.0000	0.0000
19	2.85000+00	0.0000	9.9507+03	2.3872+02	5.1627+04	1.4637+06	1.2747+20	0.0000	0.0000	0.0000	0.0000
20	3.00000+00	8.1043+06	4.0565+06	2.5581+01	1.6943+03	1.6576+03	3.7215+03	3.3656+03	1.1420+03	2.3743+04	1.1056+07
21	3.15000+00	0.0000	4.0191+03	6.1976+01	7.4418+04	5.8126+04	1.3039+03	1.1792+03	4.0014+04	8.3187+05	3.8737+08
22	3.30000+00	0.0000	2.4407+03	1.1438+01	2.2185+04	9.6479+07	8.5187+21	0.0000	0.0000	0.0000	0.0000
23	3.45000+00	0.0000	4.0185+03	6.1308+02	8.4107+04	1.4927+06	3.3179+20	0.0000	0.0000	0.0000	0.0000
24	3.60000+00	0.0000	2.0459+03	2.4565+00	8.0886+05	3.6678+07	3.2385+21	0.0000	0.0000	0.0000	0.0000
25	3.75000+00	0.0000	7.2730+02	4.9156+01	5.2229+04	2.1986+06	1.9413+20	0.0000	0.0000	0.0000	0.0000
26	3.90000+00	0.0000	6.6490+02	2.4875+00	5.4868+05	2.4880+07	2.1968+21	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	0.0000	5.1256+02	3.1117+01	4.8645+05	1.0341+07	9.1299+22	0.0000	0.0000	0.0000	0.0000
28	4.20000+00	0.0000	2.1927+02	3.1971+01	2.6817+05	5.0069+12	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	0.0000	1.2124+02	2.5876+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	0.0000	1.6410+02	3.5025+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	0.0000	2.6947+02	5.7514+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
32	4.80000+00	0.0000	4.1230+01	8.8000+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	4.2539+01	9.0794+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	4.3848+01	9.3587+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.100

SOURCE 2 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

-----COOLING TIMES-----

GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.3058-03	1.3290-03	1.8085-03	2.2476-02	3.0536-02	2.4654-02	2.6378-02	1.4308-02	7.4074-03	1.5405-06
2	3.00000+01	1.4554-02	1.1119-02	1.0603-02	8.8126-02	1.1377-01	6.2260-02	5.5805-02	5.3204-02	4.7017-02	4.1466-06
3	4.50000+01	5.7810-02	4.7950-02	5.0366-02	2.1137-01	3.2234-01	7.0611-01	8.4288-01	8.4310-01	8.4206-01	4.5476-06
4	6.00000+01	1.4896-01	1.4938-01	2.0054-01	5.3099-01	6.9307-01	8.4135-01	8.4914-01	8.4722-01	8.4621-01	4.5532-06
5	7.50000+01	2.4415-01	2.5175-01	3.1959-01	5.7938-01	7.4789-01	9.7095-01	9.9952-01	1.0000+00	1.0000+00	1.0000+00
6	9.00000+01	5.1580-01	5.5031-01	5.8449-01	6.3504-01	7.9348-01	9.8511-01	9.9976-01	1.0000+00	1.0000+00	1.0000+00
7	1.05000+02	5.6148-01	5.9946-01	6.3837-01	6.6255-01	8.0614-01	9.8514-01	9.9976-01	1.0000+00	1.0000+00	1.0000+00
8	1.20000+02	6.4393-01	6.8980-01	7.3911-01	7.4246-01	8.4917-01	9.8674-01	9.9978-01	1.0000+00	1.0000+00	1.0000+00
9	1.35000+02	8.1307-01	8.1644-01	8.2536-01	8.6181-01	9.3069-01	9.9986-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	1.50000+02	3.4931-01	8.5623-01	8.7441-01	8.9647-01	9.4738-01	9.9989-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	1.65000+02	8.6840-01	8.7613-01	8.9157-01	9.0507-01	9.5180-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	1.80000+02	9.1718-01	9.2991-01	9.6524-01	9.9187-01	9.9606-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	1.95000+02	9.3721-01	9.5180-01	9.8445-01	9.9544-01	9.9811-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	2.10000+02	9.4668-01	9.6062-01	9.9219-01	9.9966-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	2.25000+02	9.4828-01	9.6247-01	9.9411-01	9.9985-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	2.40000+02	9.6532-01	9.7453-01	9.9561-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	2.55000+02	9.8033-01	9.8663-01	9.9972-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	2.70000+02	9.9238-01	9.9882-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	2.85000+02	9.9238-01	9.9884-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	3.00000+02	1.0000+00	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	3.15000+02	1.0000+00	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+02	1.0000+00	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+02	1.0000+00	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+02	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+02	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+02	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+02	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+02	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+02	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+02	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+02	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+02	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+02	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+02	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+02	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+02	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+02	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+02	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+02	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+02	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (P.O.), EQUILIBRIUM, 1 WATT, PURE U-235

SOURCE 2 (P.O.), EQUILIBRIUM, 1 WATT, PURE U-235

Figure 3.67

Table 3.101

SOURCE 2 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	2.6122+08	1.8633+08	1.5146+08	9.5708+07	7.2227+07	3.3075+07	1.7692+07	2.7412+06	2.1980+05	3.7633+04
2	6.00000+01	1.9681+08	1.3907+08	1.0376+08	5.1764+07	3.3067+07	6.7555+06	3.1644+06	5.8000+05	5.1803+04	5.9714+03
3	9.00000+01	1.2337+08	8.5516+07	5.7119+07	2.1389+07	1.2310+07	7.8870+05	1.0779+04	8.5348+02	7.6424+01	5.1234+02
4	1.20000+00	6.0841+07	4.0059+07	2.1478+07	4.8925+06	2.6380+06	1.8708+05	1.4994+03	5.6479+02	1.5341+02	8.7427+01
5	1.50000+00	3.1504+07	1.8665+07	6.8149+06	3.2648+05	8.7366+04	2.1029+03	1.6680+01	1.3587+02	3.1763+03	6.0259+04
6	1.80000+00	2.1663+07	1.1486+07	2.8556+06	5.8453+04	8.1669+03	7.2070+00	4.0439+02	3.5664+03	8.3386+04	5.2229+04
7	2.10000+00	1.6496+07	7.8970+06	1.1001+06	1.6306+04	2.2440+03	9.3750+01	2.1627+01	7.7844+04	1.8202+04	3.9679+04
8	2.40000+00	1.2699+07	5.5244+06	1.9841+05	5.1038+02	4.6179+01	1.7310+02	1.9619+05	7.0695+06	1.6654+06	2.4824+04
9	2.70000+00	1.0211+07	4.2782+06	4.8821+03	6.2105+01	4.8763+05	6.6701+09	6.3941+09	6.3020+09	6.9606+09	1.0871+04
10	3.00000+00	7.9193+06	3.2941+06	4.1432+02	3.8313+04	3.7724+07	1.0759+09	1.0321+09	1.0172+09	1.1235+09	1.7546+05
11	3.30000+00	5.5628+06	2.2942+06	1.7286+02	1.7438+04	2.7648+07	2.1196+21	0.0000	0.0000	0.0000	0.0000
12	3.60000+00	3.4712+06	1.4166+06	6.4046+01	7.4595+05	1.8627+07	1.3821+21	0.0000	0.0000	0.0000	0.0000
13	3.90000+00	1.9428+06	7.8844+05	1.5274+01	2.5786+05	9.7941+08	7.5091+22	0.0000	0.0000	0.0000	0.0000
14	4.20000+00	9.6803+05	3.9814+05	2.6625+00	9.1306+06	4.0625+08	3.1147+22	0.0000	0.0000	0.0000	0.0000
15	4.50000+00	3.9427+05	1.6847+05	4.8400+02	1.5838+06	7.0467+09	5.4027+23	0.0000	0.0000	0.0000	0.0000
16	4.80000+00	1.3552+05	5.9598+04	4.4655+08	2.6174+10	1.1646+12	8.9288+27	0.0000	0.0000	0.0000	0.0000
17	5.10000+00	2.9281+04	1.3023+04	1.7393+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	5.40000+00	1.4310+04	6.3764+03	8.5003+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	5.70000+00	8.0581+03	3.5696+03	4.7866+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	7.2339+03	1.4295+03	1.9210+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	4.9650+02	2.1946+02	2.9493+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.102

SOURCE 2 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

-----COOLING TIMES-----											
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	3.9182+07	2.7949+07	2.2719+07	1.4356+07	1.0834+07	4.9613+06	2.6538+06	4.1118+05	3.2910+04	5.6449+03
2	6.00000+01	8.8566+07	6.2580+07	4.6692+07	2.3294+07	1.4880+07	3.0400+06	1.4240+06	2.6100+05	2.3311+04	2.6871+03
3	9.00000+01	9.2530+07	6.4137+07	4.2839+07	1.6042+07	9.2327+06	5.9152+05	8.0842+03	6.4011+02	5.7318+01	3.8425+02
4	1.20000+00	6.3883+07	4.2061+07	2.2552+07	5.1371+06	2.7699+06	1.9643+05	1.5744+03	5.9303+02	1.6108+02	9.1798+01
5	1.50000+00	4.2530+07	2.5197+07	9.2002+06	4.4075+05	1.1794+05	2.8388+03	2.2518+01	1.8343+02	4.2880+03	8.1349+04
6	1.80000+00	3.5744+07	1.8952+07	4.7117+06	9.6448+04	1.3475+04	1.1891+01	6.6724+02	5.8846+03	1.3754+03	8.6177+04
7	2.10000+00	3.2168+07	1.5399+07	2.1452+06	3.1747+04	4.3759+03	1.8281+00	4.2173+03	1.5180+03	3.5494+04	7.7373+04
8	2.40000+00	2.8574+07	1.2430+07	4.4642+05	1.1484+03	1.0390+02	3.8948+02	4.4142+05	1.5908+05	3.7471+06	5.5855+04
9	2.70000+00	2.6038+07	1.0909+07	1.2449+04	1.5837+00	1.2435+04	1.7009+08	1.6305+08	1.6070+08	1.7749+08	2.7720+04
10	3.00000+00	2.2570+07	9.3882+06	1.1808+03	1.0919+03	1.0751+06	3.0663+09	2.9414+09	2.8990+09	3.2020+09	5.0008+05
11	3.30000+00	1.7523+07	7.2788+06	5.4451+02	5.4936+04	8.7091+07	6.6767+21	0.0000	0.0000	0.0000	0.0000
12	3.60000+00	1.1976+07	4.8874+06	2.2096+02	2.5735+04	6.2193+07	4.7682+21	0.0000	0.0000	0.0000	0.0000
13	3.90000+00	7.2857+06	2.9567+06	5.7276+01	9.6696+05	3.6728+07	2.8159+21	0.0000	0.0000	0.0000	0.0000
14	4.20000+00	3.9205+06	1.6125+06	1.0783+01	3.6979+05	1.6453+07	1.2615+21	0.0000	0.0000	0.0000	0.0000
15	4.50000+00	1.7151+06	7.3283+05	2.1054+01	6.8894+06	3.8653+08	2.3502+22	0.0000	0.0000	0.0000	0.0000
16	4.80000+00	8.3018+05	2.7713+05	2.0765+07	1.2171+09	5.4153+12	4.1519+26	0.0000	0.0000	0.0000	0.0000
17	5.10000+00	1.4494+05	8.4464+04	8.6096+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	5.40000+00	7.5127+04	3.3476+04	4.4627+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	5.70000+00	4.4722+04	1.9811+04	2.6566+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	1.8919+04	8.3623+03	1.1238+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	3.0535+03	1.3497+03	1.8138+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.193

SOURCE 2 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	7.6064-02	9.1091-02	1.5014-01	2.4169-01	2.8622-01	5.6429-01	6.4925-01	6.1113-01	5.8477-01	6.4088-01
2	6.00000+01	2.4800-01	2.9505-01	4.5870-01	6.3385-01	6.7932-01	9.1005-01	9.9763-01	9.9905-01	9.9898-01	9.4595-01
3	9.00000+01	4.2762-01	5.0469-01	7.4181-01	9.0392-01	9.2323-01	9.7733-01	9.9961-01	1.0000+00	1.0000+00	9.8958-01
4	1.20000+00	5.5164-01	6.4117-01	8.9084-01	9.9040-01	9.9641-01	9.9968-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00
5	1.50000+00	6.3420-01	7.2330-01	9.5164-01	9.9782-01	9.9953-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
6	1.80000+00	7.0359-01	7.8506-01	9.8278-01	9.9945-01	9.9988-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
7	2.10000+00	7.6604-01	8.3525-01	9.9695-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
8	2.40000+00	8.2151-01	8.7574-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	8.7206-01	9.1132-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	9.1587-01	9.4192-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	9.4989-01	9.6547-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.7314-01	9.8140-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.8728-01	9.9104-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.9489-01	9.9629-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.9822-01	9.9888-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.9944-01	9.9958-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9972-01	9.9979-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9987-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9996-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (P.O.), EQUILIBRIUM, 1 WATT, PURE U-235

Figure 3.69
BETA CUMUL. SPECT (10 %)

Table 3.104

SOURCE 2 (PLATE OUT), 5000 DAYS, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.8507+07	1.3971+07	1.1263+07	3.4400+07	2.5793+07	5.3524+06	2.7736+06	2.5659+05	9.9899+03	2.1616+05
2	3.00000+01	6.2587+07	3.4305+07	1.8257+07	3.3493+07	2.3434+07	2.7215+06	1.3819+06	2.3252+05	1.7806+04	1.2189+05
3	4.50000+01	1.2261+08	7.7438+07	4.9527+07	3.7724+07	3.5235+07	2.7957+07	1.6341+07	2.8331+06	2.1465+05	1.1259+06
4	6.00000+01	1.8455+08	1.5233+08	1.3361+08	6.9883+07	4.4734+07	4.1945+06	9.3961+04	1.0559+04	7.9424+02	1.1415+08
5	7.50000+01	1.4990+08	1.2190+08	8.2372+07	8.2297+06	5.1451+06	3.1262+06	1.7569+06	3.0443+05	2.3044+04	1.5591+09
6	9.00000+01	3.5000+08	2.8342+08	1.4998+08	7.7444+06	3.5008+06	2.7945+05	2.2567+03	1.8621+01	3.6771+02	3.3701+09
7	1.05000+00	4.9805+07	3.9745+07	2.5813+07	3.2392+06	8.2277+05	4.3508+02	1.6110+01	5.4437+02	1.0764+02	9.8626+10
8	1.20000+00	7.7902+07	6.3309+07	4.1826+07	8.1532+06	2.4228+06	2.3194+04	1.7803+02	1.9563+05	7.4831+16	0.0000
9	1.35000+00	1.4101+08	7.8314+07	3.1595+07	1.0745+07	4.0505+06	1.6752+05	1.3447+03	1.4772+04	5.6419+15	0.0000
10	1.50000+00	2.7033+07	2.2012+07	1.6078+07	2.7922+06	7.4190+05	3.9415+02	1.0104+04	7.3187+10	6.8364+10	4.5577+10
11	1.65000+00	1.2886+07	9.4635+06	5.0888+06	6.2657+05	1.7792+05	9.7245+01	1.8494+00	6.2538+01	1.2366+01	1.1330+08
12	1.80000+00	3.0061+07	2.4579+07	1.9948+07	5.7227+06	1.2556+06	6.6981+02	2.2297+04	2.4731+26	0.0000	0.0000
13	1.95000+00	1.1352+07	9.2055+06	4.7841+06	2.6780+05	6.9173+04	3.6642+01	9.3930+06	1.0418+27	0.0000	0.0000
14	2.10000+00	4.9330+06	3.4343+06	1.7858+06	2.3901+05	5.8557+04	3.0820+01	7.9006+06	8.7628+28	0.0000	0.0000
15	2.25000+00	8.1783+05	6.7161+05	4.1253+05	1.0214+04	2.6894+02	9.4082+08	2.0171+09	1.8675+09	1.7445+09	1.1630+09
16	2.40000+00	7.7907+06	4.0893+06	3.0231+05	5.5681+03	1.6686+02	1.6112+02	1.4566+02	4.9253+03	9.7390+04	8.9235+11
17	2.55000+00	6.4455+06	3.8544+06	7.7462+05	1.5474+03	3.7618+01	6.5708+02	5.9402+02	2.0087+02	3.9718+03	3.6392+10
18	2.70000+00	4.8792+06	2.4612+06	4.9756+04	7.8183+00	5.9587+04	6.3147+21	0.0000	0.0000	0.0000	0.0000
19	2.85000+00	0.0000	3.5858+03	8.6024+01	1.8603+04	5.2021+07	4.5920+21	0.0000	0.0000	0.0000	0.0000
20	3.00000+00	2.7707+06	1.3868+06	8.7455+00	5.7919+04	5.6664+04	1.2719+03	1.1498+03	3.8881+04	7.8880+05	7.0442+12
21	3.15000+00	0.0000	1.3070+03	2.0154+01	2.4147+04	1.8901+04	4.2389+04	3.8321+04	1.2958+04	2.5622+05	2.3477+12
22	3.30000+00	0.0000	7.5678+02	3.5467+00	6.8786+05	2.9913+07	2.6405+21	0.0000	0.0000	0.0000	0.0000
23	3.45000+00	0.0000	1.1907+03	1.8192+02	2.4919+04	4.4222+07	3.9035+21	0.0000	0.0000	0.0000	0.0000
24	3.60000+00	0.0000	5.8039+02	6.9687+01	2.2945+05	1.0404+07	9.1841+22	0.0000	0.0000	0.0000	0.0000
25	3.75000+00	0.0000	1.0654+02	1.3375+01	1.4211+04	5.9820+07	5.2806+21	0.0000	0.0000	0.0000	0.0000
26	3.90000+00	0.0000	1.7383+02	6.5031+01	1.4344+05	6.5038+08	5.7413+22	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	0.0000	1.2894+02	7.8281+00	1.2237+05	2.6011+08	2.2960+22	0.0000	0.0000	0.0000	0.0000
28	4.20000+00	0.0000	5.3155+01	7.7504+00	6.5007+06	1.2137+12	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	0.0000	2.8359+01	6.0528+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	0.0000	3.7084+01	7.9152+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	0.0000	5.8899+01	1.2571+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
32	4.80000+00	0.0000	8.7258+00	1.8624+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	8.7258+00	1.8624+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	8.7258+00	1.8624+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.105

SOURCE 2 (PLATE OUT), 5000 DAYS, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

IDUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.3880+06	1.0478+06	8.4473+05	2.5800+06	1.9305+06	4.0143+05	2.0802+05	1.9244+04	7.4924+02	1.6212+06
2	3.00000+01	1.4082+07	7.7185+06	4.1078+06	7.5358+06	5.2727+06	6.1233+05	3.1092+05	5.2316+04	4.0064+03	2.7426+06
3	4.50000+01	4.5980+07	2.9019+07	1.8573+07	1.4147+07	1.3213+07	1.0484+07	6.1280+06	1.0624+06	8.0417+04	4.2186+07
4	6.00000+01	9.6889+07	7.9972+07	7.0145+07	3.6689+07	2.3485+07	2.2021+06	4.9329+04	5.5435+03	4.1963+02	5.9930+09
5	7.50000+01	1.0118+08	8.2285+07	5.5601+07	5.5550+06	3.4729+06	2.1102+06	1.1859+06	2.0549+05	1.5555+04	1.0524+00
6	9.00000+01	2.8875+08	2.3382+08	1.2373+08	6.3892+06	2.8841+06	2.3055+05	1.8617+03	1.5302+01	3.0336+02	2.7804+09
7	1.05000+00	4.8560+07	3.8752+07	2.5167+07	3.1582+06	8.0220+05	4.2421+02	1.5707+01	5.3076+02	1.0495+02	9.6160+10
8	1.20000+00	8.7640+07	7.1223+07	4.7054+07	9.1723+06	2.7256+06	2.6093+04	2.0029+02	2.2008+05	8.4185+16	0.0000
9	1.35000+00	1.7979+08	9.9850+07	4.0283+07	1.3700+07	5.1644+06	2.1359+05	1.7140+03	1.8834+04	7.1934+15	0.0000
10	1.50000+00	3.8522+07	3.1367+07	2.2911+07	3.9789+06	1.0572+06	5.6167+02	1.4398+04	1.0429+09	9.7419+10	6.4948+10
11	1.65000+00	2.0295+07	1.5692+07	8.0148+06	9.8685+05	2.8022+05	1.5316+02	2.9129+00	9.8497+01	1.9476+01	1.7845+08
12	1.80000+00	5.1855+07	4.2398+07	3.4410+07	9.8716+06	2.8042+06	1.5004+03	3.8463+04	4.2660+26	0.0000	0.0000
13	1.95000+00	2.1234+07	1.7260+07	8.9702+06	5.0211+05	1.2970+05	0.8703+01	1.7812+05	1.9534+27	0.0000	0.0000
14	2.10000+00	9.9893+06	6.9545+06	3.6162+06	4.8399+05	1.1858+05	6.2411+01	1.5999+05	1.7745+27	0.0000	0.0000
15	2.25000+00	1.7788+06	1.4607+06	8.9726+05	2.2216+04	5.8493+02	2.0550+07	4.3871+09	4.0619+09	3.7942+09	2.5295+09
16	2.40000+00	1.8113+07	9.5076+06	7.0268+05	1.2946+04	3.4005+02	3.7460+02	3.3855+02	1.1451+02	2.2643+03	2.0747+10
17	2.55000+00	1.5953+07	9.5396+06	1.9172+06	3.8288+03	9.3165+01	1.6263+01	1.4702+01	4.9715+02	9.8302+03	9.0070+10
18	2.70000+00	1.2808+07	6.4607+06	1.3061+05	2.0521+01	1.5642+03	1.6576+20	0.0000	0.0000	0.0000	0.0000
19	2.85000+00	0.0000	9.9507+03	2.3872+02	5.1623+04	1.4436+06	1.2743+20	0.0000	0.0000	0.0000	0.0000
20	3.00000+00	8.1042+06	4.0564+06	2.55A1+01	1.6941+03	1.6574+03	3.7202+03	3.3632+03	1.1373+03	2.2487+04	2.0604+11
21	3.15000+00	0.0000	4.0190+03	6.1974+01	7.4405+04	5.8119+04	1.3035+03	1.1784+03	3.9846+04	7.8789+05	7.2191+12
22	3.30000+00	0.0000	2.4406+03	1.1438+01	2.2184+04	9.6068+07	8.5156+21	0.0000	0.0000	0.0000	0.0000
23	3.45000+00	0.0000	4.0184+03	6.1397+02	8.4101+04	1.4925+06	3.1774+20	0.0000	0.0000	0.0000	0.0000
24	3.60000+00	0.0000	2.0459+03	2.4565+04	8.0880+05	3.6674+07	3.2374+21	0.0000	0.0000	0.0000	0.0000
25	3.75000+00	0.0000	7.2229+02	4.9154+01	5.2225+04	2.1984+06	1.9406+20	0.0000	0.0000	0.0000	0.0000
26	3.90000+00	0.0000	6.6489+02	2.8874+00	5.4864+05	2.4877+07	2.1960+21	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	0.0000	5.1756+02	3.1117+01	4.8641+05	1.0339+07	9.1267+22	0.0000	0.0000	0.0000	0.0000
28	4.20000+00	0.0000	2.1927+02	3.1970+01	2.0815+05	5.0064+12	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	0.0000	1.2123+02	2.5876+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	0.0000	1.6410+02	3.5025+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	0.0000	2.6946+02	5.7513+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
32	4.80000+00	0.0000	4.1229+01	8.7998+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	4.2538+01	9.0792+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	4.3847+01	9.3585+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.106

SOURCE 2 (PLATE OUT), 5000 DAYS, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.305A-03	1.3290-03	1.8085-03	2.2476-02	3.0536-02	2.4654-02	2.6378-02	1.4308-02	7.4074-03	1.5405-06
2	3.00000+01	1.4554-02	1.1119-02	1.0603-02	8.8126-02	1.1377-01	6.2260-02	6.5805-02	5.3204-02	4.7017-02	4.1466-06
3	4.50000+01	5.7810-02	4.7950-02	5.0366-02	2.1137-01	3.2234-01	7.0611-01	8.4288-01	8.4310-01	8.4200-01	4.5475-06
4	6.00000+01	1.4896-01	1.4938-01	2.0054-01	5.3099-01	8.9307-01	8.4135-01	8.4914-01	8.4722-01	8.4621-01	4.5532-06
5	7.50000+01	2.4415-01	2.5375-01	3.1959-01	5.7938-01	7.4789-01	9.7095-01	9.9952-01	1.0000+00	1.0000+00	1.0000+00
6	9.00000+01	5.1580-01	5.5031-01	5.8449-01	6.5504-01	7.9348-01	9.8511-01	9.9976-01	1.0000+00	1.0000+00	1.0000+00
7	1.05000+00	5.6148-01	5.9946-01	6.3837-01	6.6255-01	8.0614-01	9.8514-01	9.9976-01	1.0000+00	1.0000+00	1.0000+00
8	1.20000+00	6.4393-01	6.8980-01	7.3911-01	7.4746-01	8.4917-01	9.8674-01	9.9978-01	1.0000+00	1.0000+00	1.0000+00
9	1.35000+00	8.1307-01	8.1644-01	8.2536-01	8.6181-01	9.3069-01	9.9986-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	1.50000+00	8.4493-01	8.5623-01	8.7441-01	8.9647-01	9.4738-01	9.9989-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	1.65000+00	8.6846-01	8.7613-01	8.9157-01	9.0507-01	9.5180-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	1.80000+00	9.1718-01	9.2991-01	9.4524-01	9.9107-01	9.9606-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	1.95000+00	9.3721-01	9.5180-01	9.8445-01	9.9544-01	9.9811-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	2.10000+00	9.4660-01	9.6062-01	9.9219-01	9.9966-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	2.25000+00	9.4828-01	9.6247-01	9.9411-01	9.9985-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	2.40000+00	9.6532-01	9.7453-01	9.9561-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	2.55000+00	9.8033-01	9.8663-01	9.9972-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	2.70000+00	9.9238-01	9.9484-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	2.85000+00	9.9238-01	9.9484-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	3.00000+00	1.0000+00	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	3.15000+00	1.0000+00	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	1.0000+00	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	1.0000+00	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (P.O.), 5000 DAYS, 1 WATT, PURE U-23

SOURCE 2 (P.O.), 5000 DAYS, 1 WATT, PURE U-23

Figure 3.71
GAMMA CUMUL. SPECT (0 1)

Table 3.107

SOURCE 2 (PLATE OUT), 5000 DAYS, 1 WATT, PURE U-235

META SPECTRA (BETAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	2.6121+08	1.8632+08	1.5145+08	9.5693+07	7.2210+07	3.3042+07	1.7654+07	2.7053+06	1.8506+05	2.6033+00
2	6.00000+01	1.9681+08	1.3906+08	1.0375+08	5.1756+07	3.3060+07	6.7487+06	3.1576+06	5.7241+05	4.3696+04	4.1307+01
3	9.00000+01	1.2337+08	8.5513+07	5.7116+07	2.1386+07	1.2307+07	7.8790+05	1.0756+04	8.4231+02	6.4464+01	3.5441+02
4	1.20000+00	6.0840+07	4.0057+07	2.1477+07	4.8917+06	2.6374+06	1.8689+05	1.4962+03	5.5740+02	1.2940+02	6.0478+03
5	1.50000+00	3.1503+07	1.8664+07	6.8145+06	3.2643+05	8.7345+04	2.1007+03	1.6644+01	1.3409+02	2.6792+03	4.1684+08
6	1.80000+00	2.1663+07	1.1085+07	2.8554+06	5.8444+04	8.1649+03	7.1997+00	4.0352+02	3.5197+03	7.0336+04	3.6129+08
7	2.10000+00	1.6496+07	7.8967+06	1.1000+06	1.6304+04	2.2435+03	9.3656+01	2.1581+03	7.6825+04	1.5353+04	2.7448+08
8	2.40000+00	1.2699+07	5.5243+06	1.9840+05	5.1030+02	4.6168+01	1.7293+02	1.9576+05	6.9770+06	1.4048+06	1.7172+08
9	2.70000+00	1.0211+07	4.2780+06	4.8818+03	6.2095+01	4.8751+05	6.6634+09	6.3804+09	6.2195+09	5.8713+09	7.5197+09
10	3.00000+00	7.9191+06	3.2940+06	4.1429+02	3.8307+04	3.7715+07	1.0748+09	1.0299+09	1.0039+09	9.4767+10	1.2148+09
11	3.30000+00	5.5627+06	2.2942+06	1.7285+02	1.7435+04	2.7641+07	2.1175+21	0.0000	0.0000	0.0000	0.0000
12	3.60000+00	3.4711+06	1.4166+06	6.4042+01	7.4583+05	1.8023+07	1.3807+21	0.0000	0.0000	0.0000	0.0000
13	3.90000+00	1.9428+06	7.8821+05	1.5273+01	2.5782+05	9.7918+08	7.5016+22	0.0000	0.0000	0.0000	0.0000
14	4.20000+00	9.6801+05	3.9813+05	2.6624+00	9.1292+06	4.0616+08	3.1116+22	0.0000	0.0000	0.0000	0.0000
15	4.50000+00	3.9427+05	1.6846+05	4.8397+02	1.5835+06	7.0450+09	5.3973+23	0.0000	0.0000	0.0000	0.0000
16	4.80000+00	1.3552+05	5.9597+04	4.4653+08	2.6170+10	1.1643+12	8.9198+27	0.0000	0.0000	0.0000	0.0000
17	5.10000+00	2.9280+04	1.3073+04	1.7392+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	5.40000+00	1.4310+04	6.3762+03	8.4998+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	5.70000+00	8.0579+03	3.5695+03	4.7863+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	3.2339+03	1.4294+03	1.9209+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	4.9649+02	2.1945+02	2.9491+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.108

SOURCE 2 (PLATE OUT), 5000 DAYS, 1 WATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	3.9182+07	2.7948+07	2.2718+07	1.4354+07	1.0832+07	4.9563+06	2.6480+06	4.0580+05	2.7760+04	3.9049+01
2	6.00000+01	8.8565+07	6.2578+07	4.6689+07	2.3290+07	1.4877+07	3.0369+06	1.4209+06	2.5758+05	1.9663+04	1.8588+01
3	9.00000+01	9.2528+07	6.4135+07	4.2837+07	1.6039+07	9.2305+06	5.9093+05	8.0667+03	6.3173+02	4.8348+01	2.6581+02
4	1.20000+00	6.3882+07	4.2060+07	2.2551+07	5.1363+06	2.7693+06	1.9624+05	1.5710+03	5.8527+02	1.3587+02	6.3501+03
5	1.50000+00	4.2530+07	2.5196+07	9.1996+06	4.4068+05	1.1792+05	2.8360+03	2.2470+01	1.8103+02	3.6169+03	5.6274+08
6	1.80000+00	3.5743+07	1.8951+07	4.7114+06	9.6633+04	1.3472+04	1.1880+01	6.6580+02	5.8076+03	1.1605+03	5.9613+08
7	2.10000+00	3.2167+07	1.5399+07	2.1450+06	3.1792+04	4.3748+03	1.8263+00	4.2083+03	1.4981+03	2.9939+04	5.3523+08
8	2.40000+00	2.8573+07	1.2430+07	4.4639+05	1.1482+03	1.0388+02	3.8909+02	4.4047+05	1.5698+05	3.1607+06	3.8638+08
9	2.70000+00	2.6038+07	1.0909+07	1.2449+04	1.5834+00	1.2432+04	1.6992+08	1.6270+08	1.5860+08	1.4972+08	1.9175+06
10	3.00000+00	2.2570+07	9.3879+06	1.1807+03	1.0917+03	1.0749+06	3.0633+09	2.9351+09	2.8611+09	2.7009+09	3.4592+09
11	3.30000+00	1.7522+07	7.2266+06	5.4448+02	5.4921+04	6.2178+07	4.7634+21	0.0000	0.0000	0.0000	0.0000
12	3.60000+00	1.1975+07	4.8872+06	2.2094+02	2.5731+04	6.2178+07	4.7634+21	0.0000	0.0000	0.0000	0.0000
13	3.90000+00	7.2855+06	2.9566+06	5.7272+01	9.6661+05	3.6719+07	2.8131+21	0.0000	0.0000	0.0000	0.0000
14	4.20000+00	3.9204+06	1.6124+06	1.0783+01	3.6973+05	1.6449+07	1.2602+21	0.0000	0.0000	0.0000	0.0000
15	4.50000+00	1.7151+06	7.3281+05	2.1053+01	6.8883+06	3.0646+08	2.3478+22	0.0000	0.0000	0.0000	0.0000
16	4.80000+00	6.3017+05	2.7712+05	2.0763+07	1.2169+09	5.4140+12	4.1477+26	0.0000	0.0000	0.0000	0.0000
17	5.10000+00	1.4494+05	6.4462+04	8.6091+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	5.40000+00	7.5125+04	3.3475+04	4.4624+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	5.70000+00	4.4721+04	1.9811+04	2.6564+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	1.8918+04	8.3670+03	1.1237+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	3.0534+03	1.3496+03	1.8117+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.109

SOURCE 2 (PLATE OUT), 5000 DAYS, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000-01	7.6064-02	9.1091-02	1.5014-01	2.4169-01	2.8622-01	5.6429-01	6.4925-01	6.1113-01	5.8477-01	6.4088-01
2	6.00000-01	2.4800-01	2.9505-01	4.5870-01	6.3185-01	6.7932-01	9.1005-01	9.9763-01	9.9905-01	9.9898-01	9.4595-01
3	9.00000-01	4.2762-01	5.0409-01	7.4181-01	9.0392-01	9.2323-01	9.7733-01	9.9961-01	1.0000+00	1.0000+00	9.8958-01
4	1.20000+00	5.5164-01	6.4117-01	8.9084-01	9.9040-01	9.9601-01	9.9968-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00
5	1.50000+00	6.3420-01	7.2330-01	9.5164-01	9.9782-01	9.9953-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
6	1.80000+00	7.0359-01	7.8506-01	9.8278-01	9.9945-01	9.9988-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
7	2.10000+00	7.6604-01	8.3525-01	9.9695-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
8	2.40000+00	8.2151-01	8.7576-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	8.7206-01	9.1132-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	9.1587-01	9.4192-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	9.4989-01	9.6547-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.7314-01	9.8140-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.8728-01	9.9104-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.9489-01	9.9629-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.9822-01	9.9868-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.9944-01	9.9958-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9972-01	9.9979-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9987-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9996-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (P.O.), 5000 DAYS, 1 WATT, PURE U-23

SOURCE 2 (P.O.), 5000 DAYS, 1 WATT, PURE U-23

Figure 3.73

Table 3.110

SOURCE 2 (PLATE OUT), 500 DAYS, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

-----COOLING TIMES-----

GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.8507+07	1.3971+07	1.1263+07	3.4400+07	2.5793+07	5.3524+06	2.7736+06	2.5659+05	9.9898+03	1.7075+05
2	3.00000+01	6.2587+07	3.4305+07	1.8257+07	3.3493+07	2.3434+07	2.7215+06	1.3819+06	2.3252+05	1.7806+04	9.6285+06
3	4.50000+01	1.2261+08	7.7438+07	4.9527+07	3.7724+07	3.5235+07	2.7957+07	1.6341+07	2.8331+06	2.1445+05	8.8863+07
4	6.00000+01	1.8455+08	1.5233+08	1.3361+08	6.9883+07	4.4734+07	4.1945+06	3.3961+04	1.0559+04	7.9929+02	9.0172+09
5	7.50000+01	1.4990+08	1.2190+08	8.2372+07	6.2297+06	5.1451+06	3.1262+06	1.7569+06	3.0443+05	2.3044+04	1.2315+00
6	9.00000+01	3.5000+08	2.8342+08	1.4998+08	7.7444+06	3.5008+06	2.7945+05	2.2567+03	1.8621+01	3.6771+02	2.6622+09
7	1.05000+00	4.9805+07	3.9745+07	2.5813+07	3.2392+06	8.2277+05	4.3538+02	1.6110+01	5.4437+02	1.0764+02	7.7907+10
8	1.20000+00	7.7902+07	6.3309+07	4.1826+07	8.1532+06	2.4228+06	2.3194+04	1.7803+02	1.9563+05	7.4831+16	0.0000
9	1.35000+00	1.4101+08	7.8314+07	3.1595+07	1.0745+07	4.0505+06	1.6752+05	1.3443+03	1.4772+04	5.6419+15	0.0000
10	1.50000+00	2.7033+07	2.2012+07	1.6078+07	2.7922+06	7.4190+05	3.9415+02	1.0104+04	7.3187+10	6.8364+10	3.6003+10
11	1.65000+00	1.2886+07	9.9635+06	5.0888+06	6.2657+05	1.7792+05	9.7245+01	1.8494+00	6.2538+01	1.2366+01	8.9501+09
12	1.80000+00	3.0061+07	2.4579+07	1.9948+07	5.7227+06	1.6256+06	8.6981+02	2.2297+04	2.4731+26	0.0000	0.0000
13	1.95000+00	1.1352+07	9.2055+06	4.7841+06	2.6780+05	6.9173+04	3.6642+01	9.3930+00	1.0418+27	0.0000	0.0000
14	2.10000+00	4.9330+06	3.4343+06	1.7858+06	7.3961+05	5.8557+04	3.0820+01	7.9006+00	8.7628+28	0.0000	0.0000
15	2.25000+00	8.1783+05	6.7161+05	4.1253+05	1.0214+04	2.6894+02	9.4482+08	2.0171+04	1.8675+09	1.7445+09	4.1869+10
16	2.40000+00	7.7907+06	4.0893+06	3.0231+05	5.5681+03	1.4626+02	1.6112+02	1.4566+02	4.9253+03	9.7390+04	7.0489+11
17	2.55000+00	6.4455+06	3.8544+06	7.7462+05	1.5470+03	3.7618+01	6.5708+02	5.9402+02	2.0087+02	3.9718+03	2.8747+10
18	2.70000+00	4.8792+06	2.4612+06	4.9756+04	7.8183+00	5.9587+04	6.3147+21	0.0000	0.0000	0.0000	0.0000
19	2.85000+00	0.0000	3.5858+03	8.6024+01	1.8603+04	5.2021+07	4.5920+21	0.0000	0.0000	0.0000	0.0000
20	3.00000+00	2.7707+06	1.3868+06	8.7455+00	5.7919+04	5.6664+04	1.2719+03	1.1498+03	3.8881+04	7.6880+05	5.5644+12
21	3.15000+00	0.0000	1.3070+03	2.0154+01	2.4197+04	1.8901+04	4.2389+04	3.8321+04	1.2958+04	2.5622+05	1.8545+12
22	3.30000+00	0.0000	7.5678+02	3.5467+00	6.8786+05	2.9913+07	2.6405+21	0.0000	0.0000	0.0000	0.0000
23	3.45000+00	0.0000	1.1907+03	1.8192+02	2.4919+00	4.4222+07	3.9035+21	0.0000	0.0000	0.0000	0.0000
24	3.60000+00	0.0000	5.8039+02	6.9687+01	2.2945+05	1.0404+07	9.1841+22	0.0000	0.0000	0.0000	0.0000
25	3.75000+00	0.0000	1.9654+02	1.3375+01	1.4211+04	5.9820+07	5.2806+21	0.0000	0.0000	0.0000	0.0000
26	3.90000+00	0.0000	1.7383+02	6.5031+01	1.4344+05	6.6038+08	5.7413+22	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	0.0000	1.2894+02	7.8281+00	1.2237+05	2.6011+08	2.2960+22	0.0000	0.0000	0.0000	0.0000
28	4.20000+00	0.0000	5.3155+01	7.7504+00	6.5007+06	1.2137+12	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	0.0000	2.8359+01	6.0528+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	0.0000	3.7084+01	7.9152+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	0.0000	5.8899+01	1.2571+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
32	4.80000+00	0.0000	6.7258+01	1.8624+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	8.7258+01	1.8624+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	8.7258+01	1.8624+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.111

SOURCE 2 (PLATE OUT), 500 DAYS, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.3880+06	1.0478+06	8.4473+05	2.5800+06	1.9345+05	4.0143+05	2.0802+05	1.9244+04	7.4924+02	1.2806+06
2	3.00000+01	1.4082+07	7.7185+06	4.1078+06	7.5358+06	5.2727+06	6.1233+05	3.1092+05	5.2316+04	4.0064+03	2.1664+06
3	4.50000+01	4.5940+07	2.9019+07	1.8573+07	1.4147+07	1.3213+07	1.0484+07	6.1280+06	1.0624+06	8.0417+04	3.3324+07
4	6.00000+01	9.6889+07	7.9972+07	7.0145+07	3.6689+07	2.3485+07	2.2021+06	4.9329+04	5.5435+03	4.1963+02	4.7340+09
5	7.50000+01	1.0114+08	8.2785+07	5.5601+07	5.5550+06	3.4720+06	2.1102+06	1.1859+06	2.0549+05	1.5555+04	8.3129+01
6	9.00000+01	2.8475+08	2.3382+08	1.2373+08	6.3492+06	2.881+06	2.3055+05	1.8617+03	1.5362+01	3.0336+02	2.1963+09
7	1.05000+00	4.8560+07	3.8752+07	2.5167+07	3.1582+06	8.0220+05	4.2421+02	1.5707+01	5.3076+02	1.0495+02	7.5959+10
8	1.20000+00	8.7640+07	7.1223+07	4.7054+07	9.1723+06	2.7256+06	2.6093+04	2.0029+02	2.2008+05	8.4185+16	0.0000
9	1.35000+00	1.7979+08	9.9850+07	4.0243+07	1.3700+07	5.1644+06	2.1359+05	1.7140+03	1.8834+04	7.1934+15	0.0000
10	1.50000+00	3.8522+07	3.1367+07	2.2911+07	3.9789+06	1.0572+06	5.6167+02	1.4378+04	1.0429+04	9.7419+10	5.1304+10
11	1.65000+00	2.0295+07	1.5692+07	8.0148+06	9.8685+05	2.8022+05	1.5316+02	2.7129+00	9.8497+01	1.9476+01	1.4096+08
12	1.80000+00	5.1855+07	4.2398+07	3.4410+07	9.8716+06	2.8047+06	1.5004+05	3.8463+04	4.2660+26	0.0000	0.0000
13	1.95000+00	2.1284+07	1.7260+07	8.9702+06	5.0213+05	1.2070+05	6.8703+01	1.7612+05	1.9534+27	0.0000	0.0000
14	2.10000+00	9.9893+06	6.9545+06	3.6162+06	4.8399+05	1.1858+05	6.2411+01	1.5999+05	1.7745+27	0.0000	0.0000
15	2.25000+00	1.7784+06	1.4607+06	8.0726+05	2.2216+04	5.8493+02	2.0550+07	4.3871+09	4.0619+09	3.7942+09	1.9982+09
16	2.40000+00	1.8113+07	9.5076+06	7.0288+06	1.2946+04	3.4005+02	3.7460+02	3.3865+02	1.1451+02	2.2643+03	1.6389+10
17	2.55000+00	1.5953+07	3.5396+06	1.9172+06	3.8288+03	9.3105+01	1.6263+01	1.4702+01	4.9715+02	9.8302+03	7.1149+10
18	2.70000+00	1.2808+07	6.4607+06	1.3061+05	2.0523+01	1.5642+03	1.5676+20	0.0000	0.0000	0.0000	0.0000
19	2.85000+00	0.0000	9.9505+03	2.3872+02	5.1623+04	1.4436+06	1.2743+20	0.0000	0.0000	0.0000	0.0000
20	3.00000+00	8.1042+06	4.0564+06	2.5581+01	1.6941+03	1.6574+03	3.7202+03	3.3632+03	1.1373+03	2.2487+04	1.6276+11
21	3.15000+00	0.0000	4.0190+03	6.1974+01	7.4405+04	5.8119+04	1.3035+03	1.1784+03	3.9846+04	7.8789+05	5.7026+12
22	3.30000+00	0.0000	2.4406+03	1.1438+01	2.2184+04	9.6468+07	8.5156+21	0.0000	0.0000	0.0000	0.0000
23	3.45000+00	0.0000	4.0184+03	6.1397+02	8.4101+04	1.4025+06	1.3174+20	0.0000	0.0000	0.0000	0.0000
24	3.60000+00	0.0000	2.0459+03	2.4565+00	8.0880+05	3.6674+07	3.2374+21	0.0000	0.0000	0.0000	0.0000
25	3.75000+00	0.0000	7.2229+02	4.9154+01	5.2225+04	2.1084+06	1.9406+20	0.0000	0.0000	0.0000	0.0000
26	3.90000+00	0.0000	6.6489+02	2.4874+00	5.4864+05	2.4877+07	2.1460+21	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	0.0000	5.1256+02	3.1117+01	4.8641+05	1.0339+07	9.1267+22	0.0000	0.0000	0.0000	0.0000
28	4.20000+00	0.0000	2.1927+02	3.1970+01	2.6815+05	5.0064+12	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	0.0000	1.2123+02	2.5876+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	0.0000	1.6410+02	3.5075+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	0.0000	2.6946+02	5.7513+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
32	4.80000+00	0.0000	4.1229+01	8.7998+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	4.2538+01	9.0792+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	4.3847+01	9.3545+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.112

SOURCE 2 (PLATE OUT), 500 DAYS, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

-----COOLING TIMES-----

GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.305A-03	1.3290-03	1.8085-03	2.2476-02	3.0536-02	2.4654-02	2.6378-02	1.4308-02	7.4074-03	1.5405-06
2	3.00000+01	1.4554-02	1.1119-02	1.0003-02	8.4126-02	1.1377-01	6.2260-02	6.5805-02	5.3204-02	4.7017-02	4.1466-06
3	4.50000+01	5.741A-02	4.7950-02	5.0366-02	2.1137-01	3.2234-01	7.0611-01	9.4288-01	8.4310-01	8.4206-01	4.5495-06
4	6.00000+01	1.4896-01	1.4938-01	2.0054-01	5.3099-01	6.9307-01	8.4135-01	8.4914-01	8.4722-01	8.4621-01	4.5532-06
5	7.50000+01	2.4415-01	2.5375-01	3.1959-01	5.7938-01	7.4789-01	9.7045-01	9.9952-01	1.0000+00	1.0000+00	1.0000+00
6	9.00000+01	5.1580-01	5.5031-01	5.8449-01	6.3504-01	7.9348-01	9.8511-01	9.9976-01	1.0000+00	1.0000+00	1.0000+00
7	1.05000+00	5.614A-01	5.9446-01	6.3837-01	6.6255-01	8.0614-01	9.8514-01	9.9976-01	1.0000+00	1.0000+00	1.0000+00
8	1.20000+00	6.4393-01	6.8980-01	7.3911-01	7.4246-01	8.4917-01	9.8674-01	9.9978-01	1.0000+00	1.0000+00	1.0000+00
9	1.35000+00	8.1307-01	8.1644-01	8.2530-01	8.6181-01	9.3069-01	9.9986-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	1.50000+00	8.4931-01	8.5623-01	8.7441-01	8.9647-01	9.4738-01	9.9989-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	1.65000+00	8.6840-01	8.7613-01	8.9157-01	9.0507-01	9.5180-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	1.80000+00	9.171A-01	9.2991-01	9.6524-01	9.9107-01	9.8060-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	1.95000+00	9.3721-01	9.5180-01	9.8445-01	9.9544-01	9.9811-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	2.10000+00	9.4660-01	9.6062-01	9.9219-01	9.9966-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	2.25000+00	9.4828-01	9.6247-01	9.9411-01	9.9945-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	2.40000+00	9.6532-01	9.7453-01	9.9561-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	2.55000+00	9.8033-01	9.8663-01	9.9972-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	2.70000+00	9.9238-01	9.9482-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	2.85000+00	9.9238-01	9.9484-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	3.00000+00	1.0000+00	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	3.15000+00	1.0000+00	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	1.0000+00	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	1.0000+00	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	1.0000+00	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (P.O.), 500 DAYS, 1 WATT, PURE U-23

Figure 3.74

SOURCE 2 (P.O.), 500 DAYS, 1 WATT, PURE U-23

Figure 3.75

Table 3.113

SOURCE 2 (PLATE OUT), 500 DAYS, 1 WATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

-----COOLING TIMES-----												
GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	3.00000+01	2.6121+08	1.8632+08	1.5145+08	9.5693+07	7.2210+07	3.3042+07	1.7654+07	2.7053+06	1.8506+05	1.1298+00	
2	6.00000+01	1.0681+08	1.3906+08	1.0375+08	5.1756+07	3.3060+07	6.7487+06	3.1576+06	5.7241+05	4.3696+04	1.7927+01	
3	9.00000+01	1.2337+08	8.5513+07	5.7116+07	2.1386+07	1.2307+07	7.8790+05	1.0756+04	8.4230+02	6.4463+01	1.5381+02	
4	1.20000+00	6.0840+07	4.0057+07	2.1477+07	4.8917+06	2.6374+06	1.8689+05	1.4962+03	5.5740+02	1.2940+02	2.6247+03	
5	1.50000+00	3.1503+07	1.8664+07	6.8145+06	3.2643+05	8.7345+04	2.1007+03	1.6644+01	1.3409+02	2.6792+03	1.8090+08	
6	1.80000+00	2.1663+07	1.1485+07	2.8554+06	5.8444+04	8.1649+03	7.1997+00	4.0352+02	3.5197+03	7.0336+04	1.5680+08	
7	2.10000+00	1.6496+07	7.8967+06	1.1000+06	1.6304+04	2.2435+03	9.3656+01	2.1581+01	7.6825+04	1.5353+04	1.1912+08	
8	2.40000+00	1.2699+07	5.5243+06	1.9840+05	5.1030+02	4.8168+01	1.7293+02	1.9576+05	6.9770+06	1.4047+06	7.4526+09	
9	2.70000+00	1.0211+07	4.2780+06	4.8818+03	6.2095+01	4.8751+05	6.6634+09	6.3804+09	6.2195+09	5.8712+09	3.2635+09	
10	3.00000+00	7.9191+06	3.2940+06	4.1429+02	3.8307+04	3.7715+07	1.0748+09	1.0299+09	1.0039+09	9.4767+10	5.2675+10	
11	3.30000+00	5.5627+06	2.2942+06	1.7285+02	1.7435+04	2.7641+07	2.1175+21	0.0000	0.0000	0.0000	0.0000	
12	3.60000+00	3.4711+06	1.4166+06	6.4042+01	7.4583+05	1.8673+07	1.3807+21	0.0000	0.0000	0.0000	0.0000	
13	3.90000+00	1.9428+06	7.8841+05	1.5273+01	2.5782+05	9.7918+08	7.5016+22	0.0000	0.0000	0.0000	0.0000	
14	4.20000+00	9.6801+05	3.9813+05	2.6624+00	9.1292+06	4.0616+08	3.1116+22	0.0000	0.0000	0.0000	0.0000	
15	4.50000+00	3.9427+05	1.6846+05	4.8397+02	1.5835+06	7.0456+09	5.3973+23	0.0000	0.0000	0.0000	0.0000	
16	4.80000+00	1.3552+05	5.9597+04	4.4653+04	2.6170+10	1.1643+12	8.9198+27	0.0000	0.0000	0.0000	0.0000	
17	5.10000+00	2.9280+04	1.3023+04	1.7392+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
18	5.40000+00	1.4310+04	6.3762+03	8.4998+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
19	5.70000+00	8.0579+03	3.5695+03	4.7863+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
20	6.00000+00	3.2339+03	1.4294+03	1.9209+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
21	6.30000+00	4.9649+02	2.1945+02	2.9491+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
22	6.60000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
23	6.90000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
24	7.20000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
25	7.50000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Table 3.114

SOURCE 2 (PLATE OUT), 500 DAYS, 1 WATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

-----COOLING TIMES-----												
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	3.00000+01	3.9182+07	2.7948+07	2.2718+07	1.4354+07	1.0832+07	4.9563+06	2.6480+06	4.0580+05	2.7759+04	1.6947+01	
2	6.00000+01	8.8565+07	6.2578+07	4.6689+07	2.3290+07	1.4877+07	3.0369+06	1.4209+06	2.5758+05	1.9663+04	8.0671+02	
3	9.00000+01	9.2528+07	6.4135+07	4.2837+07	1.6039+07	9.2305+06	5.9093+05	8.0667+03	6.3173+02	4.8348+01	1.1536+02	
4	1.20000+00	6.3882+07	4.2060+07	2.2551+07	5.1363+06	2.7693+06	1.9624+05	1.5710+03	5.8527+02	1.3587+02	2.7559+03	
5	1.50000+00	4.2530+07	2.5196+07	9.1996+06	4.4068+05	1.1792+05	2.8160+03	2.2470+01	1.8103+02	3.6169+03	2.4422+08	
6	1.80000+00	3.5743+07	1.8951+07	4.7114+06	9.6433+04	1.3472+04	1.1880+01	6.6580+02	5.8076+03	1.1605+03	2.5871+08	
7	2.10000+00	3.2167+07	1.5399+07	2.1450+06	3.1792+04	4.3748+03	1.8263+00	4.2083+03	1.4981+03	2.9934+04	2.3228+08	
8	2.40000+00	2.8573+07	1.2430+07	4.4639+05	1.1487+03	1.0388+02	3.8909+02	4.4047+05	1.5698+05	3.1607+06	1.6768+08	
9	2.70000+00	2.6038+07	1.0904+07	1.2449+04	1.5834+00	1.2432+04	1.6992+08	1.6270+08	1.5860+08	1.4972+08	8.3218+09	
10	3.00000+00	2.2570+07	9.3879+06	1.1807+03	1.0917+03	1.0749+06	3.0633+09	2.9351+09	2.8611+09	2.7009+09	1.5012+09	
11	3.30000+00	1.7522+07	7.2266+06	5.4448+02	5.4921+04	8.7070+07	6.6701+21	0.0000	0.0000	0.0000	0.0000	
12	3.60000+00	1.1975+07	4.8872+06	2.2094+02	2.5731+04	6.2178+07	4.7634+21	0.0000	0.0000	0.0000	0.0000	
13	3.90000+00	7.2855+06	2.9566+06	5.7272+01	9.6681+05	3.6719+07	2.8131+21	0.0000	0.0000	0.0000	0.0000	
14	4.20000+00	3.9204+06	1.6124+06	1.0783+01	3.6973+05	1.6449+07	1.2602+21	0.0000	0.0000	0.0000	0.0000	
15	4.50000+00	1.7151+06	7.3261+05	2.1053+01	6.8883+06	3.0646+08	2.3478+22	0.0000	0.0000	0.0000	0.0000	
16	4.80000+00	6.3017+05	2.7712+05	2.0763+07	1.2169+09	5.4140+12	4.1477+26	0.0000	0.0000	0.0000	0.0000	
17	5.10000+00	1.4494+05	6.4462+04	8.6091+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
18	5.40000+00	7.5125+04	3.3475+04	4.4624+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
19	5.70000+00	4.4721+04	1.9811+04	2.6564+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
20	6.00000+00	1.8918+04	8.3620+03	1.1237+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
21	6.30000+00	3.0534+03	1.3496+03	1.8137+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
22	6.60000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
23	6.90000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
24	7.20000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
25	7.50000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Table 3.115

SOURCE 2 (PLATE OUT), 500 DAYS, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000-01	7.6064-02	9.1091-02	1.5014-01	2.4169-01	2.8622-01	5.6429-01	6.4925-01	6.1113-01	5.8477-01	6.4088-01
2	6.00000-01	7.4800-01	2.9505-01	4.5870-01	6.3385-01	6.7932-01	9.1005-01	9.9763-01	9.9905-01	9.9898-01	9.4595-01
3	9.00000-01	4.2762-01	5.0409-01	7.4181-01	9.0392-01	9.2323-01	9.7733-01	9.9961-01	1.0000+00	1.0000+00	9.8958-01
4	1.20000+00	5.5164-01	6.4117-01	8.9084-01	9.9040-01	9.9641-01	9.9968-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00
5	1.50000+00	6.3420-01	7.2330-01	9.5164-01	9.9782-01	9.9953-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
6	1.80000+00	7.0359-01	7.8506-01	9.8278-01	9.9945-01	9.9988-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
7	2.10000+00	7.6604-01	8.3525-01	9.9695-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
8	2.40000+00	8.2151-01	8.7576-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	8.7206-01	9.1132-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	9.1587-01	9.4192-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	9.4989-01	9.6547-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.7314-01	9.8140-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.8728-01	9.9104-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.9489-01	9.9629-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.9822-01	9.9888-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.9944-01	9.9958-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9972-01	9.9979-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9987-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9996-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (P.D.), 500 DAYS, 1 WATT, PURE U-23

Figure 3.76

SOURCE 2 (P.O.), 500 DAYS, 1 WATT, PURE U-23

Table 3.116

SOURCE 2 (PLATE OUT), 200 DAYS, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.8507+07	1.3971+07	1.1263+07	3.4400+07	2.5793+07	5.3524+06	2.7736+06	2.5659+05	9.9898+03	1.6773+05
2	3.00000+01	6.2587+07	3.4305+07	1.8257+07	3.3493+07	2.3434+07	2.7215+06	1.3819+06	2.3252+05	1.7806+04	9.4579+06
3	4.50000+01	1.2261+08	7.7438+07	4.9527+07	3.7724+07	3.5235+07	2.7957+07	1.6341+07	2.8331+06	2.1445+05	8.7289+07
4	6.00000+01	1.8455+08	1.5233+08	1.3361+08	6.9883+07	4.4734+07	4.1945+06	9.3961+04	1.0559+04	7.9929+02	8.8575+09
5	7.50000+01	1.4999+08	1.2190+08	8.2372+07	8.2297+06	5.1451+06	3.1262+06	1.7569+06	3.0443+05	2.3044+04	1.2097+00
6	9.00000+01	3.5000+08	2.8342+08	1.4999+08	7.7444+06	3.5008+06	2.7945+05	2.2567+03	1.8621+01	3.6771+02	2.6150+09
7	1.05000+00	4.9805+07	3.9745+07	2.5813+07	3.2392+06	8.2277+05	4.3508+02	1.6110+04	5.4437+02	1.0764+02	7.6527+10
8	1.20000+00	7.7902+07	6.3309+07	4.1826+07	8.1532+06	2.4228+06	2.3194+04	1.7803+02	1.9563+05	7.4831+16	0.0000
9	1.35000+00	1.4101+08	7.8314+07	3.1595+07	1.0745+07	4.0505+06	1.6752+05	1.3443+03	1.4772+04	5.6419+15	0.0000
10	1.50000+00	2.7033+07	2.2012+07	1.6078+07	2.7927+06	7.4190+05	3.9415+02	1.0104+04	7.3167+10	6.8564+10	3.5365+10
11	1.65000+00	1.2886+07	9.9635+06	5.0888+06	6.2657+05	1.7792+05	9.7245+01	1.8494+00	6.2538+01	1.2366+01	8.7915+09
12	1.80000+00	3.0061+07	2.4579+07	1.9946+07	5.7227+06	1.6256+06	8.6981+02	2.2797+04	2.4731+26	0.0000	0.0000
13	1.95000+00	1.1352+07	9.2055+06	4.7841+06	2.6780+05	6.9173+04	3.6642+01	9.3930+06	1.0418+27	0.0000	0.0000
14	2.10000+00	4.9330+06	3.4743+06	1.7858+06	2.3901+05	5.8557+04	3.0820+01	7.9006+06	8.7628+28	0.0000	0.0000
15	2.25000+00	8.1783+05	6.7160+05	4.1253+05	1.0214+04	2.6894+02	9.4482+08	2.0171+09	1.8675+09	1.7445+09	9.0241+10
16	2.40000+00	7.7907+06	4.0893+06	3.0231+05	5.5681+03	1.4626+02	1.6112+02	1.4566+02	4.9253+03	9.7390+04	6.9240+11
17	2.55000+00	6.4455+06	3.8544+06	2.7462+05	5.5470+03	3.7618+01	6.5708+02	5.9402+02	2.0087+02	3.9716+03	2.8238+10
18	2.70000+00	4.8792+06	2.4617+06	4.9756+04	7.8183+00	5.9587+04	6.3147+21	0.0000	0.0000	0.0000	0.0000
19	2.85000+00	0.0000	3.5858+03	8.6024+01	1.8603+04	5.2021+07	4.5920+21	0.0000	0.0000	0.0000	0.0000
20	3.00000+00	2.7707+06	1.3488+06	8.7455+00	5.7919+04	5.6664+04	1.2719+03	1.1498+03	3.8861+04	7.6880+05	5.4658+12
21	3.15000+00	0.0000	1.3070+03	2.0154+01	2.4197+04	1.8901+04	4.2389+04	3.8321+04	1.2958+04	2.5622+05	1.8216+12
22	3.30000+00	0.0000	7.5678+02	3.5467+00	6.8786+05	2.9913+07	2.6405+21	0.0000	0.0000	0.0000	0.0000
23	3.45000+00	0.0000	1.1907+03	1.8192+02	2.4919+04	4.4222+07	3.9035+21	0.0000	0.0000	0.0000	0.0000
24	3.60000+00	0.0000	5.8039+02	6.9687+01	2.2945+05	1.0404+07	9.1841+22	0.0000	0.0000	0.0000	0.0000
25	3.75000+00	0.0000	1.9654+02	1.3375+01	1.4211+04	5.9820+07	5.2806+21	0.0000	0.0000	0.0000	0.0000
26	3.90000+00	0.0000	1.7383+02	6.5031+01	1.4344+05	6.5038+08	5.7413+22	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	0.0000	1.2894+02	7.8281+00	1.2237+05	2.6011+08	2.2966+22	0.0000	0.0000	0.0000	0.0000
28	4.20000+00	0.0000	5.3155+01	7.7504+00	6.5007+06	1.2137+12	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	0.0000	2.8359+01	6.0528+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	0.0000	3.7084+01	7.9152+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	0.0000	5.8899+01	1.2571+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
32	4.80000+00	0.0000	8.7258+00	1.8624+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	8.7258+00	1.8624+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	8.7258+00	1.8624+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.117

SOURCE 2 (PLATE OUT), 200 DAYS, 1 MATT, PUMF U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.3880+06	1.0478+06	8.4473+05	2.5800+06	1.9345+06	4.0143+05	2.0802+05	1.9244+04	7.4924+02	1.2580+06
2	3.00000+01	1.4082+07	7.7185+06	4.1078+06	7.5358+06	5.2727+06	6.1233+05	3.1092+05	5.2316+04	4.0064+03	2.1280+06
3	4.50000+01	4.5980+07	2.9039+07	1.8573+07	1.8147+07	1.3213+07	1.0480+07	6.1280+06	1.0624+06	8.0417+04	3.2738+07
4	6.00000+01	9.6889+07	7.9972+07	7.0145+07	3.6689+07	2.3485+07	2.2021+06	4.9329+04	5.5435+03	4.1963+02	4.6502+09
5	7.50000+01	1.0118+08	8.2285+07	5.5601+07	5.5550+06	3.4729+06	2.1102+06	1.1859+06	2.0549+05	1.5555+04	8.1656+01
6	9.00000+01	2.8875+08	2.3382+08	1.2373+08	6.3892+06	2.8881+06	2.3055+05	1.8617+03	1.5362+01	3.0336+02	2.1574+09
7	1.05000+00	4.8560+07	3.8752+07	2.5167+07	3.1582+06	8.0220+05	4.2421+02	1.5707+01	5.3076+02	1.0495+02	7.4614+10
8	1.20000+00	8.7640+07	7.1223+07	4.7054+07	2.7256+06	2.0993+04	2.0029+02	2.2008+05	8.4185+16	0.0000	0.0000
9	1.35000+00	1.7979+08	9.9850+07	4.0283+07	1.3700+07	5.1644+06	2.1359+05	1.7140+03	1.8834+04	7.1934+15	0.0000
10	1.50000+00	3.8522+07	3.1367+07	2.2911+07	3.9789+06	1.0572+06	5.6167+02	1.4398+04	1.0429+09	9.7419+10	5.0395+10
11	1.65000+00	2.0295+07	1.5692+07	8.0148+06	9.8685+05	2.8022+05	1.5316+02	2.9129+00	9.8497+01	1.9476+01	1.3847+08
12	1.80000+00	5.1855+07	4.2398+07	3.4410+07	9.8716+06	2.8042+06	1.5004+03	3.8463+04	4.2660+26	0.0000	0.0000
13	1.95000+00	2.1284+07	1.7260+07	8.9702+06	5.0211+05	1.2970+05	6.8703+01	1.7612+05	1.9534+27	0.0000	0.0000
14	2.10000+00	9.9893+06	6.9545+06	3.6162+06	4.8399+05	1.1858+05	6.2411+01	1.5999+05	1.7745+27	0.0000	0.0000
15	2.25000+00	1.7788+06	1.4607+06	8.9726+05	2.2216+04	5.8493+02	2.0550+07	4.3871+09	4.0619+09	3.7942+09	1.9627+09
16	2.40000+00	1.8113+07	9.5076+06	7.0288+05	1.2940+04	3.4005+02	3.7460+02	3.3865+02	1.1451+02	2.2643+03	1.6098+10
17	2.55000+00	1.5953+07	9.5396+06	1.9172+06	3.8288+03	9.3105+01	1.6263+01	1.4702+01	4.9715+02	9.8302+03	6.9888+10
18	2.70000+00	1.2808+07	6.4607+06	1.3061+05	2.0521+01	1.5642+03	1.6576+20	0.0000	0.0000	0.0000	0.0000
19	2.85000+00	0.0000	9.9505+03	2.3872+02	5.1623+04	1.4436+06	1.2743+20	0.0000	0.0000	0.0000	0.0000
20	3.00000+00	8.1042+06	4.0564+06	2.5581+01	1.6941+03	1.6574+03	3.7202+03	3.3632+03	1.1373+03	2.2487+04	1.5988+11
21	3.15000+00	0.0000	4.0190+03	6.1974+01	7.4405+04	5.8119+04	1.3035+03	1.1784+03	3.9846+04	7.8789+05	5.6016+12
22	3.30000+00	0.0000	2.4406+03	1.1438+01	2.2180+04	9.6468+07	8.5158+21	0.0000	0.0000	0.0000	0.0000
23	3.45000+00	0.0000	4.0180+03	6.1397+02	8.4101+04	1.4925+06	1.3174+20	0.0000	0.0000	0.0000	0.0000
24	3.60000+00	0.0000	2.0459+03	2.4565+00	8.0880+05	3.6674+07	3.2374+21	0.0000	0.0000	0.0000	0.0000
25	3.75000+00	0.0000	7.2229+02	4.9154+01	5.2225+04	2.1984+06	1.9406+20	0.0000	0.0000	0.0000	0.0000
26	3.90000+00	0.0000	6.6489+02	2.4874+00	5.4864+05	2.4877+07	2.1960+21	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	0.0000	5.1256+02	3.1117+01	4.8641+05	1.0339+07	9.1267+22	0.0000	0.0000	0.0000	0.0000
28	4.20000+00	0.0000	2.1927+02	3.1970+01	2.6415+05	5.0064+12	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	0.0000	1.2123+02	2.5876+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	0.0000	1.6410+02	3.5025+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	0.0000	2.6946+02	5.7513+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
32	4.80000+00	0.0000	4.1229+01	8.7998+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	4.2538+01	9.0792+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	4.3847+01	9.3585+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.113

SOURCE 2 (PLATE OUT), 200 DAYS, 1 MATY, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.3058-03	1.3790-03	1.4085-03	2.2476-02	3.0536-02	2.4654-02	2.6378-02	1.4308-02	7.4074-03	1.5405-06
2	1.00000+01	1.4554-02	1.1119-02	1.0603-02	8.8126-02	1.1377-01	6.2200-02	6.5805-02	5.3204-02	4.7017-02	4.1466-06
3	4.50000+01	5.7810-02	4.7950-02	5.0366-02	2.1137-01	3.2234-01	7.0611-01	8.4288-01	8.4310-01	8.4206-01	4.5476-06
4	6.00000+01	1.4696-01	1.4938-01	2.0054-01	5.3099-01	6.9307-01	8.4135-01	8.4914-01	8.4722-01	8.4621-01	4.5532-06
5	7.50000+01	2.4415-01	2.5375-01	3.1959-01	5.7934-01	7.4789-01	9.7095-01	9.9957-01	1.0000+00	1.0000+00	1.0000+00
6	9.00000+01	5.1580-01	5.5031-01	5.8449-01	6.3504-01	7.9348-01	9.8511-01	9.9976-01	1.0000+00	1.0000+00	1.0000+00
7	1.05000+00	5.6148-01	5.9946-01	6.3837-01	6.6255-01	8.0614-01	9.8514-01	9.9976-01	1.0000+00	1.0000+00	1.0000+00
8	1.20000+00	6.4393-01	6.8980-01	7.3911-01	7.4246-01	8.4917-01	9.8674-01	9.9978-01	1.0000+00	1.0000+00	1.0000+00
9	1.35000+00	8.1307-01	8.1844-01	8.2536-01	8.6181-01	9.3069-01	9.9986-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	1.50000+00	8.4931-01	8.5623-01	8.7441-01	8.9647-01	9.4738-01	9.9989-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	1.65000+00	8.6840-01	8.7613-01	8.9157-01	9.0507-01	9.5180-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	1.80000+00	9.1718-01	9.2991-01	9.6524-01	9.9107-01	9.9606-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	1.95000+00	9.3721-01	9.5180-01	9.8445-01	9.9544-01	9.9811-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	2.10000+00	9.4660-01	9.6062-01	9.9219-01	9.9966-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	2.25000+00	9.4828-01	9.6247-01	9.9411-01	9.9985-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	2.40000+00	9.6532-01	9.7453-01	9.9541-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	2.55000+00	9.8033-01	9.8663-01	9.9972-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	2.70000+00	9.9238-01	9.9882-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	2.85000+00	9.9238-01	9.9884-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	3.00000+00	1.0000+00	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	3.15000+00	1.0000+00	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	1.0000+00	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	1.0000+00	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (P.O.), 200 DAYS, 1 WATT, PURE U-23

SOURCE 2 (P.O.), 200 DAYS, 1 WATT, PURE U-23

Figure 3.79

Table 3.119

SOURCE 2 (PLATE OUT), 200 DAYS, 1 MATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

-----COOLING TIMES-----

GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	2.6121+08	1.8632+08	1.5185+08	9.5693+07	7.2210+07	3.3042+07	1.7654+07	2.7053+06	1.8506+05	1.0316+00
2	6.00000+01	1.9681+08	1.3906+08	1.0375+08	5.1756+07	3.3060+07	6.7487+06	3.1576+06	5.7241+05	4.3645+04	1.6369+01
3	9.00000+01	1.2337+08	8.5511+07	5.7116+07	2.1386+07	1.2307+07	7.8790+05	1.0756+04	8.4230+02	6.4463+01	1.4045+02
4	1.20000+00	6.0840+07	4.0857+07	2.1477+07	4.8917+06	2.6374+06	1.8689+05	1.4462+03	5.5740+02	1.2940+02	2.3966+03
5	1.50000+00	3.1503+07	1.8664+07	6.8145+06	3.2643+05	8.7345+04	2.1007+03	1.6644+01	1.3409+02	2.8792+03	1.6519+08
6	1.80000+00	2.1663+07	1.1485+07	2.8554+06	5.8444+04	8.1649+03	7.1997+00	4.0552+02	3.5197+03	7.0336+04	1.4317+08
7	2.10000+00	1.6496+07	7.6967+06	1.1080+06	1.6304+04	2.2435+03	9.3656+01	2.1581+03	7.6625+04	1.5353+04	1.0877+08
8	2.40000+00	1.2699+07	5.5243+06	1.9840+05	5.1030+02	4.6168+01	1.7293+02	1.9576+05	4.4770+06	1.4047+06	6.8055+09
9	2.70000+00	1.0211+07	4.2780+06	4.8818+03	6.2095+01	4.8751+05	6.6634+09	6.3804+09	6.2195+09	5.8712+09	2.9799+09
10	3.00000+00	7.9191+06	3.2940+06	4.1429+02	3.8307+04	3.7715+07	1.0748+09	1.0299+09	1.0039+09	9.4767+10	4.8098+10
11	3.30000+00	5.5627+06	2.2942+06	1.7285+02	1.7435+04	2.7641+07	2.1175+21	0.0000	0.0000	0.0000	0.0000
12	3.60000+00	3.4711+06	1.4166+06	6.4042+01	7.4583+05	1.8023+07	1.3807+21	0.0000	0.0000	0.0000	0.0000
13	3.90000+00	1.9428+06	7.8841+05	1.5273+01	2.5782+05	9.7918+08	7.5016+22	0.0000	0.0000	0.0000	0.0000
14	4.20000+00	9.6801+05	3.9813+05	2.6624+00	9.1292+06	4.0616+08	3.1116+22	0.0000	0.0000	0.0000	0.0000
15	4.50000+00	3.9427+05	1.8846+05	4.8397+02	1.5835+06	7.0450+09	5.3973+23	0.0000	0.0000	0.0000	0.0000
16	4.80000+00	1.3552+05	5.9597+04	4.4653+08	2.6170+10	1.1643+12	8.9198+27	0.0000	0.0000	0.0000	0.0000
17	5.10000+00	2.9280+04	1.3023+04	1.7392+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	5.40000+00	1.4318+04	6.3762+03	8.4998+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	5.70000+00	8.0579+03	3.5695+03	4.7863+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	3.2339+03	1.4294+03	1.9209+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	4.9649+02	2.1945+02	2.9491+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.120

SOURCE 2 (PLATE OUT), 200 DAYS, 1 WATT, PURE U-235

NETA ENERGY SPECTRA (MEV/SEC)

-----COOLING TIMES-----											
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	3.9182+07	2.7948+07	2.2718+07	1.4354+07	1.0832+07	4.9563+06	2.6480+06	4.0560+05	2.7759+04	1.5474+01
2	6.00000+01	8.8565+07	6.2578+07	4.6689+07	2.3290+07	1.4877+07	3.0369+06	1.4209+06	2.5758+05	1.9663+04	7.3662+02
3	9.00000+01	9.2528+07	6.4135+07	4.2837+07	1.6039+07	9.2305+06	5.9093+05	8.0667+03	6.3173+02	4.8348+01	1.0533+02
4	1.20000+00	6.3882+07	4.2060+07	2.2551+07	5.1363+06	2.7693+06	1.9624+05	1.5710+03	5.5527+02	1.3587+02	2.5164+03
5	1.50000+00	4.2530+07	2.5196+07	9.1996+06	4.4068+05	1.1792+05	2.8360+03	2.2470+01	1.8103+02	3.6169+03	2.2300+08
6	1.60000+00	3.5743+07	1.8951+07	4.7114+06	9.0433+04	1.3472+04	1.1880+01	6.6580+02	5.6076+03	1.1605+03	2.3623+08
7	2.10000+00	3.2167+07	1.5399+07	2.1450+06	3.1792+04	4.3748+03	1.8263+00	4.2083+03	1.4981+03	2.9934+04	2.1210+08
8	2.40000+00	2.8573+07	1.2430+07	4.4639+05	1.1082+03	1.0388+02	3.8909+02	4.4042+05	1.5698+05	3.1607+06	1.5311+08
9	2.70000+00	2.6038+07	1.0909+07	1.2409+04	1.5834+00	1.2432+04	1.6992+08	1.6270+08	1.5860+08	1.4972+08	7.5987+09
10	3.00000+00	2.2576+07	9.3879+06	1.1807+03	1.0917+03	1.0749+06	3.0633+09	2.9351+09	2.8811+09	2.7009+09	1.3708+09
11	3.30000+00	1.7522+07	7.2266+06	5.4448+02	5.4921+04	8.7070+07	6.6701+21	0.0000	0.0000	0.0000	0.0000
12	3.60000+00	1.1975+07	4.8872+06	2.2094+02	2.5731+04	6.2178+07	4.7634+21	0.0000	0.0000	0.0000	0.0000
13	3.90000+00	7.2855+06	2.4568+06	5.7272+01	9.6681+05	3.6719+07	2.8131+21	0.0000	0.0000	0.0000	0.0000
14	4.20000+00	3.9204+06	1.6124+06	1.0783+01	3.8973+05	1.6449+07	1.2602+21	0.0000	0.0000	0.0000	0.0000
15	4.50000+00	1.7151+06	7.3281+05	2.1053+01	6.8883+06	3.0646+08	2.3478+22	0.0000	0.0000	0.0000	0.0000
16	4.80000+00	6.3017+05	2.7712+05	2.0763+07	1.2169+09	5.4140+12	4.1477+26	0.0000	0.0000	0.0000	0.0000
17	5.10000+00	1.4494+05	6.4462+04	8.6091+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	5.40000+00	7.5125+04	3.3475+04	4.4674+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	5.70000+00	4.4721+04	1.9811+04	2.6564+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	1.8918+04	8.3620+03	1.1237+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	3.0534+03	1.3496+03	1.8137+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.121

SOURCE 2 (PLATE OUT), 200 DAYS, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

-----COOLING TIMES-----											
GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	7.6064-02	9.1091-02	1.5014+01	2.4169-01	2.8622-01	5.6429-01	6.4925-01	6.1113-01	5.8477-01	6.4088-01
2	6.00000+01	2.4800-01	2.9505-01	4.5870-01	6.3385-01	6.7932-01	9.1005-01	9.9763-01	9.9905-01	9.9898-01	9.4595-01
3	9.00000+01	4.2762-01	5.0409-01	7.4181-01	9.0392-01	9.2323-01	9.7733-01	9.9961-01	1.0000+00	1.0000+00	9.8958-01
4	1.20000+00	5.5164-01	6.4117-01	8.9084-01	9.9040-01	9.9641-01	9.9968-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00
5	1.40000+00	6.3420-01	7.2330-01	9.5164-01	9.9782-01	9.9953-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
6	1.80000+00	7.0359-01	7.8506-01	9.8278-01	9.9945-01	9.9988-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
7	2.10000+00	7.6604-01	8.3525-01	9.9695-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
8	2.40000+00	8.2151-01	8.7576-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	8.7206-01	9.1132-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	9.1587-01	9.4192-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	9.4489-01	9.6547-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.7314-01	9.8140-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.8728-01	9.9104-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.9489-01	9.9629-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.9822-01	9.9868-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.9944-01	9.9958-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9972-01	9.9979-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9987-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9996-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (P.O.), 200 DAYS, 1 WATT, PURE U-23

Figure 3.80

SOURCE 2 (P.D.), 200 DAYS, 1 WATT, PURE U-23

Figure 3.81

Table 3.122

SOURCE 2 (WATER), EQUILIBRIUM, 1 WATT, PURE D-235

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E(MEV)	COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YR.
1	1.50000-01	4.2646+07	2.8437+07	2.2538+07	6.8826+07	5.1595+07	1.0709+07	5.5512+06	5.1533+05	2.1095+04	2.3052-01
2	3.00000-01	1.4435+08	6.9517+07	3.6873+07	6.7065+07	4.6885+07	5.4451+06	2.7657+06	4.6698+05	3.7600+04	1.2999-01
3	4.50000-01	2.8387+08	1.5671+08	9.9478+07	7.5488+07	7.0485+07	5.5935+07	3.2706+07	5.6900+06	4.5283+05	1.1997-02
4	6.00000-01	4.2546+08	3.0648+08	2.6734+08	1.3987+08	8.9485+07	8.3923+06	1.8806+05	2.1207+04	1.6878+03	1.3443+02
5	7.50000-01	3.6985+08	2.5355+08	1.6508+08	1.6466+07	1.0292+07	6.2549+06	3.5164+06	6.1142+05	4.8661+04	1.6626+04
6	9.00000-01	8.3514+08	5.8734+08	3.0405+08	1.5497+07	7.0029+06	5.5913+05	4.5166+03	3.7399+01	7.7650+02	1.5897-03
7	1.05000+00	1.1883+08	8.2716+07	5.2308+07	6.4810+06	1.6859+06	8.7060+02	3.2243+01	1.0933+01	2.2729+02	1.0518-05
8	1.20000+00	1.7969+08	1.2766+08	8.1731+07	1.6313+07	4.8464+06	4.6406+04	3.5632+02	3.9290+05	1.5802+15	0.0000
9	1.35000+00	3.3269+08	1.6029+08	6.3449+07	2.1498+07	8.1025+06	3.3518+05	2.6905+03	2.7709+03	1.8334+03	3.5108-01
10	1.50000+00	1.5304+08	7.5542+07	3.2341+07	5.5867+06	1.4841+06	7.8862+02	2.0229+04	1.4699+09	1.4436+09	4.8605-06
11	1.65000+00	6.3297+07	3.1704+07	1.0294+07	1.2546+06	3.5596+05	1.9457+02	3.7016+00	1.2560+00	2.6112+01	1.2083-04
12	1.80000+00	7.0593+07	5.0708+07	4.0062+07	1.1450+07	3.2519+06	1.7403+03	4.4630+04	7.6587-12	8.0795-12	5.6076-08
13	1.95000+00	3.3733+07	2.3458+07	1.0916+07	5.3747+05	1.3846+05	7.3312+01	1.8801+05	7.1741-24	0.0000	0.0000
14	2.10000+00	1.5608+07	8.7478+06	3.7849+06	4.7880+05	1.1717+05	6.1665+01	1.5813+05	1.6440+25	0.0000	0.0000
15	2.25000+00	2.4232+06	1.8005+06	9.4884+05	2.1688+04	6.0224+02	5.8711-06	4.2836+09	3.7507+09	3.6837+09	1.2403+05
16	2.40000+00	2.2195+07	9.6924+06	6.4374+05	1.3685+04	4.2365+02	3.2239+02	2.9152+02	9.8920+03	2.0565+03	9.5163+07
17	2.55000+00	1.7764+07	9.7900+06	2.0970+06	3.1630+03	7.8586+01	1.3147+01	1.1889+01	4.0342-02	8.3870+03	3.8809+06
18	2.70000+00	1.6241+07	6.7914+06	2.0748+05	3.8750+02	1.0786+01	2.0077+07	6.5030+23	0.0000	0.0000	0.0000
19	2.85000+00	9.5802+06	3.5142+06	1.3451+05	2.6619+01	1.1632+00	2.2031+08	1.5506+23	0.0000	0.0000	0.0000
20	3.00000+00	7.4378+06	3.2007+06	1.4327+04	9.2319+03	1.1335+03	2.5448+03	2.3013+03	7.8068+04	1.6234+04	7.5121+08
21	3.15000+00	1.0919+06	7.9759+05	2.0477+05	2.7832+01	1.4283+00	6.4815+04	7.6697+04	2.6025+04	5.4105+05	2.5036+08
22	3.30000+00	9.8238+05	6.9869+05	1.8422+05	2.5521+01	1.3095+00	2.4913+08	1.0859+23	0.0000	0.0000	0.0000
23	3.45000+00	1.2555+06	9.4213+05	2.3765+05	5.7716+00	7.9809+03	1.0802+11	5.5833+24	0.0000	0.0000	0.0000
24	3.60000+00	0.0000	5.0213+04	4.9374+02	1.3283+01	6.8433+01	1.3016+08	4.2160+24	0.0000	0.0000	0.0000
25	3.75000+00	0.0000	2.3862+04	3.9632+01	2.4629+01	1.2675+02	2.4107+10	7.8083+26	0.0000	0.0000	0.0000
26	3.90000+00	0.0000	1.3424+04	1.2452+01	2.8698+05	1.3010+07	1.1487-21	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	2.9661+06	2.0877+06	5.5513+05	1.6754+00	6.7596+02	1.2857+09	4.1644+25	0.0000	0.0000	0.0000
28	4.20000+00	8.5572+06	2.9667+06	2.2828+04	1.2877-02	1.9784+04	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	0.0000	6.8068+03	5.2774+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	0.0000	2.7083+04	5.8613+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	0.0000	6.9368+03	2.6445+00	1.9480+01	1.0139+02	1.9286+10	6.2466+26	0.0000	0.0000	0.0000
32	4.80000+00	0.0000	4.0788+02	1.0736+02	8.0355+00	4.1399+01	7.8743+09	2.5505+24	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	1.7801+01	7.8886+00	5.9041+01	3.0418+02	5.7857+10	1.8740+25	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	1.1264+03	2.4263+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	3.1950+03	6.7936+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	1.9739+03	4.3188+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	2.9587+06	9.8958+05	4.0522+14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	3.4087+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	6.0802+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	1.4190+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.123

SOURCE 2 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000-01	3.1985+06	2.1328+06	1.6904+06	5.1619+06	3.8694+06	8.0318+05	4.1634+05	3.8650+04	1.5821+03	1.7289+02
2	3.00000-01	3.2479+07	1.5641+07	8.2963+06	1.5090+07	1.0549+07	1.2251+06	6.2229+05	1.0507+05	8.4601+03	2.9248+02
3	4.50000-01	1.0645+08	5.8765+07	3.7304+07	2.8308+07	2.6432+07	2.0976+07	1.2265+07	2.1338+06	1.6981+05	4.4988+03
4	6.00000-01	2.2337+08	1.6090+08	1.0036+08	7.3405+07	4.6979+07	4.4059+06	9.8730+04	1.1134+04	8.8612+02	7.0577+01
5	7.50000-01	2.4965+08	1.7115+08	1.1103+08	1.1110+07	6.9471+06	4.2221+06	2.3736+06	4.1271+05	3.2846+04	1.1223+04
6	9.00000-01	6.8899+08	4.8456+08	2.5084+08	1.2785+07	5.7774+06	4.6128+05	3.7262+03	3.0854+01	6.4061+02	1.3115+03
7	1.05000+00	1.1586+08	8.0648+07	5.1000+07	6.3190+06	1.6047+06	8.4883+02	3.1437+01	1.0660+01	2.2161+02	1.0255+05
8	1.20000+00	2.0216+08	1.4362+08	9.4198+07	1.8352+07	5.4522+06	5.2207+04	4.0086+02	4.4202+05	1.7777+15	0.0000
9	1.35000+00	4.2418+08	2.0437+08	8.0808+07	2.7411+07	1.0331+07	4.2735+05	3.4304+03	3.5329+03	2.3575+03	4.4702+01
10	1.50000+00	2.1888+08	1.0765+08	4.6086+07	7.9611+06	2.1148+06	1.1238+05	2.8827+04	2.0946+09	2.0571+09	6.9262+06
11	1.65000+00	9.9693+07	4.9933+07	1.6212+07	1.9760+06	5.6063+05	3.0645+02	5.8300+00	1.9782+00	4.1126+01	1.9031+04
12	1.80000+00	1.2177+08	8.6609+07	6.9107+07	1.9751+07	5.6095+06	3.0020+03	7.6987+04	1.3211+11	1.3937+11	9.6732+08
13	1.95000+00	6.2133+07	4.3984+07	2.0467+07	1.0078+06	2.5961+05	1.3746+02	3.5251+05	1.3051+23	0.0000	0.0000
14	2.10000+00	3.1805+07	1.7714+07	7.6645+06	9.6957+05	2.3776+05	1.2487+02	3.2021+05	3.3291+25	0.0000	0.0000
15	2.25000+00	5.2705+06	3.9161+06	2.0637+06	4.7162+04	1.3099+03	1.2783+05	9.3168+05	8.1578+09	8.0120+09	2.6976+05
16	2.40000+00	5.1603+07	2.2535+07	1.4967+06	3.1817+04	9.8499+02	7.4957+02	6.7779+02	2.2949+02	4.7814+03	2.2125+06
17	2.55000+00	4.3966+07	2.4230+07	5.1900+06	7.8285+03	1.9450+02	3.2539+01	2.9425+01	9.9846+02	2.0758+02	9.6053+06
18	2.70000+00	4.2633+07	1.7827+07	5.4463+05	1.0041+03	2.8312+01	5.2703+07	1.7070+22	0.0000	0.0000	0.0000
19	2.85000+00	2.6585+07	9.7520+06	3.7326+05	7.3888+01	3.2279+00	6.1136+08	4.3028+23	0.0000	0.0000	0.0000
20	3.00000+00	2.1756+07	9.3870+06	4.1907+04	2.7003+02	3.3155+03	7.4435+03	6.7313+03	2.2841+03	4.7485+04	2.1973+07
21	3.15000+00	3.3575+06	2.4526+06	8.2967+05	8.5583+01	4.3920+00	2.6081+03	2.3584+03	8.0027+04	1.6637+04	7.6987+08
22	3.30000+00	3.1682+06	2.2533+06	5.9412+05	8.2305+01	4.2231+00	8.0343+08	3.5021+23	0.0000	0.0000	0.0000
23	3.45000+00	4.2372+06	3.1797+06	8.0206+05	1.9479+01	2.6936+02	3.0457+11	1.8848+23	0.0000	0.0000	0.0000
24	3.60000+00	0.0000	1.7700+05	1.7404+03	4.6822+01	2.4123+00	4.5683+08	1.4861+23	0.0000	0.0000	0.0000
25	3.75000+00	0.0000	8.7691+04	1.4565+02	9.0512+01	2.5682+02	8.8594+10	2.8695+25	0.0000	0.0000	0.0000
26	3.90000+00	0.0000	5.1346+04	4.7627+01	1.0977+04	4.9764+07	4.3938+21	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	1.1790+07	8.2965+06	2.2066+06	6.4608+00	2.6869+01	5.1107+09	1.6554+24	0.0000	0.0000	0.0000
28	4.20000+00	3.5299+07	1.2238+07	9.8166+04	5.3119+02	8.1608+09	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	0.0000	2.9099+04	2.2561+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	0.0000	1.1984+05	2.5936+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	0.0000	3.1736+04	1.2099+01	9.0038+01	4.6388+02	8.8232+10	2.8578+25	0.0000	0.0000	0.0000
32	4.80000+00	0.0000	1.9272+03	5.0730+02	3.7968+01	1.9561+00	3.7206+08	1.2051+23	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	8.6777+01	3.8457+01	2.8783+00	1.4879+01	2.8205+09	9.1357+25	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	5.8603+03	1.2192+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	1.6068+04	3.5157+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	1.0511+04	2.2948+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	1.6199+07	5.4179+06	2.2186+13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	2.1986+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	3.5113+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	8.4076+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.124

SOURCE 2 (WATER), EQUILIBRIUM, 1 WATT, PURE D-235

REACTION GAMMA ENERGY BELOW GIVEN ENERGY

-----COOLING TIMES-----												
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	1.50000+01	1.1230-03	1.2184-03	1.7801-03	2.2473-02	1.0535-02	2.4654-02	2.6378-02	1.4308-02	7.4074-03	1.5309-06	
2	3.00000+01	1.2527-02	1.0154-02	1.0517-02	8.8165-02	1.1378-01	6.2260-02	6.5805-02	5.3204-02	4.7017-02	4.1206-06	
3	4.50000+01	4.9903-02	4.3724-02	4.9801-02	2.1140-01	3.2235-01	7.0611-01	8.4288-01	8.4310-01	8.4206-01	4.5189-06	
4	6.00000+01	1.2833-01	1.3564-01	1.9761-01	5.3098-01	6.9307-01	8.4135-01	8.4414-01	8.4722-01	8.4621-01	6.2537-03	
5	7.50000+01	2.1599-01	2.3141-01	3.1495-01	5.7936-01	7.4789-01	9.7095-01	9.9952-01	1.0000+00	1.0000+00	9.9996-01	
6	9.00000+01	4.5790-01	5.1022-01	5.7911-01	6.3502-01	7.9348-01	9.8511-01	9.9976-01	1.0000+00	1.0000+00	9.9996-01	
7	1.05000+00	4.9858-01	5.5629-01	6.3282-01	6.6253-01	8.0614-01	9.8514-01	9.9976-01	1.0000+00	1.0000+00	9.9996-01	
8	1.20000+00	5.6996-01	6.3834-01	7.3202-01	7.4243-01	8.4912-01	9.8674-01	9.9978-01	1.0000+00	1.0000+00	9.9996-01	
9	1.35000+00	7.1849-01	7.5509-01	8.1721-01	8.6176-01	9.3068-01	9.9986-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
10	1.50000+00	7.9506-01	8.1658-01	8.6574-01	8.9642-01	9.4737-01	9.9989-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
11	1.65000+00	8.3007-01	8.4511-01	8.8282-01	9.0502-01	9.5179-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
12	1.80000+00	8.7282-01	8.9459-01	9.5559-01	9.9101-01	9.9606-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
13	1.95000+00	8.9470-01	9.1971-01	9.7714-01	9.9540-01	9.9811-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
14	2.10000+00	9.0580-01	9.2983-01	9.8522-01	9.9962-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
15	2.25000+00	9.0765-01	9.3207-01	9.8759-01	9.9982-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
16	2.40000+00	9.2577-01	9.4494-01	9.8896-01	9.9994-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
17	2.55000+00	9.4120-01	9.5878-01	9.9403-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
18	2.70000+00	9.5617-01	9.6897-01	9.9500-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
19	2.85000+00	9.6551-01	9.7454-01	9.9500-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
20	3.00000+00	9.7315-01	9.7990-01	9.9504-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
21	3.15000+00	9.7432-01	9.8130-01	9.9610-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
22	3.30000+00	9.7544-01	9.8259-01	9.9673-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
23	3.45000+00	9.7692-01	9.8441-01	9.9757-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
24	3.60000+00	9.7892-01	9.8651-01	9.9758-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
25	3.75000+00	9.7892-01	9.8456-01	9.9758-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
26	3.90000+00	9.7892-01	9.8459-01	9.9758-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
27	4.05000+00	9.8106-01	9.8933-01	9.9900-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
28	4.20000+00	9.9344-01	9.9344-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
29	4.35000+00	9.9344-01	9.9344-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
30	4.50000+00	9.9344-01	9.9344-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
31	4.65000+00	9.9344-01	9.9344-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
32	4.80000+00	9.9344-01	9.9344-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
33	4.95000+00	9.9344-01	9.9344-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
34	5.10000+00	9.9344-01	9.9344-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
35	5.25000+00	9.9344-01	9.9344-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
36	5.40000+00	9.9344-01	9.9344-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
37	5.55000+00	9.9344-01	9.9344-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
38	5.70000+00	9.9344-01	9.9344-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
39	5.85000+00	9.9344-01	9.9344-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
40	6.00000+00	9.9344-01	9.9344-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	

SOURCE 2 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235

SOURCE 2 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235

Figure 3.83

Table 3.125

SOURCE 2 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

GROUP	E (MEV)	COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	7.5698+08	3.9127+08	3.0866+08	1.9172+08	1.4447+08	6.6151+07	3.5383+07	5.4824+06	4.3881+05	4.8605+04
2	6.00000+01	5.6722+08	2.9801+08	2.1177+08	1.0370+08	6.6143+07	1.3511+07	6.3288+06	1.1600+06	1.0362+05	1.6695+04
3	9.00000+01	3.8646+08	1.8966+08	1.1680+08	4.2843+07	2.4623+07	1.5774+06	2.1570+04	1.7170+03	1.6086+02	1.8798+03
4	1.20000+00	2.1282+08	9.6920+07	4.0413+07	9.7997+06	5.2765+06	3.7417+05	3.0058+03	5.5887+00	4.4037+00	8.6900+02
5	1.50000+00	1.2799+08	5.1939+07	1.4579+07	6.5471+05	1.7478+05	4.2071+03	3.4629+01	1.0368+00	8.1633+01	2.3900+02
6	1.80000+00	9.4437+07	3.4966+07	6.4677+06	1.1788+05	1.6371+04	1.4427+01	8.7033+02	1.3966+02	9.7366+03	7.0170+01
7	2.10000+00	7.1800+07	2.4641+07	2.8253+06	3.3419+04	4.5221+03	1.8817+00	6.5227+03	4.0097+03	3.2740+03	2.5579+01
8	2.40000+00	5.3315+07	1.7010+07	9.1723+05	1.7133+03	1.2306+02	3.6984+02	1.8445+04	1.7619+04	1.9558+04	1.6900+00
9	2.70000+00	4.1808+07	1.2901+07	4.3284+05	6.1903+02	2.7860+01	3.5695+04	2.2721+08	1.2604+08	1.3921+08	5.9360+05
10	3.00000+00	3.3790+07	1.0312+07	3.3777+05	5.4664+02	2.5493+01	2.0378+06	2.1519+09	2.0344+09	2.2470+09	9.5813+06
11	3.30000+00	2.6140+07	7.8389+06	2.5340+05	4.6661+02	2.2550+01	3.7803+07	3.2954+21	0.0000	0.0000	0.0000
12	3.60000+00	1.9093+07	5.5849+06	1.7169+05	3.8583+02	1.9167+01	5.1753+07	6.8452+22	0.0000	0.0000	0.0000
13	3.90000+00	1.3477+07	3.8312+06	1.0467+05	3.0746+02	1.5478+01	2.5561+07	8.2359+23	0.0000	0.0000	0.0000
14	4.20000+00	9.3660+06	2.5860+06	5.4903+04	2.2758+02	1.1490+01	1.8977+07	6.0972+23	0.0000	0.0000	0.0000
15	4.50000+00	6.3880+06	1.6992+06	1.8345+04	1.4896+02	7.5216+00	1.2422+07	3.9912+23	0.0000	0.0000	0.0000
16	4.80000+00	4.4028+06	1.1288+06	1.9723+03	7.8819+01	3.9800+00	6.5732+08	2.1119+23	0.0000	0.0000	0.0000
17	5.10000+00	2.9680+06	7.4670+05	3.6465+02	2.6404+01	1.3333+00	2.2020+08	7.0751+24	0.0000	0.0000	0.0000
18	5.40000+00	1.8855+06	4.7304+05	2.7024+01	1.9567+00	9.8807+02	1.6318+09	5.2430+25	0.0000	0.0000	0.0000
19	5.70000+00	1.0029+06	2.5135+05	9.4602+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	4.0472+05	1.0114+05	3.9227+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.6191+05	4.0572+04	6.7886+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	9.5392+04	2.3528+04	1.7329+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	4.3859+04	1.0817+04	4.2694+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	1.0636+04	2.6232+03	1.0353+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	1.7623+02	4.3473+01	1.7155+18	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.126

SOURCE 2 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	1.1355+08	5.8691+07	4.6299+07	2.8758+07	2.1671+07	9.9226+06	5.3075+06	8.2236+05	6.5621+04	7.2908+03
2	6.00000+01	2.6425+08	1.3410+08	9.5297+07	4.6663+07	2.9764+07	6.0800+06	2.8480+06	5.2201+05	4.6627+04	7.5130+03
3	9.00000+01	2.8984+08	1.4225+08	8.7600+07	3.2132+07	1.8467+07	1.1831+06	1.6178+04	1.2878+03	1.2066+02	1.4091+03
4	1.20000+00	2.2346+08	1.0177+08	4.6634+07	1.0290+07	5.5403+06	3.9288+05	3.1560+03	5.8681+00	4.6239+00	9.1245+02
5	1.50000+00	1.7278+08	7.0111+07	1.9642+07	8.8386+05	2.3596+05	5.6796+03	4.6749+01	1.3997+00	1.1071+00	3.2264+02
6	1.80000+00	1.5582+08	5.7695+07	1.0672+07	1.9451+05	2.7013+04	2.3804+01	1.4361+01	2.3044+02	1.6065+02	1.1578+02
7	2.10000+00	1.4001+08	4.8050+07	5.5094+06	6.5167+04	8.8182+03	3.6693+00	1.2719+02	7.8189+03	6.3642+03	4.9879+01
8	2.40000+00	1.1996+08	3.8273+07	2.0638+06	3.8550+03	2.7688+02	8.3215+02	4.1502+04	3.9642+04	4.4005+04	3.8025+00
9	2.70000+00	1.0661+08	3.2896+07	1.1017+06	1.5785+03	7.1044+01	9.1023+04	5.7939+08	3.2140+08	3.5499+08	1.5137+04
10	3.00000+00	9.6302+07	2.9390+07	9.6265+05	1.5579+03	7.2654+01	5.8078+06	6.1329+09	5.7981+06	6.4039+09	2.7307+05
11	3.30000+00	8.2340+07	2.4692+07	7.9820+05	1.4698+03	7.1034+01	1.1908+06	1.0380+20	0.0000	0.0000	0.0000
12	3.60000+00	6.5869+07	1.9268+07	5.9234+05	1.3311+03	6.6127+01	1.0955+06	2.3754+21	0.0000	0.0000	0.0000
13	3.90000+00	5.0539+07	1.4367+07	3.9251+05	1.1530+03	5.8044+01	9.5854+07	3.0885+22	0.0000	0.0000	0.0000
14	4.20000+00	3.7932+07	1.0473+07	2.2236+05	9.2169+02	4.6536+01	7.6856+07	2.4694+22	0.0000	0.0000	0.0000
15	4.50000+00	2.7788+07	7.3913+06	7.9801+04	6.4799+02	3.2719+01	5.4037+07	1.7362+22	0.0000	0.0000	0.0000
16	4.80000+00	2.0473+07	5.2488+06	9.1714+03	3.0651+02	1.8507+01	3.0565+07	9.8205+23	0.0000	0.0000	0.0000
17	5.10000+00	1.4691+07	3.6962+06	1.8050+03	1.3070+02	6.6000+00	1.0900+07	3.5022+23	0.0000	0.0000	0.0000
18	5.40000+00	9.8991+06	2.4835+06	1.4188+02	1.0273+01	5.1874+01	8.5671+09	2.7526+24	0.0000	0.0000	0.0000
19	5.70000+00	5.5662+06	1.3950+06	5.2504+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	2.3676+06	5.9165+05	2.2948+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.0081+06	2.4952+05	4.1504+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	6.1528+05	1.5175+05	1.1177+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	2.9605+05	7.3018+04	2.8818+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	7.4982+04	1.8494+04	7.2990+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	1.2953+03	3.1953+02	1.2609+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.127

SOURCE 2 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

-----COOLING TIMES-----

GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	5.6716-02	7.3059-02	1.4563-01	2.4167-01	2.8621-01	5.6429-01	6.4925-01	6.1112-01	5.8469-01	4.1584-01
2	6.00000+01	1.8870-01	2.3999-01	4.4538-01	6.3379-01	6.7932-01	9.1005-01	9.9763-01	9.9904-01	9.9888-01	8.4028-01
3	9.00000+01	3.3348-01	4.1707-01	7.2092-01	9.0381-01	9.2323-01	9.7733-01	9.9961-01	9.9999-01	9.9995-01	9.2028-01
4	1.20000+00	4.4509-01	5.4375-01	8.6761-01	9.9028-01	9.9640-01	9.9966-01	9.9999-01	1.0000+00	9.9999-01	9.7207-01
5	1.50000+00	5.3140-01	6.3103-01	9.2952-01	9.9771-01	9.9952-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	9.9038-01
6	1.80000+00	6.0923-01	7.0285-01	9.6309-01	9.9934-01	9.9987-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	9.9695-01
7	2.10000+00	6.7916-01	7.8266-01	9.8041-01	9.9989-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	9.9978-01
8	2.40000+00	7.3908-01	8.1031-01	9.8691-01	9.9992-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	7.9233-01	8.5126-01	9.9038-01	9.9994-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	8.4043-01	8.8784-01	9.9301-01	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	8.8156-01	9.1858-01	9.9592-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.1446-01	9.4256-01	9.9778-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.3971-01	9.6045-01	9.9901-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.5865-01	9.7349-01	9.9971-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.7253-01	9.8269-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.8276-01	9.8922-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9010-01	9.9382-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9504-01	9.9691-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9782-01	9.9865-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9900-01	9.9939-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9951-01	9.9970-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	9.9981-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9994-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235

Figure 3.04

SOURCE 2 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235

Table 3.123

SOURCE 2 (WATER), 5000 DAYS, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

-----COOLING TIMES-----

GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	4.2646+07	2.8037+07	2.2538+07	6.8821+07	5.1589+07	1.0705+07	5.5472+06	5.1317+05	1.9980+04	4.3148+05
2	3.00000+01	1.4435+08	6.9516+07	3.6872+07	6.7060+07	4.6880+07	5.4432+06	2.7638+06	4.6503+05	3.5613+04	2.4331+05
3	4.50000+01	2.8387+08	1.5670+08	9.9475+07	7.5482+07	7.0477+07	5.5916+07	3.2683+07	5.6662+06	4.2889+05	2.2455+06
4	6.00000+01	4.2546+08	3.0648+08	2.6734+08	1.3981+08	8.9474+07	8.3893+06	1.8792+05	2.1116+04	1.5486+03	2.5163+02
5	7.50000+01	3.6985+08	2.5355+08	1.6508+08	1.6464+07	1.0291+07	6.2527+06	3.5139+06	6.0886+05	4.6089+04	3.1120+00
6	9.00000+01	8.3514+08	5.8733+08	3.0405+08	1.5496+07	7.0021+06	5.5693+05	4.5131+03	3.7243+01	7.3545+02	2.9756+07
7	1.05000+00	1.1883+08	8.2714+07	5.2307+07	6.4805+06	1.6457+06	8.7029+02	3.2220+01	1.0887+01	2.1528+02	1.9687+04
8	1.20000+00	1.7969+08	1.2766+08	8.3729+07	1.6312+07	4.8458+06	4.6390+04	3.5607+02	3.9126+05	1.4967+15	0.0000
9	1.35000+00	3.3269+08	1.6029+08	6.3408+07	2.1497+07	8.1016+06	3.3506+05	2.6886+03	2.7593+03	1.7367+03	6.5713+05
10	1.50000+00	1.5304+08	7.5541+07	3.2340+07	5.5863+06	1.4839+06	7.8835+02	2.0215+04	1.4637+09	1.3673+09	9.0977+10
11	1.65000+00	6.3297+07	3.1703+07	1.0293+07	1.2545+06	3.5591+05	1.9450+02	3.6989+00	1.2500+00	2.4732+01	2.2616+08
12	1.80000+00	7.0592+07	5.0207+07	4.0061+07	1.1449+07	3.2515+06	1.7197+03	4.4598+04	7.6267+12	7.6522+12	1.0496+11
13	1.95000+00	3.3233+07	2.3458+07	1.0915+07	5.3743+05	1.3844+05	7.3287+01	1.8787+05	7.1341+24	0.0000	0.0000
14	2.10000+00	1.5607+07	8.7477+06	3.7848+06	4.7876+05	1.1715+05	6.1443+01	1.5802+05	1.6371+25	0.0000	0.0000
15	2.25000+00	2.2432+06	1.6005+06	9.4881+05	2.1682+04	6.0218+02	5.8751+06	4.2805+09	3.7350+09	3.8889+09	2.3215+09
16	2.40000+00	2.2195+07	9.6922+06	6.4372+05	1.3684+04	4.2360+02	3.2228+02	7.9131+02	9.8507+03	1.9476+03	1.7812+10
17	2.55000+00	1.7764+07	9.7899+06	2.0969+06	3.1628+03	7.8577+01	1.3142+01	1.1880+01	4.0173+02	7.9436+03	7.2642+10
18	2.70000+00	1.6241+07	6.7913+06	2.0747+05	3.8247+02	1.0784+01	2.0070+07	6.4994+23	0.0000	0.0000	0.0000
19	2.85000+00	9.5801+06	3.5142+06	1.3450+05	2.6617+01	1.1631+00	2.2023+08	1.5494+23	0.0000	0.0000	0.0000
20	3.00000+00	7.4377+06	3.2092+06	1.4327+04	9.2312+03	1.1334+03	2.5439+03	7.2996+03	7.7761+04	1.5376+04	1.4061+11
21	3.15000+00	1.0919+06	7.9758+05	2.0477+05	2.7830+01	1.4281+00	8.4785+04	7.6642+04	2.5916+04	5.1245+05	4.6662+12
22	3.30000+00	9.8237+05	6.9868+05	1.8422+05	2.5519+01	1.3093+00	2.4904+08	1.0851+23	0.0000	0.0000	0.0000
23	3.45000+00	1.2554+06	9.4212+05	2.3764+05	5.7711+00	7.9880+03	1.0798+11	5.5793+24	0.0000	0.0000	0.0000
24	3.60000+00	0.0000	5.0213+04	4.9373+02	1.3282+01	6.8425+01	1.3012+08	4.2130+24	0.0000	0.0000	0.0000
25	3.75000+00	0.0000	2.3861+04	1.9631+01	2.4627+01	1.2674+02	2.4099+10	7.8027+26	0.0000	0.0000	0.0000
26	3.90000+00	0.0000	1.3428+04	1.2451+01	2.8696+05	1.3089+07	1.1483+21	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	2.9660+06	2.0871+06	5.5512+05	1.6252+00	6.7588+02	1.2853+09	4.1614+25	0.0000	0.0000	0.0000
28	4.20000+00	8.5572+06	2.9667+06	2.2828+04	1.2876+02	1.9781+09	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	0.0000	6.8067+03	5.2773+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	0.0000	2.7083+04	5.8611+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	0.0000	6.9367+03	7.6445+00	1.9679+01	1.0178+02	1.9279+10	6.2421+26	0.0000	0.0000	0.0000
32	4.80000+00	0.0000	4.0787+02	1.0736+02	8.0349+00	4.1394+01	7.8716+09	2.5486+24	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	1.7801+01	7.8884+00	5.9037+01	3.0415+02	5.7837+10	1.8726+25	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	1.1264+03	2.4262+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	3.1050+03	6.7935+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	1.9739+03	4.3187+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	2.9587+06	9.8956+05	4.0521+14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	3.9088+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	6.0801+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	1.4190+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.129

SOURCE 2 (WATER), 5000 DAYS, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	3.1984+06	2.1328+06	1.6903+06	5.1615+06	3.8692+06	8.0290+05	4.1604+05	3.8488+04	1.4985+03	3.2361+06
2	3.00000+01	3.2479+07	1.5641+07	8.2961+06	1.5088+07	1.0544+07	1.2247+06	6.2184+05	1.0463+05	8.0128+03	5.4745+06
3	4.50000+01	1.0645+08	5.8764+07	3.7303+07	2.8306+07	2.6429+07	2.0968+07	1.2256+07	2.1248+06	1.6063+05	8.4267+07
4	6.00000+01	2.2337+08	1.6090+08	1.4035+08	7.3400+07	4.6974+07	4.4044+06	9.8660+04	1.1087+04	8.3927+02	1.3210+02
5	7.50000+01	2.4965+08	1.7114+08	1.1143+08	1.1114+07	6.9463+06	4.2206+06	2.3719+06	4.1098+05	3.1110+04	2.1008+00
6	9.00000+01	6.8899+08	4.8455+08	2.5044+08	1.2784+07	5.7768+06	4.6112+05	3.7235+03	3.0725+01	8.0675+02	2.4544+07
7	1.05000+00	1.1586+08	8.0647+07	5.0999+07	6.5185+06	1.6045+06	5.2189+04	3.1414+01	1.0615+01	2.0990+02	1.9145+09
8	1.20000+00	2.0215+08	1.4362+08	9.4195+07	1.8351+07	5.4516+06	5.4853+02	4.0057+02	4.4017+05	1.6837+15	0.0000
9	1.35000+00	4.2414+08	2.0436+08	8.0896+07	2.7409+07	1.0330+07	4.2720+05	3.4279+03	3.5181+03	2.2140+03	8.3784+05
10	1.50000+00	2.1808+08	1.0763+08	4.6084+07	7.9605+06	2.1146+06	1.1234+03	2.8886+04	2.0858+09	1.9484+09	1.2964+09
11	1.65000+00	9.9692+07	4.9933+07	1.6212+07	1.9759+06	5.6056+05	3.0634+02	5.8258+00	1.9699+00	3.6452+01	3.5621+08
12	1.80000+00	1.2177+08	8.6608+07	6.9106+07	1.9749+07	5.6089+06	3.0010+03	7.6932+04	1.3156+11	1.3200+11	1.6166+11
13	1.95000+00	6.2312+07	4.3983+07	2.0466+07	1.0077+06	2.5958+05	1.3741+02	3.5226+05	1.3395+23	0.0000	0.0000
14	2.10000+00	3.1605+07	1.7714+07	7.6643+06	9.0954+05	2.3723+05	1.2483+02	3.1998+05	3.3152+25	0.0000	0.0000
15	2.25000+00	5.2704+06	3.9160+06	2.0637+06	4.7159+04	1.3097+03	1.2778+05	9.3101+09	8.1237+09	7.5884+09	5.0492+09
16	2.40000+00	5.1603+07	2.2534+07	1.4966+06	3.1814+04	9.8487+02	7.4930+02	6.7731+02	2.2903+02	4.5286+03	4.1413+10
17	2.55000+00	4.3965+07	2.4230+07	5.1899+06	7.8279+03	1.9448+02	3.2527+01	2.9404+01	9.9429+02	1.9660+02	1.7979+09
18	2.70000+00	4.2633+07	1.7827+07	5.0462+05	1.0040+03	2.8309+01	5.2685+07	1.7058+22	0.0000	0.0000	0.0000
19	2.85000+00	2.6585+07	9.7519+06	3.7325+05	7.3862+01	3.2275+00	6.1115+08	4.2997+23	0.0000	0.0000	0.0000
20	3.00000+00	2.1755+07	4.3886+06	4.1906+04	2.7001+02	3.3151+03	7.4409+03	6.7264+03	2.2745+03	4.4975+04	4.1128+11
21	3.15000+00	3.3575+06	2.4526+06	6.2966+05	8.5576+01	4.3915+05	2.6071+03	2.3567+03	7.9693+04	1.5758+04	1.8410+11
22	3.30000+00	3.1682+06	2.2532+06	5.9411+05	8.2299+01	4.2226+00	8.0315+08	1.4995+21	0.0000	0.0000	0.0000
23	3.45000+00	4.2371+06	3.1796+06	8.0204+05	1.9478+01	2.6932+02	3.6444+11	1.8830+23	0.0000	0.0000	0.0000
24	3.60000+00	0.0000	1.7700+05	1.7404+05	4.6819+01	2.4120+00	4.5867+08	1.4851+23	0.0000	0.0000	0.0000
25	3.75000+00	0.0000	8.7690+04	1.4564+02	9.0509+01	4.6577+02	8.8563+10	2.8675+25	0.0000	0.0000	0.0000
26	3.90000+00	0.0000	5.1345+04	4.7626+01	1.0976+04	4.9758+07	4.3923+21	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	1.1790+07	8.2964+06	2.2066+06	6.4603+00	2.6866+01	5.1089+09	1.6542+24	0.0000	0.0000	0.0000
28	4.20000+00	3.5298+07	1.2238+07	9.4164+04	5.3115+02	8.1598+09	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	0.0000	2.9099+04	2.2560+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	0.0000	1.1984+05	2.5935+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	0.0000	3.1735+04	1.2098+01	9.0031+01	4.6382+02	8.8201+10	2.3558+25	0.0000	0.0000	0.0000
32	4.80000+00	0.0000	1.9272+03	5.0728+02	3.7965+01	1.9559+00	3.7193+08	1.2042+23	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	8.6779+01	3.8456+01	2.8780+00	1.4827+01	2.8196+09	9.1291+25	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	5.6602+03	1.2192+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	1.6068+04	3.5156+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	1.0511+04	2.2997+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	1.6199+07	5.4179+06	2.2185+13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	2.1988+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	3.5113+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	8.4075+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.139

SOURCE 2 (WATER), 5000 DAYS, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000-01	1.1230-03	1.2184-03	1.7801-03	2.2473-02	3.0535-02	2.4654-02	2.6378-02	1.4308-02	7.4074-03	1.5309-06
2	3.00000-01	1.2527-02	1.0154-02	1.0517-02	8.8165-02	1.1378-01	8.2260-02	6.5805-02	5.3264-02	4.7017-02	4.1208-06
3	4.50000-01	4.9903-02	4.3724-02	4.9801-02	2.1140-01	3.2235-01	7.0611-01	8.4288-01	8.4310-01	8.4206-01	4.5189-06
4	6.00000-01	1.2833-01	1.3564-01	1.9761-01	5.3098-01	6.9307-01	8.4135-01	8.4914-01	8.4722-01	8.4621-01	6.2537-03
5	7.50000-01	2.1599-01	2.3341-01	3.1495-01	5.7936-01	7.4789-01	9.7095-01	9.9952-01	1.0000+00	1.0000+00	9.9996-01
6	9.00000-01	4.5790-01	5.1022-01	5.7911-01	6.3502-01	7.9348-01	9.8511-01	9.9976-01	1.0000+00	1.0000+00	9.9996-01
7	1.05000+00	4.9858-01	5.5629-01	6.3282-01	6.6253-01	8.0614-01	9.8514-01	9.9976-01	1.0000+00	1.0000+00	9.9996-01
8	1.20000+00	5.6956-01	6.3834-01	7.3202-01	7.4243-01	8.4916-01	9.8674-01	9.9978-01	1.0000+00	1.0000+00	9.9996-01
9	1.35000+00	7.1849-01	7.6509-01	8.1721-01	8.6176-01	9.3068-01	9.9986-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	1.50000+00	7.9506-01	8.1658-01	8.6574-01	8.9642-01	9.4737-01	9.9989-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	1.65000+00	8.3007-01	8.4511-01	8.8282-01	9.0502-01	9.5179-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	1.80000+00	8.7282-01	8.9451-01	9.5559-01	9.9101-01	9.9606-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	1.95000+00	8.9470-01	9.1971-01	9.7714-01	9.9540-01	9.9811-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	2.10000+00	9.0580-01	9.2983-01	9.8522-01	9.9966-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	2.25000+00	9.0765-01	9.3207-01	9.8719-01	9.9982-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	2.40000+00	9.2577-01	9.4894-01	9.8896-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	2.55000+00	9.4120-01	9.5878-01	9.9443-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	2.70000+00	9.5617-01	9.6897-01	9.9500-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	2.85000+00	9.6551-01	9.7454-01	9.9500+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	3.00000+00	9.7315-01	9.7990-01	9.9544-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	3.15000+00	9.7432-01	9.8130-01	9.9610-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.7544-01	9.8259-01	9.9673-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.7692-01	9.8441-01	9.9757-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.7692-01	9.8451-01	9.9758-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.7692-01	9.8456-01	9.9758-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.7692-01	9.8459-01	9.9758-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.8106-01	9.8931-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.9346-01	9.9632-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9346-01	9.9633-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	9.9346-01	9.9643-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	9.9346-01	9.9644-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	9.9915-01	9.9915-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	9.9915-01	9.9915-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	9.9915-01	9.9915-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	9.9915-01	9.9915-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (WATER), 5000 DAYS, 1 WATT, PURE U-235

Figure 3.86

SOURCE 2 (WATER), 5000 DAYS, 1 WATT, PURE U-235

Figure 3.87

Table 3.131

SOURCE 2 (WATER), 5000 DAYS, 1 KATY, PURE U-235

BETA SPECTRA (BETAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	7.5698+08	3.9126+08	3.0864+08	1.9169+08	1.0464+08	6.6084+07	3.5307+07	5.4107+06	3.7015+05	7.2043+00
2	6.00000+01	5.8771+08	2.9800+08	2.1176+08	1.0368+08	6.6127+07	1.3498+07	6.3152+06	1.1448+06	8.7403+04	2.4746+00
3	9.00000+01	3.8645+08	1.8966+08	1.1679+08	4.2836+07	2.4617+07	1.5758+06	2.1524+04	1.6945+03	1.3571+02	2.7861-01
4	1.20000+00	2.1282+08	9.6918+07	4.4411+07	9.7981+06	5.2752+06	3.7379+05	2.9993+03	5.5155+00	3.7147+00	1.2880-01
5	1.50000+00	1.2799+08	5.1938+07	1.0578+07	6.5461+05	1.7474+05	4.2029+03	3.4554+01	1.0233+00	6.8880-01	3.5424-02
6	1.80000+00	9.4436+07	3.4966+07	6.4673+06	1.1786+05	1.6367+04	1.4412+01	8.6846+02	1.3783+02	8.2131+03	1.0401-02
7	2.10000+00	7.1799+07	2.4640+07	2.8251+06	3.3414+04	4.5211+03	1.6798+00	6.5087+03	3.9572+03	2.7617+03	3.7913-03
8	2.40000+00	5.3314+07	1.7010+07	9.1717+05	1.7131+03	1.2303+02	3.6947+02	1.8406+04	1.7388+04	1.8496+04	2.5049-04
9	2.70000+00	4.1808+07	1.2900+07	4.3281+05	6.1893+02	2.7854+01	3.5660+04	2.2672+06	1.2439+08	1.1743+08	8.7984-09
10	3.00000+00	3.3790+07	1.0312+07	3.3775+05	5.4655+02	2.5487+01	2.0358+06	2.1473+09	2.0678+09	1.6954+09	1.4201-04
11	3.30000+00	2.6140+07	7.8387+06	2.5338+05	4.6654+02	2.2545+01	3.7765+07	3.2883+21	0.0000	0.0000	0.0000
12	3.60000+00	1.9092+07	5.5848+06	1.7168+05	3.8577+02	1.9163+01	3.1721+07	6.8704+22	0.0000	0.0000	0.0000
13	3.90000+00	1.3477+07	3.8311+06	1.0466+05	3.0741+02	1.5475+01	2.5536+07	8.2182+23	0.0000	0.0000	0.0000
14	4.20000+00	9.3660+06	2.5859+06	5.4900+04	2.2754+01	1.1488+01	1.8958+07	6.0841+23	0.0000	0.0000	0.0000
15	4.50000+00	6.3879+06	1.6991+06	1.8344+04	1.4894+01	7.5198+00	1.2410+07	3.9826+23	0.0000	0.0000	0.0000
16	4.80000+00	4.4028+06	1.1287+06	1.9722+03	7.8886+01	3.9791+00	6.5666+08	2.1074+23	0.0000	0.0000	0.0000
17	5.10000+00	2.9679+06	7.4668+05	3.6463+02	2.6400+01	1.3330+00	2.1998+08	7.0598+24	0.0000	0.0000	0.0000
18	5.40000+00	1.8855+06	4.7303+05	2.7023+01	1.9584+00	9.8784+02	1.6307+09	5.2317+25	0.0000	0.0000	0.0000
19	5.70000+00	1.0029+06	2.5135+05	9.4596+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	4.0471+05	1.0113+05	3.9225+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.6391+05	4.0571+04	6.7481+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	9.5391+04	2.3527+04	1.7328+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	4.3858+04	1.0817+04	4.2691+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	1.0636+04	2.6232+03	1.0353+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	1.7623+02	4.3472+01	1.7154+18	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.132

SOURCE 2 (WATER), 5000 DAYS, 1 ATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	1.1355+08	5.8689+07	4.6296+07	2.8754+07	2.1665+07	9.9127+06	5.2961+06	8.1160+05	5.5522+04	1.0806+00
2	6.00000+01	2.6424+08	1.3410+08	9.5291+07	4.6656+07	2.9757+07	6.0739+06	2.8418+06	5.1517+05	3.9331+04	1.1156+00
3	9.00000+01	2.8984+08	1.4224+08	8.7595+07	3.2127+07	1.8463+07	1.1619+06	1.6143+04	1.2709+03	1.0178+02	2.0869+01
4	1.20000+00	2.2346+08	1.0176+08	4.6631+07	1.0288+07	5.5390+06	3.9248+05	3.1492+03	5.7913+00	3.9004+00	1.3524+01
5	1.50000+00	1.7278+08	7.0116+07	1.9680+07	8.8372+05	2.3590+05	5.6739+03	4.6649+01	1.3814+00	9.2961+01	4.7822+02
6	1.80000+00	1.5582+08	5.7693+07	1.0671+07	1.9448+05	2.7096+04	2.3780+01	1.4330+01	2.2742+02	1.3552+02	1.7161+02
7	2.10000+00	1.4001+08	4.8049+07	5.5090+06	6.5157+04	8.8161+03	3.6656+00	1.2692+02	7.7166+03	5.3653+03	7.3930+03
8	2.40000+00	1.1996+08	3.8272+07	2.0636+06	3.8544+03	2.7682+02	8.3131+02	4.1412+04	3.9123+04	3.7119+04	5.6361+04
9	2.70000+00	1.0661+08	3.2896+07	1.1037+06	1.5783+03	7.1027+01	9.0932+04	5.7814+08	3.1720+08	2.9444+08	2.2456+08
10	3.00000+00	9.6301+07	2.9390+07	9.6259+05	1.5577+03	7.2637+01	5.8019+06	6.1197+09	5.7222+09	5.4019+09	4.0474+09
11	3.30000+00	8.2339+07	2.4692+07	7.9816+05	1.4696+03	7.1017+01	1.1896+06	1.0358+20	0.0000	0.0000	0.0000
12	3.60000+00	6.5869+07	1.9267+07	5.9230+05	1.3309+03	6.6112+01	1.0944+06	2.3703+21	0.0000	0.0000	0.0000
13	3.90000+00	5.0538+07	1.4367+07	3.9249+05	1.1528+03	5.8030+01	9.5758+07	3.0818+22	0.0000	0.0000	0.0000
14	4.20000+00	3.7932+07	1.0473+07	2.2234+05	9.2155+02	4.6525+01	7.6779+07	2.4640+22	0.0000	0.0000	0.0000
15	4.50000+00	2.7787+07	7.3911+06	7.9796+04	6.4789+02	3.2711+01	5.3983+07	1.7324+22	0.0000	0.0000	0.0000
16	4.80000+00	2.0473+07	5.2487+06	9.1708+03	3.6645+02	1.8503+01	3.0535+07	9.7493+23	0.0000	0.0000	0.0000
17	5.10000+00	1.4691+07	3.6961+06	1.8049+03	1.3068+02	6.5984+00	1.0869+07	3.4946+23	0.0000	0.0000	0.0000
18	5.40000+00	9.8990+06	2.4834+06	1.4187+02	1.0271+01	5.1861+01	8.5585+09	2.7467+24	0.0000	0.0000	0.0000
19	5.70000+00	5.5661+06	1.3050+06	5.2501+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	2.3676+06	5.9163+05	2.2946+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.0081+06	2.4951+05	4.1501+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	6.1527+05	1.5175+05	1.1176+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	2.9604+05	7.3016+04	2.8817+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	7.4982+04	1.8493+04	7.2986+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	1.2953+03	3.1952+02	1.2608+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.133

SOURCE 2 (WATER), 5000 DAYS, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	5.6716-02	7.3059-02	1.4563-01	2.4167-01	2.8621-01	5.6429-01	6.4925-01	6.1112-01	5.8469-01	4.1384-01
2	6.00000+01	1.8870-01	2.3999-01	4.4538-01	6.3379-01	6.7932-01	9.1005-01	9.9763-01	9.9904-01	9.9888-01	8.4028-01
3	9.00000+01	3.3348-01	4.1707-01	7.2092-01	9.0381-01	9.2323-01	9.7733-01	9.9961-01	9.9999-01	9.9995-01	9.2028-01
4	1.20000+00	4.4509-01	5.4375-01	8.6761-01	9.9028-01	9.9640-01	9.9999-01	9.9999-01	1.0000+00	9.9999-01	9.7207-01
5	1.50000+00	5.3140-01	6.3103-01	9.2952-01	9.9771-01	9.9952-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	9.9938-01
6	1.80000+00	6.0923-01	7.0285-01	9.6309-01	9.9934-01	9.9987-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	9.9995-01
7	2.10000+00	6.7916-01	7.6266-01	9.8041-01	9.9989-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	9.9978-01
8	2.40000+00	7.3908-01	8.1031-01	9.8691-01	9.9992-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	7.9233-01	8.5126-01	9.9038-01	9.9994-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	8.4043-01	8.8784-01	9.9341-01	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	8.8156-01	9.1858-01	9.9592-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.1446-01	9.4256-01	9.9778-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.3971-01	9.6045-01	9.9901-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.5865-01	9.7349-01	9.9971-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.7253-01	9.8269-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.8276-01	9.8922-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9010-01	9.9382-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9504-01	9.9691-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9782-01	9.9865-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9900-01	9.9939-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9951-01	9.9970-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	9.9981-01	9.9989-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9996-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (WATER), 5000 DAYS, 1 WATT, PURE U-235

SOURCE 2 (WATER), 5000 DAYS, 1 WATT, PURE U-235

Figure 3.89

Table 3.134

SOURCE 2 (WATER), 500 DAYS, 1 WATT, PURE D-235

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	4.2646+07	2.8437+07	2.2538+07	6.8821+07	5.1589+07	1.0705+07	5.5472+06	5.1317+05	1.9980+04	3.4123-05
2	3.00000+01	1.4435+08	6.9516+07	3.6872+07	6.7060+07	4.6880+07	5.4432+06	2.7638+06	4.6503+05	3.5612+04	1.9242-05
3	4.50000+01	2.8387+08	1.5670+08	9.9075+07	7.5482+07	7.0077+07	5.5916+07	3.2683+07	5.6662+06	4.2889+05	1.7758-06
4	6.00000+01	4.2540+08	3.0648+08	2.6734+08	1.3981+08	8.9474+07	6.3893+06	1.8792+05	2.1118+04	1.5986+03	1.9900-02
5	7.50000+01	3.6985+08	2.5355+08	1.6508+08	1.6464+07	1.0291+07	6.2527+06	3.5139+06	6.0886+05	4.6089+04	2.4611+00
6	9.00000+01	8.3514+08	5.6733+08	3.0405+08	1.5496+07	7.0021+06	5.5893+05	4.5133+03	3.7243+01	7.3545+02	2.3532-07
7	1.05000+00	1.1883+08	8.2714+07	5.2307+07	6.4805+06	1.6657+06	8.7029+02	3.2220+01	1.0887+01	2.1528+02	1.5569-09
8	1.20000+00	1.7969+08	1.2766+08	8.3729+07	1.6312+07	4.8458+06	4.6390+04	3.5607+02	3.9126+05	1.4966+15	0.0000
9	1.35000+00	3.3269+08	1.6029+08	6.3448+07	2.1497+07	8.1016+06	3.3506+05	2.6886+03	2.7593+01	1.7364+03	5.1969-05
10	1.50000+00	1.5304+03	7.5541+07	3.2340+07	5.5863+06	1.4839+06	7.8835+02	2.0215+04	1.4637+09	1.3673+09	7.1948-10
11	1.65000+00	6.3297+07	3.1703+07	1.0293+07	1.2545+06	3.5591+05	1.9450+02	3.6989+00	1.2508+00	2.4732+01	1.7866-08
12	1.80000+00	7.0592+07	5.0207+07	4.0061+07	1.1449+07	3.2515+06	1.7397+03	4.4598+04	7.6267+12	7.6522+12	8.3008-12
13	1.95000+00	3.3233+07	2.3454+07	1.0915+07	5.3743+05	1.3844+05	7.3287+01	1.8787+05	7.1441+24	0.0000	0.0000
14	2.10000+00	1.5607+07	8.7477+06	3.7848+06	4.7878+05	1.1715+05	6.1643+01	1.5802+05	1.6371+25	0.0000	0.0000
15	2.25000+00	2.4232+06	1.8005+06	9.4881+05	2.1687+04	6.0218+02	5.8751+06	4.2805+09	3.7350+09	3.4889+09	1.8359-09
16	2.40000+00	2.2195+07	9.6927+06	5.4372+05	1.3684+04	4.2360+02	3.2228+02	2.9131+02	9.8507+03	1.9478+03	1.4087-10
17	2.55000+00	1.7764+07	9.7899+06	2.0969+06	3.1628+03	7.8577+01	1.3142+01	1.1680+01	4.0173+02	7.9436+03	5.7448-10
18	2.70000+00	1.6241+07	6.7913+06	2.0747+05	3.8247+02	1.0784+01	2.0070+07	6.4984+23	0.0000	0.0000	0.0000
19	2.85000+00	9.5801+06	3.5142+06	1.3450+05	2.6617+01	1.1631+00	2.2023+08	1.5494+23	0.0000	0.0000	0.0000
20	3.00000+00	7.4377+06	3.2092+06	1.4327+04	9.2312-03	1.1334-03	2.5439+03	2.2996+03	7.7761+04	1.5376+04	1.1120-11
21	3.15000+00	1.0919+06	7.9758+05	2.0477+05	2.7830+01	1.4281+00	4.8785+04	7.6642+04	2.5916+04	5.1245+05	3.7061-12
22	3.30000+00	9.8237+05	6.9868+05	1.8422+05	2.5519+01	1.3093+00	2.4904+08	1.0851+23	0.0000	0.0000	0.0000
23	3.45000+00	1.2553+06	9.4212+05	2.3764+05	5.7711+00	7.9600+03	1.0798+11	5.5793+24	0.0000	0.0000	0.0000
24	3.60000+00	0.0000	5.0713+04	4.9373+02	1.3282+01	8.8425+01	1.3012+08	4.2130+24	0.0000	0.0000	0.0000
25	3.75000+00	0.0000	2.3861+04	3.9631+01	2.4627+01	1.2674+02	2.4099+10	7.8027+26	0.0000	0.0000	0.0000
26	3.90000+00	0.0000	1.3424+04	1.2451+01	2.8696+05	1.3009+07	1.1483+21	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	2.9660+06	2.0871+06	5.5512+05	1.6252+00	6.7588+02	1.2853+09	4.1614+25	0.0000	0.0000	0.0000
28	4.20000+00	8.5572+06	2.9667+06	2.9828+04	1.2676+02	1.9781+09	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	0.0000	6.8067+03	5.2773+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	0.0000	2.7083+04	5.8611+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	0.0000	6.9367+03	2.6445+00	1.9679+01	1.0138+02	1.9279+10	6.2421+26	0.0000	0.0000	0.0000
32	4.80000+00	0.0000	4.0747+02	1.0736+02	8.0349+00	4.1394+01	7.8716+09	2.5486+24	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	1.7801+01	7.8884+00	5.9037+01	3.0415+02	5.7837+10	1.8726+25	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	1.1264+03	2.4262+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	3.1850+03	8.7935+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	1.9739+03	4.3187+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	2.9487+06	9.8956+05	4.0521+14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	3.9888+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	6.0801+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	1.4190+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.135

SOURCE 2 (WATER), 500 DAYS, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----										
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	1.50000+01	3.1984+06	2.1328+06	1.6903+06	5.1615+06	3.8692+06	8.0290+05	4.1604+05	3.8488+04	1.4985+03	2.5593+06	
2	3.00000+01	3.2479+07	1.5641+07	8.2961+06	1.5088+07	1.0548+07	1.2247+06	6.2184+05	1.0463+05	8.0128+03	4.3295+06	
3	4.50000+01	1.0645+08	5.8764+07	3.7303+07	2.8306+07	2.6429+07	2.0968+07	1.2256+07	2.1248+06	1.6083+05	6.6594+07	
4	6.00000+01	2.2337+08	1.6090+08	1.4075+08	7.3400+07	4.6974+07	4.4044+06	9.8660+04	1.1087+04	8.3927+02	1.0447+02	
5	7.50000+01	2.4965+08	1.7114+08	1.1143+08	1.1114+07	6.9463+06	4.2206+06	2.3719+06	4.1098+05	3.1110+04	1.6613+00	
6	9.00000+01	6.8899+08	4.8455+08	2.5084+08	1.2784+07	5.7768+06	4.6112+05	3.7235+03	3.0725+01	6.0675+02	1.9414+07	
7	1.05000+00	1.1586+08	8.0647+07	5.0999+07	6.3185+06	1.6045+06	8.4853+02	3.1414+04	1.0615+01	2.0990+02	1.5180+09	
8	1.20000+00	2.0215+08	1.4362+08	9.4195+07	1.8351+07	5.4516+06	5.2189+04	4.0057+02	4.4017+05	1.6837+15	0.0000	
9	1.35000+00	4.2418+08	2.0436+08	8.0896+07	2.7409+07	1.0330+07	4.2720+05	3.4279+03	3.5181+03	2.2140+03	6.6260+05	
10	1.50000+00	7.1808+08	1.0765+08	4.6084+07	7.9605+06	2.1146+06	1.1234+03	2.8806+04	2.0858+09	1.9484+09	1.0253+09	
11	1.65000+00	9.9692+07	4.9933+07	1.6212+07	1.9759+06	5.6056+05	3.0634+02	5.8258+00	1.9699+00	3.8952+01	2.8170+08	
12	1.80000+00	1.2177+08	8.6608+07	6.9108+07	1.9749+07	5.6089+06	3.0010+03	7.6932+04	1.3156+11	1.3200+11	1.4319+11	
13	1.95000+00	6.2312+07	4.3983+07	2.0466+07	1.0077+06	2.5958+05	1.3741+02	3.5226+05	1.3395+23	0.0000	0.0000	
14	2.10000+00	3.1605+07	1.7714+07	7.6603+06	9.6950+05	2.3723+05	1.2483+02	3.1998+05	3.3152+25	0.0000	0.0000	
15	2.25000+00	5.2704+06	3.9160+06	2.0637+06	4.7159+04	1.3097+03	1.2778+05	9.3101+09	8.1237+09	7.5884+09	3.9931+09	
16	2.40000+00	5.1603+07	2.2534+07	1.4966+06	3.1814+04	9.8487+02	7.4930+02	6.7731+02	2.2903+02	4.5286+03	3.2751+10	
17	2.55000+00	4.3965+07	2.4230+07	5.1899+06	7.8279+03	1.9448+02	3.2527+01	2.9404+01	9.9429+02	1.9660+02	1.4218+09	
18	2.70000+00	4.2633+07	1.7827+07	5.4462+05	1.0040+03	2.8309+01	5.2685+07	1.7058+22	0.0000	0.0000	0.0000	
19	2.85000+00	2.6585+07	9.7519+06	3.7325+05	7.3862+01	3.2275+00	6.1115+08	4.2997+23	0.0000	0.0000	0.0000	
20	3.00000+00	2.1755+07	9.3868+06	4.1906+04	2.7001+02	3.3151+03	7.4409+03	6.7264+03	2.2745+03	4.4975+04	3.2526+11	
21	3.15000+00	3.3575+06	2.4526+06	6.2986+05	8.5576+01	4.3915+00	2.6071+05	2.3667+03	7.9693+04	1.5758+04	1.1396+11	
22	3.30000+00	3.1687+06	2.2532+06	5.9411+05	8.2299+01	4.2226+00	8.0315+08	3.4995+23	0.0000	0.0000	0.0000	
23	3.45000+00	4.2371+06	3.1796+06	8.0204+05	1.9478+01	2.6932+02	3.6444+11	1.8830+23	0.0000	0.0000	0.0000	
24	3.60000+00	0.0000	1.7700+05	1.7404+03	4.6419+01	2.4120+00	4.5867+08	1.4851+23	0.0000	0.0000	0.0000	
25	3.75000+00	0.0000	8.7690+04	1.4564+02	9.0505+01	4.6577+02	8.8563+10	2.8675+25	0.0000	0.0000	0.0000	
26	3.90000+00	0.0000	5.1345+04	4.7626+01	1.0976+04	4.9758+07	4.3923+21	0.0000	0.0000	0.0000	0.0000	
27	4.05000+00	1.1790+07	8.2964+06	2.2066+06	6.4603+00	2.6866+01	5.1089+09	1.6542+24	0.0000	0.0000	0.0000	
28	4.20000+00	3.5298+07	1.2238+07	9.4164+04	5.3115+02	8.1598+09	0.0000	0.0000	0.0000	0.0000	0.0000	
29	4.35000+00	0.0000	2.9899+04	2.2560+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
30	4.50000+00	0.0000	1.1984+05	2.5935+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
31	4.65000+00	0.0000	3.1735+04	1.2098+01	9.0031+01	4.6382+02	8.8201+10	2.8558+25	0.0000	0.0000	0.0000	
32	4.80000+00	0.0000	1.9272+03	5.0728+02	3.7965+01	1.9559+00	3.7193+08	1.2042+23	0.0000	0.0000	0.0000	
33	4.95000+00	0.0000	8.6779+01	3.8456+01	2.8780+00	1.4627+01	2.8196+09	9.1291+25	0.0000	0.0000	0.0000	
34	5.10000+00	0.0000	5.6602+03	1.2192+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
35	5.25000+00	0.0000	1.6068+04	3.5156+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
36	5.40000+00	0.0000	1.0511+04	2.2997+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
37	5.55000+00	1.6199+07	5.4179+06	2.2185+13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
38	5.70000+00	0.0000	2.1986+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
39	5.85000+00	0.0000	3.5113+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
40	6.00000+00	0.0000	8.4075+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Table 3.136

SOURCE 2 (WATER), 500 DAYS, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	COOLING TIMES									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000-01	1.1230-03	1.2184-03	1.7801-03	2.2473-02	3.0535-02	2.4654-02	2.6378-02	1.4306-02	7.4074-03	1.5309-06
2	3.00000-01	1.2527-02	1.0154-02	1.0517-02	8.8165-02	1.1378-01	6.2260-02	6.5805-02	5.3204-02	4.7017-02	4.1206-06
3	4.50000-01	4.9003-02	4.3724-02	4.9801-02	2.1140-01	3.2235-01	7.0611-01	8.4288-01	8.4310-01	8.4206-01	4.5184-06
4	6.00000-01	1.2833-01	1.3564-01	1.9761-01	5.3098-01	6.9307-01	8.4135-01	8.4914-01	8.4722-01	8.4621-01	6.2537-03
5	7.50000-01	2.1599-01	2.3341-01	3.1495-01	5.7936-01	7.4789-01	9.7095-01	9.9952-01	1.0000+00	1.0000+00	9.9996-01
6	9.00000-01	4.5790-01	5.1022-01	5.7911-01	6.3502-01	7.9348-01	9.8511-01	9.9970-01	1.0000+00	1.0000+00	9.9996-01
7	1.05000+00	4.9858-01	5.5629-01	6.3242-01	8.6253-01	8.0614-01	9.8514-01	9.9976-01	1.0000+00	1.0000+00	9.9996-01
8	1.20000+00	5.6956-01	6.3834-01	7.3202-01	7.4243-01	8.0915-01	9.8674-01	9.9978-01	1.0000+00	1.0000+00	9.9996-01
9	1.35000+00	7.1849-01	7.5509-01	8.1721-01	8.6176-01	9.3568-01	9.9986-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	1.50000+00	7.9506-01	8.1658-01	8.6574-01	8.9642-01	9.4737-01	9.9989-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	1.65000+00	8.3007-01	8.4511-01	8.8282-01	9.0502-01	9.5179-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	1.80000+00	8.7242-01	8.9459-01	9.5559-01	9.9101-01	9.9606-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	1.95000+00	8.9470-01	9.1971-01	9.7714-01	9.9540-01	9.9811-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	2.10000+00	9.0580-01	9.2981-01	9.8522-01	9.9967-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	2.25000+00	9.0765-01	9.3207-01	9.8739-01	9.9982-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	2.40000+00	9.2577-01	9.4494-01	9.8966-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	2.55000+00	9.4120-01	9.5878-01	9.9443-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	2.70000+00	9.5617-01	9.6897-01	9.9500-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	2.85000+00	9.6551-01	9.7454-01	9.9540-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	3.00000+00	9.7315-01	9.7999-01	9.9544-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	3.15000+00	9.7432-01	9.8130-01	9.9610-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.7544-01	9.8259-01	9.9673-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.7692-01	9.8441-01	9.9757-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.7692-01	9.8451-01	9.9758-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.7692-01	9.8456-01	9.9758-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.7692-01	9.8459-01	9.9758-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.8106-01	9.8933-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.9346-01	9.9632-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9346-01	9.9633-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9346-01	9.9640-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	9.9346-01	9.9643-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	9.9346-01	9.9644-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	9.9415-01	9.9954-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	9.9415-01	9.9954-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	9.9415-01	9.9954-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	9.9415-01	9.9954-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (WATER), 500 DAYS, 1 WATT, PURE U-235

SOURCE 2 (WATER), 500 DAYS, 1 WATT, PURE U-235

Figure 3-91
GAMMA CUMUL. SPECT (01)

Table 3.137

SOURCE 2 (WATER), 500 DAYS, 1 WATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	7.5698+08	3.9126+08	3.0864+08	1.9169+08	1.4444+08	6.6084+07	3.5307+07	5.4106+06	3.7014+05	5.3013+00
2	6.00000+01	5.8721+08	2.9800+08	2.1176+08	1.0368+08	6.6127+07	1.3498+07	6.3152+06	1.1448+06	8.7402+04	1.8210+00
3	9.00000+01	3.8645+08	1.8966+08	1.1679+08	4.2836+07	2.4617+07	1.5758+06	2.1524+04	1.6945+03	1.3571+02	2.0495+01
4	1.20000+00	2.1282+08	9.6918+07	4.4411+07	9.7981+06	5.2752+06	3.7379+05	2.9993+03	5.5155+00	3.7146+00	9.4781+02
5	1.50000+00	1.2799+08	5.1938+07	1.4578+07	6.5461+05	1.7474+05	4.2029+03	3.4554+01	1.0233+00	6.8854+01	2.6067+02
6	1.80000+00	9.4436+07	3.4966+07	6.4673+06	1.1786+05	1.6367+04	1.4412+01	8.6846+02	1.3783+02	8.2130+03	7.6534+03
7	2.10000+00	7.1799+07	2.4640+07	2.8251+06	3.3414+04	4.5211+03	1.8798+00	6.5087+03	3.9572+03	2.7617+03	2.7898+03
8	2.40000+00	5.3314+07	1.7010+07	9.1717+05	1.7131+03	1.2303+02	1.6947+02	1.8400+04	1.7388+04	1.6497+04	1.8433+04
9	2.70000+00	4.1808+07	1.2990+07	4.3281+05	6.1893+02	2.7854+01	3.5660+04	2.2672+08	1.2439+08	1.1743+08	6.4743+09
10	3.00000+00	3.3790+07	1.0312+07	3.3775+05	5.4655+02	2.5487+01	2.0358+06	2.1472+09	2.0078+09	1.8954+09	1.0450+09
11	3.30000+00	2.6140+07	7.8387+06	2.5338+05	4.0654+02	2.2545+01	3.7765+07	3.2883+21	0.0000	0.0000	0.0000
12	3.60000+00	1.9092+07	5.5848+06	1.7168+05	3.8577+02	1.9163+01	3.1721+07	6.8704+22	0.0000	0.0000	0.0000
13	3.90000+00	1.1777+07	3.8311+06	1.0466+05	3.0741+02	1.5475+01	2.5535+07	8.2182+23	0.0000	0.0000	0.0000
14	4.20000+00	7.3800+06	2.5859+06	5.4900+04	2.2754+02	1.1488+01	1.8588+07	6.0841+23	0.0000	0.0000	0.0000
15	4.50000+00	3.3819+06	1.6991+06	1.8344+04	1.4894+02	7.5198+00	1.2410+07	3.9826+23	0.0000	0.0000	0.0000
16	4.80000+00	1.4028+06	1.1287+06	1.9722+03	7.8806+01	3.9791+00	6.5666+08	2.1074+23	0.0000	0.0000	0.0000
17	5.10000+00	1.9679+06	7.4668+05	3.6463+02	2.6400+01	1.3330+00	2.1998+08	7.0598+24	0.0000	0.0000	0.0000
18	5.40000+00	1.8855+06	4.7303+05	2.7023+01	1.9564+00	9.8784+02	1.6302+09	5.2317+25	0.0000	0.0000	0.0000
19	5.70000+00	1.0029+06	2.5135+05	9.4596+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	4.0471+05	1.0113+05	3.9225+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.6391+05	4.0571+04	6.7481+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	9.5391+04	2.3527+04	1.7328+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	4.3858+04	1.0817+04	4.2691+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	1.0636+04	2.6232+03	1.0353+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	1.7623+02	4.3472+01	1.7154+18	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.133

SOURCE 2 (WATER), 500 DAYS, 1 MATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	1.1355+08	5.8689+07	4.6296+07	2.8754+07	2.1665+07	9.9127+06	5.2961+06	8.1160+05	5.5521+04	7.9520+01
2	6.00000+01	2.6424+08	1.3410+08	9.5291+07	4.6656+07	2.9757+07	6.0739+06	2.8418+06	5.1517+05	3.9331+04	8.1943+01
3	9.00000+01	2.8984+08	1.4224+08	8.7595+07	3.2127+07	1.8463+07	1.1819+06	1.6143+04	1.2709+03	1.0178+02	1.5371+01
4	1.20000+00	2.2346+08	1.0176+08	4.6631+07	1.0788+07	5.5390+06	3.9248+05	3.1492+03	5.7913+00	3.9004+00	4.9520+02
5	1.50000+00	1.7278+08	7.0116+07	1.9680+07	8.8372+05	2.3590+05	5.6739+03	4.6649+01	1.3814+00	9.2960+01	3.5190+02
6	1.80000+00	1.5582+08	5.7693+07	1.0671+07	1.9448+05	2.7006+04	2.3780+01	1.4330+01	2.2742+02	1.3551+02	1.2628+02
7	2.10000+00	1.4001+08	4.8049+07	5.5090+06	6.5157+04	8.8161+03	3.6656+00	1.2692+02	7.7166+03	5.3852+03	5.4402+03
8	2.40000+00	1.1996+08	3.8272+07	2.0636+06	3.8544+03	2.7682+02	8.3131+02	4.1412+04	3.9123+04	3.7119+04	4.1474+04
9	2.70000+00	1.0661+08	3.2896+07	1.1037+06	1.5783+03	7.1027+01	9.0932+04	5.7814+08	3.1720+08	2.9944+08	1.6510+08
10	3.00000+00	9.6301+07	2.9390+07	9.6259+05	1.5577+03	7.2637+01	5.8019+06	6.1147+09	5.7222+09	5.4018+09	2.9783+09
11	3.30000+00	8.2339+07	2.4692+07	7.9816+05	1.4696+03	7.1017+01	1.1896+06	1.0358+20	0.0000	0.0000	0.0000
12	3.60000+00	6.5869+07	1.9267+07	5.9230+05	1.3309+03	6.6112+01	1.0944+06	2.5703+21	0.0000	0.0000	0.0000
13	3.90000+00	5.0538+07	1.4367+07	3.9249+05	1.1528+03	5.8030+01	9.5758+07	3.0818+22	0.0000	0.0000	0.0000
14	4.20000+00	3.7932+07	1.0473+07	2.2234+05	9.2155+02	4.652	7.6779+07	2.4640+22	0.0000	0.0000	0.0000
15	4.50000+00	2.7787+07	7.3911+06	7.9796+04	6.4789+02	3.271	5.3983+07	1.7324+22	0.0000	0.0000	0.0000
16	4.80000+00	2.0473+07	5.2487+06	9.1708+03	3.6645+02	1.8503+01	3.0535+07	9.7993+23	0.0000	0.0000	0.0000
17	5.10000+00	1.4691+07	3.6961+06	1.8049+03	1.3668+02	6.5984+00	1.0889+07	3.4946+23	0.0000	0.0000	0.0000
18	5.40000+00	9.8990+06	2.4834+06	1.4187+02	1.0271+01	5.1861+01	8.5585+09	2.7466+24	0.0000	0.0000	0.0000
19	5.70000+00	5.5661+06	1.3950+06	5.2501+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	2.3676+06	5.9163+05	2.2946+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.0081+06	2.4951+05	4.1501+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	6.1527+05	1.5175+05	1.1176+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	2.9604+05	7.3016+04	2.8817+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	7.4982+04	1.8493+04	7.2986+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	1.2953+03	3.1952+02	1.2608+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.130

SOURCE 2 (WATER), 500 DAYS, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	5.6716-02	7.3059-02	1.4563-01	2.4167-01	2.8621-01	5.6429-01	6.4925-01	6.1112-01	5.8469-01	4.1384-01
2	6.00000+01	1.8870-01	2.3999-01	4.4538-01	6.3379-01	6.7932-01	9.1005-01	9.9763-01	9.9904-01	9.9888-01	8.4028-01
3	9.00000+01	3.3348-01	4.1707-01	7.2092-01	9.0381-01	9.2323-01	9.7733-01	9.9961-01	9.9999-01	9.9995-01	9.2028-01
4	1.20000+00	4.4509-01	5.4375-01	8.6761-01	9.9028-01	9.9640-01	9.9968-01	9.9999-01	1.0000+00	9.9999-01	9.7207-01
5	1.50000+00	5.3144-01	6.3103-01	9.2952-01	9.9771-01	9.9952-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	9.9038-01
6	1.60000+00	6.0923-01	7.0785-01	9.6309-01	9.9934-01	9.9927-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	9.9695-01
7	2.10000+00	6.7916-01	7.6766-01	9.8691-01	9.9989-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	9.9978-01
8	2.60000+00	7.3908-01	8.1031-01	9.8691-01	9.9992-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	7.9233-01	8.5126-01	9.9010-01	9.9994-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	8.4043-01	8.8784-01	9.9341-01	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	8.8156-01	9.1858-01	9.9592-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.1446-01	9.4256-01	9.9778-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.3971-01	9.6045-01	9.9961-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.5865-01	9.7349-01	9.9971-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.7253-01	9.8269-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.8276-01	9.8922-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9010-01	9.9382-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9504-01	9.9691-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9782-01	9.9865-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9900-01	9.9939-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9951-01	9.9970-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	9.9981-01	9.9989-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9996-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (WATER), 500 DAYS, 1 WATT, PURE U-235

SOURCE 2 (WATER), 500 DAYS, 1 WATT, PURE U-235

Figure 3.93

Table 3.140

SOURCE 2 (WATER), 200 DAYS, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	4.2646+07	2.8437+07	2.2538+07	6.8821+07	5.1589+07	1.0705+07	5.5472+06	5.1117+05	1.9980+04	3.3522+05
2	3.00000+01	1.4435+08	6.9516+07	3.6872+07	6.7060+07	4.6880+07	5.4432+06	2.7638+06	4.6503+05	3.5612+04	1.8903+05
3	4.50000+01	2.8387+08	1.5676+08	9.9475+07	7.5482+07	7.0477+07	5.5916+07	3.2683+07	5.0662+06	4.2889+05	1.7446+06
4	6.00000+01	4.2546+08	3.0644+08	2.6734+08	1.3981+08	8.9474+07	8.3893+06	1.8792+05	2.1118+04	1.5986+03	1.9549+02
5	7.50000+01	3.6985+08	2.5355+08	1.6508+08	1.6464+07	1.0291+07	6.2527+06	3.5139+06	6.0886+05	4.0089+04	2.4178+00
6	9.00000+01	8.3514+08	5.8733+08	3.0405+08	1.5496+07	7.0021+06	5.5893+05	4.5133+03	3.7243+01	7.3545+02	2.3117+07
7	1.05000+00	1.1883+08	8.2714+07	5.2307+07	6.4805+06	1.6457+06	6.7029+02	1.2220+01	1.0887+01	2.1528+02	1.5295+09
8	1.20000+00	1.7969+08	1.2766+08	8.3729+07	1.6312+07	4.8458+06	4.6390+04	3.5607+02	3.9126+05	1.4966+15	0.0000
9	1.35000+00	3.3269+08	1.6029+08	6.3448+07	2.1497+07	8.1016+06	3.3506+05	2.6886+03	2.7593+03	1.7364+03	5.1053+05
10	1.50000+00	1.5304+08	7.5541+07	3.2300+07	5.5863+06	1.4839+06	7.8835+02	2.0215+04	1.4637+09	1.3673+09	7.0681+10
11	1.65000+00	6.3297+07	3.1703+07	1.0293+07	1.2545+06	3.5591+05	1.9450+02	3.6989+00	1.2508+00	2.4732+01	1.7571+08
12	1.80000+00	7.0592+07	5.0207+07	4.0061+07	1.1449+07	3.2515+06	1.7397+03	4.4598+04	7.0267+12	7.6522+12	8.1545+12
13	1.95000+00	3.3233+07	2.3458+07	1.0915+07	5.3743+05	1.3844+05	7.3287+01	1.8787+05	7.1441+24	0.0000	0.0000
14	2.10000+00	1.5607+07	8.7477+06	3.7888+06	4.7876+05	1.1715+05	6.1643+01	1.5802+05	1.6371+25	0.0000	0.0000
15	2.25000+00	4.4232+06	1.8005+06	9.4881+05	2.1682+04	6.0218+02	5.8751+06	4.2805+09	3.7350+09	3.4889+09	1.8056+09
16	2.40000+00	2.2195+07	9.6922+06	4.4372+05	1.3684+04	4.2360+02	3.2228+02	2.9131+02	9.8507+03	1.9478+03	1.3838+10
17	2.55000+00	1.7764+07	9.7899+06	2.0969+06	3.1428+03	7.8577+01	1.3142+01	1.1880+01	4.0173+02	7.9436+03	5.6436+10
18	2.70000+00	1.6241+07	6.7913+06	2.0747+05	3.8247+02	1.0784+01	2.0070+07	6.4988+23	0.0000	0.0000	0.0000
19	2.85000+00	9.5801+06	3.5142+06	1.3450+05	2.6617+01	1.1631+00	2.2023+08	1.5494+21	0.0000	0.0000	0.0000
20	3.00000+00	7.4377+06	3.2092+06	1.4327+04	9.2312+03	1.1333+03	2.5439+03	2.2996+03	7.7761+04	1.5376+04	1.0924+11
21	3.15000+00	1.0919+06	7.9758+05	2.0477+05	2.7830+01	1.4281+00	8.4785+04	7.6642+04	2.5916+04	5.1245+05	3.6408+12
22	3.30000+00	9.8237+05	6.9868+05	1.8422+05	2.5519+01	1.3093+00	2.4904+08	1.0851+23	0.0000	0.0000	0.0000
23	3.45000+00	1.2554+05	9.4212+05	2.3764+05	5.7711+00	7.9800+03	1.0798+11	5.5793+24	0.0000	0.0000	0.0000
24	3.60000+00	0.0000	5.0213+04	4.9373+02	1.3282+01	6.8425+01	1.3012+08	4.2130+24	0.0000	0.0000	0.0000
25	3.75000+00	0.0000	2.3861+04	3.9631+01	2.4627+01	1.2674+02	2.4099+10	7.8027+26	0.0000	0.0000	0.0000
26	3.90000+00	0.0000	1.3424+04	1.2451+01	2.8696+05	1.3009+07	1.1483+21	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	2.9660+06	2.0871+06	5.5512+05	1.6252+00	7.5868+02	1.2853+09	4.1614+25	0.0000	0.0000	0.0000
28	4.20000+00	8.5572+06	2.9667+06	2.2828+04	1.2876+02	1.9781+09	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	0.0000	6.8067+03	5.2773+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	0.0000	2.7883+04	5.8611+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	0.0000	6.9367+03	2.6445+00	1.9679+01	1.0138+02	1.9279+10	6.2421+26	0.0000	0.0000	0.0000
32	4.80000+00	0.0000	4.0787+02	1.0736+02	8.0349+00	4.1394+01	7.8716+09	2.5486+24	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	1.7801+01	7.8884+00	5.9037+01	3.0415+02	5.7837+10	1.8726+25	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	1.1264+03	2.4262+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	3.1050+03	6.7935+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	1.9739+03	4.3187+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	2.9587+06	9.8956+05	4.0521+14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	3.9086+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	6.0801+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	1.4190+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.141

SOURCE 2 (WATER), 200 DAYS, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	COOLING TIMES										
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	1.50000+01	3.1984+06	2.1328+06	1.6903+06	5.1615+06	3.8692+06	8.0290+05	4.1804+05	3.8488+04	1.4985+03	2.5142+06	
2	3.00000+01	3.2479+07	1.5641+07	8.2961+06	1.5088+07	1.0548+07	1.2247+06	6.2144+05	1.0463+05	8.0128+03	4.2532+06	
3	4.50000+01	1.0645+08	5.8764+07	3.7303+07	2.8306+07	2.6029+07	2.0968+07	1.2256+07	2.1248+06	1.6083+05	6.5427+07	
4	6.00000+01	2.2337+08	1.6090+08	1.4035+08	7.3400+07	4.6974+07	4.4044+06	9.4660+04	1.1087+04	8.3927+02	1.0263+02	
5	7.50000+01	2.4965+08	1.7114+08	1.1143+08	1.1114+07	6.9463+06	4.2206+06	2.3719+06	4.1098+05	3.1110+04	1.6320+00	
6	9.00000+01	4.8899+08	4.8455+08	2.5044+08	1.2784+07	5.7768+06	4.6112+05	3.7235+03	3.0725+01	6.0675+02	1.9072+07	
7	1.05000+00	1.1586+09	8.0647+07	5.0999+07	6.3185+06	1.6045+06	8.4853+02	3.1414+04	1.0615+01	2.0990+02	1.4912+09	
8	1.20000+00	2.0215+08	1.4362+08	9.4195+07	1.8351+07	5.4516+06	5.2189+04	4.0057+02	4.4017+05	1.6837+15	0.0000	
9	1.35000+00	4.2418+08	2.0436+08	8.0896+07	2.7409+07	1.0330+07	4.2720+05	3.4279+03	3.5181+03	2.2140+03	6.5092+05	
10	1.50000+00	2.1808+08	1.0765+08	4.6084+07	7.9605+06	2.1146+06	1.1234+03	2.8806+04	2.0854+09	1.9484+09	1.0072+09	
11	1.65000+00	9.9692+07	4.9933+07	1.6212+07	1.9759+06	5.6056+05	3.0634+02	5.8258+00	1.9699+00	3.8452+01	2.7674+08	
12	1.80000+00	1.2177+08	8.6608+07	6.9106+07	1.9749+07	5.6089+06	3.0018+03	7.6932+04	1.3156+11	1.3200+11	1.4067+11	
13	1.95000+00	6.2312+07	4.3983+07	2.0466+07	1.0077+06	2.5958+05	1.3741+02	3.5226+05	1.3395+23	0.0000	0.0000	
14	2.10000+00	3.1605+07	1.7714+07	7.6643+06	9.6950+05	2.3737+05	1.2483+02	3.1998+05	3.3152+25	0.0000	0.0000	
15	2.25000+00	5.2704+06	3.9160+06	2.0637+06	4.7159+04	1.3097+03	1.2778+05	9.3101+09	8.1237+09	7.5884+09	3.9228+09	
16	2.40000+00	5.1603+07	2.2534+07	1.4966+06	3.1814+04	9.8487+02	7.4930+02	6.7731+02	2.2903+02	4.5286+03	3.2174+10	
17	2.55000+00	4.3965+07	2.4230+07	5.1899+06	7.8279+03	1.9448+02	3.2527+01	2.9404+01	9.9429+02	1.9660+02	1.3968+09	
18	2.70000+00	4.2633+07	1.7827+07	5.4462+05	1.0040+03	2.8309+01	5.2685+07	1.7058+22	0.0000	0.0000	0.0000	
19	2.85000+00	2.6585+07	9.7519+06	3.7325+05	7.3462+01	3.2275+00	6.1115+08	4.2997+23	0.0000	0.0000	0.0000	
20	3.00000+00	2.1755+07	9.3868+06	4.1936+04	2.7001+02	3.3151+03	7.4409+03	6.7264+03	2.2745+03	4.4475+04	3.1953+11	
21	3.15000+00	3.3575+06	2.4526+06	6.2966+05	8.5576+01	4.3915+00	2.6071+03	2.3567+03	7.9693+04	1.5758+04	1.1195+11	
22	3.30000+00	3.1682+06	2.2532+06	5.9411+05	8.2299+01	4.2226+00	3.4995+08	3.4995+23	0.0000	0.0000	0.0000	
23	3.45000+00	4.2377+06	3.1796+06	8.0204+05	1.9478+01	2.6932+02	3.6404+11	1.8830+23	0.0000	0.0000	0.0000	
24	3.60000+00	0.0000	1.7700+05	1.7404+03	4.6819+01	2.4120+00	4.5867+08	1.4851+23	0.0000	0.0000	0.0000	
25	3.75000+00	0.0000	8.7490+04	1.4564+02	9.0505+01	4.6577+02	8.6563+10	2.8675+25	0.0000	0.0000	0.0000	
26	3.90000+00	0.0000	5.1345+04	4.7626+01	1.0976+04	4.9758+07	4.3923+21	0.0000	0.0000	0.0000	0.0000	
27	4.05000+00	1.1790+07	8.2964+06	2.2066+06	6.4603+00	2.6866+01	5.1089+09	1.6542+24	0.0000	0.0000	0.0000	
28	4.20000+00	3.5298+07	1.2238+07	9.4164+04	5.3115+02	6.1598+09	0.0000	0.0000	0.0000	0.0000	0.0000	
29	4.35000+00	0.0000	2.9099+04	2.2540+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
30	4.50000+00	0.0000	1.1984+05	2.5935+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
31	4.65000+00	0.0000	3.1735+04	1.2098+01	9.0031+01	0.6387+02	8.8241+10	2.8558+25	0.0000	0.0000	0.0000	
32	4.80000+00	0.0000	1.9272+03	5.0728+02	3.7965+01	1.9559+00	3.7193+08	1.2042+23	0.0000	0.0000	0.0000	
33	4.95000+00	0.0000	8.6779+01	3.8450+01	2.8780+00	1.4827+01	2.8196+09	9.1291+25	0.0000	0.0000	0.0000	
34	5.10000+00	0.0000	5.6607+03	1.2192+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
35	5.25000+00	0.0000	1.6068+04	3.5156+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
36	5.40000+00	0.0000	1.0511+04	2.2997+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
37	5.55000+00	1.6199+07	5.4179+06	2.2185+13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
38	5.70000+00	0.0000	2.1986+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
39	5.85000+00	0.0000	3.5117+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
40	6.00000+00	0.0000	8.4075+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Table 3.142

SOURCE 2 (WATER), 200 DAYS, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.1230-03	1.2184-03	1.7801-03	2.2473-02	3.0535-02	2.4654-02	2.6378-02	1.4308-02	7.4074-03	1.5309-06
2	3.00000+01	1.2527-02	1.0154-02	1.0517-02	8.8165-02	1.1378-01	6.2260-02	6.5805-02	5.3204-02	4.7017-02	4.1206-04
3	4.50000+01	4.9903-02	4.3724-02	4.9801-02	2.1140-01	3.2235-01	7.0611-01	8.4288-01	8.4310-01	8.4206-01	4.5189-06
4	6.00000+01	1.2833-01	1.3564-01	1.9761-01	5.3098-01	6.9307-01	8.4135-01	8.4914-01	8.4722-01	8.4621-01	6.2517-03
5	7.50000+01	2.1599-01	2.3341-01	3.1095-01	5.7936-01	7.0789-01	9.7095-01	9.9452-01	1.0000+00	1.0000+00	9.9996-01
6	9.00000+01	4.5790-01	5.1022-01	5.7911-01	6.3502-01	7.9348-01	9.6511-01	9.9976-01	1.0000+00	1.0000+00	9.9996-01
7	1.05000+00	4.9458-01	5.5629-01	6.3282-01	6.6253-01	8.0614-01	9.8514-01	9.9976-01	1.0000+00	1.0000+00	9.9996-01
8	1.20000+00	5.6956-01	6.3834-01	7.3202-01	7.4283-01	8.4916-01	9.8674-01	9.9978-01	1.0000+00	1.0000+00	9.9996-01
9	1.35000+00	7.1849-01	7.5509-01	8.1721-01	8.6176-01	9.3068-01	9.9986-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	1.50000+00	7.9506-01	8.1658-01	8.6574-01	8.9642-01	9.4737-01	9.9989-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	1.65000+00	8.3007-01	8.4511-01	8.8282-01	9.0502-01	9.5179-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	1.80000+00	8.7282-01	8.9459-01	9.5559-01	9.9101-01	9.9606-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	1.95000+00	8.9470-01	9.1971-01	9.7714-01	9.9540-01	9.9811-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	2.10000+00	9.0580-01	9.2983-01	9.8522-01	9.9962-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	2.25000+00	9.0765-01	9.3207-01	9.8739-01	9.9982-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	2.40000+00	9.2577-01	9.4494-01	9.8898-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	2.55000+00	9.4120-01	9.5878-01	9.9443-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	2.70000+00	9.5617-01	9.6897-01	9.9500-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	2.85000+00	9.6551-01	9.7454-01	9.9540-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	3.00000+00	9.7315-01	9.7990-01	9.9544-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	3.15000+00	9.7432-01	9.8130-01	9.9610-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.7544-01	9.8259-01	9.9673-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.7642-01	9.8441-01	9.9757-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.7692-01	9.8451-01	9.9758-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.7692-01	9.8450-01	9.9758-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.7692-01	9.8450-01	9.9758-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.8106-01	9.8933-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.8346-01	9.9632-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9346-01	9.9633-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9346-01	9.9640-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	9.9346-01	9.9643-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	9.9346-01	9.9644-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	9.9915-01	9.9954-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	9.9915-01	9.9954-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	9.9915-01	9.9954-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	9.9915-01	9.9954-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (WATER), 200 DAYS, 1 WATT, PURE U-235

Figure 3.95

Table 3.143

SOURCE 2 (WATER), 200 DAYS, 1 WATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000-01	7.5698+08	3.9126+08	3.0864+08	1.9169+08	1.4444+08	6.6084+07	3.5307+07	5.4106+06	3.7014+05	5.1746+00
2	6.00000-01	5.8721+08	2.9800+08	2.1176+08	1.0368+08	6.6127+07	1.3498+07	6.3152+06	1.1448+06	8.7402+04	1.7774+00
3	9.00000-01	3.8645+08	1.8966+08	1.1679+08	4.2816+07	2.4617+07	1.5758+06	2.1524+04	1.6945+03	1.1571+02	2.0005-01
4	1.20000+00	2.1282+08	9.6918+07	4.4411+07	9.7981+06	5.2752+06	3.7379+05	2.9993+03	5.5155+00	3.7115+00	9.2514-02
5	1.50000+00	1.2799+08	5.1938+07	1.4578+07	6.5461+05	1.7474+05	4.2029+03	3.4554+01	1.0233+00	6.8859+01	2.5444-02
6	1.80000+00	9.4416+07	3.4966+07	6.4673+06	1.1784+05	1.6367+04	1.4412+01	8.6846+02	1.3781+02	6.2110+03	7.4704+03
7	2.10000+00	7.1799+07	2.4640+07	2.8251+06	3.3414+04	4.5211+03	1.8798+00	6.5087+03	3.9572+03	2.7617+03	2.7231+03
8	2.40000+00	5.3314+07	1.7010+07	9.1717+05	1.7131+03	1.2303+02	3.6947+02	1.8406+04	1.7388+04	1.6497+04	1.7992+04
9	2.70000+00	4.1808+07	1.2900+07	4.3281+05	6.1893+02	2.7854+01	3.5660+04	2.2672+08	1.2439+08	1.1713+08	6.3195+09
10	3.00000+00	3.3790+07	1.0312+07	3.1775+05	5.4655+02	2.5487+01	2.0358+06	2.1472+09	2.0078+09	1.8954+09	1.0200+09
11	3.30000+00	2.6140+07	7.8387+06	2.5338+05	4.8654+02	2.2545+01	3.7765+07	3.2883+21	0.0000	0.0000	0.0000
12	3.60000+00	1.9092+07	5.5848+06	1.7168+05	3.8577+02	1.9163+01	3.1721+07	6.8704+22	0.0000	0.0000	0.0000
13	3.90000+00	1.3477+07	3.8311+06	1.0466+05	3.0741+02	1.5475+01	2.5538+07	8.2162+23	0.0000	0.0000	0.0000
14	4.20000+00	9.3660+06	2.5459+06	5.4900+04	2.2754+02	1.1488+01	1.8958+07	6.0841+23	0.0000	0.0000	0.0000
15	4.50000+00	6.3879+06	1.6991+06	1.8344+04	1.4844+02	7.5198+00	1.2410+07	3.9826+23	0.0000	0.0000	0.0000
16	4.80000+00	4.4028+06	1.1287+06	1.9722+03	7.8806+01	3.9791+00	6.5666+08	2.1074+23	0.0000	0.0000	0.0000
17	5.10000+00	2.9679+06	7.4668+05	3.6463+02	2.6400+01	1.3330+00	2.1998+08	7.0598+24	0.0000	0.0000	0.0000
18	5.40000+00	1.8655+06	4.7303+05	2.7023+01	1.9564+00	9.8784+07	1.6302+09	5.2317+25	0.0000	0.0000	0.0000
19	5.70000+00	1.0029+06	2.5135+05	9.4596+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	4.0471+05	1.0113+05	3.9225+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.6391+05	4.0571+04	6.7481+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	5.5391+04	2.3527+04	1.7328+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	4.3858+04	1.0817+04	4.2691+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	1.0636+04	2.6232+03	1.0353+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	1.7623+02	4.3472+01	1.7154+18	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.144

SOURCE 2 (WATER), 200 DAYS, 1 WATT, PURE U-235

RETA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS
1	3.00000+01	1.1355+08	5.8689+07	4.6296+07	2.8754+07	2.1665+07	9.9127+06	5.2961+06	8.1160+05	5.8521+04	7.7618+01
2	6.00000+01	2.6424+08	1.3410+08	9.5291+07	4.6656+07	2.9757+07	6.0739+06	2.8418+06	5.1517+05	3.9331+04	7.9981+01
3	9.00000+01	2.8984+08	1.4224+08	8.7595+07	3.2127+07	1.8463+07	1.1819+06	1.6143+04	1.2709+03	1.2178+02	1.5003+01
4	1.20000+00	2.2346+08	1.0176+08	4.6631+07	1.0288+07	5.5390+06	3.9248+05	3.1492+03	5.7913+00	3.9604+00	9.7149+02
5	1.50000+00	1.7278+08	7.0116+07	1.9680+07	8.8372+05	2.3590+05	5.0739+03	4.6649+01	1.3814+00	9.2960+01	3.4349+02
6	1.80000+00	1.5582+08	5.7693+07	1.0671+07	1.9448+05	2.7006+04	2.3780+01	1.4330+01	2.2742+02	1.3551+02	1.2326+02
7	2.10000+00	1.4001+08	4.8049+07	5.5090+06	6.5157+04	8.8161+03	3.6656+00	1.2692+02	7.7166+03	5.3852+03	5.3101+03
8	2.40000+00	1.1996+08	3.8272+07	2.0636+06	3.8544+03	2.7682+02	6.3131+02	4.1412+04	3.9123+04	3.7119+04	4.0462+04
9	2.70000+00	1.0661+08	3.2896+07	1.1037+06	1.5783+03	7.1027+01	9.0932+04	5.7814+08	3.1720+08	2.9944+08	1.6115+08
10	3.00000+00	9.6301+07	2.9390+07	9.6259+05	1.5577+03	7.2637+01	5.8019+06	6.1197+09	5.7222+09	5.4018+09	2.9071+09
11	3.30000+00	8.2339+07	2.4692+07	7.9816+05	1.4696+03	7.1017+01	1.1696+06	1.0358+20	0.0000	0.0000	0.0000
12	3.60000+00	6.5869+07	1.9267+07	5.9230+05	1.3309+03	6.6112+01	1.0944+06	2.3703+21	0.0000	0.0000	0.0000
13	3.90000+00	5.0538+07	1.4367+07	3.9249+05	1.1528+03	5.8030+01	9.5758+07	3.0818+22	0.0000	0.0000	0.0000
14	4.20000+00	3.7932+07	1.0473+07	2.2234+05	9.2155+02	4.6525+01	7.6779+07	2.4640+21	0.0000	0.0000	0.0000
15	4.50000+00	2.7787+07	7.3911+06	7.9796+04	6.4789+02	3.2711+01	5.3903+07	1.7324+22	0.0000	0.0000	0.0000
16	4.80000+00	2.0473+07	5.2487+06	9.1768+03	3.6645+02	1.8503+01	3.0535+07	9.7943+23	0.0000	0.0000	0.0000
17	5.10000+00	1.4691+07	3.6961+06	1.8049+03	1.3068+02	6.5984+00	1.6849+07	3.4946+23	0.0000	0.0000	0.0000
18	5.40000+00	9.8990+06	2.4834+06	1.4187+02	1.0271+01	5.1861+01	8.5555+09	2.7466+20	0.0000	0.0000	0.0000
19	5.70000+00	5.5661+06	1.7950+06	5.2501+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	2.3676+06	5.9163+05	2.2946+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.0081+06	2.4951+05	4.1501+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	6.1527+05	1.5175+05	1.1176+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	2.9604+05	7.3016+04	2.8817+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	7.4982+04	1.8493+04	7.2986+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	1.2953+03	3.1952+02	1.2608+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.145

SOURCE 2 (WATER), 200 DAYS, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	5.00000+01	5.6716-02	7.3059-02	1.0543-01	2.4167-01	2.8621-01	5.6429-01	6.4925-01	6.1112-01	5.6469-01	4.1384-01
2	6.00000+01	1.8670-01	2.3999-01	4.4536-01	6.3379-01	6.7932-01	9.1005-01	9.9763-01	9.9904-01	9.9888-01	8.4028-01
3	9.00000+01	3.3348-01	4.1707-01	7.2092-01	9.0381-01	9.2323-01	9.7733-01	9.9961-01	9.9999-01	9.9995-01	9.2075-01
4	1.20000+00	4.4509-01	5.4375-01	8.6761-01	9.9028-01	9.9640-01	9.9968-01	9.9999-01	1.0000+00	9.9999-01	9.7207-01
5	1.50000+00	5.3140-01	6.3103-01	9.2952-01	9.9771-01	9.9952-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	9.9038-01
6	1.80000+00	6.0923-01	7.0285-01	9.6309-01	9.9934-01	9.9987-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	9.9095-01
7	2.10000+00	6.7916-01	7.6266-01	9.8041-01	9.9989-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	9.9978-01
8	2.40000+00	7.3908-01	8.1031-01	9.8091-01	9.9992-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	7.9233-01	8.5126-01	9.9038-01	9.9994-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	8.4043-01	8.8784-01	9.9341-01	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	8.8156-01	9.1858-01	9.9592-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.1446-01	9.4256-01	9.9778-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.3971-01	9.6045-01	9.9901-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.5865-01	9.7349-01	9.9971-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.7253-01	9.8269-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.8276-01	9.8922-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9010-01	9.9382-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9504-01	9.9691-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9782-01	9.9865-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9900-01	9.9939-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9951-01	9.9970-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	9.9981-01	9.9989-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9996-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (WATER), 200 DAYS, 1 WATT, PURE U-235

Figure 3.06

SOURCE 2 (WATER), 200 DAYS, 1 WATT, PURE U-235

Figure 3.97

Table 3.146

SOURCE 7 (ALL F.P.), EQUILIBRIUM, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E (MEV)	COOLING TIMES									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	2.9063+10	1.6386+10	8.9863+09	7.2017+09	6.1546+09	3.8907+09	2.5681+09	1.4089+09	8.3602+08	1.1401+08
2	3.00000+01	2.8810+10	1.6659+10	7.0734+09	3.7549+09	2.6569+09	8.7061+08	2.8233+08	4.4083+07	1.1605+07	7.7849+06
3	4.50000+01	2.0941+10	1.2753+10	3.7887+09	1.7156+09	1.5589+09	1.1580+09	7.4259+08	2.0054+08	3.5602+07	2.6238+06
4	6.00000+01	3.1138+10	1.6347+10	8.0713+09	4.7272+09	3.7976+09	2.3211+09	1.7024+09	6.5112+08	3.7702+08	1.6553+07
5	7.50000+01	2.9503+10	1.8562+10	1.1174+10	7.4726+09	6.1142+09	3.6627+09	2.8291+09	2.3982+09	2.2107+09	1.8427+09
6	9.00000+01	2.8575+10	1.7672+10	1.0148+10	5.2905+09	5.0191+09	4.2173+09	3.5175+09	2.8175+09	2.2274+09	1.2530+08
7	1.05000+00	1.7017+10	1.1136+10	3.4214+09	9.5520+08	6.0660+08	2.8917+08	1.5233+08	4.1697+07	7.0003+06	1.0895+06
8	1.20000+00	7.9226+09	4.3660+09	1.4165+09	3.1243+08	1.6138+08	4.3439+07	1.2066+07	1.2981+06	7.0003+05	3.6218+05
9	1.35000+00	8.9312+09	4.8249+09	9.6727+08	.0257+08	1.4623+08	2.9864+07	9.9142+06	3.2600+06	2.1106+06	6.5584+04
10	1.50000+00	1.1867+10	7.0266+09	2.7827+09	3.4224+08	1.7192+08	7.2584+07	2.3380+07	4.9343+06	4.4777+06	2.2797+06
11	1.65000+00	6.7137+09	4.1830+09	2.5129+09	2.0356+09	1.9983+09	1.7833+09	1.3116+09	4.4522+08	8.0665+07	1.0973+05
12	1.80000+00	3.4887+09	2.1408+09	6.6774+08	1.4265+08	4.6451+07	1.3731+06	2.9096+05	7.2895+04	6.0000+04	3.9276+04
13	1.95000+00	2.2172+09	1.3561+09	5.8261+08	6.0775+07	2.8860+07	9.3372+06	2.5526+06	6.9304+04	2.0000+04	8.1243+03
14	2.10000+00	2.3437+09	1.4250+09	3.2182+08	3.8949+07	2.6906+07	1.2981+07	3.7677+06	2.1107+05	6.0000+04	1.6249+04
15	2.25000+00	2.4134+09	1.5719+09	4.9940+08	3.6334+07	2.1928+07	1.6348+07	1.1453+07	1.1394+07	1.0000+07	5.7866+06
16	2.40000+00	2.1715+09	1.3706+09	6.1994+08	4.5297+07	2.0790+07	1.6030+07	1.0914+07	3.5666+06	7.3977+05	2.4373+04
17	2.55000+00	1.3984+09	7.6939+08	2.6737+08	6.7476+07	5.0284+07	3.7765+07	4.2253+07	1.4317+07	2.0000+07	1.2191+04
18	2.70000+00	1.8774+09	1.0443+09	2.2381+08	2.3113+06	1.0814+05	3.1061+03	2.3900+03	2.2985+03	2.0000+03	1.3543+03
19	2.85000+00	8.5475+08	4.0614+08	3.8057+07	4.3622+05	3.1279+04	5.4981+03	4.7796+03	4.5909+03	4.0000+03	2.7066+03
20	3.00000+00	5.2373+08	2.4706+08	5.7652+07	1.6577+06	1.2438+06	1.1112+05	8.1730+05	2.7896+05	5.0000+05	1.3543+03
21	3.15000+00	3.3719+08	1.9534+08	3.4397+07	8.5725+05	4.2678+05	3.6944+05	2.7155+05	9.2213+04	1.0000+04	1.3106+03
22	3.30000+00	1.4748+08	8.7320+07	2.0331+07	3.4270+05	1.7604+04	2.9144+04	2.0146+04	1.3748+04	2.0000+04	0.0000
23	3.45000+00	6.5510+08	3.8969+08	3.1605+07	1.6965+05	2.6813+03	2.9195+01	2.0146+01	1.2248+00	2.0000+00	0.0000
24	3.60000+00	7.8911+08	3.9831+08	9.7309+06	1.5757+05	6.4155+03	1.1232+04	3.6693+20	0.0000	0.0000	0.0000
25	3.75000+00	2.6402+08	1.3348+08	2.9303+07	2.0574+05	1.0327+03	2.0802+06	6.7956+22	0.0000	0.0000	0.0000
26	3.90000+00	1.5680+08	7.3807+07	3.1896+06	2.2123+04	9.9083+01	8.3075+03	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	8.5371+07	5.2441+07	7.9347+06	2.0919+04	5.5782+02	1.1894+05	3.6244+21	0.0000	0.0000	0.0000
28	4.20000+00	5.0082+08	2.4943+08	5.7058+05	2.9963+01	5.0790+08	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	1.1673+08	5.1618+07	4.0374+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	2.7795+08	1.6767+08	4.0818+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	8.2770+07	4.5602+07	2.7278+04	1.8102+03	9.2673+01	1.6641+00	5.4367+22	0.0000	0.0000	0.0000
32	4.80000+00	3.5860+06	2.0103+06	1.1093+06	7.3916+04	3.7846+03	6.7046+05	2.2198+20	0.0000	0.0000	0.0000
33	4.95000+00	1.0188+07	4.7000+05	8.1504+04	5.4306+03	2.7808+02	4.9924+20	1.6310+21	0.0000	0.0000	0.0000
34	5.10000+00	1.5067+07	7.0000+06	1.8756+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	4.6335+07	2.0000+07	5.2517+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	2.4992+07	1.3116+07	3.3386+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	3.4542+07	1.3426+07	5.3408+13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	1.2922+07	1.1570+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	2.0100+06	1.7997+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	4.6918+06	4.2002+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.147

SOURCE 7 (ALL F.P.), EQUILIBRIUM, 1 NA71, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	2.1798+09	1.2290+09	6.7397+08	5.4013+08	4.6159+08	2.9180+08	1.9261+08	1.0567+08	6.2709+07	8.5506+06
2	3.00000+01	6.4822+09	3.7484+09	1.5915+09	8.4886+08	5.9780+08	1.9589+08	6.3525+07	9.9186+06	2.6150+06	1.7516+05
3	4.50000+01	7.8529+09	4.7826+09	1.4208+09	6.4334+08	5.8458+08	4.3424+08	2.7847+08	7.5210+07	1.3433+07	9.8391+05
4	6.00000+01	1.6348+10	8.5820+09	4.2374+09	2.4814+09	1.9937+09	1.2186+09	8.9378+08	4.4684+08	2.0859+08	8.6905+06
5	7.50000+01	1.9914+10	1.2529+10	7.5423+09	5.0440+09	4.1271+09	2.4723+09	1.9097+09	1.6188+09	1.4944+09	1.2439+09
6	9.00000+01	2.3574+10	1.4580+10	8.3722+09	4.3047+09	4.1408+09	3.4793+09	2.9184+09	2.3244+09	1.8380+09	1.0137+08
7	1.05000+00	1.6592+10	1.0858+10	3.3359+09	9.3132+08	5.9144+08	2.8194+08	1.4852+08	4.0460+07	9.3222+06	1.0622+06
8	1.20000+00	8.9130+09	4.9118+09	1.5936+09	3.5149+08	1.8155+08	4.8869+07	1.3575+07	1.4604+06	8.5258+05	4.0745+05
9	1.35000+00	1.1387+10	6.1518+09	1.2333+09	3.8578+08	1.8645+08	3.8077+07	1.2641+07	4.1565+06	2.7807+06	8.3622+05
10	1.50000+00	1.6940+10	1.0013+10	3.9653+09	4.8770+08	2.4499+08	1.0343+08	3.3316+07	7.0314+06	6.2326+06	3.2486+06
11	1.65000+00	1.0574+10	6.5883+09	3.9578+09	3.2061+09	3.1473+09	2.8087+09	2.0647+09	7.0122+08	1.3963+08	1.7282+08
12	1.80000+00	6.0180+09	3.8929+09	1.1518+09	2.4607+08	8.0128+07	2.3687+06	5.0190+05	1.2436+05	1.1090+05	6.7753+04
13	1.95000+00	4.1573+09	2.5990+09	1.0924+09	1.1395+08	5.4130+07	1.7507+07	4.7859+06	1.6745+05	4.4385+04	1.5233+04
14	2.10000+00	4.7460+09	2.8856+09	6.5169+08	7.8872+07	5.4484+07	2.2287+07	7.6296+06	4.4037+05	1.2355+05	3.2903+04
15	2.25000+00	5.2578+09	3.4189+09	1.0862+09	7.0027+07	4.7693+07	3.5557+07	2.9261+07	2.5748+07	2.4056+07	1.2503+07
16	2.40000+00	5.0488+09	3.1866+09	1.4414+09	1.0531+08	4.8336+07	3.7270+07	2.5374+07	8.2924+06	1.7190+06	5.6867+04
17	2.55000+00	3.4611+09	1.9042+09	6.6173+08	1.6700+08	1.6095+08	1.4297+08	1.0458+08	3.5434+07	7.0822+06	3.0174+06
18	2.70000+00	4.9281+09	2.7414+09	5.8698+08	6.0672+06	2.3188+05	8.0482+01	6.2753+03	6.0335+03	5.7623+03	3.5550+03
19	2.85000+00	2.3719+09	1.1271+09	1.0561+08	1.2105+06	8.6799+04	1.6368+04	1.3234+04	1.2757+04	1.2784+04	7.9162+03
20	3.00000+00	1.5319+09	7.2264+08	1.6863+08	4.8339+06	3.6382+06	3.2496+06	2.3966+06	8.1602+05	1.6731+05	3.5613+05
21	3.15000+00	1.0369+09	6.0066+08	1.0377+08	2.6361+06	1.3123+06	1.1360+06	8.3515+05	2.8355+05	5.6372+04	4.0301+04
22	3.30000+00	4.7563+08	2.8161+08	6.5567+07	1.1052+06	4.3873+04	9.4151+01	6.4972+01	4.2078+08	7.0067+19	0.0000
23	3.45000+00	2.2110+09	1.3152+09	1.0667+08	5.7258+05	9.0496+03	9.8532+01	6.7994+01	4.4036+08	7.3326+19	0.0000
24	3.60000+00	2.7816+09	1.4041+09	3.4301+07	5.5542+05	2.2615+04	3.9592+04	1.2934+19	0.0000	0.0000	0.0000
25	3.75000+00	9.7027+08	4.9054+08	1.0769+08	7.5611+05	3.7952+03	7.6444+02	2.4975+21	0.0000	0.0000	0.0000
26	3.90000+00	5.9976+08	2.8247+08	1.2200+07	8.4622+04	3.8129+02	3.1776+12	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	3.3935+08	2.0845+08	3.1540+07	8.3154+04	2.6148+03	4.4099+05	1.4407+20	0.0000	0.0000	0.0000
28	4.20000+00	2.0659+09	1.0289+09	2.3537+06	1.2360+00	2.0951+07	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	4.9906+08	2.1981+08	1.7260+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	1.2299+09	7.4280+08	1.8041+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	3.7867+08	2.0890+08	1.2480+05	6.2817+03	4.2407+02	7.6134+06	2.4873+21	0.0000	0.0000	0.0000
32	4.80000+00	1.6944+07	1.0072+07	5.2413+06	3.4923+05	1.7882+04	3.2104+04	1.0488+19	0.0000	0.0000	0.0000
33	4.95000+00	4.9669+07	2.2957+06	3.9733+05	2.6474+04	1.3556+03	2.4338+05	7.9511+21	0.0000	0.0000	0.0000
34	5.10000+00	7.5710+07	3.8866+07	9.4249+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	2.3678+08	1.0679+08	2.7177+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	1.3308+08	6.9853+07	1.7778+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	1.8923+08	7.3508+07	2.9241+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	7.2684+07	6.5079+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	1.1608+07	1.0393+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	2.7794+07	2.4886+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.143

SOURCE 7 (ALL F.P.), EQUILIBRIUM, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	-----COOLING TIMES-----										
		SHUTDDWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	1.50000+01	1.1368+02	1.0842+02	1.4864+02	2.6886+02	2.7626+02	2.5070+02	2.2127+02	1.9544+02	1.6451+02	6.1812+03	
2	3.00000+01	4.5174+02	4.3912+02	4.9964+02	6.8940+02	6.3405+02	4.1900+02	2.9425+02	2.1379+02	1.7137+02	6.3078+03	
3	4.50000+01	8.6128+02	8.6106+02	8.1298+02	1.0096+01	9.8392+02	7.3207+02	6.1416+02	3.5290+02	2.0661+02	7.0191+03	
4	6.00000+01	1.7138+01	1.6182+01	1.7475+01	2.2450+01	2.1772+01	1.8390+01	1.6409+01	1.1794+01	7.5382+02	1.3301+02	
5	7.50000+01	2.7524+01	2.7236+01	3.2109+01	4.7557+01	4.6472+01	3.9631+01	3.8348+01	4.1735+01	4.6742+01	9.1248+01	
6	9.00000+01	3.9819+01	4.0099+01	5.2574+01	6.9283+01	7.1255+01	6.9523+01	7.1875+01	8.4726+01	9.4960+01	9.8721+01	
7	1.05000+00	4.8471+01	4.9678+01	5.9931+01	7.3919+01	7.4795+01	7.1945+01	7.3581+01	8.5077+01	9.5205+01	9.8798+01	
8	1.20000+00	5.3120+01	5.4011+01	6.3445+01	7.5669+01	7.5881+01	7.2365+01	7.3737+01	8.5504+01	9.5227+01	9.8827+01	
9	1.35000+00	5.9058+01	5.9439+01	6.8165+01	7.7589+01	7.6997+01	7.2892+01	7.3882+01	8.5581+01	9.5248+01	9.8833+01	
10	1.50000+00	6.7893+01	6.8272+01	7.4911+01	8.0017+01	7.8463+01	7.3581+01	7.4265+01	8.5711+01	9.5461+01	9.9068+01	
11	1.65000+00	7.3407+01	7.4085+01	7.3639+01	8.5975+01	8.7300+01	9.7712+01	9.7985+01	9.8681+01	9.9124+01	9.9080+01	
12	1.80000+00	7.6546+01	7.7343+01	8.6180+01	9.7200+01	9.7780+01	9.7732+01	9.7991+01	9.8683+01	9.9127+01	9.9085+01	
13	1.95000+00	7.8714+01	7.9636+01	8.4589+01	9.7767+01	9.8103+01	9.7882+01	9.8046+01	9.8686+01	9.9128+01	9.9086+01	
14	2.10000+00	8.1189+01	8.2181+01	9.0026+01	9.8160+01	9.8430+01	9.8108+01	9.8134+01	9.8694+01	9.9132+01	9.9089+01	
15	2.25000+00	8.3931+01	8.5198+01	9.2422+01	9.8553+01	9.8715+01	9.8414+01	9.8470+01	9.9171+01	9.9763+01	9.9993+01	
16	2.40000+00	8.6564+01	8.8009+01	9.5601+01	9.9078+01	9.9004+01	9.8734+01	9.8761+01	9.9324+01	9.9808+01	9.9997+01	
17	2.55000+00	8.8369+01	9.0689+01	9.7060+01	9.9909+01	9.9968+01	9.9962+01	9.9963+01	9.9979+01	9.9994+01	9.9999+01	
18	2.70000+00	9.0939+01	9.2108+01	9.8355+01	9.9939+01	9.9969+01	9.9962+01	9.9963+01	9.9979+01	9.9994+01	9.9999+01	
19	2.85000+00	9.2176+01	9.3102+01	9.8587+01	9.9945+01	9.9970+01	9.9962+01	9.9963+01	9.9980+01	9.9994+01	1.0000+00	
20	3.00000+00	9.2975+01	9.3739+01	9.8950+01	9.9969+01	9.9992+01	9.9990+01	9.9990+01	9.9995+01	9.9999+01	1.0000+00	
21	3.15000+00	9.3516+01	9.4269+01	9.9193+01	9.9982+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
22	3.30000+00	9.3764+01	9.4518+01	9.9337+01	9.9988+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
23	3.45000+00	9.4917+01	9.5678+01	9.9572+01	9.9991+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
24	3.60000+00	9.6368+01	9.7350+01	9.9648+01	9.9993+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
25	3.75000+00	9.6874+01	9.7350+01	9.9886+01	9.9997+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
26	3.90000+00	9.7187+01	9.7599+01	9.9913+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
27	4.05000+00	9.7364+01	9.7783+01	9.9982+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
28	4.20000+00	9.8441+01	9.8690+01	9.9987+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
29	4.35000+00	9.8701+01	9.8884+01	9.9987+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
30	4.50000+00	9.9343+01	9.9540+01	9.9987+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
31	4.65000+00	9.9540+01	9.9724+01	9.9988+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
32	4.80000+00	9.9549+01	9.9733+01	9.9999+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
33	4.95000+00	9.9575+01	9.9735+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
34	5.10000+00	9.9614+01	9.9770+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
35	5.25000+00	9.9739+01	9.9864+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
36	5.40000+00	9.9809+01	9.9925+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
37	5.55000+00	9.9907+01	9.9990+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
38	5.70000+00	9.9945+01	9.9990+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
39	5.85000+00	9.9951+01	9.9990+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
40	6.00000+00	9.9966+01	9.9990+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	

SOURCE 7 (ALL F.P.), EQUILIBRIUM, 1 WATT, PURE U-235

Figure 3.93

SOURCE 7 (ALL F.P.), EQUILIBRIUM, 1 WATT, PURE U-235

Figure 3.99

Table 3.149

SOURCE 7 (ALL P.P.), EQUILIBRIUM, 1 WATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

GROUP	E (MEV)	SHUTDOWN	-----COOLING TIMES-----									
			60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	3.00000+01	7.1384+10	4.9290+10	3.2900+10	2.4891+10	2.2662+10	1.8302+10	1.5175+10	1.1393+10	9.2418+09	4.7653+09	
2	6.00000+01	3.9054+10	2.5800+10	1.3942+10	8.5397+09	7.0076+09	4.6766+09	3.5998+09	2.3207+09	1.6726+09	9.6679+08	
3	9.00000+01	2.7857+10	1.7505+10	8.5179+09	4.6693+09	3.7614+09	2.4611+09	1.9587+09	1.3688+09	1.0433+09	5.0144+08	
4	1.20000+00	2.0291+10	1.1949+10	4.8880+09	2.3835+09	1.8685+09	1.3686+09	1.2077+09	9.9548+08	8.3723+08	4.8332+08	
5	1.50000+00	1.5415+10	8.4679+09	3.0297+09	1.2156+09	9.3389+08	7.2510+08	6.8138+08	6.2003+08	5.7098+08	4.0406+08	
6	1.80000+00	1.2044+10	6.1893+09	1.9753+09	7.3792+08	5.4763+08	4.3258+08	4.1725+08	3.9751+08	3.8008+08	2.7633+08	
7	2.10000+00	9.2196+09	4.3768+09	1.2205+09	4.3509+08	3.0992+08	2.4896+08	2.4334+08	2.3276+08	2.2074+08	1.4241+08	
8	2.40000+00	7.0063+09	3.0593+09	7.1361+08	2.2994+08	1.5143+08	1.1857+08	1.1672+08	1.1134+08	1.0406+08	5.4004+07	
9	2.70000+00	5.3200+09	2.1616+09	4.1579+08	1.0864+08	6.5519+07	5.2492+07	5.1717+07	4.9295+07	4.5984+07	2.3098+07	
10	3.00000+00	3.9815+09	1.5208+09	2.3550+08	3.6801+07	1.4615+07	1.1235+07	1.1081+07	1.0567+07	9.9120+06	5.1749+06	
11	3.30000+00	2.8988+09	1.0603+09	1.8228+08	1.4294+07	2.7960+06	1.4682+06	1.4488+06	1.3944+06	1.3197+06	7.6679+05	
12	3.60000+00	1.9965+09	6.8901+08	8.2736+07	5.2316+06	5.5006+05	1.6100+05	1.5761+05	1.5168+05	1.4356+05	8.3415+04	
13	3.90000+00	1.3159+09	4.1341+08	5.3340+07	2.7663+06	1.4316+05	3.7244+02	2.5984+00	1.6815+07	2.7747+10	0.0000	
14	4.20000+00	8.3226+08	2.2669+08	3.5951+07	2.0169+06	1.0286+05	1.8864+00	1.3148+02	8.5044+10	1.4040+20	0.0000	
15	4.50000+00	5.3453+08	1.2048+08	2.1743+07	1.3267+06	6.7288+04	1.2112+03	4.0004+19	0.0000	0.0000	0.0000	
16	4.80000+00	3.6871+08	6.9726+07	1.0999+07	7.0079+05	3.5606+04	6.4091+04	2.1168+19	0.0000	0.0000	0.0000	
17	5.10000+00	2.5934+08	3.6882+07	3.6354+06	2.3477+05	1.1926+04	2.1471+04	7.0913+20	0.0000	0.0000	0.0000	
18	5.40000+00	1.8017+08	1.8724+07	2.6936+05	1.7398+04	8.8379+02	1.5911+05	5.2550+21	0.0000	0.0000	0.0000	
19	5.70000+00	1.2450+08	8.7235+06	7.0551+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
20	6.00000+00	8.6246+07	3.5337+06	2.9254+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
21	6.30000+00	6.0113+07	1.0197+06	5.0329+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
22	6.60000+00	4.0489+07	3.9248+05	1.2923+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
23	6.90000+00	2.4059+07	1.7527+05	5.4246+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
24	7.20000+00	1.1292+07	4.0725+04	1.3164+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
25	7.50000+00	3.2985+06	7.6462+02	2.1813+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Table 3.150

SOURCE 7 (ALL F.P.), EQUILIBRIUM, 1 WATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	1.0708+10	7.3935+09	4.9349+09	3.7336+09	3.3992+09	2.7453+09	2.2762+09	1.7090+09	1.38+09	7.1480+08
2	6.00000+01	1.7574+10	1.1610+10	6.2739+09	3.8429+09	3.1534+09	2.1045+09	1.6199+09	1.0443+09	7.5266+08	4.3506+08
3	9.00000+01	2.0493+10	1.3130+10	6.3884+09	3.5020+09	2.8061+09	1.8458+09	1.4690+09	1.0386+09	7.8245+08	3.7608+08
4	1.20000+00	2.1305+10	1.2546+10	5.2332+09	2.4607+09	1.9620+09	1.4371+09	1.2681+09	1.0453+09	8.7909+08	5.0748+08
5	1.50000+00	2.0810+10	1.1432+10	4.0901+09	1.6410+09	1.2608+09	9.7889+08	9.1987+08	6.3704+08	7.7042+08	5.4548+08
6	1.80000+00	1.9873+10	1.0212+10	3.2593+09	1.2176+09	9.0356+08	7.1376+08	6.8846+08	6.5588+08	6.2713+08	4.5925+08
7	2.10000+00	1.7978+10	8.5347+09	2.3799+09	8.4842+08	6.0435+08	4.8547+08	4.7452+08	4.5389+08	4.3045+08	2.7770+08
8	2.40000+00	1.5764+10	6.8835+09	1.6056+09	5.1734+08	3.4071+08	2.6679+08	2.6263+08	2.5051+08	2.3413+08	1.2151+08
9	2.70000+00	1.3566+10	5.5121+09	1.0603+09	2.7702+08	1.6707+08	1.3386+08	1.3188+08	1.2570+08	1.1726+08	5.8900+07
10	3.00000+00	1.1347+10	4.3342+09	6.7117+08	1.0488+08	4.1652+07	3.2020+07	3.1580+07	3.0174+07	2.8249+07	1.4748+07
11	3.30000+00	9.1311+09	3.3400+09	4.4820+08	4.5026+07	8.8073+06	4.6247+06	4.5637+06	4.3922+06	4.1571+06	2.4154+06
12	3.60000+00	6.8879+09	2.3771+09	2.8584+08	1.8049+07	1.8977+06	5.5545+05	5.4377+05	5.2331+05	4.9529+05	2.8778+05
13	3.90000+00	4.9346+09	1.5503+09	2.0003+08	1.0373+07	5.3683+05	1.3967+03	9.7440+00	6.3057+07	1.0405+17	0.0000
14	4.20000+00	3.3707+09	9.1809+08	1.4560+08	8.2493+06	4.1659+05	7.6399+00	5.3240+02	3.4459+09	5.6863+20	0.0000
15	4.50000+00	2.3252+09	5.2410+08	9.4582+07	5.7714+06	2.9270+05	5.2668+03	1.7402+18	0.0000	0.0000	0.0000
16	4.80000+00	1.7145+09	3.2422+08	5.1184+07	3.2587+06	1.6554+05	2.9802+03	9.8430+19	0.0000	0.0000	0.0000
17	5.10000+00	1.2837+09	1.8851+08	1.7995+07	1.1621+06	5.9034+04	1.0628+03	3.5102+19	0.0000	0.0000	0.0000
18	5.40000+00	9.4590+08	9.8303+07	1.4142+06	9.1384+04	4.6399+03	8.3532+05	2.7589+20	0.0000	0.0000	0.0000
19	5.70000+00	6.9097+08	4.8415+07	3.9156+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	5.0454+08	2.0672+07	1.7114+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	3.6970+08	6.2710+06	3.0952+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	2.6115+08	2.5315+06	8.3356+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	1.6240+08	1.1831+06	3.6643+14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	7.9610+07	2.8358+05	9.2809+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	2.4244+07	5.6200+03	1.6033+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.151

SOURCE 7 (ALL F.P.), EQUILIBRIUM, 1 WATT, PURE U-235

FRACTION RETA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.00000+01	5.2876+02	7.3212+02	1.3287+01	2.0872+01	2.3201+01	2.5541+01	2.4884+01	2.3751+01	2.3054+01	2.0543+01
2	6.00000+01	1.3966+01	1.8818+01	3.0179+01	4.1544+01	4.4725+01	4.5120+01	4.2593+01	3.8265+01	3.5571+01	2.2725+01
3	9.00000+01	2.4283+01	3.1819+01	4.7379+01	6.0746+01	6.3878+01	6.2293+01	5.8653+01	5.2700+01	4.8583+01	4.3428+01
4	1.20000+00	3.4804+01	4.4242+01	6.1469+01	7.4238+01	7.7269+01	7.5663+01	7.2516+01	6.7227+01	6.3203+01	5.7871+01
5	1.40000+00	4.5080+01	5.5562+01	7.2462+01	8.3256+01	8.5874+01	8.4770+01	8.2572+01	7.8860+01	7.6021+01	7.3395+01
6	1.80000+00	5.4894+01	6.5675+01	8.1257+01	8.4913+01	9.2042+01	9.1410+01	9.0099+01	8.7975+01	8.6451+01	8.6466+01
7	2.10000+00	6.3772+01	7.4126+01	8.7665+01	9.4565+01	9.6167+01	9.5927+01	9.5286+01	9.4284+01	9.3609+01	9.4369+01
8	2.40000+00	7.1557+01	8.0942+01	9.1988+01	9.7402+01	9.8492+01	9.8409+01	9.8157+01	9.7765+01	9.7593+01	9.7827+01
9	2.70000+00	7.8256+01	8.6400+01	9.4882+01	9.8921+01	9.9633+01	9.9654+01	9.9599+01	9.9512+01	9.9453+01	9.9503+01
10	3.00000+00	8.3859+01	9.0692+01	9.6650+01	9.8496+01	9.9917+01	9.9952+01	9.9944+01	9.9932+01	9.9923+01	9.9923+01
11	3.30000+00	8.8368+01	9.3999+01	9.7856+01	9.9743+01	9.9977+01	9.9995+01	9.9994+01	9.9993+01	9.9992+01	9.9992+01
12	3.60000+00	9.1770+01	9.6353+01	9.8625+01	9.9842+01	9.9990+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.4206+01	9.7888+01	9.9163+01	9.9898+01	9.9994+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.5871+01	9.8797+01	9.9555+01	9.9944+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.7019+01	9.9116+01	9.9810+01	9.9975+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.7866+01	9.9637+01	9.9948+01	9.9993+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.8500+01	9.9824+01	9.9996+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.8967+01	9.9921+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9308+01	9.9969+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9557+01	9.9990+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9740+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	9.9869+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9949+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	9.9988+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 7 (ALL F.P.), EQUILIBRIUM, 1 WATT, PURE U-235

Figure 3.100

Figure 3.101
BETA CUMUL. SPECT (10⁰)

Table 3.152

SOURCE 7 (ALL F.P.), 5000 DAYS, 1 MATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	2.9126+10	1.6386+10	8.9690+09	7.1713+09	6.1229+09	3.8580+09	2.5357+09	1.3784+09	8.1082+08	1.1122+08
2	3.00000+01	2.8866+10	1.6680+10	7.0599+09	3.7391+09	2.6432+09	8.6323+08	2.7872+08	4.3098+07	1.1250+07	7.4106+05
3	4.50000+01	2.0982+10	1.2754+10	3.7814+09	1.7082+09	1.5507+09	1.1481+09	7.3312+08	1.9613+08	3.4648+07	2.4816+06
4	6.00000+01	3.1199+10	1.6347+10	8.8557+09	4.7070+09	3.7778+09	2.3013+09	1.6807+09	8.3243+08	3.8498+08	1.5847+07
5	7.50000+01	2.7634+10	1.7192+10	9.4135+09	6.2022+09	4.8465+09	2.4144+09	1.5941+09	1.1593+09	9.6037+08	5.1617+08
6	9.00000+01	2.8630+10	1.7672+10	1.0120+10	5.2676+09	4.9926+09	4.1812+09	3.4923+09	2.7561+09	2.1600+09	1.2179+08
7	1.05000+00	1.7051+10	1.1136+10	3.4148+09	9.5105+08	6.0335+08	2.8662+08	1.5033+08	4.0568+07	9.2602+06	1.0575+06
8	1.20000+00	7.9383+09	4.3661+09	1.4138+09	3.1111+08	1.6054+08	4.3063+07	1.1903+07	1.2584+06	7.2349+05	3.4390+05
9	1.35000+00	8.9088+09	4.8250+09	9.6542+08	3.0127+08	1.8545+08	2.9587+07	9.7700+06	3.1810+06	2.3529+06	6.4000+04
10	1.50000+00	1.1911+10	7.0268+09	2.7774+09	3.4079+08	1.7102+08	7.1954+07	2.3065+07	4.8076+06	4.2217+06	2.2081+06
11	1.65000+00	6.7267+09	4.1830+09	2.5080+09	2.0270+09	1.9880+09	1.7683+09	1.2945+09	4.3562+08	8.5974+07	1.0707+05
12	1.80000+00	3.4956+09	2.1009+09	6.6648+08	1.4205+08	4.6214+07	1.3616+06	2.8729+05	7.0535+04	6.2344+04	3.8323+04
13	1.95000+00	2.2216+09	1.3862+09	5.8152+08	6.0521+07	2.8722+07	9.2589+06	2.5204+06	8.7378+04	2.2956+04	7.9273+03
14	2.10000+00	2.3483+09	1.4250+09	3.2122+08	3.8786+07	2.6768+07	1.2872+07	3.7203+06	2.1277+05	5.9216+04	1.5855+04
15	2.25000+00	2.4222+09	1.5720+09	4.0846+08	3.6182+07	2.1816+07	1.6211+07	1.3284+07	1.1583+07	1.0726+07	5.6096+06
16	2.40000+00	2.1758+09	1.3706+09	6.1877+08	4.5106+07	2.0682+07	1.5895+07	1.0776+07	3.4897+06	7.1717+05	2.3782+04
17	2.55000+00	1.4012+09	7.6941+08	2.6686+08	6.7189+07	1.0759+05	3.0401+03	2.3604+03	2.2487+03	2.1287+03	1.1896+04
18	2.70000+00	1.8811+09	1.0444+09	2.2319+08	2.3016+06	1.1119+04	5.8486+03	4.7191+03	4.4975+03	4.2579+03	2.6429+03
19	2.85000+00	8.5644+08	4.0617+08	3.7986+07	4.3440+05	3.1119+04	1.1017+06	8.0703+05	2.7297+05	5.5471+04	1.3214+03
20	3.00000+00	5.2476+08	2.4707+08	5.7543+07	1.6456+06	1.2374+06	3.6633+05	2.6814+05	9.0225+04	1.7778+04	1.2789+03
21	3.15000+00	3.3786+08	1.9534+08	3.4332+07	8.5364+05	4.2456+05	2.8944+04	1.9893+04	1.2764+04	2.1076+04	0.0000
22	3.30000+00	1.4778+08	8.7322+07	2.0243+07	3.4127+05	1.4536+04	2.8944+04	1.9893+04	1.2764+04	2.1076+04	0.0000
23	3.45000+00	6.5640+08	3.8970+08	3.1545+07	1.6895+05	2.6695+05	2.8944+04	1.9893+04	1.2764+04	2.1076+04	0.0000
24	3.60000+00	7.9667+08	3.9832+08	9.7126+06	1.5691+05	6.3828+03	1.1137+04	3.6232+20	0.0000	0.0000	0.0000
25	3.75000+00	2.6454+08	1.3348+08	2.9248+07	2.0048+05	1.0274+03	2.0627+06	6.7104+22	0.0000	0.0000	0.0000
26	3.90000+00	1.5711+08	7.3809+07	3.1836+06	2.2031+04	9.9174+01	8.2378+13	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	8.5541+07	5.2443+07	7.9196+06	2.0832+04	6.5445+02	1.1001+05	3.5789+21	0.0000	0.0000	0.0000
28	4.20000+00	5.0181+08	2.4043+08	5.6951+05	2.9838+01	5.6531+08	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	1.1696+08	5.1420+07	4.0290+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	2.7850+08	1.6787+08	4.0739+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	8.2934+07	4.5664+07	2.7227+04	1.8026+03	9.2219+01	1.6502+06	5.3683+22	0.0000	0.0000	0.0000
32	4.80000+00	3.5931+06	2.2161+06	1.1072+06	7.3601+04	3.7653+03	6.7376+05	2.1919+20	0.0000	0.0000	0.0000
33	4.95000+00	1.0209+07	4.7093+05	8.1351+04	5.4079+03	2.7666+02	4.9505+06	1.6105+21	0.0000	0.0000	0.0000
34	5.10000+00	1.5096+07	7.7348+06	1.8721+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	4.6426+07	2.0636+07	5.2418+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	2.5042+07	1.3118+07	5.3323+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	3.4631+07	1.3426+07	5.3367+13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	1.2947+07	1.1579+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	2.0140+06	1.7998+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	4.7003+06	4.2003+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.153

SOURCE 7 (ALL F.P.), 5000 DAYS, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	2.1840+09	1.2290+09	6.7267+08	5.3785+08	4.5922+08	2.8935+08	1.9018+08	1.0338+08	6.0812+07	8.3418+06
2	3.00000+01	8.4949+09	3.7484+09	1.5885+09	8.4129+08	5.9472+08	1.9423+08	6.2713+07	9.6970+06	2.5313+06	1.6674+05
3	4.50000+01	7.8683+09	4.7826+09	1.4180+09	6.4057+08	5.8152+08	4.3054+08	2.7492+08	7.3549+07	1.2993+07	9.3059+05
4	6.00000+01	1.6379+10	8.5819+09	4.2292+09	2.4712+09	1.9833+09	1.2082+09	8.8236+08	4.3703+08	2.0211+08	8.3197+08
5	7.50000+01	1.8653+10	1.1605+10	6.6916+09	4.1865+09	3.2714+09	1.6297+09	1.0760+09	7.8252+08	4.4825+08	3.4841+08
6	9.00000+01	2.3620+10	1.4579+10	8.3557+09	4.3457+09	4.1189+09	3.4495+09	2.8811+09	2.2738+09	1.7820+09	1.0047+08
7	1.05000+00	1.6624+10	1.0858+10	3.3295+09	9.2727+08	5.8687+08	2.7946+08	1.4657+08	3.9554+07	9.0287+06	1.0311+06
8	1.20000+00	8.9306+09	4.9119+09	1.5906+09	3.5000+08	1.8061+08	4.8446+07	1.3390+07	1.4156+06	8.1393+05	3.8689+05
9	1.35000+00	1.1410+10	6.1519+09	1.2309+09	3.8412+08	1.8500+08	3.7723+07	1.2457+07	4.0584+06	2.0174+06	8.1600+04
10	1.50000+00	1.6973+10	1.0013+10	3.9579+09	4.8563+08	2.4371+08	1.0253+08	3.2868+07	6.8508+06	6.0160+06	3.1466+06
11	1.65000+00	1.0595+10	6.5882+09	3.9501+09	3.1925+09	3.1310+09	2.7851+09	2.0386+09	6.8610+08	1.3541+08	1.6863+05
12	1.80000+00	6.0299+09	3.6931+09	1.1497+09	2.4504+08	7.9719+07	2.3488+06	4.9558+05	1.2167+05	1.0754+05	6.6107+04
13	1.95000+00	4.1655+09	2.5990+09	1.0903+09	1.1348+08	5.3853+07	1.7160+07	4.7258+06	1.6383+05	4.3042+04	1.4864+04
14	2.10000+00	4.7554+09	2.6856+09	6.5048+08	7.8542+07	5.4205+07	2.6067+07	7.5337+06	4.3087+05	1.1991+05	3.2106+04
15	2.25000+00	5.2682+09	3.4190+09	1.0842+09	7.8697+07	4.7449+07	3.5259+07	2.8893+07	2.5192+07	2.3329+07	1.2201+07
16	2.40000+00	5.0588+09	3.1867+09	1.4386+09	1.0487+08	4.8086+07	3.6957+07	2.5055+07	8.1136+06	1.6674+06	5.5293+04
17	2.55000+00	3.4679+09	1.9043+09	6.6048+08	1.6629+08	1.6611+08	1.4177+08	1.0326+08	3.4670+07	6.8682+06	2.9442+04
18	2.70000+00	4.9379+09	2.7415+09	5.8588+08	6.0418+06	2.8242+05	7.9802+03	6.1960+03	5.9029+03	5.5876+03	3.4688+03
19	2.85000+00	2.3766+09	1.1271+09	1.0541+08	1.2055+06	8.6350+04	1.6230+04	1.3096+04	1.2480+04	1.1814+04	7.3340+03
20	3.00000+00	1.5349+09	7.2267+08	1.6811+08	4.8134+06	3.6194+06	3.2223+06	2.3606+06	7.9834+05	1.6220+05	3.8652+03
21	3.15000+00	1.0389+09	6.0068+08	1.0557+08	2.6249+06	1.3055+06	1.1265+06	8.2055+05	2.7744+05	5.4669+04	3.9327+03
22	3.30000+00	4.7658+08	2.8162+08	6.5444+07	1.1006+06	4.3649+04	9.3362+01	4.1560+01	4.1171+08	6.7450+19	0.0000
23	3.45000+00	2.2153+09	1.3152+09	1.0647+08	5.7019+05	9.0333+03	9.7700+01	6.7140+01	4.3086+08	7.1110+19	0.0000
24	3.60000+00	2.7871+09	1.4041+09	3.4237+07	5.5310+05	2.2499+04	3.4260+04	1.2772+19	0.0000	0.0000	0.0000
25	3.75000+00	9.7219+08	4.9055+08	1.0749+08	7.5295+05	3.7758+03	7.5805+06	2.4661+21	0.0000	0.0000	0.0000
26	3.90000+00	6.0094+08	2.8247+08	1.2177+07	8.4268+04	3.7036+02	3.1510+12	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	3.4002+08	2.0846+08	3.1481+07	8.2806+04	2.6015+03	4.3730+05	1.4222+20	0.0000	0.0000	0.0000
28	4.20000+00	2.0700+09	1.0289+09	2.3492+06	1.2308+00	2.0844+07	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	4.9999+08	2.1982+08	1.7228+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	1.2324+09	7.4283+08	1.8027+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	3.7942+08	2.0891+08	1.2456+05	8.2471+03	4.2190+02	7.5496+06	2.4580+21	0.0000	0.0000	0.0000
32	4.80000+00	1.6977+07	1.0472+07	5.2314+06	3.4776+05	1.7791+04	3.1835+04	1.0357+19	0.0000	0.0000	0.0000
33	4.95000+00	4.5767+07	2.2958+06	3.9659+05	2.6364+08	1.3487+03	2.4134+05	7.8512+21	0.0000	0.0000	0.0000
34	5.10000+00	7.5860+07	3.8867+07	9.4072+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	2.4026+08	1.0679+08	2.7126+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	1.3335+08	6.9455+07	1.7744+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	1.8530+08	7.3510+07	2.9186+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	7.2828+07	6.5081+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	1.1631+07	1.0394+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	2.7809+07	2.4887+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.15⁴

SOURCE 7 (ALL F.P.), 5000 DAYS, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.1445-02	1.0971-02	1.5144-02	2.8060-02	2.9086-02	2.6994-02	2.4430-02	2.3037-02	2.1000+02	1.7240-02
2	3.00000+01	4.5482-02	4.4273-02	5.0905-02	7.1951-02	6.6760-02	4.5114-02	3.2486-02	2.5198-02	2.1000+02	1.7584-02
3	4.50000+01	8.6715-02	8.6814-02	8.2828-02	1.0537-01	1.0359-01	8.5280-02	6.7802-02	4.1586-02	2.1368-02	1.9507-02
4	6.00000+01	1.7255-01	1.6315-01	1.7804-01	2.3830-01	2.2923-01	1.9799-01	1.8115-01	1.3897-01	9.6184-02	3.6701-02
5	7.50000+01	2.7030-01	2.6637-01	3.2869-01	4.5271-01	4.3645-01	3.5004-01	3.1937-01	3.1334-01	3.2011-01	7.5675-01
6	9.00000+01	3.9408-01	3.9605-01	5.1680-01	6.7943-01	6.9735-01	6.7185-01	6.8948-01	8.2000-01	9.3566-01	9.6440-01
7	1.05000+00	4.8120-01	4.9263-01	5.9176-01	7.2781-01	7.3461-01	6.9792-01	7.0831-01	8.2882-01	9.3878-01	9.6653-01
8	1.20000+00	5.2800-01	5.3632-01	6.2756-01	7.4607-01	7.4060-01	7.0244-01	7.1003-01	8.2913-01	9.1906-01	9.6733-01
9	1.35000+00	5.8779-01	5.9104-01	6.5528-01	7.6611-01	7.5780-01	7.0596-01	7.1163-01	8.3004-01	9.3997-01	9.6749-01
10	1.50000+00	6.7674-01	6.8011-01	7.4438-01	7.9144-01	7.7324-01	7.1553-01	7.1585-01	8.3157-01	9.1204-01	9.7400-01
11	1.65000+00	7.3226-01	7.3871-01	8.1331-01	9.5800-01	9.7157-01	9.7536-01	9.7775-01	9.8445-01	9.8882-01	9.7435-01
12	1.80000+00	7.6386-01	7.7156-01	8.5919-01	9.7074-01	9.7662-01	9.7558-01	9.7782-01	9.8448-01	9.8880-01	9.7448-01
13	1.95000+00	7.8568-01	7.9468-01	8.8374-01	9.7670-01	9.8003-01	9.7720-01	9.7643-01	9.8451-01	9.8887-01	9.7451-01
14	2.10000+00	8.1061-01	8.2034-01	8.9838-01	9.8080-01	9.8346-01	9.7963-01	9.7930-01	9.8461-01	9.8891-01	9.7458-01
15	2.25000+00	8.3821-01	8.5076-01	9.2279-01	9.8490-01	9.8647-01	9.8292-01	9.8310-01	9.9022-01	9.9697-01	9.9979-01
16	2.40000+00	8.6472-01	8.7910-01	9.5518-01	9.9037-01	9.9052-01	9.8637-01	9.8632-01	9.9203-01	9.9755-01	9.9991-01
17	2.55000+00	8.8290-01	8.9804-01	9.7005-01	9.9405-01	9.9666-01	9.9959-01	9.9950-01	9.9976-01	9.9992-01	9.9997-01
18	2.70000+00	9.0877-01	9.2042-01	9.8323-01	9.9937-01	9.9968-01	9.9959-01	9.9950-01	9.9976-01	9.9992-01	9.9998-01
19	2.85000+00	9.2123-01	9.3045-01	9.8561-01	9.9943-01	9.9968-01	9.9959-01	9.9950-01	9.9976-01	9.9993-01	9.9999-01
20	3.00000+00	9.2927-01	9.3684-01	9.8940-01	9.9948-01	9.9991-01	9.9989-01	9.9989-01	9.9994-01	9.9998-01	1.0000+00
21	3.15000+00	9.3072-01	9.4222-01	9.9177-01	9.9982-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.3721-01	9.4473-01	9.9325-01	9.9987-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.4482-01	9.5643-01	9.9546-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.6343-01	9.6891-01	9.9681-01	9.9993-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.6852-01	9.7328-01	9.9883-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.7167-01	9.7579-01	9.9911-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.7346-01	9.7764-01	9.9982-01	9.9994-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.8430-01	9.8680-01	9.9987-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.8692-01	9.8875-01	9.9987-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9338-01	9.9536-01	9.9987-01	9.9994-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9537-01	9.9727-01	9.9987-01	9.9994-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	9.9546-01	9.9731-01	9.9989-01	9.9994-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	9.9572-01	9.9733-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	9.9612-01	9.9768-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	9.9738-01	9.9863-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	9.9807-01	9.9925-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	9.9907-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	9.9945-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	9.9951-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	9.9986-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 7 (ALL F.P.), 5000 DAYS, 1 WATT, PURE U-235

SOURCE 7 (ALL F.P.), 5000 DAYS, 1 WATT, PURE U-235

Figure 3.103

Table 3.155

SOURCE 7 (ALL F.P.), 5000 DAYS, 1 WATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	6.7706+10	8.6540+10	3.0416+10	2.2403+10	2.0159+10	1.5780+10	1.2658+10	8.8871+09	6.7462+09	2.3426+09
2	6.00000+01	3.0212+10	2.5122+10	1.3294+10	7.8852+09	6.3503+09	4.0220+09	2.9500+09	1.6803+09	1.0393+09	3.4248+08
3	9.00000+01	2.7539+10	1.7220+10	8.2278+09	4.3734+09	3.4443+09	2.1650+09	1.6643+09	1.0929+09	7.5425+08	2.2111+08
4	1.20000+00	1.9961+10	1.1669+10	4.7141+09	2.0751+09	1.6007+09	1.1015+09	9.4021+08	7.2775+08	5.6998+08	2.2094+08
5	1.50000+00	1.5148+10	8.2419+09	2.8150+09	1.0042+09	7.2345+08	5.1601+08	4.7171+08	4.0961+08	3.6002+08	1.9453+08
6	1.80000+00	1.1942+10	6.0528+09	1.8430+09	6.0777+08	4.1844+08	3.0395+08	2.8815+08	2.6765+08	2.4955+08	1.4864+08
7	2.10000+00	9.1918+09	4.3329+09	1.1720+09	3.8698+08	2.6214+08	2.0110+08	1.9512+08	1.8391+08	1.7140+08	9.4215+07
8	2.40000+00	7.0401+09	3.0641+09	7.1014+08	2.2594+08	1.4747+08	1.1434+08	1.1228+08	1.0647+08	9.8895+07	4.9837+07
9	2.70000+00	5.3497+09	2.1676+09	4.1561+08	1.0821+08	6.5116+07	5.1945+07	5.1069+07	4.8450+07	4.5006+07	2.2584+07
10	3.00000+00	4.0037+09	1.5250+09	2.3540+08	3.6658+07	1.4525+07	1.1118+07	1.0942+07	1.0406+07	9.7010+06	5.0607+06
11	3.30000+00	2.9149+09	1.0633+09	1.4222+08	1.4238+07	2.7787+06	1.4527+06	1.4305+06	1.3703+06	1.2915+06	7.4984+05
12	3.60000+00	2.0076+09	6.9093+08	8.2701+07	5.2113+06	5.4667+05	1.5931+05	1.5563+05	1.4907+05	1.4050+05	8.1570+04
13	3.90000+00	1.3232+09	4.1456+08	5.3316+07	2.7555+06	1.4228+05	3.6856+02	2.5659+00	1.6527+07	2.7158+18	0.0000
14	4.20000+00	8.3690+08	2.2732+08	3.5936+07	2.0290+06	1.0223+05	1.8667+00	1.2983+02	8.3627+10	1.3742+20	0.0000
15	4.50000+00	5.3751+08	1.2082+08	2.1734+07	1.3216+06	6.6876+04	1.1986+03	3.9503+19	0.0000	0.0000	0.0000
16	4.80000+00	3.7077+08	6.9920+07	1.0994+07	6.9408+05	3.5381+04	8.3423+04	2.0903+19	0.0000	0.0000	0.0000
17	5.10000+00	2.6079+08	3.8189+07	3.6338+06	2.3386+05	1.1853+04	2.1247+04	7.0025+20	0.0000	0.0000	0.0000
18	5.40000+00	1.8116+08	1.8777+07	2.6925+05	1.7330+04	8.7473+02	1.5745+05	5.1892+21	0.0000	0.0000	0.0000
19	5.70000+00	1.2519+08	8.7474+06	7.0521+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	8.0727+07	3.5435+06	2.9242+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	6.0449+07	1.0225+06	5.0307+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	4.0714+07	3.9357+05	1.2918+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	2.4193+07	1.7576+05	5.4263+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	1.1355+07	4.0337+04	1.3159+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	3.3169+06	7.6676+02	2.1804+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.156

SOURCE 7 (ALL F.P.), 5000 DAYS, 1 WATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	1.0156+10	6.9811+09	4.5624+09	3.3605+09	3.0238+09	2.3670+09	1.8987+09	1.3331+09	1.0119+09	3.5139+08
2	6.00000+01	1.7195+10	1.1305+10	5.9824+09	3.5483+09	2.8577+09	1.8099+09	1.3275+09	7.5613+08	4.6770+08	1.5412+08
3	9.00000+01	2.0655+10	1.2915+10	6.1708+09	3.2803+09	2.5832+09	1.6237+09	1.2482+09	8.1968+08	5.6569+08	1.6583+08
4	1.20000+00	2.0959+10	1.2252+10	4.9498+09	2.1788+09	1.6808+09	1.1566+09	9.8722+08	7.6414+08	5.9848+08	2.3199+08
5	1.50000+00	2.0450+10	1.1127+10	3.8002+09	1.3556+09	9.7720+08	6.9662+08	6.3680+08	5.5297+08	4.8603+08	2.6261+08
6	1.80000+00	1.9626+10	9.9871+09	3.8410+09	1.0028+09	6.9042+08	5.0152+08	4.7544+08	4.4161+08	4.1176+08	2.4525+08
7	2.10000+00	1.7924+10	8.4491+09	2.2854+09	7.5462+08	5.1117+08	3.9215+08	3.8049+08	3.5862+08	3.3423+08	1.8372+08
8	2.40000+00	1.5840+10	6.8943+09	1.5978+09	5.0846+08	3.3180+08	2.5727+08	2.5262+08	2.3955+08	2.2251+08	1.1213+08
9	2.70000+00	1.3642+10	5.5274+09	1.0598+09	2.7594+08	1.6605+08	1.3246+08	1.3023+08	1.2355+08	1.1476+08	5.7601+07
10	3.00000+00	1.1411+10	4.3463+09	6.7089+08	1.0448+08	4.1396+07	3.1685+07	3.1184+07	2.9656+07	2.7848+07	1.4423+07
11	3.30000+00	9.1820+09	3.3493+09	4.4801+08	4.4851+07	8.7529+06	4.5781+06	4.5062+06	4.3166+06	4.0683+06	2.3620+06
12	3.60000+00	6.9264+09	2.3837+09	2.8532+08	1.7979+07	1.8860+06	5.4962+05	5.3691+05	5.1430+05	4.8472+05	2.6142+05
13	3.90000+00	4.9621+09	1.5546+09	1.9994+08	1.0333+07	5.3354+05	1.3821+03	9.6220+00	6.1976+07	1.0184+17	0.0000
14	4.20000+00	3.3895+09	9.2065+08	1.4554+08	8.2173+06	4.1403+05	7.5603+00	5.2583+02	3.3869+09	5.5654+20	0.0000
15	4.50000+00	2.3382+09	5.2556+08	9.4542+07	5.7490+06	2.9091+05	5.2139+03	1.7184+18	0.0000	0.0000	0.0000
16	4.80000+00	1.7281+09	3.2513+08	5.1123+07	3.2461+06	1.6452+05	2.9492+01	9.7198+19	0.0000	0.0000	0.0000
17	5.10000+00	1.2909+09	1.8903+08	1.7987+07	1.1576+06	5.8672+04	1.0517+03	3.4662+19	0.0000	0.0000	0.0000
18	5.40000+00	9.5118+08	9.8577+07	1.4136+06	9.0984+04	4.6114+03	8.2662+05	2.7244+20	0.0000	0.0000	0.0000
19	5.70000+00	6.9083+08	4.8550+07	3.9139+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	5.0735+08	2.0730+07	1.7106+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	3.7176+08	6.2984+06	3.0939+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	2.6261+08	2.5385+06	8.3320+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	1.4330+08	1.1864+06	3.6627+14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	8.0054+07	2.8438+05	9.2769+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	2.4379+07	5.6357+03	1.6026+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.157

SOURCE 7 (ALL F.P.), 5000 DAYS, 1 MAT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	5.0596-02	7.0366-02	1.2901-01	2.0414-01	2.3485-01	2.6376-01	2.5750-01	2.4578-01	2.3636-01	1.9722-01
2	6.00000+01	1.3626-01	1.8432-01	2.9818-01	4.1969-01	4.5679-01	4.6544-01	4.3754-01	3.8519-01	3.4653-01	2.8372-01
3	9.00000+01	2.3916-01	3.1449-01	4.7267-01	6.1897-01	6.5742-01	6.4638-01	6.0683-01	5.3632-01	4.8179-01	3.7880-01
4	1.20000+00	3.4358-01	4.3799-01	6.1263-01	7.5132-01	7.8796-01	7.7526-01	7.4072-01	6.7720-01	6.2276-01	5.0700-01
5	1.50000+00	4.4586-01	5.5014-01	7.2009-01	8.3368-01	8.6386-01	8.5269-01	8.2708-01	7.7916-01	7.3725-01	6.5439-01
6	1.80000+00	5.4323-01	6.5981-01	8.0608-01	8.9460-01	9.1748-01	9.0877-01	8.9156-01	8.6058-01	8.3424-01	7.9204-01
7	2.10000+00	6.3253-01	7.3597-01	8.7071-01	9.4084-01	9.5718-01	9.5247-01	9.4316-01	9.2670-01	9.1297-01	8.9516-01
8	2.40000+00	7.1148-01	8.0546-01	9.1589-01	9.7132-01	9.8295-01	9.8114-01	9.7743-01	9.7086-01	9.6538-01	9.5809-01
9	2.70000+00	7.7941-01	8.6118-01	9.4586-01	9.8809-01	9.9584-01	9.9590-01	9.9509-01	9.9364-01	9.9241-01	9.9042-01
10	3.00000+00	8.3625-01	9.0499-01	9.6483-01	9.9443-01	9.9906-01	9.9943-01	9.9932-01	9.9911-01	9.9893-01	9.9852-01
11	3.30000+00	8.8200-01	9.3875-01	9.7750-01	9.9716-01	9.9974-01	9.9994-01	9.9993-01	9.9991-01	9.9989-01	9.9984-01
12	3.60000+00	9.1650-01	9.6277-01	9.8556-01	9.9825-01	9.9989-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.4122-01	9.7844-01	9.9122-01	9.9888-01	9.9993-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.5811-01	9.8772-01	9.9533-01	9.9938-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.6976-01	9.9302-01	9.9801-01	9.9973-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.7835-01	9.9630-01	9.9945-01	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.8478-01	9.9820-01	9.9996-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.8952-01	9.9920-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9298-01	9.9969-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9551-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9736-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	9.9867-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9948-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	9.9985-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

3-262

SOURCE 7 (ALL F.P.), 5000 DAYS, 1 WATT, PURE U-235

SOURCE 7 (ALL F.P.), 5000 DAYS, 1 WATT, PURE U-235

Figure 3.105

Table 3.15b

SOURCE 7 (ALL F.P.), 500 DAYS, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

-----COOLING TIMES-----

GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	2.9029+10	1.6305+10	8.8890+09	7.0867+09	6.0379+09	3.7735+09	2.4529+09	1.2994+09	7.3770+08	7.5884+07
2	3.00000+01	2.8890+10	1.6660+10	7.0550+09	3.7332+09	2.6379+09	8.5998+08	2.7682+08	4.2200+07	1.0614+07	3.2229+05
3	4.50000+01	2.0996+10	1.2752+10	3.7769+09	1.7036+09	1.5858+09	1.1824+09	7.2782+08	1.9230+08	3.2223+07	7.3512+05
4	6.00000+01	3.1208+10	1.6336+10	8.0400+09	4.6895+09	3.7603+09	2.2836+09	1.6621+09	8.1485+08	3.7014+08	9.5855+06
5	7.50000+01	2.6994+10	1.6722+10	9.4817+09	5.7679+09	4.4136+09	1.9899+09	7.4597+08	5.4768+08	8.4667+07	
6	9.00000+01	2.8610+10	1.7642+10	1.0094+10	5.2321+09	4.9559+09	4.1816+09	3.4504+09	2.7102+09	2.1133+09	1.1685+08
7	1.05000+00	1.7066+10	1.1136+10	3.8120+09	9.4890+08	6.0149+08	2.8496+08	1.4884+08	3.9483+07	8.4649+06	6.2178+05
8	1.20000+00	7.9445+09	4.3662+09	1.8127+09	3.1041+08	1.6000+08	4.2661+07	1.1604+07	1.0198+06	4.9940+05	2.0223+05
9	1.35000+00	8.9563+09	4.8254+09	9.6481+08	3.0082+08	1.4518+08	2.9479+07	9.7077+06	3.1416+06	2.0135+06	5.9631+04
10	1.50000+00	1.1919+10	7.0256+09	2.7742+09	3.3880+08	1.6922+08	7.0269+07	2.1536+07	3.4333+06	2.9265+06	1.4994+06
11	1.65000+00	6.7322+09	4.1832+09	2.5064+09	2.0244+09	1.9843+09	1.7627+09	1.2879+09	4.3137+08	8.4613+07	6.2955+04
12	1.80000+00	3.4985+09	2.1810+09	6.6604+08	1.4182+08	4.6103+07	1.3300+06	2.5927+05	4.4611+04	3.7638+04	2.2533+04
13	1.95000+00	2.2235+09	1.3863+09	5.8116+08	6.0428+07	2.8664+07	9.2239+06	2.5022+06	8.1317+04	1.7694+04	4.6610+03
14	2.10000+00	2.3503+09	1.4251+09	3.2101+08	3.8719+07	2.6708+07	1.2820+07	3.6908+06	2.0029+05	4.8492+04	9.3219+03
15	2.25000+00	2.4183+09	1.5679+09	4.9434+08	3.2324+07	1.7984+07	1.2457+07	9.6278+06	6.0991+06	7.4422+06	3.8115+06
16	2.40000+00	2.1776+09	1.3707+09	6.1837+08	4.5023+07	2.0628+07	1.5828+07	1.0706+07	3.4406+06	6.9162+05	1.3983+04
17	2.55000+00	1.4023+09	7.6946+08	2.6669+08	6.7084+07	6.4567+07	5.7090+07	4.1504+07	1.3866+07	2.7259+06	6.9944+03
18	2.70000+00	1.8827+09	1.0444+09	2.2305+08	2.2974	1.0643+05	2.0884+03	1.4322+03	1.3566+03	1.2771+03	7.7696+02
19	2.85000+00	8.5715+08	4.0620+08	3.7960+07	3.3184+05	2.9136+04	3.9460+03	2.8628+03	2.7132+03	2.5542+03	1.5539+03
20	3.00000+00	5.2520+08	2.4708+08	5.7507+07	1.6423+06	1.2342+06	1.0972+06	8.0205+05	2.6948+05	5.3818+04	7.7696+02
21	3.15000+00	3.3814+08	1.9536+08	3.4311+07	8.5261+05	4.2379+05	3.6517+05	2.6683+05	8.9360+04	1.7511+04	1.2345+03
22	3.30000+00	1.4790+08	8.7729+07	2.0280+07	3.4078+05	1.3510+04	2.8858+01	1.9793+01	1.2644+08	2.0753+19	0.0000
23	3.45000+00	4.5694+08	3.8973+08	3.1526+07	1.5870+05	2.6628+03	2.8658+01	1.9793+01	1.2644+08	2.0753+19	0.0000
24	3.60000+00	7.9133+08	3.9835+08	9.7066+06	1.5668+05	6.3712+03	1.1102+04	3.6050+20	0.0000	0.0000	0.0000
25	3.75000+00	2.6476+08	1.3349+08	2.9230+07	2.0459+03	1.0256+03	2.0562+06	6.6767+22	0.0000	0.0000	0.0000
26	3.90000+00	1.5724+08	7.3855+07	3.1816+06	2.1999+08	9.8995+01	8.2117+13	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	8.5612+07	5.2447+07	7.9149+06	2.0802+04	6.5327+02	1.0966+05	3.5609+21	0.0000	0.0000	0.0000
28	4.20000+00	5.0223+08	2.4945+08	5.6916+05	2.9795+01	5.0439+08	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	1.1705+08	5.1823+07	4.0274+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	2.7873+08	1.6784+08	4.0714+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	6.3003+07	4.5667+07	2.7210+04	1.6000+03	9.2053+01	1.6450+06	5.3413+22	0.0000	0.0000	0.0000
32	4.80000+00	3.5961+06	2.2185+06	1.1065+06	7.3495+08	3.7585+03	6.7163+05	2.1809+20	0.0000	0.0000	0.0000
33	4.95000+00	1.0217+07	4.7897+05	8.1301+04	5.4001+03	2.7616+02	4.9349+06	1.6024+21	0.0000	0.0000	0.0000
34	5.10000+00	1.5109+07	7.7354+06	1.8709+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	4.6465+07	2.0638+07	5.2386+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	2.5062+07	1.3119+07	3.3302+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	3.4659+07	1.3427+07	5.3274+13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	1.2958+07	1.1571+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	2.0157+06	1.7999+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	4.7042+06	4.2006+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.159

SOURCE 7 (ALL F.P.), 500 DAYS, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

-----COOLING TIMES-----												
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	1.50000-01	2.1771+09	1.2229+09	6.6667+08	5.3150+08	4.5284+08	2.8301+08	1.8397+08	9.7457+07	5.5327+07	5.6913+06	
2	3.00000-01	6.5002+09	3.7486+09	1.5874+09	8.3996+08	5.9352+08	1.9350+08	6.2284+07	9.4949+06	2.3881+06	7.2516+04	
3	4.50000-01	7.8736+09	4.7821+09	1.4163+09	6.3886+08	5.7964+08	4.2840+08	2.7276+08	7.2112+07	1.2083+07	2.7567+05	
4	6.00000-01	1.6384+10	8.5764+09	4.2210+09	2.4620+09	1.9742+09	1.1989+09	8.7261+08	4.2780+08	1.9432+08	5.0324+06	
5	7.50000-01	1.8221+10	1.1268+10	6.4002+09	3.8933+09	2.9792+09	1.3432+09	7.9413+08	5.0353+08	3.6969+08	5.7150+07	
6	9.00000-01	2.3603+10	1.4555+10	8.3274+09	4.3165+09	4.0886+09	3.4168+09	2.8466+09	2.2359+09	1.7435+09	9.6402+07	
7	1.05000+00	1.6637+10	1.0858+10	3.3267+09	9.2518+08	5.8605+08	2.7784+08	1.4512+08	3.8496+07	8.2533+06	6.0624+05	
8	1.20000+00	8.9376+09	4.9120+09	1.5893+09	3.4921+08	1.8000+08	4.8017+07	1.3055+07	1.1473+06	5.6182+05	2.2751+05	
9	1.35000+00	1.1419+10	6.1523+09	1.2301+09	3.8355+08	1.8510+08	3.7586+07	1.2377+07	4.0055+06	2.5672+06	7.6030+04	
10	1.50000+00	1.6984+10	1.0012+10	3.9533+09	4.8279+08	2.4114+08	1.0013+08	3.0688+07	4.8925+06	4.1730+06	2.1366+06	
11	1.65000+00	1.0603+10	6.5685+09	3.9476+09	3.1877+09	3.1253+09	2.7762+09	2.0284+09	6.7942+08	1.3327+08	9.9154+04	
12	1.80000+00	6.0349+09	3.6933+09	1.1489+09	2.4464+08	7.9527+07	2.2942+06	4.4725+05	7.6954+04	6.4925+04	3.8869+04	
13	1.95000+00	4.1690+09	2.5992+09	1.0897+09	1.1330+08	5.3745+07	1.7295+07	4.6917+06	1.5247+05	3.3176+04	8.7393+03	
14	2.10000+00	4.7593+09	2.8858+09	6.5004+08	7.8405+07	5.4084+07	2.5961+07	7.4736+06	4.0559+05	9.8195+04	1.8877+04	
15	2.25000+00	5.2597+09	3.4101+09	1.0752+09	7.0304+07	3.9116+07	2.7094+07	2.0940+07	1.7615+07	1.6187+07	8.2901+06	
16	2.40000+00	5.0629+09	3.1869+09	1.4377+09	1.0464+08	4.7950+07	3.6800+07	2.4891+07	7.9994+06	1.6080+06	3.2510+04	
17	2.55000+00	3.4708+09	1.9044+09	6.6005+08	1.6601+08	1.5980+08	1.4130+08	1.0272+08	3.4318+07	6.7466+06	1.7311+04	
18	2.70000+00	4.9420+09	2.7417+09	5.8552+08	6.0306+06	2.7939+05	5.4821+03	3.7595+03	3.5611+03	3.3524+03	2.0395+03	
19	2.85000+00	2.3786+09	1.1272+09	1.0534+06	1.1984+06	8.0853+04	1.0950+04	7.9442+03	7.0879+03	7.0879+03	4.1121+03	
20	3.00000+00	1.5362+09	7.2272+08	1.0821+08	4.8036+06	3.6100+06	3.2094+06	2.3460+06	7.8823+05	1.5742+05	2.2726+03	
21	3.15000+00	1.0398+09	6.0072+08	1.0551+08	2.6211+06	1.3032+06	1.1229+06	8.2051+05	2.7478+05	5.3846+04	3.7961-03	
22	3.30000+00	4.7697+08	2.8164+08	6.5403+07	1.0990+06	4.3570+04	9.3066+01	6.3833-01	4.0777-08	6.6927-19	0.0000	
23	3.45000+00	2.2172+09	1.3153+09	1.0640+08	5.6937+05	8.9871+03	9.7396+01	6.6802-01	4.2673-08	7.0040-19	0.0000	
24	3.60000+00	2.7894+09	1.4042+09	3.4216+07	5.5230+05	2.2459+04	3.9135+04	1.2708-19	0.0000	0.0000	0.0000	
25	3.75000+00	9.7300+08	4.9059+08	1.0742+08	7.5186+05	3.7690+03	7.5565+06	2.4537-21	0.0000	0.0000	0.0000	
26	3.90000+00	6.0144+08	2.6249+08	1.2170+07	8.4147+04	3.7865+02	3.1410-12	0.0000	0.0000	0.0000	0.0000	
27	4.05000+00	3.4031+08	2.0848+08	3.1462+07	8.2687+04	2.5968+03	4.3591-05	1.4155-20	0.0000	0.0000	0.0000	
28	4.20000+00	2.0717+09	1.0290+09	2.3478+06	1.2290+00	2.0806-07	0.0000	0.0000	0.0000	0.0000	0.0000	
29	4.35000+00	5.0041+08	2.1984+08	1.7217+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
30	4.50000+00	1.2334+09	7.4288+08	1.8016+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
31	4.65000+00	3.7974+08	2.0893+08	1.2448+05	8.2352+03	4.2114+02	7.5257-06	2.4437-21	0.0000	0.0000	0.0000	
32	4.80000+00	1.6992+07	1.0473+07	5.2242+06	3.4726+05	1.7759+04	3.1734+04	1.0305-19	0.0000	0.0000	0.0000	
33	4.95000+00	4.9808+07	2.2960+06	1.9634+05	2.6326+04	1.3463+03	2.4057-05	7.8117-21	0.0000	0.0000	0.0000	
34	5.10000+00	7.5923+07	3.8870+07	9.4014+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
35	5.25000+00	2.4046+08	1.0680+08	2.7110+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
36	5.40000+00	1.3306+08	6.9960+07	1.7713+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
37	5.55000+00	1.8976+08	7.3515+07	2.9168+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
38	5.70000+00	7.2889+07	6.5885+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
39	5.85000+00	1.1641+07	1.0398+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
40	6.00000+00	2.7873+07	2.4889+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Table 3.160

SOURCE 7 (ALL F.P.), 500 DAYS, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	-----COOLING TIMES-----										
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	1.50000+01	1.1431-02	1.0912-02	1.5132-02	2.8262-02	2.9356-02	2.7321-02	2.4772-02	2.3564-02	2.1688-02	3.2303-02	
2	3.00000+01	4.5559-02	4.4363-02	5.1162-02	7.2926-02	6.7833-02	4.6001-02	3.3159-02	2.5859-02	2.2624-02	3.2715-02	
3	4.50000+01	8.6899-02	8.7037-02	8.3310-02	1.0690-01	1.0541-01	8.7358-02	6.9891-02	4.3295-02	2.7501-02	3.4280-02	
4	6.00000+01	1.7292-01	1.6357-01	1.7912-01	2.3781-01	2.3339-01	2.0310-01	1.8739-01	1.4673-01	1.0353-01	6.2843-02	
5	7.50000+01	2.6859-01	2.6829-01	3.2439-01	4.4485-01	4.2652-01	3.3276-01	2.9433-01	2.6844-01	2.4845-01	3.8722-01	
6	9.00000+01	3.9252-01	3.9417-01	5.1340-01	6.7436-01	6.9158-01	6.6261-01	6.7763-01	6.0909-01	5.3188-01	9.3438-01	
7	1.05000+02	4.7987-01	4.9107-01	5.8891-01	7.2356-01	7.2960-01	6.8944-01	6.9717-01	6.1839-01	5.3511-01	9.3782-01	
8	1.20000+02	5.2680-01	5.3490-01	6.2498-01	7.4213-01	7.4127-01	6.9407-01	6.9893-01	6.1867-01	5.3534-01	9.3912-01	
9	1.35000+02	5.8675-01	5.8980-01	6.5290-01	7.6252-01	7.5327-01	6.9770-01	7.0060-01	6.1964-01	5.3634-01	9.3955-01	
10	1.50000+02	6.7592-01	6.7914-01	7.4263-01	7.8819-01	7.6890-01	7.0737-01	7.0473-01	6.2082-01	5.3748-01	9.5167-01	
11	1.65000+02	7.3159-01	7.3793-01	8.3223-01	9.5770-01	9.7150-01	9.7537-01	9.7787-01	9.8510-01	9.9022-01	9.5224-01	
12	1.80000+02	7.6328-01	7.7089-01	8.5831-01	9.7071-01	9.7666-01	9.7560-01	9.7793-01	9.8511-01	9.9024-01	9.5246-01	
13	1.95000+02	7.8517-01	7.9408-01	8.8304-01	9.7673-01	9.8014-01	9.7727-01	9.7856-01	9.8515-01	9.9025-01	9.5251-01	
14	2.10000+02	8.1016-01	8.1983-01	8.9780-01	9.8090-01	9.8365-01	9.7977-01	9.7957-01	9.8525-01	9.9024-01	9.5261-01	
15	2.25000+02	8.3777-01	8.5026-01	9.2220-01	9.8464-01	9.8618-01	9.8239-01	9.8239-01	9.8951-01	9.9664-01	9.9467-01	
16	2.40000+02	8.6435-01	8.7877-01	9.5484-01	9.9020-01	9.8929-01	9.8594-01	9.8574-01	9.9144-01	9.9727-01	9.9985-01	
17	2.55000+02	8.8258-01	8.9570-01	9.6982-01	9.9901-01	9.9965-01	9.9958-01	9.9957-01	9.9974-01	9.9991-01	9.9995-01	
18	2.70000+02	9.0852-01	9.2016-01	9.8311-01	9.9935-01	9.9967-01	9.9958-01	9.9957-01	9.9974-01	9.9991-01	9.9996-01	
19	2.85000+02	9.2101-01	9.3022-01	9.8550-01	9.9942-01	9.9967-01	9.9958-01	9.9957-01	9.9974-01	9.9992-01	9.9999-01	
20	3.00000+02	9.2908-01	9.3667-01	9.8912-01	9.9967-01	9.9991-01	9.9989-01	9.9989-01	9.9993-01	9.9998-01	1.0000+00	
21	3.15000+02	9.3454-01	9.4203-01	9.9171-01	9.9981-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
22	3.30000+02	9.3704-01	9.4454-01	9.9320-01	9.9987-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
23	3.45000+02	9.4868-01	9.5628-01	9.9561-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
24	3.60000+02	9.6333-01	9.6881-01	9.9639-01	9.9993-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
25	3.75000+02	9.6844-01	9.7319-01	9.9883-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
26	3.90000+02	9.7160-01	9.7571-01	9.9910-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
27	4.05000+02	9.7338-01	9.7757-01	9.9982-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
28	4.20000+02	9.8426-01	9.8675-01	9.9987-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
29	4.35000+02	9.8689-01	9.8871-01	9.9987-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
30	4.50000+02	9.9336-01	9.9534-01	9.9987-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
31	4.65000+02	9.9536-01	9.9721-01	9.9987-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
32	4.80000+02	9.9545-01	9.9730-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
33	4.95000+02	9.9571-01	9.9732-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
34	5.10000+02	9.9611-01	9.9757-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
35	5.25000+02	9.9737-01	9.9862-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
36	5.40000+02	9.9807-01	9.9925-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
37	5.55000+02	9.9907-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
38	5.70000+02	9.9945-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
39	5.85000+02	9.9951-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
40	6.00000+02	9.9966-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	

SOURCE 7 (ALL F.P.), 500 DAYS, 1 WATT, PURE U-235

SOURCE 7 (ALL F.P.), 500 DAYS, 1 WATT, PURE U-235

Figure 3.107

Table 3.161

SOURCE 7 (ALL F.P.), 500 DAYS, 1 WATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	6.4800+10	4.4388+10	2.8503+10	2.0518+10	1.8272+10	1.3888+10	1.0778+10	7.0464+09	4.9613+09	9.4627+08
2	6.00000+01	3.7911+10	2.4850+10	1.3017+10	7.6003+09	6.0605+09	3.7277+09	2.6578+09	1.3939+09	7.6103+08	9.9383+07
3	9.00000+01	2.7378+10	1.7060+10	8.0590+09	4.2001+09	3.2682+09	1.9872+09	1.4878+09	9.2046+08	5.8809+08	9.4532+07
4	1.20000+00	1.9760+10	1.1491+10	4.5390+09	1.8996+09	1.4254+09	9.2689+08	7.6670+08	5.5603+08	4.0601+08	9.1170+07
5	1.40000+00	1.4958+10	8.0787+09	2.6583+09	8.4896+08	5.6967+08	3.6361+08	3.2045+08	2.6220+08	2.1783+08	8.5325+07
6	1.60000+00	1.1751+10	5.9293+09	1.7246+09	4.9077+08	3.0240+08	1.8952+08	1.7472+08	1.5754+08	1.4386+08	7.4935+07
7	2.10000+00	9.1150+09	4.2590+09	1.0994+09	3.1523+08	1.9094+08	1.3096+08	1.2571+08	1.1692+08	1.0771+08	5.5180+07
8	2.40000+00	7.0130+09	3.0292+09	6.7341+08	1.8952+08	1.1129+08	7.8696+07	7.7074+07	7.2748+07	6.7241+07	3.3974+07
9	2.70000+00	5.3484+09	2.1542+09	3.9914+08	9.1723+07	4.8754+07	3.5821+07	3.5150+07	3.3213+07	3.0719+07	1.5603+07
10	3.00000+00	4.0175+09	1.5251+09	2.3186+08	3.2902+07	1.0792+07	7.4404+06	7.3092+06	6.9218+06	6.4235+06	3.3816+06
11	3.30000+00	2.9287+09	1.0658+09	1.4184+08	1.3660+07	2.1996+06	8.8310+05	8.6703+05	8.2736+05	7.7662+05	4.5763+05
12	3.60000+00	2.0177+09	6.9297+08	8.2764+07	5.1499+06	4.8347+05	9.7334+04	9.4328+04	9.0003+04	8.4484+04	4.9783+04
13	3.90000+00	1.3299+09	4.1583+08	5.3401+07	2.7567+06	1.4216+05	3.6720+02	2.5531+00	1.6382+07	2.6810+08	0.0000
14	4.20000+00	8.4113+08	2.2402+08	3.5992+07	2.0299+06	1.0214+05	1.8598+00	1.2919+02	8.2891+10	1.3566+20	0.0000
15	4.50000+00	5.4022+08	1.2119+08	2.1768+07	1.3222+06	6.6820+04	1.1942+03	3.9306+19	0.0000	0.0000	0.0000
16	4.80000+00	3.7264+08	7.0135+07	1.1011+07	6.9838+05	3.5352+04	6.3188+04	2.0799+19	0.0000	0.0000	0.0000
17	5.10000+00	2.6210+08	3.8306+07	3.6395+06	2.3396+05	1.1843+04	2.1168+04	6.9677+20	0.0000	0.0000	0.0000
18	5.40000+00	1.8209+08	1.8834+07	2.6967+05	1.7338+04	8.7763+02	1.5687+05	5.1634+21	0.0000	0.0000	0.0000
19	5.70000+00	1.2583+08	8.7736+06	7.0631+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	8.7165+07	3.5544+06	2.9287+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	6.0754+07	1.0256+06	5.0385+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	4.0920+07	3.9478+05	1.2938+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	2.4315+07	1.7630+05	5.4347+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	1.1813+07	4.0461+04	1.3179+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	3.3337+06	7.6911+02	2.1838+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.162

SOURCE 7 (ALL F.P.), 500 DAYS, 1 WATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	COOLING TIMES									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000-01	9.7201+09	6.6582+09	4.2754+09	3.0776+09	2.7408+09	2.0832+09	1.6167+09	1.0570+09	7.4420+08	1.4194+08
2	6.00000-01	1.7060+10	1.1182+10	5.8575+09	3.4201+09	2.7272+09	1.6775+09	1.1960+09	6.2727+08	3.4247+08	4.4722+07
3	9.00000-01	2.0533+10	1.2795+10	6.0442+09	3.1501+09	2.4511+09	1.4904+09	1.1150+09	6.0035+08	4.4107+08	7.0899+07
4	1.20000+00	2.0748+10	1.2066+10	4.7659+09	1.9946+09	1.4967+09	9.7323+08	8.0503+08	5.8594+08	4.2631+08	1.0203+08
5	1.50000+00	2.0193+10	1.0906+10	3.5888+09	1.1461+09	7.6906+08	4.9087+08	4.3261+08	3.5397+08	2.9407+08	1.2059+08
6	1.80000+00	1.9393+10	9.7833+09	2.8455+09	8.0977+08	4.9896+08	3.1271+08	2.8829+08	2.5995+08	2.3737+08	1.2356+08
7	2.10000+00	1.7774+10	8.3051+09	2.1438+09	6.1471+08	3.7242+08	2.5517+08	2.4511+08	2.2799+08	2.1004+08	1.0760+08
8	2.40000+00	1.5779+10	6.8158+09	1.5152+09	4.2642+08	2.5041+08	1.7707+08	1.7342+08	1.6368+08	1.5124+08	7.6441+07
9	2.70000+00	1.3638+10	5.4933+09	1.0178+09	2.3389+08	1.2432+08	9.1343+07	8.9631+07	8.4693+07	7.8334+07	3.9787+07
10	3.00000+00	1.1450+10	4.3466+09	6.6080+08	9.3770+07	3.0758+07	2.1205+07	2.0831+07	1.4727+07	1.8307+07	9.6382+06
11	3.30000+00	9.2253+09	3.3573+09	4.4680+08	4.3028+07	6.9287+06	2.7818+06	2.7312+06	2.6062+06	2.4464+06	1.4415+06
12	3.60000+00	6.9610+09	2.3908+09	2.8553+08	1.7767+07	1.6680+06	3.3582+05	3.2543+05	3.1051+05	2.9147+05	1.7175+05
13	3.90000+00	4.9872+09	1.5594+09	2.0025+08	1.0338+07	5.3109+05	1.3770+03	9.5742+00	6.1431+07	1.0054+17	0.0000
14	4.20000+00	3.4066+09	9.2348+08	1.4577+08	8.2209+06	4.1368+05	7.5323+00	5.2321+02	3.3571+09	5.4942+20	0.0000
15	4.50000+00	2.3500+09	5.2717+08	9.4689+07	5.7515+06	2.9067+05	5.1946+03	1.7098+18	0.0000	0.0000	0.0000
16	4.80000+00	1.7328+09	3.2613+08	5.1202+07	3.2475+06	1.6439+05	2.9382+03	9.6714+19	0.0000	0.0000	0.0000
17	5.10000+00	1.2974+09	1.8961+08	1.8015+07	1.1581+06	5.8623+04	1.0478+03	3.4490+19	0.0000	0.0000	0.0000
18	5.40000+00	9.5598+08	9.8880+07	1.4158+06	9.1023+04	4.6076+03	8.2356+05	2.7108+20	0.0000	0.0000	0.0000
19	5.70000+00	6.9834+08	4.8699+07	3.9200+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	5.0991+08	2.0793+07	1.7133+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	3.7364+08	6.3077+06	3.0987+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	2.6393+08	2.5463+06	8.3450+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	1.6413+08	1.1900+06	3.6684+14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	8.0459+07	2.8525+05	9.2914+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	2.4503+07	5.6530+03	1.6051+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.163

SOURCE 7 (ALL F.P.), 500 DAYS, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	4.8766+02	6.6077+02	1.2590+01	2.0880+01	2.3892+01	2.7497+01	2.7005+01	2.5948+01	2.5260+01	1.6921+01
2	6.00000+01	1.3436+01	1.6241+01	2.9839+01	4.3155+01	4.7665+01	4.9639+01	4.6984+01	4.1387+01	3.6884+01	2.2253+01
3	9.00000+01	2.3737+01	3.1324+01	4.7638+01	6.4077+01	6.9031+01	6.9312+01	6.5623+01	5.8294+01	5.1854+01	3.0705+01
4	1.20000+00	3.4147+01	4.3660+01	6.1672+01	7.7324+01	8.2078+01	8.2158+01	7.9070+01	7.2678+01	6.6324+01	4.2869+01
5	1.50000+00	4.4278+01	5.4811+01	7.2240+01	8.4936+01	8.8782+01	8.8648+01	8.6297+01	8.1368+01	7.6305+01	5.7245+01
6	1.80000+00	5.4007+01	6.4814+01	8.0620+01	9.0314+01	9.3131+01	9.2765+01	9.1112+01	8.7750+01	8.4362+01	7.1975+01
7	2.10000+00	6.2925+01	7.3306+01	8.6933+01	9.4397+01	9.6378+01	9.6136+01	9.5207+01	9.3347+01	9.1492+01	8.4803+01
8	2.40000+00	7.0881+01	8.0274+01	9.1395+01	9.7229+01	9.8560+01	9.8473+01	9.8104+01	9.7365+01	9.627+01	9.3915+01
9	2.70000+00	7.7684+01	8.5891+01	9.4392+01	9.8782+01	9.9644+01	9.9679+01	9.9601+01	9.9444+01	9.9286+01	9.8659+01
10	3.00000+00	8.3428+01	9.0335+01	9.6338+01	9.9405+01	9.9912+01	9.9959+01	9.9949+01	9.9928+01	9.9907+01	9.9808+01
11	3.30000+00	8.8057+01	9.3768+01	9.7653+01	9.9691+01	9.9973+01	9.9996+01	9.9995+01	9.9992+01	9.9990+01	9.9980+01
12	3.60000+00	9.1549+01	9.6212+01	9.8494+01	9.9809+01	9.9987+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.4051+01	9.7807+01	9.9084+01	9.9877+01	9.9992+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.5760+01	9.8751+01	9.9513+01	9.9932+01	9.9995+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.6939+01	9.9290+01	9.9792+01	9.9970+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.7808+01	9.9623+01	9.9943+01	9.9992+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.8459+01	9.9817+01	9.9996+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.8939+01	9.9918+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9289+01	9.9968+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9545+01	9.9989+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9733+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	9.9865+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9947+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	9.9988+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 7 (ALL F.P.), 500 DAYS, 1 WATT, PURE U-235

Figure 3.108

SOURCE 7 (ALL F.P.), 500 DAYS, 1 WATT, PURE U-235

Figure 3.109

Table 3.164

SOURCE 7 (ALL F.P.), 200 DAYS, 1 WATT, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	2.8896+10	1.6184+10	8.7725+09	6.9759+09	5.9276+09	3.6632+09	2.3455+09	1.2045+09	6.5725+08	4.1225+07
2	3.00000+01	2.8946+10	1.6674+10	7.0588+09	3.7381+09	2.6417+09	8.6044+08	2.7615+08	4.1445+07	1.0046+07	2.0392+05
3	4.50000+01	2.1038+10	1.2763+10	3.7788+09	1.7057+09	1.5480+09	1.1437+09	7.2738+08	1.9155+08	3.1613+07	3.2115+05
4	6.00000+01	3.1217+10	1.6312+10	8.0107+09	4.6624+09	3.7329+09	2.2550+09	1.6342+09	7.9193+08	3.5363+08	5.4554+06
5	7.50000+01	2.6814+10	1.6570+10	9.3373+09	5.6267+09	4.2723+09	1.8496+09	1.0426+09	6.3055+08	4.5283+08	4.3851+07
6	9.00000+01	2.7738+10	1.6997+10	9.5046+09	4.6469+09	4.3758+09	3.5859+09	2.9322+09	2.2875+09	1.7987+09	1.0013+08
7	1.05000+00	1.7097+10	1.1145+10	3.4137+09	9.4981+08	6.0200+08	2.8485+08	1.4839+08	3.8914+07	7.9430+06	3.1063+05
8	1.20000+00	7.9603+09	4.3698+09	1.6135+09	3.1071+08	1.6010+08	4.2561+07	1.1429+07	8.4497+05	3.3563+05	1.0110+05
9	1.35000+00	8.9738+09	4.8291+09	9.6508+08	3.0092+08	1.4506+08	2.9168+07	9.3861+06	2.8622+06	1.6240+06	5.1445+04
10	1.50000+00	1.1940+10	7.0300+09	2.7745+09	3.3773+08	1.6792+08	6.8814+07	2.0032+07	2.0044+06	1.6024+06	7.9750+05
11	1.65000+00	8.7456+09	4.1867+09	2.5080+09	2.0271+09	1.9878+09	1.7654+09	1.2888+09	4.3086+08	8.4266+07	3.1453+04
12	1.80000+00	3.5055+09	2.1429+09	6.6648+08	1.4202+08	4.6165+07	1.3114+06	2.3934+05	2.5472+04	1.9583+04	1.1256+03
13	1.95000+00	2.2280+09	1.3475+09	5.8155+08	6.0519+07	2.8712+07	9.2347+06	2.5000+06	7.7279+04	1.3927+04	2.3284+04
14	2.10000+00	2.3550+09	1.4263+09	3.2122+08	3.8771+07	2.6748+07	1.2833+07	3.6851+06	1.9217+05	4.0916+04	4.8569+03
15	2.25000+00	2.4167+09	1.5647+09	4.9057+08	2.8273+07	1.3930+07	8.4873+06	5.7702+06	4.4660+06	4.0702+06	2.0278+06
16	2.40000+00	2.1820+09	1.3719+09	6.1878+08	4.5081+07	2.0652+07	1.5841+07	1.0701+07	3.4251+06	6.7830+05	6.9853+03
17	2.55000+00	1.4052+09	7.7012+08	2.6686+08	6.7182+07	6.4677+07	5.7176+07	4.1529+07	1.3845+07	2.7117+06	3.4442+03
18	2.70000+00	1.8865+09	1.0454+09	2.2321+08	2.3003+06	1.0590+05	1.3775+03	7.3905+02	6.9684+02	6.5442+02	3.8614+02
19	2.85000+00	6.5888+08	4.0655+08	3.7985+07	4.106+05	2.7728+04	2.5236+03	1.4765+03	1.3937+03	1.3092+03	7.7627+02
20	3.00000+00	5.2626+08	2.4730+08	5.7545+07	1.6441+06	1.2357+06	1.0983+06	8.0195+05	2.8554+05	5.3029+04	3.8814+02
21	3.15000+00	3.3883+08	1.9553+08	3.4334+07	8.5375+05	4.2456+05	3.6576+05	2.6703+05	8.9265+04	1.7455+04	1.1993+03
22	3.30000+00	1.4820+08	8.7405+07	2.0294+07	3.4132+05	1.3535+04	2.8905+01	1.9808+01	1.2631+08	2.0647+19	0.0000
23	3.45000+00	6.5827+08	3.9007+08	3.1507+07	1.6897+05	2.6677+03	2.8905+01	1.9808+01	1.2631+08	2.0647+19	0.0000
24	3.60000+00	7.9293+08	3.9870+08	9.7132+06	1.5693+05	6.3829+03	1.1120+04	3.6078+20	0.0000	0.0000	0.0000
25	3.75000+00	2.6530+08	1.3361+08	2.9249+07	2.0491+05	1.0274+03	2.0596+06	6.6818+22	0.0000	0.0000	0.0000
26	3.90000+00	1.5756+08	7.3919+07	3.1838+06	2.2034+04	9.9175+01	8.2251+13	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	8.5785+07	5.2493+07	7.9203+06	2.0835+04	6.5447+02	1.0984+05	3.5636+21	0.0000	0.0000	0.0000
28	4.20000+00	5.0324+08	2.0967+08	5.6955+05	2.9842+01	5.0531+08	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	1.1729+08	5.1468+07	4.0301+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	2.7929+08	1.6803+08	4.0742+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	8.3171+07	4.5707+07	2.7228+04	1.8029+03	9.2221+01	1.6476+06	5.3454+22	0.0000	0.0000	0.0000
32	4.80000+00	3.6034+06	2.2184+06	1.1073+06	7.3611+04	3.7653+03	6.7273+05	2.1825+20	0.0000	0.0000	0.0000
33	4.95000+00	1.0238+07	4.7138+05	8.1356+04	5.4087+03	2.7666+02	4.9429+06	1.6036+21	0.0000	0.0000	0.0000
34	5.10000+00	1.5144+07	7.7421+06	1.8722+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	4.6559+07	2.0656+07	5.2421+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	2.5113+07	1.3131+07	3.3325+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	3.4729+07	1.3439+07	5.3310+13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	1.2984+07	1.1581+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	2.0198+06	1.8015+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	4.7137+06	4.2043+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.165

SOURCE 7 (ALL F.P.), 200 DAYS, 1 WATT, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	COOLING TIMES									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	2.1672+09	1.2138+09	6.5794+08	5.2319+08	4.4457+08	2.7474+08	1.7591+08	9.0340+07	4.9294+07	3.0919+06
2	3.00000+01	6.5130+09	3.7516+09	1.5882+09	8.4107+08	5.9438+08	1.9360+08	6.2134+07	9.3252+06	2.2603+06	4.5882+04
3	4.50000+01	7.8841+09	4.7860+09	1.4171+09	6.3963+08	5.8050+08	4.2887+08	2.7277+08	7.1830+07	1.1855+07	1.2043+05
4	6.00000+01	1.6389+10	8.5436+09	4.2056+09	2.4478+09	1.9598+09	1.1839+09	8.5795+08	4.1577+08	1.0566+08	2.8641+06
5	7.50000+01	1.8099+10	1.1185+10	6.3027+09	3.7980+09	2.8838+09	1.2465+09	7.0376+08	4.2562+08	3.0566+08	2.9600+07
6	9.00000+01	2.2884+10	1.4023+10	7.8413+09	3.8337+09	3.6100+09	2.9584+09	2.4190+09	1.8872+09	1.4839+09	8.2605+07
7	1.05000+02	1.6670+10	1.0867+10	3.3283+09	9.2607+08	5.8695+08	2.7773+08	1.4468+08	3.7941+07	7.7445+06	3.0286+05
8	1.20000+02	8.9553+09	4.9160+09	1.5902+09	3.4955+08	1.8011+08	4.7881+07	1.2857+07	9.5059+05	3.7758+05	1.1374+05
9	1.35000+02	1.1442+10	6.1571+09	1.2305+09	3.8367+08	1.8496+08	3.7189+07	1.1967+07	3.6748+06	2.3307+06	6.5592+04
10	1.50000+02	1.7015+10	1.0018+10	3.9537+09	4.8126+08	2.3929+08	9.8060+07	2.8546+07	2.8563+06	2.2834+06	1.1364+06
11	1.65000+02	1.0624+10	6.5941+09	3.9501+09	3.1926+09	3.1308+09	2.7806+09	2.0298+09	6.7461+08	1.3277+08	4.9538+04
12	1.80000+02	4.0470+09	3.6965+09	1.1497+09	2.4499+08	7.9635+07	2.2622+06	4.1286+05	4.9398+04	3.3781+04	1.9417+04
13	1.95000+02	4.1778+09	2.6015+09	1.0904+09	1.1347+08	5.3835+07	1.7315+07	4.6875+06	1.4490+05	2.6113+04	4.3658+03
14	2.10000+02	4.7689+09	2.8883+09	6.5046+08	7.6512+07	5.4165+07	2.5986+07	7.4623+06	3.8914+05	8.2854+04	9.4302+03
15	2.25000+02	5.2564+09	3.4032+09	1.0670+09	6.1494+07	3.0297+07	1.8460+07	1.2550+07	9.7135+06	8.8527+06	4.4104+06
16	2.40000+02	5.0731+09	3.1896+09	1.8387+09	1.0481+08	4.8015+07	3.6830+07	2.4880+07	7.9634+06	1.5771+06	1.6241+04
17	2.55000+02	3.4778+09	1.9060+09	6.5048+08	1.6624+08	1.6007+08	1.4151+08	1.0278+08	3.4267+07	6.7115+06	8.6481+03
18	2.70000+02	4.9520+09	2.7441+09	5.8591+08	6.0382+06	2.7788+05	3.0160+03	1.9400+03	1.8292+03	1.7184+03	1.0169+03
19	2.85000+02	2.3834+09	1.1282+09	1.0541+08	1.1962+06	7.6946+04	7.0036+03	4.0974+03	3.8675+03	3.6332+03	2.1542+03
20	3.00000+02	1.5393+09	7.2335+08	1.6832+08	4.8090+06	3.6144+06	3.2125+06	2.3457+06	7.8547+05	1.5511+05	1.1353+03
21	3.15000+02	1.0419+09	6.0124+08	1.0556+08	2.6253+06	1.3055+06	1.1247+06	8.2112+05	2.7449+05	5.3676+04	3.6880+03
22	3.30000+02	4.7794+08	2.8184+08	6.5448+07	1.1007+06	4.3650+04	9.3218+01	6.3882+01	4.0734+08	6.6717+19	0.0000
23	3.45000+02	2.2217+09	1.3165+09	1.0647+08	5.7027+05	9.0034+03	9.7555+01	6.6853+61	4.2629+08	6.9820+19	0.0000
24	3.60000+02	2.7951+09	1.4054+09	3.4239+07	5.5317+05	2.2500+04	3.9199+04	1.2717+19	0.0000	0.0000	0.0000
25	3.75000+02	9.7496+08	4.9102+08	1.0749+08	7.5305+05	3.7759+03	7.5689+06	2.4555+21	0.0000	0.0000	0.0000
26	3.90000+02	6.0266+08	2.8274+08	1.2178+07	8.4288+04	3.7934+02	3.1461+12	0.0000	0.0000	0.0000	0.0000
27	4.05000+02	3.4099+08	2.0866+08	3.1483+07	8.2818+04	2.6015+03	4.3662+05	1.4165+20	0.0000	0.0000	0.0000
28	4.20000+02	2.0759+09	1.0299+09	2.3494+06	1.2310+00	2.0444+07	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+02	5.0142+08	2.2003+08	1.7229+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+02	1.2359+09	7.4353+08	1.8028+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+02	3.8051+08	2.0911+08	1.2457+05	8.2482+03	4.2191+02	7.5379+06	2.4455+21	0.0000	0.0000	0.0000
32	4.80000+02	1.7026+07	1.0482+07	5.2318+06	3.4781+05	1.7791+04	5.1786+04	1.0312+19	0.0000	0.0000	0.0000
33	4.95000+02	4.9909+07	2.2980+06	3.9661+05	2.6767+04	1.3487+03	2.4097+05	7.8177+21	0.0000	0.0000	0.0000
34	5.10000+02	7.6076+07	3.8904+07	9.4077+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+02	2.4094+08	1.0689+08	2.7128+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+02	1.3373+08	6.9921+07	1.7746+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+02	1.9016+08	7.3580+07	2.9187+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+02	7.3036+07	6.5142+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+02	1.1664+07	1.0403+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+02	2.7929+07	2.4910+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.166

SOURCE 7 (ALL F.P.), 200 DAYS, 1 WATT, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.1415-02	1.0890-02	1.5141-02	2.8740-02	2.9985-02	2.8103-02	2.5586-02	2.4564-02	2.2389-02	2.4841-02
2	3.00000+01	4.5719-02	4.4549-02	5.1492-02	7.4942-02	7.0074-02	4.7907-02	3.4623-02	2.7100-02	2.3416-02	2.5209-02
3	4.50000+01	8.7272-02	8.7489-02	8.4304-02	1.1009-01	1.0923-01	9.1776-02	7.4296-02	4.8431-02	2.8801-02	2.6177-02
4	6.00000+01	1.7360-01	1.6432-01	1.8109-01	2.4854-01	2.4141-01	2.1288-01	1.9908-01	1.5968-01	1.1313-01	4.9187-02
5	7.50000+01	2.6893-01	2.6467-01	3.2614-01	4.5317-01	4.3591-01	3.4058-01	3.0144-01	2.7541-01	2.5196-01	2.8700-01
6	9.00000+01	3.8946-01	3.9088-01	5.0659-01	6.6374-01	6.7939-01	6.4320-01	6.5328-01	7.8858-01	9.2598-01	9.5066-01
7	1.05000+00	4.7726-01	4.8798-01	5.8319-01	7.1464-01	7.1898-01	6.7161-01	6.7432-01	7.9887-01	9.2948-01	9.5310-01
8	1.20000+00	5.2443-01	5.3209-01	6.1978-01	7.3384-01	7.3113-01	6.7650-01	6.7619-01	7.9913-01	9.2965-01	9.5401-01
9	1.35000+00	5.8469-01	5.8733-01	6.4810-01	7.5491-01	7.4360-01	6.8031-01	6.7793-01	8.0013-01	9.3071-01	9.5454-01
10	1.50000+00	6.7431-01	6.7721-01	7.3909-01	7.8135-01	7.5974-01	6.9034-01	6.8209-01	8.0091-01	9.3175-01	9.6367-01
11	1.65000+00	7.3027-01	7.3637-01	8.2999-01	9.5673-01	9.7090-01	9.7476-01	9.7732-01	9.8543-01	9.9205-01	9.6406-01
12	1.80000+00	7.6212-01	7.6953-01	8.5645-01	9.7018-01	9.7627-01	9.7500-01	9.7738-01	9.8544-01	9.9207-01	9.6422-01
13	1.95000+00	7.8412-01	7.9287-01	8.8154-01	9.7642-01	9.7991-01	9.7677-01	9.7806-01	9.8544-01	9.9208-01	9.6426-01
14	2.10000+00	8.0924-01	8.1879-01	9.0651-01	9.8073-01	9.8356-01	9.7942-01	9.7915-01	9.8559-01	9.9212-01	9.6433-01
15	2.25000+00	8.3693-01	8.4932-01	9.2107-01	9.8011-01	9.8580-01	9.8131-01	9.8097-01	9.8823-01	9.9614-01	9.9777-01
16	2.40000+00	8.6365-01	8.7794-01	9.5418-01	9.8987-01	9.8884-01	9.8508-01	9.8459-01	9.9039-01	9.9885-01	9.9990-01
17	2.55000+00	8.8197-01	8.9504-01	9.6938-01	9.9900-01	9.9964-01	9.956-01	9.954-01	9.9971-01	9.9990-01	9.9997-01
18	2.70000+00	9.0805-01	9.1966-01	9.8286-01	9.9934-01	9.9966-01	9.9956-01	9.9954-01	9.9971-01	9.9990-01	9.9997-01
19	2.85000+00	9.2060-01	9.2978-01	9.8529-01	9.9940-01	9.9966-01	9.9956-01	9.9954-01	9.9971-01	9.9990-01	9.9997-01
20	3.00000+00	9.2871-01	9.3627-01	9.8916-01	9.9966-01	9.9991-01	9.9988-01	9.9988-01	9.9993-01	9.9998-01	1.00000+00
21	3.15000+00	9.3420-01	9.4167-01	9.9159-01	9.9981-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.3671-01	9.4419-01	9.9310-01	9.9987-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.4842-01	9.5601-01	9.9555-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.6314-01	9.6862-01	9.9633-01	9.9993-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.6827-01	9.7302-01	9.9681-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.7145-01	9.7556-01	9.9909-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.7324-01	9.7743-01	9.9981-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.8418-01	9.8667-01	9.9987-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.8682-01	9.8864-01	9.9987-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9331-01	9.9531-01	9.9987-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9533-01	9.9719-01	9.9987-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	9.9522-01	9.9728-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	9.9569-01	9.9731-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	9.9609-01	9.9765-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	9.9735-01	9.9861-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	9.9806-01	9.9924-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	9.9906-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	9.9945-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	9.9951-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	9.9965-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 7 (ALL F.P.), 200 DAYS, 1 WATT, PURE U-235

SOURCE 7 (ALL F.P.), 200 DAYS, 1 WATT, PURE U-235

Figure 3.111

Table 3.167

SOURCE 7 (ALL F.P.), 200 DAYS, 1 WATT, PURE U-235

BETA SPECTRA (BETAS/SEC)

GROUP	E(MEV)	COOLING TIMES									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	4.2411+10	4.2635+10	2.4965+10	1.9025+10	1.6790+10	1.2430+10	9.3689+09	5.7827+09	3.8741+09	2.2837+08
2	6.00000+01	3.7774+10	2.4711+10	1.2868+10	7.4487+09	5.9049+09	3.5681+09	2.5033+09	1.2554+09	6.4401+08	5.4204+07
3	9.00000+01	2.7218+10	1.6714+10	7.9124+09	4.0522+09	3.1189+09	1.8381+09	1.3437+09	7.9132+08	4.7752+08	5.3085+07
4	1.20000+00	1.9608+10	1.1358+10	4.4083+09	1.7686+09	1.2946+09	7.9807+08	6.4160+08	4.4374+08	3.0486+08	5.3151+07
5	1.50000+00	1.4886+10	7.9781+09	2.5594+09	7.4983+08	4.7106+08	2.6669+08	2.2541+08	1.7280+08	1.3549+08	4.7667+07
6	1.80000+00	1.1665+10	5.8493+09	1.6462+09	4.1258+08	2.2474+08	1.1324+08	9.9626+07	8.6115+07	7.7137+07	3.9869+07
7	2.10000+00	9.0503+09	4.1986+09	1.0403+09	2.5654+08	1.3274+08	7.3829+07	6.9482+07	6.3495+07	5.7881+07	2.9665+07
8	2.40000+00	6.9782+09	2.9926+09	6.3649+08	1.5289+08	7.4944+07	4.3063+07	4.2015+07	3.9463+07	3.6224+07	1.8409+07
9	2.70000+00	5.3413+09	2.1396+09	3.4245+08	7.4979+07	3.2123+07	1.9520+07	1.9109+07	1.7979+07	1.6519+07	8.4394+06
10	3.00000+00	4.0279+09	1.5250+09	2.2867+08	2.9807+07	7.2881+06	4.0037+06	3.9252+06	3.7010+06	3.4114+06	1.8044+06
11	3.30000+00	2.9399+09	1.0682+09	1.4169+08	1.3250+07	1.7665+06	4.5613+05	4.4570+05	4.2351+05	3.9494+05	2.3437+05
12	3.60000+00	2.0259+09	6.9482+08	8.2896+07	5.1145+06	4.3685+05	5.0891+04	4.8494+04	4.6071+04	4.2963+04	2.5496+04
13	3.90000+00	1.3354+09	4.1699+08	5.3518+07	2.7636+06	1.4244+05	3.6735+02	2.5523+00	1.6308+07	2.6514+18	0.0000
14	4.20000+00	8.4459+08	2.2465+08	3.6071+07	2.0349+06	1.0235+05	1.8066+00	1.2915+02	8.2517+10	1.3418+20	0.0000
15	4.50000+00	5.4745+08	1.2152+08	2.1815+07	1.3255+06	6.6954+04	1.1947+03	3.9294+19	0.0000	0.0000	0.0000
16	4.80000+00	3.7418+08	7.0327+07	1.1035+07	7.0013+05	3.5423+04	6.3215+04	2.0792+19	0.0000	0.0000	0.0000
17	5.10000+00	2.6318+08	3.8411+07	3.6475+06	2.3455+05	1.1867+04	2.1177+04	6.9655+20	0.0000	0.0000	0.0000
18	5.40000+00	1.8244+08	1.8886+07	2.7026+05	1.7381+04	8.7939+02	1.5694+05	5.1618+21	0.0000	0.0000	0.0000
19	5.70000+00	1.2634+08	8.7987+06	7.0746+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	8.7524+07	3.5642+06	2.9352+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	6.1004+07	1.0285+06	5.0496+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	4.1089+07	3.9546+05	1.2966+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	2.4415+07	1.7678+05	5.4467+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	1.1460+07	4.0572+04	1.3208+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	3.3474+06	7.7122+02	2.1886+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.168

SOURCE 7 (ALL F.P.), 200 DAYS, 1 WATT, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	9.3616+09	6.3952+09	4.0447+09	2.8537+09	2.5185+09	1.8645+09	1.4053+09	8.6740+08	5.8112+08	7.9255+07
2	6.00000+01	1.6998+10	1.1120+10	5.7907+09	3.3519+09	2.6572+09	1.8057+09	1.1265+09	5.6492+08	2.8980+08	2.4394+07
3	9.00000+01	2.0413+10	1.2686+10	5.9343+09	3.0391+09	2.3392+09	1.3785+09	1.0078+09	5.9349+08	3.5814+08	3.9814+07
4	1.20000+00	2.0588+10	1.1926+10	4.6287+09	1.8570+09	1.3594+09	8.3797+08	6.7369+08	4.6593+08	3.2010+08	5.5809+07
5	1.50000+00	2.0042+10	1.0770+10	3.4552+09	1.0123+09	6.3593+08	3.6003+08	3.0430+08	2.3328+08	1.8292+08	6.4351+07
6	1.80000+00	1.9248+10	9.6514+09	2.7162+09	6.6076+08	3.7021+08	1.8685+08	1.6438+08	1.4209+08	1.2728+08	6.5783+07
7	2.10000+00	1.7648+10	8.1873+09	2.0285+09	5.0025+08	2.5884+08	1.4397+08	1.3549+08	1.2362+08	1.1287+08	5.7847+07
8	2.40000+00	1.5701+10	6.7333+09	1.4321+09	3.4062+08	1.6862+08	9.6892+07	9.4534+07	8.8793+07	8.1515+07	4.1419+07
9	2.70000+00	1.3620+10	5.4559+09	9.7526+08	1.9120+08	8.1913+07	4.9775+07	4.8728+07	4.5847+07	4.2123+07	2.1521+07
10	3.00000+00	1.1079+10	4.3462+09	6.5171+08	8.3810+07	2.0771+07	1.1410+07	1.1187+07	1.0544+07	9.7224+06	5.1424+06
11	3.30000+00	9.2608+09	3.3648+09	4.4633+08	4.1738+07	5.5644+06	1.4368+06	1.4040+06	1.3341+06	1.2441+06	7.3826+05
12	3.60000+00	6.9894+09	2.3971+09	2.8599+08	1.7645+07	1.5071+06	1.7557+05	1.6730+05	1.5895+05	1.4822+05	8.7959+04
13	3.90000+00	5.0077+09	1.5637+09	2.0049+08	1.0364+07	5.3417+05	1.3776+03	9.5712+00	6.1154+07	9.4429+18	0.0000
14	4.20000+00	3.4206+09	9.2601+08	1.4609+08	8.2415+06	4.1452+05	7.5355+00	5.2305+02	3.3420+09	5.4336+20	0.0000
15	4.50000+00	2.3596+09	5.2862+08	9.4897+07	5.7659+06	2.9125+05	5.1966+03	1.7093+18	0.0000	0.0000	0.0000
16	4.80000+00	1.7399+09	3.2702+08	5.1315+07	3.2556+06	1.6472+05	2.4395+03	9.6684+19	0.0000	0.0000	0.0000
17	5.10000+00	1.3028+09	1.9013+08	1.8055+07	1.1610+06	5.8741+04	1.0483+03	3.4479+19	0.0000	0.0000	0.0000
18	5.40000+00	9.5992+08	9.9151+07	1.4189+06	9.1251+04	4.6168+03	8.2391+05	2.7099+20	0.0000	0.0000	0.0000
19	5.70000+00	7.0121+08	4.8833+07	3.9286+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	5.1201+08	2.0850+07	1.1717+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	3.7518+08	6.3250+06	3.1055+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	2.6502+08	2.5533+06	8.3633+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	1.6480+08	1.1933+06	3.6765+14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	8.0790+07	2.8603+05	9.3118+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	2.4603+07	5.6685+03	1.6086+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.169

SOURCE 7 (ALL F.P.), 200 DAYS, 1 WATT, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	4.7218-02	6.6102-02	1.2293-01	2.0380-01	2.4170-01	2.8521-01	2.8257-01	2.7685-01	2.7581-01	1.7374-01
2	6.00000+01	1.3295-01	1.8104-01	2.9893-01	4.4319-01	4.9672-01	5.3083-01	5.0906-01	4.5650-01	4.1335-01	2.2722-01
3	9.00000+01	2.3591-01	3.1216-01	4.7929-01	6.6023-01	7.2122-01	7.4171-01	7.1170-01	6.4566-01	5.8333-01	3.1450-01
4	1.20000+00	3.3976-01	4.3543-01	6.1997-01	7.9285-01	8.5168-01	8.6989-01	8.4715-01	7.9415-01	7.3525-01	4.3684-01
5	1.50000+00	4.4084-01	5.4675-01	7.2499-01	8.6515-01	9.1271-01	9.2497-01	9.0834-01	8.6850-01	8.2207-01	5.7741-01
6	1.80000+00	5.3792-01	6.4651-01	8.0754-01	9.1374-01	9.4830-01	9.5355-01	9.4139-01	9.1379-01	8.8248-01	7.2212-01
7	2.10000+00	6.2694-01	7.3114-01	8.8919-01	9.4949-01	9.7318-01	9.7557-01	9.6863-01	9.5325-01	9.3604-01	8.4894-01
8	2.40000+00	7.0613-01	8.0073-01	9.1272-01	9.7406-01	9.8233-01	9.9039-01	9.8764-01	9.8155-01	9.7473-01	9.5974-01
9	2.70000+00	7.7483-01	8.5713-01	9.4236-01	9.8771-01	9.9719-01	9.9801-01	9.9743-01	9.9616-01	9.9472-01	9.8692-01
10	3.00000+00	8.3273-01	9.0205-01	9.6217-01	9.9370-01	9.9918-01	9.9975-01	9.9968-01	9.9952-01	9.9934-01	9.9819-01
11	3.30000+00	8.7944-01	9.3683-01	9.7573-01	9.9668-01	9.9971-01	9.9997-01	9.9997-01	9.9995-01	9.9993-01	9.9981-01
12	3.60000+00	9.1469-01	9.6160-01	9.8442-01	9.9794-01	9.9986-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.3995-01	9.7777-01	9.9052-01	9.9863-01	9.9991-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.5720-01	9.8734-01	9.9496-01	9.9927-01	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.6910-01	9.9280-01	9.9785-01	9.9968-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.7788-01	9.9618-01	9.9941-01	9.9991-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.8445-01	9.9815-01	9.9996-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.8929-01	9.9917-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9283-01	9.9968-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9541-01	9.9989-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9733-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	9.9864-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9947-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	9.9988-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 7 (ALL F.P.), 200 DAYS, 1 WATT, PURE U-235

SOURCE 7 (ALL F.P.), 200 DAYS, 1 WATT, PURE U-235

The results given in Tables 3.170 through 3.187 and Figures 3.114 through 3.125 for Source 1 and Tables 3.188 through 3.205 and Figures 3.126 through 3.137 for Source 2, show that contribution of daughters to the spectral shape is mixed, with certain cooling times showing little or no effect and others showing significant changes. It has not been possible to fully analyze these results and to make general conclusions (if indeed such are possible) pertaining to the importance of daughters on the spectrum as a function of source type or cooling time.

It is anticipated, however, that the effects of daughters on both beta and gamma spectra are insignificant.

Spectra have also been calculated for the case where effects of capture were included at high power. Spectra for Source 1 at both equilibrium and 200 day irradiations are presented in Tables 3.206 through 3.241 and Figures 3.138 through 3.161.

The so-called realistic case calculations are given in Tables 3.242 through 3.259 and Figures 3.162 through 3.173 for Source 1 and in Tables 3.260 through 3.277 and Figures 3.174 through 3.185 for Source 2.

A parameter of interest in comparing the behavior of spectra is the average energy. For all the spectra reported here average particle energy has been computed using the following definition.

$$\bar{E} = \frac{\int_0^{\infty} EN(E)dE}{\int_0^{\infty} N(E)dE} ,$$

where E is the particle energy and N(E) is the number spectrum. The results for Sources 1 through 7 are listed in Table 3.278. This quantity was found to be nearly independent of length of irradiation. In fact the differences are so small that they would not show up on the plots. Graphs of average gamma or beta energy versus cooling time are shown in Figures 3.186 through 3.194. The data points have been connected by smooth curves. Note that there are insufficient data at short cooling times to properly define the shape of the curve. Thus at short times the curves should be taken only as an indication of the behavior of the average energy.

Table 3.170

SOURCE 1 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	5.9056+09	3.6582+09	3.6597+09	2.0972+09	1.5329+09	9.3571+08	4.1045+08	2.4475+07	4.4066+05	1.3866-07
2	1.00000+01	7.5730+09	5.0989+09	3.2471+09	1.2262+09	6.0010+08	4.3138+07	1.4204+07	1.6060+06	1.0657+05	1.4313-04
3	4.50000+01	2.4920+09	1.8164+09	7.7170+08	2.4084+08	2.3109+08	2.3829+08	1.3213+08	1.8724+07	1.2223+06	4.4648-06
4	6.00000+01	4.1086+09	2.4667+09	8.9954+08	4.1177+08	2.8632+08	3.6414+07	1.3947+06	5.7291+05	4.3838+05	4.0276+05
5	7.50000+01	1.5110+09	9.4441+08	5.5011+08	4.9577+07	3.3422+07	2.6633+07	1.4200+07	2.0116+06	1.3134+05	4.7978-07
6	9.00000+01	2.4967+09	2.0827+09	1.2163+09	5.8163+07	2.3422+07	2.3819+06	1.8235+04	1.6382-03	5.3968-14	0.0000
7	1.05000+00	6.6494+08	4.8801+08	2.0259+08	2.1046+07	5.4072+06	3.7048+05	9.0108+04	8.1709+04	0.0000	0.0000
8	1.20000+00	1.8953+09	8.6530+08	3.1821+08	5.0186+07	1.5715+07	1.9758+05	1.4389+03	1.2927+02	4.2586-15	0.0000
9	1.35000+00	1.1745+09	5.9644+08	2.3430+08	6.4731+07	2.6149+07	1.4271+06	1.0865+04	9.7618+04	3.2156-14	0.0000
10	1.50000+00	5.0399+08	3.2687+08	1.3433+08	1.8110+07	4.8693+06	3.3577+03	8.1665+04	7.4052-26	0.0000	0.0000
11	1.65000+00	8.6305+08	5.3163+08	2.0890+08	1.4034+07	1.7289+06	8.1099+02	1.9724+04	1.7886-26	0.0000	0.0000
12	1.80000+00	1.0367+09	7.2815+08	1.7786+08	3.4385+07	1.0501+07	7.4096+03	1.8022+03	1.6342-25	0.0000	0.0000
13	1.95000+00	2.3070+08	1.6553+08	3.7011+07	1.7610+06	4.5564+05	3.1214+02	7.5918+05	6.8841-27	0.0000	0.0000
14	2.10000+00	8.0587+08	6.5533+08	1.5831+08	7.4839+06	7.1787+05	2.6255+02	6.3856+05	5.7904-27	0.0000	0.0000
15	2.25000+00	3.6668+08	2.8521+08	2.1423+08	1.2764+07	7.1906+05	1.8065+02	5.5495+18	0.0000	0.0000	0.0000
16	2.40000+00	7.3536+08	6.2155+08	4.5490+08	2.6955+07	1.5211+06	3.8282-02	1.1761-17	0.0000	0.0000	0.0000
17	2.55000+00	1.9314+08	7.4196+07	1.8630+07	6.9705+05	3.8914+04	7.7385+04	2.9914+19	0.0000	0.0000	0.0000
18	2.70000+00	1.8709+08	1.4792+08	8.0775+07	2.0449+05	1.7771+03	3.7813-05	1.1617-20	0.0000	0.0000	0.0000
19	2.85000+00	1.4593+08	4.9092+07	4.6599+06	1.6322+05	8.9699+03	2.2571-04	6.9341-20	0.0000	0.0000	0.0000
20	3.00000+00	1.1099+08	6.1137+07	2.3878+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	3.15000+00	4.8892+07	3.0235+07	7.4889+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	3.30000+00	1.9776+07	1.2112+07	3.0757+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	3.45000+00	5.3586+07	3.7896+07	2.7864+06	6.1920+03	9.5915+00	1.0296-16	0.0000	0.0000	0.0000	0.0000
24	3.60000+00	3.6197+07	2.5884+07	7.0001+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	3.75000+00	2.8674+07	2.0629+07	5.6695+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
26	3.90000+00	1.1642+07	8.4909+06	2.3336+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	2.8534+07	2.0811+07	5.7196+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
28	4.20000+00	4.4765+06	3.2648+06	8.9730+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	3.7855+06	2.7608+06	7.5878+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	4.2332+06	3.0874+06	8.4852+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	5.6986+05	4.1561+05	1.1422+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
32	4.80000+00	5.6986+05	4.1561+05	1.1422+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.171

SOURCE 1 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	4.4292+08	2.7437+08	2.7448+08	1.5729+08	1.1493+08	7.0178+07	3.0784+07	1.8356+06	3.3349+04	1.0399+08
2	3.00000+01	1.7039+09	1.1473+09	7.1061+08	2.7589+08	1.3502+08	9.7060+06	3.1956+06	3.6134+05	2.3979+04	3.2204+05
3	4.50000+01	9.3651+08	6.8113+08	2.8920+08	9.0316+07	8.5659+07	8.9357+07	4.9548+07	7.0215+06	4.5837+05	1.6743+06
4	6.00000+01	2.1780+09	1.2948+09	4.7226+08	2.1615+08	1.5137+08	1.9118+07	7.3223+05	3.0078+05	2.3015+05	2.1145+05
5	7.50000+01	1.0199+09	6.3748+08	3.7132+08	3.3485+07	2.2587+07	1.7977+07	9.5851+06	1.3579+06	8.8653+04	3.2384+07
6	9.00000+01	2.0593+09	1.7182+09	1.0035+09	4.7984+07	1.9323+07	1.9650+06	1.5044+04	1.3515+03	4.4523+14	0.0000
7	1.05000+00	6.4832+08	4.7581+08	1.9753+08	2.0519+07	5.2721+06	3.6122+05	8.7855+04	7.9666+26	0.0000	0.0000
8	1.20000+00	2.1322+09	9.7737+08	1.5799+08	5.6459+07	1.7680+07	2.2228+05	1.6188+03	1.4543+04	4.7910+15	0.0000
9	1.35000+00	1.4974+09	7.6046+08	2.9873+08	8.2532+07	3.3340+07	1.8195+06	1.3853+04	1.2445+03	4.0949+14	0.0000
10	1.50000+00	7.1819+08	4.6579+08	1.9142+08	2.5807+07	6.9387+06	4.7847+03	1.1637+03	1.0552+25	0.0000	0.0000
11	1.65000+00	1.3908+09	8.3732+08	3.2902+08	2.2104+07	2.7230+06	1.2773+03	3.1066+04	2.8170+26	0.0000	0.0000
12	1.80000+00	1.7883+09	1.2561+09	1.0641+08	5.9315+07	1.8114+07	1.2782+04	3.1087+03	2.8189+25	0.0000	0.0000
13	1.95000+00	4.3256+08	3.1111+08	6.9395+07	3.3019+06	8.5033+05	5.8526+02	1.4235+04	1.2908+26	0.0000	0.0000
14	2.10000+00	1.6319+09	1.3270+09	3.2058+08	1.5155+07	1.4537+06	5.3167+02	1.2931+04	1.1726+26	0.0000	0.0000
15	2.25000+00	7.9752+08	6.2034+08	4.6596+08	2.7762+07	1.5639+06	3.9291+02	1.2070+17	0.0000	0.0000	0.0000
16	2.40000+00	1.7097+09	1.4451+09	1.0576+09	6.2671+07	3.5366+06	8.9006+02	2.7343+17	0.0000	0.0000	0.0000
17	2.55000+00	4.7803+08	1.8364+08	4.1109+07	1.7252+06	9.6312+04	2.4103+03	7.4038+19	0.0000	0.0000	0.0000
18	2.70000+00	4.9111+08	3.8829+08	2.1204+08	5.3680+05	4.6648+03	9.9259+05	3.0493+20	0.0000	0.0000	0.0000
19	2.85000+00	4.0496+08	1.3734+08	1.2931+07	4.5292+05	2.4891+04	6.2635+04	1.9242+19	0.0000	0.0000	0.0000
20	3.00000+00	3.2466+08	1.7483+08	6.9444+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	3.15000+00	1.5034+08	9.2971+07	2.3029+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	3.30000+00	6.3778+07	3.9062+07	9.9192+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	3.45000+00	1.8085+08	1.2790+08	9.4041+06	2.0898+04	3.2371+01	3.4750+16	0.0000	0.0000	0.0000	0.0000
24	3.60000+00	1.2759+08	9.1242+07	2.4675+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	3.75000+00	1.0538+08	7.5810+07	2.0835+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
26	3.90000+00	4.4532+07	3.2478+07	8.9261+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	1.1342+08	8.2723+07	2.2735+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
28	4.20000+00	1.8466+07	1.3467+07	3.7013+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	1.6183+07	1.1803+07	3.2438+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	1.8712+07	1.3682+07	3.7547+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	2.6071+06	1.9014+06	5.2258+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
32	4.80000+00	2.6926+06	1.9637+06	5.3971+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.172

SOURCE 1 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

-----COOLING TIME-----												
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	1.40000+01	1.8745-02	1.7477-02	3.9117-02	1.3111-01	1.5492-01	3.3360-01	3.2792-01	1.6876-01	3.9963-02	4.4181-14	
2	3.00000+01	9.0857-02	9.0556-02	1.4324-01	3.6115-01	4.0218-01	3.7974-01	3.6196-01	2.0198-01	6.8698-02	1.5235-10	
3	4.50000+01	1.3041-01	1.3394-01	1.8445-01	4.3644-01	5.4162-01	8.0451-01	8.8977-01	8.4751-01	6.1797-01	1.6627-10	
4	6.00000+01	2.2254-01	2.1662-01	2.5176-01	6.1665-01	7.8517-01	8.9538-01	8.9757-01	8.7516-01	8.9377-01	1.0000+00	
5	7.50000+01	2.6575-01	2.5703-01	3.0467-01	6.4455-01	8.2152-01	9.8084-01	9.9667-01	1.0000+00	1.0000+00	1.0000+00	
6	9.00000+01	3.5290-01	3.6648-01	4.4748-01	6.8456-01	8.5261-01	9.9018-01	9.9984-01	1.0000+00	1.0000+00	1.0000+00	
7	1.05000+00	3.8034-01	3.9679-01	4.7543-01	7.0164-01	8.6109-01	9.9820-01	9.9984-01	1.0000+00	1.0000+00	1.0000+00	
8	1.20000+00	4.7057-01	4.5879-01	5.2645-01	7.4871-01	8.8954-01	9.9126-01	9.9985-01	1.0000+00	1.0000+00	1.0000+00	
9	1.35000+00	5.3395-01	5.0723-01	5.6902-01	8.1754-01	9.4319-01	9.9991-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
10	1.50000+00	5.6434-01	5.3690-01	5.9670-01	8.3906-01	9.5435-01	9.9943-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
11	1.65000+00	6.2320-01	5.9024-01	6.4359-01	8.5749-01	9.5873-01	9.9993-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
12	1.80000+00	6.9884-01	6.7025-01	6.8732-01	9.0694-01	9.8744-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
13	1.95000+00	7.1719-01	6.9007-01	6.9721-01	9.0969-01	9.8925-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
14	2.10000+00	7.8625-01	7.7460-01	7.4249-01	9.2232-01	9.9159-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
15	2.25000+00	8.2001-01	8.1011-01	8.0910-01	9.4547-01	9.9411-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
16	2.40000+00	8.9236-01	9.0617-01	9.5003-01	9.9772-01	9.9980-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
17	2.55000+00	9.1259-01	9.1786-01	9.6640-01	9.9916-01	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
18	2.70000+00	9.3334-01	9.4260-01	9.9642-01	9.9960-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
19	2.85000+00	9.5052-01	9.5135-01	9.9466-01	9.9994-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
20	3.00000+00	9.6476-01	9.6278-01	9.9866-01	9.9994-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
21	3.15000+00	9.7042-01	9.6866-01	9.9866-01	9.9994-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
22	3.30000+00	9.7332-01	9.7115-01	9.9866-01	9.9994-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
23	3.45000+00	9.8097-01	9.7929-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
24	3.60000+00	9.8637-01	9.8511-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
25	3.75000+00	9.9043-01	9.8994-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
26	3.90000+00	9.9272-01	9.9200-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
27	4.05000+00	9.9752-01	9.9727-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
28	4.20000+00	9.9840-01	9.9813-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
29	4.35000+00	9.9894-01	9.9884-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
30	4.50000+00	9.9974-01	9.9975-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
31	4.65000+00	9.9994-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
32	4.80000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
33	4.95000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
34	5.10000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
35	5.25000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
36	5.40000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
37	5.55000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
38	5.70000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
39	5.85000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	
40	6.00000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	

Table 3.173

SOURCE 1 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

BETA SPECTRA (BETAS/SEC)

GROUP	F(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000-01	7.6345+09	6.8969+09	8.6176+09	3.1288+09	2.1130+09	1.1562+09	5.9251+08	1.1253+08	6.2624+07	5.7038+07
2	6.00000-01	3.5748+09	2.9655+09	2.9014+09	6.6188+08	2.8552+08	5.2883+07	3.6405+07	2.8127+07	2.7399+07	2.5799+07
3	9.00000-01	2.1094+09	1.5012+09	1.0056+09	1.9238+08	7.9935+07	3.7885+06	4.1127+05	4.4859+05	4.8470+05	4.6043+05
4	1.20000+00	1.6636+09	1.0276+09	3.3392+08	2.6885+07	1.1641+07	7.9215+05	6.6908+03	9.2808+04	3.8680+14	0.0000
5	1.50000+00	1.5083+09	8.7078+08	1.8573+08	2.5883+06	4.1587+05	8.9039+03	7.4271+01	1.0302+05	4.2936+16	0.0000
6	1.80000+00	1.3431+09	7.4473+08	1.3666+08	8.9289+05	5.5656+04	3.0470+01	1.3625+01	1.8899+08	7.8765+19	0.0000
7	2.10000+00	1.1266+09	6.0103+08	1.0261+08	4.4230+05	2.8370+04	3.9596+00	1.0615+06	1.4862+28	0.0000	0.0000
8	2.40000+00	8.9961+08	4.5911+08	7.3285+07	2.0342+05	4.8914+03	7.3277+02	1.9625+08	2.7477+30	0.0000	0.0000
9	2.70000+00	7.1759+08	3.4843+08	4.9890+07	8.9229+04	9.7573+02	1.4267+05	4.8312+21	0.0000	0.0000	0.0000
10	3.00000+00	5.7561+08	2.5857+08	3.0247+07	4.2214+04	5.0062+01	1.6798+08	5.6882+24	0.0000	0.0000	0.0000
11	3.30000+00	4.3905+08	1.7714+08	1.4457+07	2.0174+04	2.3431+01	1.5892+16	0.0000	0.0000	0.0000	0.0000
12	3.60000+00	3.1144+08	1.0707+08	4.4660+06	4.2309+03	7.2369+00	4.9082+17	0.0000	0.0000	0.0000	0.0000
13	3.90000+00	2.0448+08	5.4623+07	6.3563+05	8.8585+02	1.0289+00	6.9789+18	0.0000	0.0000	0.0000	0.0000
14	4.20000+00	1.2561+08	2.2811+07	2.8974+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	4.50000+00	7.4982+07	6.3035+06	2.1182+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	4.80000+00	4.7105+07	1.7173+06	2.8678+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	5.10000+00	2.8023+07	2.6031+05	8.8169+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	5.40000+00	1.4307+07	1.1566+05	7.5989+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	5.70000+00	5.2219+06	4.8920+04	4.2768+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	7.9490+05	1.2080+04	1.7164+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	2.0073+03	1.1293+03	2.6352+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.174

SOURCE 1 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

BETA ENERGY SPECTRA (MEV/SEC)

-----COOLING TIMES-----

GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	1.1452+09	1.0345+09	1.2926+09	4.6929+08	3.1696+08	1.7343+08	8.8677+07	1.6879+07	9.3937+06	8.6457+06
2	6.00000+01	1.6087+09	1.3345+09	1.3056+09	2.9785+08	1.2848+08	2.3797+07	1.6382+07	1.2657+07	1.2324+07	1.1609+07
3	9.00000+01	1.5820+09	1.1259+09	7.5419+08	1.4428+08	5.9951+07	2.8414+06	3.0845+05	3.3644+05	3.6359+05	3.4532+05
4	1.20000+00	1.7468+09	1.0790+09	3.5062+08	2.6229+07	1.2273+07	8.3175+05	7.0253+03	9.7449+04	4.0814+14	0.0000
5	1.50000+00	2.0362+09	1.1755+09	2.5074+08	3.4941+06	5.6143+05	1.2020+04	1.0027+02	1.3908+05	5.7964+16	0.0000
6	1.80000+00	2.2161+09	1.2288+09	2.2549+08	1.0729+06	9.1832+04	5.0275+01	2.2481+01	3.1163+08	1.2496+18	0.0000
7	2.10000+00	2.1968+09	1.1720+09	2.0009+08	8.6749+05	3.9721+04	7.7212+00	2.0649+06	2.8986+28	0.0000	0.0000
8	2.40000+00	2.0241+09	1.0330+09	1.6489+08	4.5769+05	1.1006+04	1.6487+01	4.4157+08	6.1623+30	0.0000	0.0000
9	2.70000+00	1.8298+09	8.8850+08	1.2722+08	2.2754+05	2.4681+03	3.6381+05	1.2319+20	0.0000	0.0000	0.0000
10	3.00000+00	1.6405+09	7.3691+08	8.6205+07	1.2032+05	1.4268+02	4.7874+08	1.6211+23	0.0000	0.0000	0.0000
11	3.30000+00	1.3830+09	5.5800+08	4.5538+07	6.3549+04	7.3889+01	5.0059+16	0.0000	0.0000	0.0000	0.0000
12	3.60000+00	1.0745+09	3.6939+08	1.5408+07	2.1497+04	2.4967+01	1.6933+16	0.0000	0.0000	0.0000	0.0000
13	3.90000+00	7.6679+08	2.0483+08	2.3836+06	3.3219+03	3.8583+00	2.6168+17	0.0000	0.0000	0.0000	0.0000
14	4.20000+00	5.0874+08	8.9143+07	1.1734+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	4.50000+00	3.2617+08	2.7420+07	9.2143+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	4.80000+00	2.1904+08	7.9853+06	1.3335+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	5.10000+00	1.3872+08	1.2886+06	4.3644+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	5.40000+00	7.5111+07	6.0723+05	3.9873+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	5.70000+00	2.8982+07	2.6651+05	2.3736+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	4.6502+06	7.0667+04	1.0041+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.2345+04	6.9449+03	1.6206+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.175

SOURCE 1 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E(MFV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000-01	5.0780-02	8.5726-02	2.6812-01	4.9588-01	6.1151-01	8.6321-01	8.4184-01	5.6503-01	4.7531-01	4.1969-01
2	6.00000-01	1.2211-01	1.9631-01	5.7074-01	8.1061-01	8.5939-01	9.8166-01	9.9701-01	9.8874-01	9.8354-01	9.8324-01
3	9.00000-01	1.9226-01	2.8961-01	6.9536-01	9.6307-01	9.7505-01	9.9580-01	9.9991-01	1.0000+00	1.0000+00	1.0000+00
4	1.20000+00	2.6972-01	3.7902-01	7.6811-01	9.9290-01	9.9864-01	9.9994-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
5	1.50000+00	3.6001-01	4.7643-01	8.7011-01	9.9659-01	9.9972-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
6	1.80000+00	4.5826-01	5.7826-01	8.6689-01	9.9814-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
7	2.10000+00	5.5569-01	6.7538-01	9.0839-01	9.9906-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
8	2.40000+00	6.4544-01	7.6098-01	9.4259-01	9.9954-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	7.2658-01	8.3461-01	9.6898-01	9.9978-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	7.9932-01	8.9567-01	9.8686-01	9.9991-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	8.6065-01	9.4191-01	9.9631-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.0829-01	9.7252-01	9.9951-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.4229-01	9.8949-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.6485-01	9.9688-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.7931-01	9.9915-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.8903-01	9.9981-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9518-01	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9851-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9979-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

Table 3.176

SOURCE 1 (PLATE OUT), EQUILIBRIUM, 1 MATT, PURE U-235 (ND)

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	2.7603+08	1.8745+08	8.1394+07	5.7663+07	5.4495+07	3.7936+07	2.5657+07	1.4330+07	8.3954+06	1.1423+06
2	3.00000+01	4.8154+08	2.7585+08	1.0391+08	4.9146+07	3.8140+07	1.9505+07	9.0972+06	1.5422+06	1.9994+05	7.8003+03
3	4.50000+01	7.7697+08	4.8574+08	2.7553+08	2.1316+08	1.9896+08	1.4328+08	8.4336+07	1.5524+07	1.3858+06	2.6290+04
4	6.00000+01	1.1621+09	8.7555+08	6.7850+08	3.9437+08	2.6748+08	4.3498+07	1.7725+07	8.5744+06	3.9762+06	1.6192+05
5	7.50000+01	9.9715+08	7.6713+08	5.1346+08	1.2202+08	9.1966+07	5.2231+07	3.6986+07	2.5081+07	2.2267+07	1.8464+07
6	9.00000+01	2.0024+09	1.5482+09	8.2953+08	9.6170+07	7.1747+07	4.4534+07	3.5933+07	2.8230+07	2.2260+07	1.2555+06
7	1.65000+00	3.9070+08	2.9554+08	1.5862+08	2.6959+07	1.0754+07	2.9656+06	1.5468+06	4.1574+05	9.5685+04	1.0916+04
8	1.20000+00	4.4501+08	3.8619+08	2.1776+08	4.5657+07	1.8303+07	5.5421+05	1.2337+05	1.3006+04	7.5843+03	3.6290+03
9	1.35000+00	7.8353+08	4.2693+08	1.6334+08	5.9023+07	2.2593+07	1.0935+06	1.0699+05	3.2663+04	2.1198+04	6.5715+02
10	1.50000+00	2.2475+08	1.6793+08	1.0329+08	1.8127+07	5.6884+06	7.4573+05	2.3742+05	4.9439+04	4.3771+04	2.2842+04
11	1.65000+00	1.0992+08	8.1856+07	4.8554+07	2.4796+07	2.2275+07	1.8277+07	1.3312+07	4.4609+06	8.8719+05	1.0995+03
12	1.80000+00	1.7196+08	1.3455+08	1.0353+08	3.1237+07	8.9368+06	1.8161+04	2.9544+03	7.2215+02	8.4340+02	3.9353+02
13	1.95000+00	7.3641+07	5.6182+07	2.6946+07	1.8751+06	6.5935+05	9.5864+04	2.5920+04	8.9478+02	2.3690+02	8.1404+01
14	2.10000+00	3.5934+07	2.3600+07	1.0720+07	1.5995+06	5.8871+05	1.3318+05	3.8260+04	2.1789+03	6.1109+02	1.6281+02
15	2.25000+00	2.0556+07	1.4924+07	4.6582+06	3.1722+05	2.2946+05	1.6754+05	1.3661+05	1.1861+05	1.1069+05	5.7599+04
16	2.40000+00	4.9867+07	2.6871+07	4.0856+06	2.6159+05	2.1013+05	1.6428+05	1.1082+05	3.5736+04	7.4007+03	2.4421+02
17	2.55000+00	4.2422+07	2.5234+07	6.2776+06	7.1869+05	6.9483+05	5.9200+05	4.2907+05	1.4345+05	2.8636+04	1.2216+02
18	2.70000+00	7.8314+07	2.0066+07	1.2637+06	2.9178+05	1.2213+05	3.1422+05	2.4276+05	2.3030+05	2.1968+05	1.3570+01
19	2.85000+00	4.7535+06	2.7997+06	3.0593+05	2.3978+05	2.2114+05	6.0450+05	4.8536+05	4.6059+05	4.3937+05	2.7139+01
20	3.00000+00	1.7301+07	8.4444+06	5.7495+05	1.7560+04	1.3293+04	1.1386+04	8.2994+03	2.7952+03	5.7244+02	1.3570+01
21	3.15000+00	2.2146+06	1.3836+06	2.8521+05	6.4001+03	4.4213+03	3.7861+03	2.7579+03	9.2392+02	1.8346+02	1.3132+05
22	3.30000+00	9.3971+05	5.9846+05	1.5099+05	1.1573+03	1.7654+01	2.9919+01	2.0458+03	1.3073+10	2.1743+21	0.0000
23	3.45000+00	4.8270+06	2.9229+06	2.5015+05	1.7450+03	2.8573+01	1.7051+00	2.9920+01	2.0458+03	1.3073+10	2.1743+21
24	3.60000+00	6.2577+06	3.2218+06	7.7872+04	3.7606+02	1.7051+00	1.6271+11	5.2628+27	0.0000	0.0000	0.0000
25	3.75000+00	1.9156+06	9.9728+05	2.9188+05	2.1622+03	9.7082+00	3.7941+13	9.7470+29	0.0000	0.0000	0.0000
26	3.90000+00	1.1956+06	5.5343+05	3.1817+04	2.3508+02	1.0653+00	8.5137+15	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	1.4069+05	7.2932+04	1.4206+04	9.4014+01	4.2612+01	1.6093+12	5.1984+28	0.0000	0.0000	0.0000
28	4.20000+00	3.3867+06	1.7686+06	2.1734+03	9.6445+04	1.8033+10	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	9.4251+05	4.1151+05	3.6423+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	2.2957+06	1.3681+06	3.6422+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	6.9107+05	3.7318+05	3.1336+01	2.7168+04	1.3991+05	2.4088+13	7.7976+29	0.0000	0.0000	0.0000
32	4.80000+00	2.4079+04	1.5900+04	1.2392+03	1.1093+02	5.7127+04	9.8351+12	3.1637+27	0.0000	0.0000	0.0000
33	4.95000+00	8.5819+04	3.9569+03	9.1048+01	8.1504+04	4.1974+05	7.2764+13	2.3393+28	0.0000	0.0000	0.0000
34	5.10000+00	1.2691+05	6.3794+04	1.7020+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	3.9029+05	1.7022+05	4.7655+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	2.1851+05	1.0821+05	3.0295+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	2.0156+04	1.6460+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	1.0884+05	8.8885+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	1.6931+04	1.3827+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	3.9514+04	3.2268+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.177

SOURCE 1 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	2.0702+07	1.4059+07	6.1045+06	4.3248+06	4.0871+06	2.8452+06	1.9243+06	1.0748+06	6.2966+05	8.5675+04
2	3.00000+01	1.0835+08	6.2067+07	2.3380+07	1.1058+07	8.5814+06	4.3887+06	2.0469+06	3.4699+05	4.4487+04	1.7551+03
3	4.50000+01	2.9176+08	1.8215+08	1.0332+08	7.9934+07	7.4611+07	5.3728+07	3.1626+07	5.8217+06	5.1968+05	4.8586+03
4	6.00000+01	6.1011+08	4.5966+08	3.5621+08	2.0704+08	1.4043+08	2.2837+07	9.3058+06	4.5016+06	2.0875+06	8.5006+04
5	7.50000+01	6.7308+08	5.1781+08	3.4658+08	8.2364+07	6.2077+07	3.5256+07	2.4965+07	1.7200+07	1.5030+07	1.2463+07
6	9.00000+01	1.6520+09	1.2773+09	6.8476+08	7.9340+07	5.9191+07	3.6741+07	2.9644+07	2.3290+07	1.8394+07	1.0358+06
7	1.05000+00	3.8093+08	2.8815+08	1.5465+08	2.6285+07	1.0485+07	2.8914+06	1.5082+06	4.0538+05	9.3293+04	1.0643+04
8	1.20000+00	5.0064+08	3.8947+08	2.4498+08	5.1364+07	1.6091+07	6.2349+05	1.3879+05	1.4632+04	8.5323+03	4.0826+03
9	1.35000+00	9.9900+08	5.4434+08	2.0826+08	7.5255+07	2.8807+07	1.3943+06	1.3642+05	4.1646+04	2.7027+04	8.3787+02
10	1.50000+00	3.2026+08	2.3930+08	1.4719+08	2.5824+07	8.1060+06	1.0627+06	3.3832+05	7.0451+04	6.2373+04	3.2550+04
11	1.65000+00	1.7313+08	1.2892+08	7.8472+07	3.9644+07	3.5083+07	2.8786+07	2.0967+07	7.0259+06	1.3973+06	1.7317+03
12	1.80000+00	2.9663+08	2.3210+08	1.7858+08	5.3884+07	1.5416+07	3.1328+04	5.0966+03	1.2461+03	1.1099+03	6.7884+02
13	1.95000+00	1.3808+08	1.0534+08	5.0524+07	3.1584+06	1.2363+06	1.7974+05	4.8600+04	1.6777+03	4.4419+02	1.5263+02
14	2.10000+00	7.2767+07	4.7789+07	2.1707+07	3.2389+06	1.1921+06	2.6969+05	7.7476+04	4.4123+03	1.2375+03	3.2969+02
15	2.25000+00	4.4710+07	3.2460+07	1.0132+07	6.8995+05	4.9907+05	3.6440+05	2.9714+05	2.5798+05	2.4074+05	1.2528+05
16	2.40000+00	1.1594+08	6.2474+07	9.4990+06	6.0819+05	4.8856+05	3.8196+05	2.5767+05	8.3086+04	1.7207+04	5.6779+04
17	2.55000+00	1.0499+08	6.2454+07	1.5537+07	1.7788+06	1.7197+06	1.4652+06	1.0619+06	3.5503+05	7.0675+04	3.0233+02
18	2.70000+00	1.0058+08	5.2673+07	3.3171+06	7.6593+03	3.2060+02	8.2482+01	6.3724+01	6.0453+01	5.7667+01	3.5620+01
19	2.85000+00	1.3191+07	7.7672+06	8.4896+05	6.6539+03	8.1366+02	1.3775+02	1.3469+02	1.2781+02	1.2192+02	7.5311+01
20	3.00000+00	5.4605+07	2.4701+07	1.6817+06	5.1364+04	3.8881+04	3.3304+04	2.4276+04	8.1761+03	1.6744+03	3.9691+01
21	3.15000+00	6.8100+06	4.2546+06	8.7702+05	1.9681+04	1.3596+04	1.1642+04	8.4807+03	2.8411+03	5.6414+02	4.0380+05
22	3.30000+00	3.0306+06	1.9300+06	4.8695+05	3.7324+03	5.6289+01	9.6489+01	6.5977+03	4.2161+01	7.0170+01	0.0000
23	3.45000+00	1.6791+07	9.8684+06	8.4426+05	5.8893+03	9.6435+01	1.0098+00	6.9046+01	4.4122+01	7.5381+01	0.0000
24	3.60000+00	2.2058+07	1.1357+07	2.7450+05	1.3256+03	6.0103+00	5.7357+01	1.8551+02	0.0000	0.0000	0.0000
25	3.75000+00	7.0399+06	3.6650+06	1.0727+06	7.9460+03	3.6008+01	1.3943+02	3.5820+02	0.0000	0.0000	0.0000
26	3.90000+00	4.5731+06	2.1169+06	1.2170+05	8.9918+02	4.0748+00	3.2565+04	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	5.5925+05	2.8990+05	5.6467+04	3.7371+02	1.6938+00	6.3909+02	2.0664+27	0.0000	0.0000	0.0000
28	4.20000+00	1.3970+07	7.2957+06	8.9652+03	3.9866+03	7.4385+10	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	4.0292+06	1.7592+06	1.5571+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	1.0158+07	6.0186+06	1.6117+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	3.1616+06	1.7073+06	1.4336+02	1.2029+03	6.4011+05	1.1020+12	3.5674+28	0.0000	0.0000	0.0000
32	4.80000+00	1.1377+05	7.5126+04	5.8550+03	5.2413+02	2.6992+03	4.6471+11	1.5043+26	0.0000	0.0000	0.0000
33	4.95000+00	4.1837+05	1.9290+04	4.4386+02	3.9733+03	2.0463+04	3.5229+12	1.1404+27	0.0000	0.0000	0.0000
34	5.10000+00	6.3772+05	3.2057+05	8.5525+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	2.0197+06	8.8090+05	2.4662+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	1.1210+06	5.7622+05	1.6132+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	1.1035+05	9.0119+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	6.1224+05	4.9998+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	9.7776+04	7.0848+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	2.3412+05	1.9119+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.178

SOURCE 1 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	3.0605-03	2.9393-03	2.3061-03	5.7999-03	8.7303-03	1.4720-02	1.5471-02	1.7763-02	1.6300-02	6.1821-03
2	3.00000+01	1.9078-02	1.5916-02	1.1138-02	2.0630-02	2.7061-02	3.7425-02	3.1927-02	2.3897-02	1.7465-02	6.3088-03
3	4.50000+01	6.2150-02	5.3998-02	5.0171-02	1.2783-01	1.0643-01	3.1539-01	2.8619-01	1.1971-01	3.0918-02	7.0201-03
4	6.00000+01	1.5234-01	1.5010-01	1.8474-01	4.0549-01	4.8639-01	4.3350-01	3.6101-01	1.9811-01	8.4958-02	1.3154-02
5	7.50000+01	2.5185-01	2.5836-01	3.1567-01	5.1595-01	6.1900-01	6.1594-01	5.6172-01	4.7837-01	4.7405-01	9.1247-01
6	9.00000+01	4.9606-01	5.2580-01	5.7420-01	6.2235-01	7.4543-01	8.0602-01	8.0006-01	8.6328-01	9.5023-01	9.8721-01
7	1.05000+02	5.5238-01	5.8564-01	6.1262-01	6.5761-01	7.6783-01	8.2098-01	8.1218-01	8.6998-01	9.5264-01	9.8797-01
8	1.20000+02	6.2639-01	6.6707-01	7.2517-01	7.2649-01	8.0220-01	8.2420-01	8.1330-01	8.7022-01	9.5287-01	9.8827-01
9	1.35000+02	7.7007-01	7.8087-01	8.0385-01	8.2741-01	8.6373-01	8.3142-01	8.1439-01	8.7091-01	9.5358-01	9.8833-01
10	1.50000+02	8.2142-01	8.3090-01	8.5945-01	8.6705-01	8.8105-01	8.3691-01	8.1711-01	8.7207-01	9.5518-01	9.9068-01
11	1.65000+02	8.8701-01	8.5786-01	8.8834-01	9.1441-01	9.5599-01	9.8584-01	9.8568-01	9.8819-01	9.9135-01	9.9080-01
12	1.80000+02	8.9087-01	9.0638-01	9.5540-01	9.8667-01	9.8892-01	9.8800-01	9.8572-01	9.8821-01	9.9138-01	9.9085-01
13	1.95000+02	9.1128-01	9.2840-01	9.7480-01	9.9139-01	9.9156-01	9.8693-01	9.8611-01	9.8824-01	9.9130-01	9.9086-01
14	2.10000+02	9.2203-01	9.3840-01	9.8309-01	9.9573-01	9.9410-01	9.8832-01	9.8674-01	9.8831-01	9.9142-01	9.9089-01
15	2.25000+02	9.2864-01	9.4518-01	9.8692-01	9.9666-01	9.9517-01	9.9021-01	9.8913-01	9.9257-01	9.9766-01	9.9993-01
16	2.40000+02	9.4578-01	9.5824-01	9.9051-01	9.9747-01	9.9621-01	9.9219-01	9.9120-01	9.9395-01	9.9810-01	9.9997-01
17	2.55000+02	9.6131-01	9.7130-01	9.9637-01	9.9986-01	9.9989-01	9.9977-01	9.9974-01	9.9981-01	9.9994-01	9.9999-01
18	2.70000+02	9.7617-01	9.8231-01	9.9763-01	9.9987-01	9.9989-01	9.9977-01	9.9974-01	9.9982-01	9.9994-01	1.0000+00
19	2.85000+02	9.7817-01	9.8394-01	9.9795-01	9.9988-01	9.9989-01	9.9977-01	9.9974-01	9.9982-01	9.9994-01	1.0000+00
20	3.00000+02	9.8560-01	9.8910-01	9.9858-01	9.9995-01	9.9997-01	9.9994-01	9.9993-01	9.9995-01	9.9999-01	1.0000+00
21	3.15000+02	9.8661-01	9.8999-01	9.9972-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+02	9.8706-01	9.9039-01	9.9910-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+02	9.8947-01	9.9246-01	9.9942-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+02	9.9273-01	9.9483-01	9.9952-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+02	9.9377-01	9.9560-01	9.9993-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+02	9.9425-01	9.9604-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+02	9.9453-01	9.9610-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+02	9.9459-01	9.9763-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+02	9.9719-01	9.9799-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+02	9.9869-01	9.9925-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+02	9.9916-01	9.9961-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+02	9.9918-01	9.9962-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+02	9.9924-01	9.9963-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+02	9.9933-01	9.9970-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+02	9.9963-01	9.9968-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+02	9.9980-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+02	9.9981-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+02	9.9980-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+02	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+02	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

Table 3.179

SOURCE 1 (PLATE OUT), EQUILIBRIUM, 1 WATT, PUNE U-235 (ND)

BETA SPECTRA (BETAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	1.9018+09	1.3610+09	1.0051+09	6.5332+08	5.2331+08	3.0036+08	2.1653+08	1.2508+08	9.2784+07	4.7149+07
2	6.00000+01	1.3202+09	9.2923+08	6.1887+08	3.0744+08	2.1383+08	8.3883+07	5.3558+07	2.5958+07	1.6704+07	9.4316+06
3	9.00000+01	8.6000+08	5.8855+08	3.5592+08	1.5230+08	9.8984+07	2.9661+07	2.0051+07	1.3864+07	1.0431+07	5.0147+06
4	1.20000+00	4.7655+08	3.0606+08	1.5235+08	5.2772+07	3.5569+07	1.5188+07	1.2338+07	9.9667+06	8.3745+06	4.8377+06
5	1.50000+00	2.8361+08	1.6414+08	6.1642+07	1.5670+07	1.1109+07	7.5256+06	6.9566+06	6.2077+06	5.7113+06	4.0044+06
6	1.80000+00	2.0425+08	1.0675+08	3.1927+07	8.6146+06	6.2796+06	4.4829+06	4.2590+06	3.9798+06	3.8018+06	2.7859+06
7	2.10000+00	1.5464+08	7.2721+07	1.6020+07	4.4969+06	3.5397+06	2.5800+06	2.4844+06	2.5305+06	2.2080+06	1.4254+06
8	2.40000+00	1.1790+08	4.9830+07	6.8114+06	2.5501+06	1.7223+06	1.2288+06	1.1917+06	1.1147+06	1.0409+06	5.4055+05
9	2.70000+00	9.1974+07	3.6445+07	3.1398+06	1.1763+06	7.4361+05	5.4798+05	5.2800+05	4.9354+05	4.5997+05	2.3119+05
10	3.00000+00	6.9605+07	2.6659+07	1.5219+06	3.6624+05	1.6391+05	1.1643+05	1.1313+05	1.0600+05	9.9147+04	5.1747+04
11	3.30000+00	4.9227+07	1.8477+07	7.8661+05	1.1096+05	2.9558+04	1.5215+04	1.4791+04	1.3960+04	1.3201+04	7.6751+03
12	3.60000+00	3.1801+07	1.1658+07	3.1935+05	2.1015+04	4.3143+03	1.6685+03	1.6091+03	1.5187+03	1.4360+03	8.3492+02
13	3.90000+00	1.9081+07	6.7755+06	1.4462+05	4.5697+02	5.3771+01	3.8596+00	2.6528+02	1.6835+09	2.7755+00	0.0000
14	4.20000+00	1.0676+07	3.6158+06	7.6272+04	1.5530+02	9.6953+01	1.9530+02	1.3423+04	8.5187+12	1.4044+22	0.0000
15	4.50000+00	5.7015+06	1.7351+06	3.3963+04	2.7026+01	1.3120+01	1.7728+10	5.7684+26	0.0000	0.0000	0.0000
16	4.80000+00	3.2728+06	8.0108+05	1.3720+04	1.1671+01	5.7482+03	9.3809+11	3.0523+26	0.0000	0.0000	0.0000
17	5.10000+00	2.3298+06	3.2308+05	4.1285+03	3.7615+02	1.9190+03	3.1426+11	1.0225+26	0.0000	0.0000	0.0000
18	5.40000+00	1.4593+06	1.4837+05	3.8554+02	2.7875+03	1.4221+04	2.3289+12	7.5777+28	0.0000	0.0000	0.0000
19	5.70000+00	1.0824+06	6.7936+04	6.4981+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	7.9624+05	2.7212+04	2.6945+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	5.8181+05	5.4369+03	4.8355+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	3.7778+05	7.6463+02	1.1903+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	7.2544+05	3.0051+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	1.0656+05	5.0040+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	3.1347+04	1.4821+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.180

SOURCE 1 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	2.8527+08	2.0414+08	1.5077+08	9.7998+07	7.8497+07	4.5054+07	3.2479+07	1.8763+07	1.3918+07	7.0724+06
2	6.00000+01	5.9408+08	4.1815+08	2.7889+08	1.3835+08	9.6223+07	3.7747+07	2.4101+07	1.1681+07	7.5166+06	4.2442+06
3	9.00000+01	6.4500+08	4.4142+08	2.6694+08	1.1423+08	7.4238+07	2.2246+07	1.5038+07	1.0398+07	7.8234+06	3.7610+06
4	1.20000+00	5.0038+08	3.2136+08	1.5997+08	5.5411+07	3.7347+07	1.5947+07	1.2955+07	1.0465+07	8.7932+06	5.0795+06
5	1.50000+00	3.8287+08	2.2159+08	8.3216+07	2.0885+07	1.4997+07	1.0160+07	9.3914+06	8.3805+06	7.7103+06	5.4599+06
6	1.80000+00	3.3702+08	1.7614+08	5.2680+07	1.4214+07	1.0361+07	7.3988+06	7.0288+06	6.5667+06	6.2729+06	4.5968+06
7	2.10000+00	3.0155+08	1.4181+08	3.1240+07	9.6860+06	6.9023+06	5.0310+06	4.8445+06	4.5444+06	4.3056+06	2.7795+06
8	2.40000+00	2.6528+08	1.1212+08	1.5326+07	5.7377+06	3.8753+06	2.7647+06	2.6813+06	2.5082+06	2.3419+06	1.2162+06
9	2.70000+00	2.3453+08	9.2935+07	8.0065+06	2.9997+06	1.8962+06	1.3872+06	1.3464+06	1.2585+06	1.1724+06	5.6955+05
10	3.00000+00	1.9837+08	7.5978+07	4.3373+06	1.0438+06	4.6714+05	3.3182+05	3.2242+05	3.0210+05	2.8257+05	1.4762+05
11	3.30000+00	1.5506+08	5.8203+07	2.4188+06	3.6841+05	9.3109+04	4.7926+04	4.6592+04	4.3975+04	4.1582+04	2.4176+04
12	3.60000+00	1.0971+08	4.0219+07	1.1018+06	7.2501+04	1.4884+04	5.7562+03	5.5515+03	5.2394+03	4.9542+03	2.8805+03
13	3.90000+00	7.1552+07	2.5408+07	5.4231+05	1.7136+03	2.0184+02	1.4474+01	9.9481+02	6.3133+09	1.0408+19	0.0000
14	4.20000+00	4.3236+07	1.4644+07	3.0890+05	6.2896+02	3.9266+00	7.9096+02	5.4364+04	3.4501+11	5.6878+22	0.0000
15	4.50000+00	2.4802+07	7.5476+06	1.4774+05	1.1756+02	5.7072+01	7.7119+10	2.5093+25	0.0000	0.0000	0.0000
16	4.80000+00	1.5219+07	3.7250+06	6.3799+04	5.4272+01	2.6729+02	4.3621+10	1.4193+25	0.0000	0.0000	0.0000
17	5.10000+00	1.0047+07	1.5993+06	2.0436+04	1.8619+01	9.4991+03	1.5556+10	5.0616+26	0.0000	0.0000	0.0000
18	5.40000+00	7.6611+06	7.6842+05	1.6041+03	1.4630+02	7.4660+04	1.2227+11	3.9783+27	0.0000	0.0000	0.0000
19	5.70000+00	6.0074+06	3.7704+05	3.6065+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	4.6580+06	1.5919+05	1.5763+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	3.4551+06	3.3437+04	2.8509+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	2.4367+06	4.9318+03	7.6775+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	1.5217+06	2.0284+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	7.5125+05	3.5278+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	2.3040+05	1.0894+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.181

SOURCE 1 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000-01	6.7910-02	8.6563-02	1.4283-01	2.1259-01	2.4159-01	3.0417-01	2.9462-01	2.5045-01	2.3125-01	2.0222-01
2	6.00000-01	2.0933-01	2.6387-01	4.0666-01	5.1271-01	5.3774-01	5.5902-01	5.1324-01	4.0637-01	3.5615-01	3.2357-01
3	9.00000-01	3.6288-01	4.5105-01	6.5955-01	7.6051-01	7.6623-01	7.0921-01	6.4966-01	5.4517-01	4.8614-01	4.3111-01
4	1.20000+00	4.8200-01	5.8731-01	8.1109-01	8.8071-01	8.8118-01	8.1687-01	7.6717-01	6.8086-01	6.3275-01	5.7635-01
5	1.50000+00	5.7314-01	6.8127-01	8.8993-01	9.2602-01	9.2733-01	8.8546-01	8.5216-01	7.9672-01	7.6036-01	7.3246-01
6	1.80000+00	6.5337-01	7.5596-01	9.3983-01	9.5685-01	9.5922-01	9.3540-01	9.1612-01	8.8437-01	8.6459-01	8.6390-01
7	2.10000+00	7.2515-01	8.1609-01	9.6943-01	9.7782-01	9.8047-01	9.6937-01	9.6007-01	9.4503-01	9.3613-01	9.4137-01
8	2.80000+00	7.8831-01	8.6163-01	9.8395-01	9.9027-01	9.9239-01	9.8803-01	9.8439-01	9.7851-01	9.7504-01	9.7815-01
9	2.70000+00	8.4414-01	9.0304-01	9.9153-01	9.9677-01	9.9823-01	9.9740-01	9.9660-01	9.9531-01	9.9453-01	9.9501-01
10	3.00000+00	8.9136-01	9.3525-01	9.9564-01	9.9904-01	9.9967-01	9.9964-01	9.9953-01	9.9934-01	9.9923-01	9.9923-01
11	3.30000+00	9.2828-01	9.5993-01	9.9793-01	9.9984-01	9.9995-01	9.9996-01	9.9995-01	9.9993-01	9.9992-01	9.9992-01
12	3.60000+00	9.5439-01	9.7699-01	9.9897-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.7143-01	9.8776-01	9.9949-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.8172-01	9.9397-01	9.9978-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.8762-01	9.9717-01	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.9125-01	9.9875-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9364-01	9.9943-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9546-01	9.9976-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9689-01	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9800-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9882-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	9.9940-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9977-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

Table 3.182

SOURCE 1 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	4.1293+08	2.5708+08	1.0361+08	6.4322+07	6.1217+07	4.2783+07	2.8444+07	1.4797+07	8.4353+06	1.1447+06
2	3.00000+01	8.9770+08	4.4697+08	1.6588+08	7.5841+07	5.7598+07	3.1173+07	1.5784+07	2.6948+06	2.8737+05	7.8162+04
3	4.50000+01	1.5892+09	8.8112+08	5.2777+08	4.2029+08	3.9482+08	2.8413+08	1.6610+08	2.9662+07	2.4579+06	2.6343+05
4	6.00000+01	2.3612+09	1.6367+09	1.3059+09	7.6063+08	5.1170+08	6.4943+07	1.8381+07	8.6442+06	3.9833+06	1.6225+05
5	7.50000+01	2.0995+09	1.4274+09	9.3394+08	1.6797+08	1.2152+08	6.8497+07	4.6076+07	2.7048+07	2.2399+07	1.8501+07
6	9.00000+01	4.3983+09	3.0744+09	1.6126+09	1.3928+08	9.1999+07	4.6553+07	3.6330+07	2.8286+07	2.2314+07	1.2580+06
7	1.05000+00	7.4268+08	5.1019+08	2.9332+08	4.4902+07	1.5834+07	3.0098+06	1.5634+06	4.1661+05	9.5760+04	1.0938+04
8	1.20000+00	9.4689+08	6.6703+08	4.3076+08	9.0613+07	2.7223+07	6.7726+05	1.2557+05	1.3032+04	7.5903+03	3.6363+03
9	1.35000+00	1.7273+09	8.3838+08	3.2526+08	1.1826+08	4.5176+07	1.9410+06	1.1479+05	3.2729+04	2.1215+04	6.5849+02
10	1.50000+00	8.6516+08	4.3746+08	1.8596+08	3.3541+07	4.8483+06	7.5826+05	2.3497+05	4.9539+04	4.3805+04	2.2889+04
11	1.65000+00	3.6665+08	1.9020+08	7.4943+07	2.8442+07	2.3589+07	1.8536+07	1.3455+07	4.4698+06	8.8789+05	1.1017+03
12	1.80000+00	3.7198+08	2.6215+08	2.0572+08	6.2784+07	1.7998+07	2.2738+04	2.9863+03	7.2380+02	8.2191+02	3.9433+02
13	1.95000+00	1.8337+08	1.2704+08	5.8131+07	3.3642+06	1.0496+06	9.7406+04	2.6198+04	8.9658+02	2.3709+02	8.1570+01
14	2.10000+00	8.9928+07	4.9818+07	2.0755+07	2.9197+06	9.1916+05	1.3522+05	3.8671+04	2.1833+03	6.1157+02	1.6314+02
15	2.25000+00	3.0210+07	2.0235+07	7.2945+06	3.7621+05	2.3443+05	1.6992+05	1.3808+05	1.1885+05	1.1077+05	5.7717+04
16	2.40000+00	1.2200+08	5.4689+07	5.6242+06	2.9444+05	2.1412+05	1.6661+05	1.1202+05	3.5807+04	7.4065+03	2.4471+02
17	2.55000+00	9.9191+07	5.5002+07	1.2996+07	7.3381+05	7.0557+05	6.0040+05	4.3368+05	1.4373+05	2.8659+04	1.2240+02
18	2.70000+00	9.6078+07	4.1511+07	1.7272+06	4.0926+03	1.8122+02	3.1867+01	2.4537+01	2.3076+01	2.1986+01	1.3597+01
19	2.85000+00	5.3732+07	2.0447+07	9.8117+05	2.4613+03	2.2661+02	6.1307+01	4.4051+01	4.6151+01	4.3972+01	2.7194+01
20	3.00000+00	4.0602+07	1.7337+07	6.4828+05	1.7723+04	1.3494+04	1.1587+04	8.3886+03	2.8008+03	5.7289+02	1.3597+01
21	3.15000+00	7.9725+06	5.2728+06	1.7284+06	6.6116+03	4.4942+03	3.3399+03	2.7876+03	9.2577+02	1.8361+02	1.3159+05
22	3.30000+00	6.0096+06	4.0798+06	1.0895+06	1.3074+03	2.4907+01	3.0344+01	2.0678+03	1.3099+02	2.1760+21	0.0000
23	3.45000+00	1.1687+07	7.5129+06	1.4482+06	1.7619+03	2.9007+01	3.0344+01	2.0678+03	1.3099+02	2.1760+21	0.0000
24	3.60000+00	6.9152+06	3.3357+06	8.0431+04	4.5204+02	5.4877+00	6.4631+08	2.0851+23	0.0000	0.0000	0.0000
25	3.75000+00	2.1169+06	1.0147+06	2.9221+05	2.1836+02	1.0016+01	1.1971+09	3.8617+25	0.0000	0.0000	0.0000
26	3.90000+00	1.3212+06	5.7767+05	3.1899+04	2.3726+02	1.0815+00	8.6345+15	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	1.5165+07	1.0558+07	2.8421+06	1.0376+02	8.0366+01	6.3840+09	2.0596+24	0.0000	0.0000	0.0000
28	4.20000+00	4.7045+07	1.6798+07	1.1843+05	7.1410+02	1.1062+08	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	1.0415+06	4.3071+05	3.8826+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	2.5360+06	1.4756+06	3.9046+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	7.6367+05	4.0614+05	4.7940+01	1.0748+00	5.5676+02	9.5761+10	3.0893+25	0.0000	0.0000	0.0000
32	4.80000+00	2.8699+04	1.5880+04	1.7857+03	4.3884+01	2.2732+00	3.9099+08	1.2614+23	0.0000	0.0000	0.0000
33	4.95000+00	9.4816+04	3.9823+03	1.3120+02	3.2244+00	1.6703+01	2.8728+09	9.2680+25	0.0000	0.0000	0.0000
34	5.10000+00	1.4024+05	6.0130+04	1.8265+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	4.1292+05	1.8508+05	5.1141+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	2.3243+05	1.1765+05	3.2511+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	1.4994+07	5.0411+06	2.0719+13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	1.2028+05	9.0405+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	1.8710+04	1.4063+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	4.3665+08	3.2820+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.183

SOURCE 1 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	3.0970+07	1.9281+07	7.7711+06	4.8242+06	4.5913+06	3.2087+06	2.1333+06	1.1098+06	6.3265+05	8.5849+04
2	3.00000+01	2.0198+08	1.0057+08	3.7322+07	1.7064+07	1.2959+07	7.0139+06	3.5515+06	6.0632+05	6.4659+04	1.7586+03
3	4.50000+01	5.9257+08	3.3042+08	1.9791+08	1.5761+08	1.4806+08	1.0655+08	6.2286+07	1.1123+07	9.2170+05	9.8787+03
4	6.00000+01	1.2396+09	8.5925+08	6.8558+08	3.9933+08	2.6864+08	3.4095+07	9.6499+06	4.5382+06	2.0913+06	6.5179+04
5	7.50000+01	1.4172+09	9.6351+08	6.3041+08	1.1338+08	8.2027+07	4.6235+07	3.1102+07	1.8257+07	1.5120+07	1.2488+07
6	9.00000+01	3.6286+09	2.5367+09	1.3304+09	1.1491+08	7.5899+07	3.8406+07	2.9972+07	2.3330+07	1.8409+07	1.0379+06
7	1.05000+00	7.2411+08	4.9740+08	2.8599+08	4.3779+07	1.5048+07	2.9346+06	1.5244+06	6.0620+05	9.3366+04	1.0665+04
8	1.20000+00	1.0652+09	7.5041+08	4.8460+08	1.0194+08	3.1300+07	7.6192+05	1.4127+05	1.4662+04	8.5390+03	4.0409+03
9	1.35000+00	2.2022+09	1.0689+09	4.1471+08	1.5078+08	5.7599+07	2.4748+06	1.4636+05	4.1729+04	2.7044+04	8.3957+02
10	1.50000+00	1.2329+09	6.2338+08	2.6500+08	4.7796+07	4.4034+07	1.0805+06	3.4195+05	7.0592+04	6.2422+04	3.2616+04
11	1.65000+00	5.7747+08	2.9957+08	1.1803+08	4.4797+07	3.7153+07	2.9195+07	2.1192+07	7.0399+06	1.3484+06	1.7352+03
12	1.80000+00	6.4167+08	4.5221+08	3.5487+08	1.0830+08	3.1047+07	3.9224+04	5.1514+03	1.2486+03	1.1107+03	6.8023+02
13	1.95000+00	3.4381+08	2.3942+08	1.0899+08	6.3079+06	1.9680+06	1.8264+05	4.9122+04	1.6811+03	4.4454+02	1.5294+02
14	2.10000+00	1.8210+08	1.0088+08	4.2029+07	5.9125+06	1.8613+06	2.7383+05	7.8309+04	4.4211+03	1.2384+03	3.3036+02
15	2.25000+00	6.5707+07	4.4012+07	1.5865+07	8.1827+05	5.0988+05	3.6957+05	3.0033+05	2.5850+05	2.4093+05	1.2553+05
16	2.40000+00	2.8364+08	1.2715+08	1.3070+07	6.8456+05	4.9783+05	3.8738+05	2.6044+05	8.3252+04	1.7220+04	5.6895+02
17	2.55000+00	2.4550+08	1.3613+08	3.2166+07	1.8162+06	1.7463+06	1.4860+06	1.0734+06	3.5574+05	7.0931+04	3.0295+02
18	2.70000+00	2.5221+08	1.0897+08	4.5338+06	1.0743+04	4.7571+02	8.3652+01	6.4409+01	6.0574+01	5.7713+01	3.5693+01
19	2.85000+00	1.4910+08	5.6740+07	2.7228+06	6.8300+03	6.2884+02	1.7013+02	1.3613+02	1.2807+02	1.2202+02	7.5464+01
20	3.00000+00	1.1876+08	5.0711+07	1.8962+06	5.1841+04	3.9471+04	3.3776+04	2.4537+04	8.1925+03	1.6757+03	3.9772+01
21	3.15000+00	2.4515+07	1.6214+07	4.0850+06	2.0331+04	1.3826+04	1.1808+04	8.5718+03	2.8408+03	5.6459+02	4.0463+05
22	3.30000+00	1.9381+07	1.3157+07	3.5138+06	4.2164+03	8.0326+01	4.7858+01	6.6086+03	4.2245+10	7.0175+21	0.0000
23	3.45000+00	3.9444+07	2.5356+07	4.8870+06	5.9464+03	7.7898+01	1.0241+00	6.9788+03	4.4210+10	7.3439+21	0.0000
24	3.60000+00	2.4376+07	1.1758+07	2.8352+05	1.5936+03	1.9344+01	2.2783+07	7.3499+23	0.0000	0.0000	0.0000
25	3.75000+00	7.7795+06	3.7292+06	1.0739+06	8.0246+03	3.6810+01	4.3993+09	1.4192+24	0.0000	0.0000	0.0000
26	3.90000+00	5.0536+06	2.2096+06	1.2201+05	9.0752+02	4.1366+00	3.3027+14	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	6.0279+07	4.1967+07	1.1298+07	4.1246+02	3.1945+00	2.5377+08	8.1868+24	0.0000	0.0000	0.0000
28	4.20000+00	1.9406+08	6.9290+07	4.8851+05	2.9457+01	4.5630+08	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	4.4526+06	1.8413+06	1.6598+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	1.1226+07	6.5295+06	1.7296+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	3.4938+06	1.8490+06	2.0493+02	4.9173+00	2.5472+01	4.3810+09	1.4134+24	0.0000	0.0000	0.0000
32	4.80000+00	1.2573+05	7.5032+04	8.4373+03	2.0735+02	1.0741+01	1.8474+07	5.9600+23	0.0000	0.0000	0.0000
33	4.95000+00	4.6233+05	1.9414+04	6.3362+02	1.5719+01	8.1426+01	1.4005+08	4.5182+24	0.0000	0.0000	0.0000
34	5.10000+00	7.0472+05	3.4738+05	9.1779+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	2.2319+06	9.5778+05	2.6465+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	1.2388+06	6.2651+05	1.7312+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	8.2693+07	2.7600+07	1.1344+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	6.7866+05	5.0853+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	1.0805+05	8.1214+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	2.5872+05	1.9446+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.184

SOURCE 1 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.9739-03	2.0099-03	1.5359-03	3.6542-03	5.8488-03	1.1679-02	1.3021-02	1.6500-02	1.6154-02	6.1821-03
2	3.00000+01	1.4847-02	1.2493-02	8.9123-03	1.6580-02	2.2358-02	3.7208-02	3.4697-02	2.5514-02	1.7805-02	6.3088-03
3	4.50000+01	5.2615-02	4.6936-02	4.8029-02	1.3597-01	2.1097-01	4.2503-01	4.1486-01	1.9089-01	4.1341-02	7.0201-03
4	6.00000+01	1.3162-01	1.3650-01	1.8353-01	4.3845-01	5.5319-01	5.4913-01	4.7376-01	2.5836-01	4.4740-02	1.3154-02
5	7.50000+01	2.2195-01	2.3694-01	3.0813-01	5.2434-01	6.5768-01	7.1742-01	6.6359-01	5.2980-01	4.8081-01	9.1247-01
6	9.00000+01	4.5321-01	5.0136-01	5.7107-01	6.1138-01	7.5437-01	8.5721-01	8.4652-01	8.7676-01	9.5087-01	9.8721-01
7	1.05000+00	4.9936-01	5.5321-01	6.2759-01	6.4454-01	7.7354-01	8.6789-01	8.5583-01	8.8280-01	9.5325-01	9.8797-01
8	1.20000+00	5.6726-01	6.3143-01	7.2337-01	7.2176-01	8.1341-01	8.7066-01	8.5669-01	8.8302-01	9.5347-01	9.8827-01
9	1.35000+00	7.0762-01	7.4286-01	8.0533-01	8.3597-01	8.8679-01	8.7967-01	8.5758-01	8.8364-01	9.5416-01	9.8833-01
10	1.50000+00	7.8619-01	8.0784-01	8.5771-01	8.7218-01	9.0466-01	8.8360-01	8.5967-01	8.8469-01	9.5576-01	9.9068-01
11	1.65000+00	8.2300-01	8.3907-01	8.8104-01	9.0611-01	9.5199-01	9.8987-01	9.8901-01	9.8915-01	9.9146-01	9.9080-01
12	1.80000+00	8.6390-01	8.8620-01	9.5117-01	9.8815-01	9.9154-01	9.9001-01	9.8905-01	9.8917-01	9.9149-01	9.9085-01
13	1.95000+00	8.8581-01	9.1116-01	9.7272-01	9.9292-01	9.9405-01	9.9067-01	9.8934-01	9.8940-01	9.9150-01	9.9086-01
14	2.10000+00	8.9742-01	9.2168-01	9.8102-01	9.9740-01	9.9682-01	9.9167-01	9.8982-01	9.8946-01	9.9154-01	9.9089-01
15	2.25000+00	9.0160-01	9.2626-01	9.8416-01	9.9802-01	9.9707-01	9.9301-01	9.9166-01	9.9331-01	9.9769-01	9.9993-01
16	2.40000+00	9.1968-01	9.3957-01	9.8674-01	9.9854-01	9.9771-01	9.9442-01	9.9325-01	9.9454-01	9.9813-01	9.9997-01
17	2.55000+00	9.3533-01	9.5371-01	9.9310-01	9.9992-01	9.9993-01	9.9983-01	9.9980-01	9.9981-01	9.9994-01	9.9999-01
18	2.70000+00	9.5140-01	9.6507-01	9.9400-01	9.9992-01	9.9993-01	9.9983-01	9.9980-01	9.9983-01	9.9994-01	9.9999-01
19	2.85000+00	9.6091-01	9.7098-01	9.9453-01	9.9993-01	9.9993-01	9.9983-01	9.9980-01	9.9984-01	9.9994-01	1.0000+00
20	3.00000+00	9.6847-01	9.7627-01	9.9491-01	9.9997-01	9.9998-01	9.9996-01	9.9995-01	9.9996-01	9.9999-01	1.0000+00
21	3.15000+00	9.7004-01	9.7796-01	9.9572-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.7127-01	9.7933-01	9.9681-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.7379-01	9.8197-01	9.9738-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.7534-01	9.8320-01	9.9743-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.7584-01	9.8359-01	9.9764-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.7616-01	9.8382-01	9.9767-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.8000-01	9.8819-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.9237-01	9.9541-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9265-01	9.9561-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9337-01	9.9629-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9359-01	9.9648-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	9.9360-01	9.9649-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	9.9363-01	9.9649-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	9.9367-01	9.9653-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	9.9381-01	9.9663-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	9.9389-01	9.9669-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	9.9413-01	9.9697-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	9.9417-01	9.9697-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	9.9418-01	9.9697-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	9.9419-01	9.9697-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

Table 3.185

SOURCE 1 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

BETA SPECTRA (BETAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	4.3554+09	2.3994+09	1.7830+09	1.1063+09	8.5816+08	4.3900+08	2.9214+08	1.3782+08	9.3785+07	4.7209+07
2	6.00000+01	3.2178+09	1.7344+09	1.1535+09	5.4997+08	3.7016+08	1.2312+08	7.2219+07	2.9088+07	1.6947+07	9.4434+06
3	9.00000+01	2.1478+09	1.1153+09	6.5572+08	2.6513+08	1.6426+08	3.4557+07	2.0353+07	1.3882+07	1.0437+07	5.0210+06
4	1.20000+00	1.2345+09	5.9227+08	2.6882+08	8.2556+07	5.2296+07	1.6500+07	1.2494+07	9.4763+06	8.3792+06	4.8438+06
5	1.50000+00	7.7288+08	3.3031+08	1.8108+08	1.7823+07	1.2027+07	7.6608+06	7.0399+06	6.2137+06	5.7145+06	4.0495+06
6	1.80000+00	5.7449+08	2.2310+08	5.0205+07	9.2161+06	6.5575+06	4.5564+06	4.3109+06	3.9837+06	3.8039+06	2.7894+06
7	2.10000+00	4.3577+08	1.5495+08	2.4665+07	5.2047+06	3.6826+06	2.6222+06	2.5141+06	2.3327+06	2.2092+06	1.4272+06
8	2.40000+00	3.2450+08	1.0560+08	1.0334+07	2.6337+06	1.7859+06	1.2489+06	1.2059+06	1.1158+06	1.0414+06	5.4123+05
9	2.70000+00	2.5214+08	7.8098+07	5.2040+06	1.2152+06	7.7101+05	5.5289+05	5.3432+05	4.9402+05	4.6022+05	2.3149+05
10	3.00000+00	1.9994+08	6.0694+07	3.1601+06	3.8024+05	1.7006+05	1.1834+05	1.1448+05	1.0810+05	9.9202+04	5.1862+04
11	3.30000+00	1.5251+08	4.5585+07	2.0157+06	1.2307+05	3.0772+04	1.5464+04	1.4968+04	1.3974+04	1.3208+04	7.6847+03
12	3.60000+00	1.1003+08	3.2281+07	1.1792+06	2.3835+04	4.5846+03	1.6958+03	1.6284+03	1.5201+03	1.4368+03	8.3597+02
13	3.90000+00	7.6750+07	2.2069+07	6.7457+05	2.2341+03	1.4623+02	3.9228+00	2.6846+02	1.6851+09	2.7770+20	0.0000
14	4.20000+00	5.2588+07	1.4786+07	3.5530+05	1.4690+03	6.8187+01	1.9851+02	1.3584+04	8.5268+12	1.4052+22	0.0000
15	4.50000+00	3.5621+07	9.6345+06	1.2732+05	8.8466+02	4.4113+01	7.0629+07	2.2882+22	0.0000	0.0000	0.0000
16	4.80000+00	2.4623+07	6.3367+06	2.3902+04	4.5348+02	2.3276+01	3.7373+07	1.2108+22	0.0000	0.0000	0.0000
17	5.10000+00	1.6790+07	4.1284+06	6.0337+03	1.5191+02	7.7977+00	1.2520+07	4.0562+23	0.0000	0.0000	0.0000
18	5.40000+00	1.0914+07	2.5677+06	4.4672+02	1.1258+01	5.7785+01	9.2782+09	3.0058+24	0.0000	0.0000	0.0000
19	5.70000+00	6.1973+06	1.3541+06	7.0760+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	2.9645+06	5.4531+05	2.9341+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.5148+06	2.1551+05	5.0478+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	9.4906+05	1.2327+05	1.2962+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	5.0310+05	5.6627+04	2.1690+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	1.8893+05	1.3709+04	5.2599+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	4.1281+04	2.2785+02	8.7156+18	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.186

SOURCE 1 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

BETA ENERGY SPECTRA (MEV/SEC)

-----COOLING TIMES-----											
GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	6.5331+08	3.5991+08	2.6744+08	1.6594+08	1.2672+08	6.5850+07	4.3821+07	2.0672+07	1.4068+07	7.0813+06
2	6.00000+01	1.4480+09	7.8047+08	5.1907+08	2.8749+08	1.6657+08	5.5403+07	3.2499+07	1.3090+07	7.6260+06	4.2496+06
3	9.00000+01	1.6109+09	8.3647+08	4.9179+08	1.9885+08	1.2319+08	2.5918+07	1.5265+07	1.0412+07	7.8281+06	3.7656+06
4	1.20000+00	1.2062+09	6.2186+08	2.8226+08	8.6684+07	5.4911+07	1.7325+07	1.3119+07	1.0475+07	8.7981+06	5.0859+06
5	1.50000+00	1.0434+09	4.4592+08	1.3645+08	2.4062+07	1.6236+07	1.0342+07	9.5039+06	8.3885+06	7.7155+06	5.6668+06
6	1.80000+00	9.4791+08	3.6812+08	8.2638+07	1.5207+07	1.0620+07	7.5180+06	7.1129+06	6.5730+06	6.2764+06	4.6026+06
7	2.10000+00	8.4975+08	3.0215+08	4.8098+07	1.0149+07	7.1811+06	5.1133+06	4.9025+06	4.5487+06	4.3080+06	2.7830+06
8	2.40000+00	1.3013+08	2.3761+08	2.3252+07	5.9259+06	4.0182+06	2.8100+06	2.7134+06	2.5106+06	2.3432+06	1.2178+06
9	2.70000+00	6.4297+08	1.9915+08	1.3270+07	3.0987+06	1.9661+06	1.4099+06	1.3625+06	1.2597+06	1.1736+06	5.9029+05
10	3.00000+00	5.6982+08	1.7298+08	9.0062+06	1.0837+06	4.8467+05	3.3726+05	3.2628+05	3.0239+05	2.8273+05	1.4781+05
11	3.30000+00	4.8042+08	1.4359+08	6.3496+06	3.8767+05	9.6933+04	4.8711+04	4.7150+04	4.4017+04	4.1605+04	2.4207+04
12	3.60000+00	3.7961+08	1.1137+08	4.0684+06	8.2229+04	1.5816+04	5.8504+03	5.6180+03	5.2444+03	4.9570+03	2.5841+03
13	3.90000+00	2.8781+08	8.2757+07	2.5246+06	8.3779+03	5.4837+02	1.4711+01	1.0067+01	6.3193+09	1.0414+10	0.0000
14	4.20000+00	2.1296+08	5.9884+07	1.4390+06	5.9495+03	2.7616+02	8.0395+02	5.5015+04	3.4534+11	5.6910+22	0.0000
15	4.50000+00	1.5495+08	4.1910+07	5.5384+05	3.8483+03	1.9189+02	3.0724+06	9.9536+22	0.0000	0.0000	0.0000
16	4.80000+00	1.1450+08	2.9466+07	1.1115+05	2.1087+03	1.0824+02	1.7379+06	5.6301+22	0.0000	0.0000	0.0000
17	5.10000+00	8.3110+07	2.0436+07	2.9867+04	7.5197+02	3.8598+01	6.1975+07	2.0078+22	0.0000	0.0000	0.0000
18	5.40000+00	5.7301+07	1.3480+07	2.3453+03	5.9103+01	3.0337+00	4.8710+08	1.5781+23	0.0000	0.0000	0.0000
19	5.70000+00	3.4395+07	7.5152+06	3.9272+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	1.7343+07	3.1901+06	1.7164+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	9.3161+06	1.3254+06	3.1044+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	6.1215+06	7.9511+05	8.3602+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	3.3959+06	3.8223+05	1.4641+14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	1.3319+06	9.6652+04	3.7082+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	3.0342+05	1.6747+03	6.4060+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.187

SOURCE 1 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

FRACTION BETA ENERGY BELOW GIVEN ENERGY

-----COOLING TIMES-----											
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000-01	5.6149-02	7.4348-02	1.4161-01	2.1864-01	2.5033-01	3.4282-01	3.3534-01	2.6408-01	2.3266-01	2.0222-01
2	6.00000-01	1.8060-01	2.3557-01	4.1646-01	5.4472-01	5.7426-01	6.3126-01	5.8403-01	4.3129-01	3.5878-01	3.2357-01
3	9.00000-01	3.1905-01	4.0837-01	6.7687-01	8.0671-01	8.1383-01	7.6619-01	7.0084-01	5.6430-01	4.8825-01	4.3111-01
4	1.20000+00	4.3045-01	5.3683-01	8.2632-01	9.2092-01	9.2062-01	8.5639-01	8.0123-01	6.9811-01	6.3375-01	5.7635-01
5	1.50000+00	5.2013-01	6.2895-01	8.9857-01	9.5263-01	9.5219-01	9.1023-01	8.7596-01	8.0527-01	7.6134-01	7.3246-01
6	1.80000+00	6.0160-01	7.0499-01	9.4244-01	9.7266-01	9.7323-01	9.4937-01	9.2839-01	8.6924-01	8.6514-01	8.6390-01
7	2.10000+00	6.7463-01	7.6741-01	9.6791-01	9.8603-01	9.8720-01	9.7599-01	9.6591-01	9.4734-01	9.3639-01	9.4337-01
8	2.40000+00	7.3738-01	8.1649-01	9.8022-01	9.9384-01	9.9501-01	9.9062-01	9.8667-01	9.7942-01	9.7515-01	9.7815-01
9	2.70000+00	7.9264-01	8.5763-01	9.8724-01	9.9793-01	9.9884-01	9.9796-01	9.9710-01	9.9551-01	9.9455-01	9.9501-01
10	3.00000+00	8.4161-01	8.9337-01	9.9201-01	9.9935-01	9.9978-01	9.9972-01	9.9960-01	9.9937-01	9.9923-01	9.9923-01
11	3.30000+00	8.8290-01	9.2303-01	9.9538-01	9.9986-01	9.9997-01	9.9997-01	9.9996-01	9.9993-01	9.9992-01	9.9992-01
12	3.60000+00	9.1553-01	9.4603-01	9.9753-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.4027-01	9.6313-01	9.9887-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.5857-01	9.7550-01	9.9963-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.7189-01	9.8416-01	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.8173-01	9.9025-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.8887-01	9.9447-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9379-01	9.9725-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9675-01	9.9880-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9824-01	9.9966-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9904-01	9.9978-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	9.9957-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9986-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

SOURCE 1 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

Figure 3.115

SOURCE 1 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

Figure 3.116

SOURCE 1 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

Figure 3.117

SOURCE 1 (PLATE OUT), EQUILIBRIUM, 1 WATT, U-235 (ND)

SOURCE 1 (PLATE OUT), EQUILIBRIUM, 1 WATT, U-235 (ND)

Figure 3.119

SOURCE 1 (PLATE OUT), EQUILIBRIUM, 1 WATT, U-235 (ND)

Figure 3.120

SOURCE 1 (PLATE OUT), EQUILIBRIUM, 1 WATT, U-235 (ND)

SOURCE 1 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235(ND)

SOURCE 1 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235(ND)

Figure 3.123

SOURCE 1 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235(ND)

Figure 3.124

SOURCE 1 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235(ND)

Figure 3.125

Table 3.188

SOURCE 2 (AIR), EQUILIBRIUM, 1 WATT, PURF U-235 (ND)

GAMMA SPECTRA (GAMMAS/SEC)

-----COOLING TIMES-----											
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	6.0012+08	3.6591+08	3.4645+08	2.1665+08	1.5458+08	8.1973+07	3.6571+07	2.3237+06	4.7152+04	2.6472+08
2	3.00000+01	8.6509+08	5.8573+08	3.7559+08	1.4478+08	7.0121+07	5.5802+06	2.1436+06	2.7902+05	1.9559+04	1.8294+05
3	4.50000+01	3.2383+08	2.3192+08	1.1284+08	4.5554+07	4.1994+07	3.9799+07	2.2322+07	3.3248+06	2.2980+05	8.5240+07
4	6.00000+01	5.0592+08	3.2305+08	1.6313+08	7.7540+07	5.2525+07	6.1409+06	2.8934+05	1.4641+05	1.2320+05	1.1534+05
5	7.50000+01	2.2484+08	1.5760+08	1.0011+08	9.2244+06	6.0583+06	4.4494+06	2.3994+06	3.5724+05	2.4693+04	9.1595+08
6	9.00000+01	4.2171+08	3.5537+08	2.0220+08	9.7649+06	4.1817+06	3.9783+05	3.0811+03	2.9092+04	1.0146+14	0.0000
7	1.05000+00	9.1009+07	6.9031+07	3.4169+07	3.7750+06	9.7392+05	6.1896+02	1.5226+04	1.4510+26	0.0000	0.0000
8	1.20000+00	2.2794+08	1.1858+08	5.4441+07	9.2394+06	2.8490+06	3.3010+04	2.4313+02	2.2950+05	8.0067+16	0.0000
9	1.35000+00	1.8679+08	1.0024+08	4.0560+07	1.2044+07	4.7518+06	2.3842+05	1.8359+03	1.7334+04	6.0457+15	0.0000
10	1.50000+00	6.3716+07	4.3776+07	2.2026+07	3.2512+06	8.7761+05	5.6097+02	1.3799+04	1.3150+26	0.0000	0.0000
11	1.65000+00	9.4704+07	5.7410+07	2.2422+07	1.6691+06	2.6154+05	1.3549+02	3.3328+05	3.1762+27	0.0000	0.0000
12	1.80000+00	1.1852+08	8.4467+07	2.8387+07	6.4059+06	1.9076+06	1.2379+03	3.0451+04	2.9020+26	0.0000	0.0000
13	1.95000+00	2.8663+07	2.1171+07	6.2840+06	3.1409+05	8.1975+04	5.2149+01	1.2824+05	1.2225+27	0.0000	0.0000
14	2.10000+00	8.3075+07	6.6045+07	1.5760+07	8.3743+05	9.9627+04	4.3864+01	1.0790+05	1.0283+27	0.0000	0.0000
15	2.25000+00	3.7099+07	2.8103+07	2.0130+07	1.2084+06	6.5607+04	1.5091+03	4.6885+19	0.0000	0.0000	0.0000
16	2.40000+00	7.7421+07	6.3084+07	4.2410+07	2.5431+06	1.3854+05	3.1979+03	9.9359+19	0.0000	0.0000	0.0000
17	2.55000+00	2.2495+07	9.3264+06	2.1906+06	6.6539+04	3.5640+03	8.1360+05	2.5273+20	0.0000	0.0000	0.0000
18	2.70000+00	2.1120+07	1.5807+07	7.5266+06	1.9274+04	1.6175+02	3.1587+06	9.8143+22	0.0000	0.0000	0.0000
19	2.85000+00	1.4605+07	4.8511+06	4.3260+05	1.5380+04	8.1645+02	1.8855+05	5.8583+21	0.0000	0.0000	0.0000
20	3.00000+00	1.2469+07	6.7306+06	2.2362+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	3.15000+00	4.8931+06	2.9629+06	6.9523+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	3.30000+00	1.9792+06	1.1870+06	2.8553+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	3.45000+00	5.3629+06	3.7135+06	2.5867+05	5.8348+02	8.7303+01	8.6010+18	0.0000	0.0000	0.0000	0.0000
24	3.60000+00	3.6226+06	2.5364+06	6.4945+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	3.75000+00	2.8697+06	2.0213+06	5.2632+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
26	3.90000+00	1.1652+06	8.3198+05	2.1664+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	2.8557+06	2.0391+06	5.3097+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
28	4.20000+00	4.4801+05	3.1990+05	8.3299+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	3.7885+05	2.7052+05	7.0440+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	4.2366+05	3.0252+05	7.8772+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	5.7031+04	4.0723+04	1.0604+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
32	4.80000+00	5.7031+04	4.0723+04	1.0604+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.189

SOURCE 2 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000-01	4.5009+07	2.7443+07	2.5984+07	1.6249+07	1.1593+07	6.1480+06	2.7428+06	1.7428+05	3.5364+03	1.9854-09
2	3.00000-01	1.9465+08	1.3179+08	8.4508+07	3.2575+07	1.5777+07	1.2465+06	4.8231+05	6.2779+04	4.4007+03	4.1163-06
3	4.50000-01	1.2104+08	8.6969+07	4.2314+07	1.7083+07	1.5748+07	1.4925+07	8.3706+06	1.2468+06	8.6176+04	3.1965-07
4	6.00000-01	2.6561+08	1.6960+08	8.5646+07	4.0708+07	2.7576+07	3.2240+06	1.5191+05	7.6868+04	6.4681+04	6.0554+04
5	7.50000-01	1.5177+08	1.0638+08	6.7573+07	6.2764+06	4.0894+06	3.0034+06	1.6196+06	2.4113+05	1.6668+04	6.1827-08
6	9.00000-01	3.4791+08	2.9318+08	1.6682+08	8.0561+06	3.4499+06	3.2821+05	2.5419+03	2.4001+04	8.3709+15	0.0000
7	1.05000+00	8.8733+07	6.7306+07	3.3315+07	3.6807+06	9.4957+05	6.0349+02	1.4845+04	1.4147+26	0.0000	0.0000
8	1.20000+00	2.5643+08	1.3340+08	6.1246+07	1.0394+07	3.2051+06	3.7136+04	2.7353+02	2.5826+05	9.0075+16	0.0000
9	1.35000+00	2.3816+08	1.2781+08	5.1714+07	1.5356+07	6.0585+06	3.0399+05	2.3407+03	2.2101+04	7.7082+15	0.0000
10	1.50000+00	9.0796+07	6.2381+07	3.1387+07	4.6324+06	1.2506+06	7.9938+02	1.9663+04	1.8739+26	0.0000	0.0000
11	1.65000+00	1.4916+08	9.0420+07	3.5315+07	2.6284+06	4.1193+05	2.1340+02	5.2492+05	5.0026+27	0.0000	0.0000
12	1.80000+00	2.0844+08	1.4571+08	4.8967+07	1.1050+07	3.2906+06	2.1354+03	5.2528+04	5.0060+26	0.0000	0.0000
13	1.95000+00	5.3743+07	3.9696+07	1.1782+07	5.8802+05	1.5370+05	9.7779+01	2.4052+05	2.2922+27	0.0000	0.0000
14	2.10000+00	1.6823+08	1.3374+08	3.1914+07	1.6958+06	2.0175+05	8.8825+01	2.1849+05	2.0823+27	0.0000	0.0000
15	2.25000+00	8.0690+07	6.1559+07	4.1783+07	2.6283+06	1.4269+05	3.2824+03	1.0198+18	0.0000	0.0000	0.0000
16	2.40000+00	1.8000+08	1.4667+08	9.8603+07	5.9127+06	3.2210+05	7.4352+03	2.3101+18	0.0000	0.0000	0.0000
17	2.55000+00	5.5676+07	2.3083+07	5.4218+06	1.6868+05	8.8208+03	2.0137+04	6.2551+20	0.0000	0.0000	0.0000
18	2.70000+00	5.5440+07	4.1495+07	1.9757+07	5.0594+04	4.2459+02	8.2916+06	2.5762+21	0.0000	0.0000	0.0000
19	2.85000+00	4.0528+07	1.3462+07	1.2005+06	4.2679+02	2.2656+03	5.2322+05	1.6257+20	0.0000	0.0000	0.0000
20	3.00000+00	3.6472+07	1.9687+07	6.5408+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	3.15000+00	1.5046+07	9.1109+06	2.1378+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	3.30000+00	6.3829+06	3.8282+06	9.2083+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	3.45000+00	1.8100+07	1.2533+07	8.7301+05	1.9692+03	2.9465+00	2.9028+17	0.0000	0.0000	0.0000	0.0000
24	3.60000+00	1.2770+07	8.9407+06	2.2907+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	3.75000+00	1.0546+07	7.4283+06	1.9342+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
26	3.90000+00	4.4567+06	3.1823+06	8.2864+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	1.1352+07	8.1056+06	2.1106+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
28	4.20000+00	1.8081+06	1.3196+06	3.4361+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	1.6196+06	1.1565+06	3.0113+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	1.8747+06	1.3386+06	3.4856+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	2.6092+05	1.8631+05	4.8513+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
32	4.80000+00	2.6947+05	1.9242+05	5.0103+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.190

SOURCE 2 (4TR), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.5470-02	1.3866-02	2.7405-02	9.0409-02	1.2303-01	2.1040-01	2.0511-01	9.6722-02	2.0155-02	3.2787-14
2	3.00000+01	8.2372-02	8.0457-02	1.1654-01	2.7166-01	2.9046-01	2.5307-01	2.4118-01	1.3156-01	4.5238-02	6.8010-11
3	4.50000+01	1.2411-01	1.2440-01	1.6117-01	3.6670-01	4.5758-01	7.6384-01	8.6714-01	8.2352-01	5.3637-01	7.3288-11
4	6.00000+01	2.1540-01	2.1010-01	2.5150-01	5.9321-01	7.5022-01	8.7417-01	8.7850-01	8.6618-01	9.0501-01	1.0000+00
5	7.50000+01	2.6757-01	2.6385-01	3.2277-01	6.2785-01	7.9362-01	9.7696-01	9.9961-01	1.0000+00	1.0000+00	1.0000+00
6	9.00000+01	3.8715-01	4.1194-01	4.0871-01	6.7268-01	8.3023-01	9.8819-01	9.9980-01	1.0000+00	1.0000+00	1.0000+00
7	1.05000+00	4.1765-01	4.0509-01	5.3385-01	6.9316-01	8.4030-01	9.8821-01	9.9980-01	1.0000+00	1.0000+00	1.0000+00
8	1.20000+00	5.0579-01	5.1340-01	5.9845-01	7.5099-01	8.7432-01	9.8948-01	9.9982-01	1.0000+00	1.0000+00	1.0000+00
9	1.35000+00	5.8765-01	5.7794-01	6.5299-01	8.3643-01	9.3861-01	9.9989-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	1.50000+00	6.1886-01	6.0950-01	6.8610-01	8.6221-01	9.5188-01	9.9991-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	1.65000+00	6.7012-01	6.5519-01	7.2335-01	8.7684-01	9.5625-01	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	1.80000+00	7.4039-01	7.2881-01	7.7499-01	9.3832-01	9.9117-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	1.95000+00	7.5886-01	7.4887-01	7.8742-01	9.4160-01	9.9280-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	2.10000+00	8.1669-01	8.1644-01	8.2108-01	9.5103-01	9.9495-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	2.25000+00	8.4442-01	8.4755-01	8.6726-01	9.6566-01	9.9646-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	2.40000+00	9.0629-01	9.2166-01	9.7126-01	9.9855-01	9.9988-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	2.55000+00	9.2543-01	9.3332-01	9.7697-01	9.9947-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	2.70000+00	9.4448-01	9.5429-01	9.9781-01	9.9975-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	2.85000+00	9.5841-01	9.6109-01	9.9908-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	3.00000+00	9.7095-01	9.7104-01	9.9908-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	3.15000+00	9.7612-01	9.7564-01	9.9908-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.7831-01	9.7757-01	9.9908-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.8453-01	9.8391-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.8892-01	9.8847-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.9255-01	9.9218-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.9408-01	9.9379-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.9798-01	9.9788-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.9862-01	9.9855-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9917-01	9.9913-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9982-01	9.9981-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9999-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

SOURCE 2 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

Figure 3.127
GAMMA CUMUL. SPECT (0 0 1)

Table 3.191

SOURCE 2 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

BETA SPECTRA (BETAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000-01	9.4077+08	8.3319+08	9.4687+08	3.7614+08	2.6477+08	1.4817+08	8.2812+07	2.5023+07	1.8512+07	1.7279+07
2	6.00000-01	4.8067+08	3.9987+08	3.8026+08	1.0155+08	5.0199+07	1.2966+07	9.9089+06	8.5043+06	8.2002+06	7.7340+06
3	9.00000-01	2.6981+08	1.9769+08	1.3922+08	3.0785+07	1.4145+07	8.3842+05	1.2879+05	1.4089+05	1.4551+05	1.3803+05
4	1.20000+00	1.9473+08	1.2277+08	4.6418+07	5.1893+06	2.4230+06	1.6949+05	1.4535+03	1.9498+04	7.7422-15	0.0000
5	1.50000+00	1.6649+08	9.6114+07	2.1768+07	4.2469+05	8.3409+04	1.9051+03	1.6135+01	2.1643+06	8.5942-17	0.0000
6	1.80000+00	1.4565+08	7.9882+07	1.4314+07	1.1841+05	9.5468+03	6.5195+00	2.9600-02	3.9704+09	1.5766-19	0.0000
7	2.10000+00	1.2149+08	6.3758+07	9.9241+06	5.2112+04	3.1526+03	8.4721+01	2.3060-07	3.1222-29	0.0000	0.0000
8	2.40000+00	9.6823+07	4.8439+07	6.6248+06	2.0345+04	5.3122+02	1.5671+02	4.2635+09	5.7725-31	0.0000	0.0000
9	2.70000+00	7.7265+07	3.6806+07	4.4075+06	8.8085+03	1.0174+02	1.5263+06	5.2477-22	0.0000	0.0000	0.0000
10	3.00000+00	6.1868+07	2.7375+07	2.6704+06	4.1676+03	5.2202+00	1.7971+09	6.1787-25	0.0000	0.0000	0.0000
11	3.30000+00	4.6996+07	1.8774+07	1.2763+06	1.9915+03	2.4433+00	1.7002-17	0.0000	0.0000	0.0000	0.0000
12	3.60000+00	3.3143+07	1.1363+07	3.9429+05	6.1508+02	7.5462-01	5.2510-18	0.0000	0.0000	0.0000	0.0000
13	3.90000+00	2.1624+07	5.8306+06	5.6117+04	8.7446+01	1.0729-01	7.4654-19	0.0000	0.0000	0.0000	0.0000
14	4.20000+00	1.3192+07	2.3910+06	2.5945+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	4.50000+00	7.8004+06	7.1277+05	1.8648+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	4.80000+00	4.8548+06	2.0115+05	2.5318+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	5.10000+00	2.8673+06	3.2456+04	7.7840+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	5.40000+00	1.4636+06	1.4714+04	1.3410+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	5.70000+00	5.3535+05	6.5867+03	7.5515+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	8.2309+04	1.9294+03	1.0306+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	4.0621+02	2.2420+02	4.4529+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.192

SOURCE 2 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

BFIA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	5.00000+01	1.4112+08	1.2498+08	1.4203+08	5.6421+07	3.9716+07	2.2225+07	1.2422+07	3.7534+06	2.7769+06	2.5918+06
2	6.00000+01	2.1630+08	1.7992+08	1.7112+08	4.5695+07	2.2590+07	5.8349+06	4.4590+06	3.8269+06	3.6901+06	3.4803+06
3	9.00000+01	2.0236+08	1.4827+08	1.0441+08	2.3088+07	1.0609+07	6.2881+05	9.6595+04	1.0567+05	1.0914+05	1.0352+05
4	1.20000+00	2.0394+08	1.2890+08	4.8739+07	5.4488+06	2.5442+06	1.7797+05	1.5262+05	2.0473+04	8.1293+15	0.0000
5	1.50000+00	2.2476+08	1.2975+08	2.9387+07	5.7332+05	1.1260+05	2.5719+03	2.1782+01	2.9219+06	1.1602+16	0.0000
6	1.80000+00	2.4033+08	1.3181+08	2.3618+07	1.9538+05	1.5752+04	1.0757+01	4.8839+02	6.5511+04	2.6013+19	0.0000
7	2.10000+00	2.3691+08	1.2433+08	1.9352+07	1.0162+05	6.1475+03	1.6521+00	4.4968+07	6.0884+29	0.0000	0.0000
8	2.40000+00	2.1785+08	1.0899+08	1.4906+07	4.5775+04	1.1952+03	3.5260+02	9.5429+09	1.2988+30	0.0000	0.0000
9	2.70000+00	1.9703+08	9.3855+07	1.1239+07	2.2462+04	2.5945+02	3.8921+06	1.3382+21	0.0000	0.0000	0.0000
10	3.00000+00	1.7632+08	7.8018+07	7.6106+06	1.1878+04	1.4878+01	5.1217+09	1.7609+24	0.0000	0.0000	0.0000
11	3.30000+00	1.4804+08	5.9137+07	4.0204+06	6.2732+03	7.6964+00	5.3555+17	0.0000	0.0000	0.0000	0.0000
12	3.60000+00	1.1434+08	3.9201+07	1.3603+06	2.1220+03	2.6034+00	1.8116+17	0.0000	0.0000	0.0000	0.0000
13	3.90000+00	8.1090+07	2.1865+07	2.1044+05	3.2792+02	4.0232+01	2.7995+18	0.0000	0.0000	0.0000	0.0000
14	4.20000+00	5.3430+07	9.6834+06	1.0508+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	4.50000+00	3.3932+07	3.1005+06	8.1949+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	4.80000+00	2.2575+07	9.3535+05	1.1773+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	5.10000+00	1.4193+07	1.6065+05	3.8531+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	5.40000+00	7.6839+06	7.7247+04	7.0408+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	5.70000+00	2.9712+06	3.6556+04	4.1911+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	4.8151+05	1.1287+04	1.7729+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	2.4982+03	1.3789+03	2.8615+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.193

SOURCE 2 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	5.5653-02	9.0366-02	2.4573-01	4.2869-01	5.2538-01	7.6985-01	7.3160-01	4.8834-01	4.2227-01	4.1969-01
2	6.00000+01	1.4096-01	2.2046-01	5.4177-01	7.7588-01	8.2420-01	9.7196-01	9.9422-01	9.8625-01	9.8340-01	9.8324-01
3	9.00000+01	2.2076-01	3.2766-01	7.2242-01	7.5131-01	9.6455-01	9.9375-01	9.9991-01	1.0000+00	1.0000+00	1.0000+00
4	1.20000+00	3.0119-01	4.2087-01	8.0674-01	9.9271-01	9.9820-01	9.9991-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
5	1.50000+00	3.8983-01	5.1409-01	8.5758-01	9.9707-01	9.9969-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
6	1.80000+00	4.8461-01	6.0999-01	8.9845-01	9.9855-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
7	2.10000+00	5.7804-01	6.9988-01	9.3193-01	9.9933-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
8	2.40000+00	6.6396-01	7.7869-01	9.5771-01	9.9967-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	7.4166-01	8.4655-01	9.7716-01	9.9984-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	8.1120-01	9.0296-01	9.9033-01	9.9993-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	8.6958-01	9.4577-01	9.9728-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.1467-01	9.7406-01	9.9964-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.4665-01	9.8987-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.6772-01	9.9687-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.8111-01	9.9912-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.9001-01	9.9979-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9561-01	9.9991-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9864-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9981-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

SOURCE 2 (AIR), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

Figure 3.129

Table 3.194

SOURCE 2 (PLATE OUT), EQUILIBRIUM, 1 MATT, PURE U-235 (ND)

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.8507+07	1.3882+07	4.4294+06	1.2387+06	1.2060+06	8.9178+05	5.1979+05	8.9217+04	7.0541+03	3.7300+02
2	3.00000+01	6.2588+07	3.3909+07	1.2342+07	5.3070+06	3.8617+06	2.3574+06	1.3641+06	2.3411+05	1.8510+04	9.7876+02
3	4.50000+01	1.2762+08	7.7528+07	5.0288+07	4.1496+07	3.9405+07	2.8730+07	1.6738+07	2.8729+06	2.2715+05	1.2011+04
4	6.00000+01	1.8455+08	1.5080+08	1.2527+08	7.3341+07	4.9125+07	4.3102+06	9.6240+04	1.0707+04	8.4655+02	4.4763+01
5	7.50000+01	1.4990+08	1.2212+08	8.3699+07	9.0656+06	5.7600+06	3.2127+06	1.7996+06	3.0870+05	2.4408+04	1.2906+03
6	9.00000+01	3.5001+08	2.8401+08	1.5240+08	8.5387+06	3.9198+06	2.8711+05	2.3109+03	2.5139+04	1.0029+14	0.0000
7	1.05000+00	4.9806+07	3.9807+07	2.6220+07	3.5784+06	9.2404+05	4.4696+02	1.1419+04	1.2539+26	0.0000	0.0000
8	1.20000+00	7.7903+07	6.3417+07	4.2501+07	9.0072+06	2.7210+06	2.3837+04	1.8235+02	1.9837+05	7.9144+16	0.0000
9	1.35000+00	1.4101+08	7.8461+07	3.2105+07	1.1471+07	4.5491+06	1.7217+05	1.3749+03	1.4979+04	5.9760+15	0.0000
10	1.50000+00	2.7033+07	2.2049+07	1.6311+07	3.0847+06	8.3322+05	4.0508+02	1.0349+04	1.1364+26	0.0000	0.0000
11	1.65000+00	1.2886+07	9.9629+06	5.1708+06	6.9220+05	1.9982+05	9.7838+01	2.4996+05	2.7447+27	0.0000	0.0000
12	1.80000+00	3.0061+07	2.4565+07	2.0268+07	6.3721+06	1.8257+06	8.9392+02	2.2839+04	2.5077+26	0.0000	0.0000
13	1.95000+00	1.1352+07	9.2088+06	4.8612+06	2.9586+05	7.7688+04	3.7657+01	9.6210+06	1.0564+27	0.0000	0.0000
14	2.10000+00	4.9331+06	3.3936+06	1.8123+06	2.6404+05	6.5765+04	3.1674+01	8.0924+06	8.8857+28	0.0000	0.0000
15	2.25000+00	8.1784+05	6.6519+05	4.1349+05	1.1284+04	3.0204+02	9.4630+08	9.8992+27	0.0000	0.0000	0.0000
16	2.40000+00	7.7908+06	4.0807+06	3.0684+05	6.1513+03	1.6425+02	5.1462+08	5.3834+27	0.0000	0.0000	0.0000
17	2.55000+00	6.4456+06	3.8569+06	7.8700+05	1.7090+03	4.2216+01	1.3223+08	1.3833+27	0.0000	0.0000	0.0000
18	2.70000+00	4.8793+06	2.4643+06	4.7614+04	8.6344+00	6.6841+04	1.2112+28	0.0000	0.0000	0.0000	0.0000
19	2.85000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	3.00000+00	2.7707+06	1.3764+06	1.9699+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	3.15000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	3.30000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	3.45000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	3.60000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	3.75000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
26	3.90000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
28	4.20000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
32	4.80000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.195

SOURCE 2 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.3881+06	1.0412+06	3.3221+05	9.2900+04	9.0449+04	6.6884+04	3.8985+04	6.6913+03	5.2906+02	2.7975+01
2	3.00000+01	1.4082+07	7.6295+06	2.7769+06	1.1941+06	8.6889+05	5.3041+05	3.0692+05	5.2674+04	4.1648+03	2.2022+02
3	4.50000+01	4.5981+07	2.9073+07	1.8858+07	1.5561+07	1.4792+07	1.0774+07	6.2766+06	1.0773+06	8.5180+04	4.5040+03
4	6.00000+01	9.6890+07	7.9168+07	6.5764+07	3.8504+07	2.5790+07	2.2628+06	5.0526+04	5.6210+03	4.4444+02	2.3500+01
5	7.50000+01	1.0118+08	8.2430+07	5.6497+07	6.1193+06	3.8880+06	2.1686+06	1.2147+06	2.0837+05	1.6475+04	8.7117+02
6	9.00000+01	2.8876+08	2.3431+08	1.2573+08	7.0444+06	3.2338+06	2.3686+05	1.9065+03	2.0740+04	8.2743+15	0.0000
7	1.05000+00	4.8561+07	3.8812+07	2.5564+07	3.4890+06	9.0094+05	4.3578+02	1.1134+04	1.2225+26	0.0000	0.0000
8	1.20000+00	8.7641+07	7.1344+07	4.7814+07	1.0133+07	3.0611+06	2.6816+04	2.0515+02	2.2317+05	8.9036+16	0.0000
9	1.35000+00	1.7979+08	1.0004+08	4.0934+07	1.5135+07	5.8001+06	2.1951+05	1.7556+03	1.9098+04	7.6194+15	0.0000
10	1.50000+00	3.8523+07	3.1419+07	2.3243+07	4.3956+06	1.1873+06	5.7724+02	1.4748+04	1.6193+26	0.0000	0.0000
11	1.65000+00	2.0295+07	1.5692+07	8.1440+06	1.0902+06	3.1471+05	1.5410+02	3.9369+05	4.3229+27	0.0000	0.0000
12	1.80000+00	5.1856+07	4.2374+07	3.4963+07	1.0906+07	3.1494+06	1.5420+03	3.9396+04	4.3258+26	0.0000	0.0000
13	1.95000+00	2.1284+07	1.7267+07	9.1147+06	5.5473+05	1.4566+05	7.0607+01	1.8039+05	1.9808+27	0.0000	0.0000
14	2.10000+00	9.9894+06	6.8720+06	3.6699+06	5.3468+05	1.3317+05	6.4140+01	1.6387+05	1.7993+27	0.0000	0.0000
15	2.25000+00	1.7788+06	1.4468+06	8.9934+05	2.4541+04	8.5693+02	2.0582+07	2.1531+26	0.0000	0.0000	0.0000
16	2.40000+00	1.8114+07	9.4875+06	7.1340+05	1.4302+04	3.8189+02	1.1965+07	1.2516+26	0.0000	0.0000	0.0000
17	2.55000+00	1.5953+07	9.5459+06	1.9478+06	4.2298+03	1.0448+02	3.2728+08	3.4236+27	0.0000	0.0000	0.0000
18	2.70000+00	1.2808+07	6.4689+06	1.2499+05	2.2665+01	1.7546+03	3.1793+28	0.0000	0.0000	0.0000	0.0000
19	2.85000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	3.00000+00	8.1043+06	4.0260+06	5.7620+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	3.15000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	3.30000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	3.45000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	3.60000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	3.75000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
26	3.90000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
28	4.20000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
32	4.80000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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Table 3.196

SOURCE 2 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.3058+03	1.3205+03	7.1123+04	8.0926+04	1.4276+03	4.1062+03	4.9400+03	4.9541+03	4.9541+03	4.9541+03
2	3.00000+01	1.4554+02	1.0997+02	6.6563+03	1.1211+02	1.5142+02	3.6670+02	4.3832+02	4.3953+02	4.3953+02	4.3953+02
3	4.50000+01	5.7810+02	4.7871+02	4.7029+02	1.4676+01	2.4861+01	6.9810+01	8.3918+01	8.4156+01	8.4156+01	8.4156+01
4	6.00000+01	1.4896+01	1.4828+01	1.8783+01	4.8217+01	6.5568+01	8.3703+01	8.4559+01	8.4573+01	8.4573+01	8.4573+01
5	7.50000+01	2.4415+01	2.5263+01	3.0878+01	5.3548+01	7.1704+01	9.7016+01	9.9951+01	1.0000+00	1.0000+00	1.0000+00
6	9.00000+01	5.1580+01	5.5001+01	5.7796+01	5.9664+01	7.6808+01	9.8470+01	9.9975+01	1.0000+00	1.0000+00	1.0000+00
7	1.05000+00	5.6148+01	5.9924+01	6.3269+01	6.2724+01	7.8230+01	9.8473+01	9.9975+01	1.0000+00	1.0000+00	1.0000+00
8	1.20000+00	6.4393+01	6.8972+01	7.3505+01	7.1551+01	8.3062+01	9.8638+01	9.9978+01	1.0000+00	1.0000+00	1.0000+00
9	1.35000+00	8.1307+01	8.1660+01	8.2269+01	8.4735+01	9.2216+01	9.9985+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	1.50000+00	8.4931+01	8.5645+01	8.7245+01	8.8564+01	9.4090+01	9.9989+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	1.65000+00	8.6840+01	8.7635+01	8.8949+01	8.9514+01	9.4547+01	9.9990+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	1.80000+00	9.1718+01	9.3010+01	9.6474+01	9.9013+01	9.9558+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	1.95000+00	9.3721+01	9.5200+01	9.8475+01	9.9897+01	9.9788+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	2.10000+00	9.4660+01	9.6071+01	9.9211+01	9.9962+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	2.25000+00	9.4828+01	9.6255+01	9.9403+01	9.9984+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	2.40000+00	9.6532+01	9.7458+01	9.9556+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	2.55000+00	9.8033+01	9.8669+01	9.9973+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	2.70000+00	9.9238+01	9.9489+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	2.85000+00	9.9238+01	9.9489+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	3.00000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	3.15000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (P.O.), EQUILIBRIUM, 1 WATT, PURE U-235(ND)

SOURCE 2 (P.O.), EQUILIBRIUM, 1 WATT, PURE U-235(N)

Figure 3.131

Table 3.197

SOURCE 2 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

BETA SPECTRA (BETAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	2.6122+08	1.9115+08	1.4966+08	9.0612+07	6.7356+07	2.8305+07	1.5611+07	2.5772+06	2.1557+05	3.3739+04
2	6.00000+01	1.9681+08	1.4253+08	1.0277+08	4.8785+07	3.1686+07	8.0142+06	3.8526+06	6.3454+05	5.3077+04	8.3070+03
3	9.00000+01	1.2337+08	8.7455+07	5.7369+07	2.2636+07	1.3154+07	9.3347+05	1.3208+04	9.3616+02	7.8306+01	1.2256+01
4	1.20000+00	6.0841+07	4.0674+07	2.1784+07	5.8952+06	3.2912+06	2.2510+05	1.8372+03	1.9241+04	8.1209+15	0.0000
5	1.50000+00	3.1504+07	1.8640+07	6.9075+06	3.9339+05	1.0900+05	2.5301+03	2.0394+01	2.1358+06	9.0145+17	0.0000
6	1.80000+00	2.1663+07	1.1246+07	2.8916+06	7.0432+04	1.0189+04	8.6582+00	3.7413+02	3.9181+09	1.6537+19	0.0000
7	2.10000+00	1.6496+07	7.5752+06	1.1122+06	1.9648+04	2.7997+03	1.1251+00	2.9148+07	3.0811+29	0.0000	0.0000
8	2.40000+00	1.2699+07	5.1844+06	1.9896+05	6.1494+02	5.7610+01	2.0802+02	5.1889+09	5.6964+31	0.0000	0.0000
9	2.70000+00	1.1211+07	3.9745+06	1.8542+03	7.4721+01	5.7808+05	9.5883+30	0.0000	0.0000	0.0000	0.0000
10	3.00000+00	7.9193+06	3.0512+06	2.5907+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
11	3.30000+00	5.5628+06	2.1206+06	1.7202+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	3.60000+00	1.4712+06	1.3127+06	1.0269+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	3.90000+00	1.9428+06	7.4341+05	6.1296+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	4.20000+00	9.6803+05	3.8881+05	3.8630+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	4.50000+00	3.9427+05	1.7094+05	2.1265+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	4.80000+00	1.3552+05	6.0654+04	8.1429+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	5.10000+00	2.9281+04	1.3117+04	1.7647+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	5.40000+00	1.4310+04	6.4104+03	8.6243+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	5.70000+00	8.0581+03	3.6098+03	4.8565+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	3.2339+03	1.4487+03	1.9490+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	4.9650+02	2.2242+02	2.9923+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.198

SOURCE 2 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	3.9182+07	2.8673+07	2.2450+07	1.3592+07	1.0103+07	4.2458+06	2.3419+06	3.8657+05	3.2335+04	5.0608+03
2	6.00000+01	8.8566+07	6.4140+07	4.6248+07	2.1953+07	1.4259+07	3.6064+06	1.7337+06	2.8554+05	2.3885+04	3.7382+03
3	9.00000+01	9.2530+07	6.5591+07	4.3027+07	1.6977+07	9.8655+06	7.0010+05	9.9057+03	7.0212+02	5.8729+01	9.1917+00
4	1.20000+00	6.3883+07	4.2708+07	2.2873+07	6.1899+06	3.4557+06	2.3635+05	1.9291+03	2.0203+04	8.5268+15	0.0000
5	1.50000+00	4.2530+07	2.5164+07	9.3252+06	5.3108+05	1.4715+05	3.4157+03	2.7532+01	2.8833+06	1.2170+16	0.0000
6	1.80000+00	3.5744+07	1.8556+07	4.7711+06	1.1621+05	1.6812+04	1.4286+01	6.1732+02	6.4648+09	2.7286+19	0.0000
7	2.10000+00	3.2168+07	1.4772+07	2.1687+06	3.8313+04	5.4594+03	2.1940+00	5.6838+07	6.0081+24	0.0000	0.0000
8	2.40000+00	2.8574+07	1.1665+07	4.4767+05	1.3836+03	1.2962+02	4.6804+02	1.2125+08	1.2817+30	0.0000	0.0000
9	2.70000+00	2.6038+07	1.0135+07	9.8283+03	1.9054+00	1.4741+04	2.4450+29	0.0000	0.0000	0.0000	0.0000
10	3.00000+00	2.2570+07	8.6959+06	7.3836+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
11	3.30000+00	1.7523+07	6.6799+06	5.4185+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	3.60000+00	1.1976+07	4.5288+06	3.5428+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	3.90000+00	7.2857+06	2.7878+06	2.2986+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	4.20000+00	3.9205+06	1.5747+06	1.5645+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	4.50000+00	1.7151+06	7.4360+05	9.2503+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	4.80000+00	6.3018+05	2.8204+05	3.7865+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	5.10000+00	1.4494+05	6.4928+04	8.7353+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	5.40000+00	7.5127+04	3.3654+04	4.5278+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	5.70000+00	4.4722+04	2.0034+04	2.6953+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	1.8919+04	8.4749+03	1.1402+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	3.0535+03	1.3679+03	1.8403+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.199

SOURCE 2 (PLATE OUT), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	7.6064-02	9.3451-02	1.4836-01	2.2882-01	2.6691-01	4.8291-01	5.7295-01	5.7456-01	5.7456-01	5.7456-01
2	6.00000+01	2.4000-01	3.0249-01	4.5390-01	5.9841-01	6.4360-01	8.9310-01	9.9710-01	9.9896-01	9.9896-01	9.9896-01
3	9.00000+01	4.2762-01	5.1627-01	7.3833-01	8.8422-01	9.0423-01	9.7273-01	9.9952-01	1.0000+00	1.0000+00	1.0000+00
4	1.20000+00	5.5164-01	6.5546-01	8.8949-01	9.8643-01	9.9552-01	9.9961-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00
5	1.50000+00	6.3420-01	7.3748-01	9.5111-01	9.9738-01	9.9941-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
6	1.80000+00	7.0359-01	7.9795-01	9.8264-01	9.9933-01	9.9985-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
7	2.10000+00	7.6604-01	8.4610-01	9.9698-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
8	2.40000+00	8.2151-01	8.8412-01	9.9994-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	8.7206-01	9.1715-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	9.1587-01	9.4549-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	9.4989-01	9.6726-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.7314-01	9.8202-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.8728-01	9.9111-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.9489-01	9.9624-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.9822-01	9.9866-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.9944-01	9.9958-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9972-01	9.9979-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9987-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9996-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (P.O.), EQUILIBRIUM, 1 WATT, PURE U-235(ND)

Figure 3.132

SOURCE 2 (P.O.), EQUILIBRIUM, 1 WATT, PURE U-235(ND)

Table 3.200

SOURCE 2 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	4.2646+07	2.7935+07	8.8678+06	2.4785+06	2.4122+06	1.7837+06	1.0396+06	1.7843+05	1.4108+04	7.4600+02
2	1.00000+01	1.4435+06	6.8327+07	2.4734+07	1.0619+07	7.7242+06	4.7150+06	2.7282+06	4.6821+05	3.7020+04	1.9575+03
3	4.50000+01	2.8387+08	1.5688+08	1.0076+08	8.3029+07	7.8898+07	5.7463+07	3.3476+07	3.7456+06	4.5429+05	2.4022+04
4	6.00000+01	4.2546+08	3.0353+08	2.5079+08	1.4675+08	9.8259+07	8.6208+06	1.9248+05	2.1413+04	1.6931+03	8.9526+01
5	7.50000+01	3.6985+08	2.5454+08	1.6783+08	1.8140+07	1.1521+07	6.4251+06	3.5991+06	6.1743+05	4.8816+04	2.5812+03
6	9.00000+01	8.3514+08	5.8987+08	3.0907+08	1.7085+07	7.8403+06	5.7824+05	4.6218+04	5.0278+04	2.3059+14	0.0000
7	1.05000+00	1.1883+08	8.2859+07	5.3142+07	7.1602+06	1.8483+06	8.9396+02	2.2839+04	2.5077+26	0.0000	0.0000
8	1.20000+00	1.7069+08	1.2774+08	8.5124+07	1.8023+07	5.4425+06	4.7676+04	3.6471+02	3.9675+05	1.5829+15	0.0000
9	1.35000+00	3.3269+08	3.1527+07	1.0447+07	1.3850+06	3.9968+05	1.9569+02	3.9993+05	3.4898+27	0.0000	0.0000
10	1.50000+00	1.5304+08	7.5733+07	3.2824+07	6.1721+06	1.6666+06	8.1020+02	2.0699+04	2.2728+26	0.0000	0.0000
11	1.65000+00	6.3297+07	3.1527+07	1.0447+07	1.3850+06	3.9968+05	1.9569+02	3.9993+05	3.4898+27	0.0000	0.0000
12	1.80000+00	7.0593+07	5.0145+07	4.0718+07	1.2650+07	3.6518+06	1.7879+03	4.5677+04	5.0155+26	0.0000	0.0000
13	1.95000+00	3.3233+07	2.3487+07	1.1075+07	5.9194+05	1.5539+05	7.5318+01	1.9242+05	2.1128+27	0.0000	0.0000
14	2.10000+00	1.5608+07	8.6197+06	3.8190+06	5.2832+05	1.3154+05	6.3352+01	1.6185+05	1.7771+27	0.0000	0.0000
15	2.25000+00	2.4232+06	1.7159+06	9.3032+05	2.2579+04	6.0413+02	1.8927+07	1.9799+26	0.0000	0.0000	0.0000
16	2.40000+00	2.2195+07	9.6377+06	8.1430+05	1.2308+04	3.2854+02	1.0293+07	1.0767+26	0.0000	0.0000	0.0000
17	2.55000+00	1.7764+07	9.8011+06	2.1296+06	3.4200+03	8.4440+01	2.6448+08	2.7666+27	0.0000	0.0000	0.0000
18	2.70000+00	1.6241+07	6.7263+06	1.3167+05	1.7299+01	1.3369+03	2.4225+28	0.0000	0.0000	0.0000	0.0000
19	2.85000+00	9.5802+06	3.4770+06	1.3398+05	8.2168+02	1.2828+08	0.0000	0.0000	0.0000	0.0000	0.0000
20	3.00000+00	7.4378+06	3.1517+06	1.4583+04	8.9194+03	1.3925+09	0.0000	0.0000	0.0000	0.0000	0.0000
21	3.15000+00	1.0919+06	7.6496+05	2.0777+05	1.2741+01	1.9894+08	0.0000	0.0000	0.0000	0.0000	0.0000
22	3.30000+00	9.8238+05	6.8825+05	1.8694+05	1.1465+01	1.7899+08	0.0000	0.0000	0.0000	0.0000	0.0000
23	3.45000+00	1.2555+06	8.7956+05	2.3890+05	1.4652+01	2.2875+08	0.0000	0.0000	0.0000	0.0000	0.0000
24	3.60000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	3.75000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
26	3.90000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	2.9661+06	2.0780+06	5.6440+05	3.4615+01	5.4042+08	0.0000	0.0000	0.0000	0.0000	0.0000
28	4.20000+00	8.5572+06	2.9518+06	2.3174+04	1.4213+02	2.2140+09	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
32	4.80000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	2.9587+06	9.9458+05	4.1201+14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.201

SOURCE 2 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

GAMMA ENERGY SPECTRA (MEV/SEC)

COOLING TIMES

GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	3.1985+06	2.0951+06	6.6509+05	1.6549+05	1.8092+05	1.3377+05	7.7970+04	1.3383+04	1.0581+03	5.5950+01
2	3.00000+01	3.2479+07	1.5374+07	5.5651+06	2.3893+06	1.7380+06	1.0609+06	6.1384+05	1.0535+05	8.3296+03	4.4044+02
3	4.50000+01	1.0645+08	5.8432+07	3.7785+07	3.1136+07	2.9587+07	2.1548+07	1.2553+07	2.1546+06	1.7036+05	4.0081+03
4	6.00000+01	2.2337+08	1.5935+08	1.3167+08	7.7044+07	5.1586+07	4.5259+06	1.0105+05	1.1242+04	8.8888+02	4.7001+01
5	7.50000+01	2.4465+08	1.7181+08	1.1328+08	1.2244+07	7.7768+06	4.3374+06	2.4294+06	4.1674+05	3.2951+04	1.7423+03
6	9.00000+01	6.8899+08	4.8664+08	2.5498+08	1.4095+07	6.4682+06	4.7375+05	3.6130+03	4.1479+04	1.6549+14	0.0000
7	1.05000+00	1.1586+08	8.0788+07	5.1813+07	6.9812+06	1.8021+06	8.7161+02	2.2268+04	2.4450+26	0.0000	0.0000
8	1.20000+00	2.0216+08	1.4371+08	9.5765+07	2.0276+07	6.1228+06	5.3635+04	4.1030+02	4.4634+05	1.7807+15	0.0000
9	1.35000+00	4.2478+08	2.0516+08	8.2230+07	3.0284+07	1.1601+07	4.3904+05	3.5111+03	3.6198+04	1.5239+14	0.0000
10	1.50000+00	2.1808+08	1.0792+08	4.6774+07	8.7953+06	2.3749+06	1.1545+03	2.9496+04	3.2387+26	0.0000	0.0000
11	1.65000+00	9.9693+07	4.9655+07	1.6455+07	2.1814+06	6.2949+05	3.0821+02	7.8739+05	8.6457+27	0.0000	0.0000
12	1.80000+00	1.2177+08	8.6500+07	7.0238+07	2.1821+07	6.2994+06	3.0842+03	7.8793+04	8.6517+26	0.0000	0.0000
13	1.95000+00	6.2313+07	4.4038+07	2.0766+07	1.1100+06	2.9136+05	1.4122+02	3.6079+05	3.9615+27	0.0000	0.0000
14	2.10000+00	3.1605+07	1.7455+07	7.7335+06	1.0699+06	2.6637+05	1.2829+02	3.2774+05	3.5987+27	0.0000	0.0000
15	2.25000+00	5.2705+06	3.7322+06	2.0234+06	4.9108+04	1.3140+03	4.1166+07	4.3062+26	0.0000	0.0000	0.0000
16	2.40000+00	5.1603+07	2.2408+07	1.4282+06	2.8617+04	7.6386+02	2.3931+07	2.5033+26	0.0000	0.0000	0.0000
17	2.55000+00	4.3966+07	2.4258+07	5.2708+06	8.4644+03	2.0899+02	6.5459+08	6.8473+27	0.0000	0.0000	0.0000
18	2.70000+00	4.2633+07	1.7656+07	3.4564+05	4.5010+01	3.5095+03	6.3590+28	0.0000	0.0000	0.0000	0.0000
19	2.85000+00	2.6585+07	9.6487+06	3.7178+05	2.2802+01	3.5599+08	0.0000	0.0000	0.0000	0.0000	0.0000
20	3.00000+00	2.1756+07	9.2188+06	4.2539+04	2.0889+02	4.0731+09	0.0000	0.0000	0.0000	0.0000	0.0000
21	3.15000+00	3.3575+06	2.3522+06	6.3889+05	3.9184+01	6.1175+08	0.0000	0.0000	0.0000	0.0000	0.0000
22	3.30000+00	3.1682+06	2.2196+06	6.0287+05	3.6974+01	5.7725+08	0.0000	0.0000	0.0000	0.0000	0.0000
23	3.45000+00	4.2372+06	2.0685+06	8.0628+05	4.9454+01	7.7203+08	0.0000	0.0000	0.0000	0.0000	0.0000
24	3.60000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	3.75000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
26	3.90000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	1.1790+07	8.2600+06	2.2435+06	1.3760+00	2.1682+07	0.0000	0.0000	0.0000	0.0000	0.0000
28	4.20000+00	1.5299+07	1.2176+07	9.5594+04	5.6628+02	9.1532+09	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
32	4.80000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	1.6199+07	5.4453+06	2.2558+13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.202

SOURCE 2 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.1230-03	1.1969-03	7.0039-04	8.0926-04	1.0276-03	4.1062-03	4.9400-03	4.9541-03	4.9541-03	4.9541-03
2	3.00000+01	1.2527-02	9.9793-03	6.5609-03	1.1211-02	1.5142-02	3.6670-02	4.3832-02	4.3953-02	4.3953-02	4.3953-02
3	4.50000+01	4.9903-02	4.3588-02	8.6352-02	1.4676-01	2.4861-01	6.9810-01	8.3918-01	8.4156-01	8.4156-01	8.4156-01
4	6.00000+01	1.2833-01	1.3062-01	1.8501-01	4.8217-01	6.5568-01	8.3703-01	8.4559-01	8.4573-01	8.4573-01	8.4573-01
5	7.50000+01	2.1599-01	2.3777-01	3.0430-01	5.3548-01	7.1704-01	9.9451-01	9.9451-01	1.0000+00	1.0000+00	1.0000+00
6	9.00000+01	4.5790-01	5.1077-01	5.7282-01	5.9684-01	7.6808-01	9.8870-01	9.9475-01	1.0000+00	1.0000+00	1.0000+00
7	1.05000+00	4.9858-01	5.5692-01	6.2739-01	6.2724-01	7.8230-01	9.8473-01	9.9975-01	1.0000+00	1.0000+00	1.0000+00
8	1.20000+00	5.6956-01	6.3902-01	7.2824-01	7.1551-01	8.3062-01	9.8638-01	9.9978-01	1.0000+00	1.0000+00	1.0000+00
9	1.35000+00	7.1849-01	7.5622-01	8.1483-01	8.4735-01	9.2216-01	9.9985-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	1.50000+00	7.9506-01	8.1788-01	8.6409-01	8.8564-01	9.4090-01	9.9989-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	1.65000+00	8.3007-01	8.4624-01	8.8102-01	8.9514-01	9.4587-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	1.80000+00	8.7282-01	8.9566-01	9.5538-01	9.9013-01	9.9558-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	1.95000+00	8.9470-01	9.2081-01	9.7725-01	9.9097-01	9.9788-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	2.10000+00	9.0580-01	9.3078-01	9.8535-01	9.9962-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	2.25000+00	9.0765-01	9.3292-01	9.8753-01	9.9984-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	2.40000+00	9.2577-01	9.4572-01	9.8903-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	2.55000+00	9.4120-01	9.5958-01	9.9458-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	2.70000+00	9.5617-01	9.6966-01	9.9498-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	2.85000+00	9.6551-01	9.7517-01	9.9534-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	3.00000+00	9.7315-01	9.8044-01	9.9538-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	3.15000+00	9.7432-01	9.8178-01	9.9605-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.7544-01	9.8305-01	9.9669-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.7692-01	9.8475-01	9.9754-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.7692-01	9.8475-01	9.9754-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.7692-01	9.8475-01	9.9754-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.7692-01	9.8475-01	9.9754-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.8106-01	9.8942-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	9.9346-01	9.9642-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235(ND,

SOURCE 2 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235(ND)

Figure 3.135

Table 3.203

SOURCE 2 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

BETA SPECTRA (BETAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	7.5698+08	4.0037+08	3.0556+08	1.8153+08	1.3473+08	5.6611+07	3.1225+07	5.1544+06	4.3121+05	6.7482+04
2	6.00000+01	5.8722+08	3.0457+08	2.1014+08	9.7736+07	6.3380+07	1.6029+07	7.7052+06	1.2691+06	1.0617+05	1.6615+04
3	9.00000+01	3.8646+08	1.9332+08	1.1754+08	4.5349+07	2.6311+07	1.8669+06	2.6415+04	1.8724+03	1.5664+02	2.4513+01
4	1.20000+00	2.1282+08	9.8046+07	4.5094+07	1.1810+07	6.5831+06	4.5019+05	3.6745+03	3.8482+04	1.6244+14	0.0000
5	1.50000+00	1.2799+08	5.1839+07	1.4750+07	7.8812+05	2.1802+05	5.0603+03	4.0788+01	4.2717+06	1.8032+16	0.0000
6	1.80000+00	9.4437+07	3.4451+07	6.5030+06	1.4110+05	2.0381+04	1.7317+01	7.4826+02	7.8363+09	3.3079+14	0.0000
7	2.10000+00	7.1800+07	2.3964+07	2.8070+06	3.9363+04	5.6000+03	2.2502+00	5.8295+07	6.1623+29	0.0000	0.0000
8	2.80000+00	5.3315+07	1.6295+07	8.7858+05	1.2324+03	1.1523+02	4.1803+02	1.0778+08	1.1393+30	0.0000	0.0000
9	2.70000+00	4.1808+07	1.2274+07	3.9989+05	1.7566+00	1.1567+04	1.9177+29	0.0000	0.0000	0.0000	0.0000
10	3.00000+00	3.3790+07	9.8283+06	3.1667+05	2.0488+01	3.1928+08	0.0000	0.0000	0.0000	0.0000	0.0000
11	3.30000+00	2.6140+07	7.5111+06	2.4194+05	1.5654+01	2.4394+08	0.0000	0.0000	0.0000	0.0000	0.0000
12	3.60000+00	1.9093+07	5.4065+06	1.6623+05	1.0755+01	1.6761+08	0.0000	0.0000	0.0000	0.0000	0.0000
13	3.90000+00	1.3477+07	3.7738+06	1.0163+05	6.5750+02	1.0247+08	0.0000	0.0000	0.0000	0.0000	0.0000
14	4.20000+00	9.3660+06	2.5988+06	5.2599+04	3.4031+02	5.3034+09	0.0000	0.0000	0.0000	0.0000	0.0000
15	4.50000+00	6.3880+06	1.7315+06	1.6562+04	1.0716+02	1.6699+09	0.0000	0.0000	0.0000	0.0000	0.0000
16	4.80000+00	4.4028+06	1.1530+06	8.9913+02	5.8173+04	9.0656+11	0.0000	0.0000	0.0000	0.0000	0.0000
17	5.10000+00	2.9680+06	7.6361+05	3.5848+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	5.40000+00	1.8855+06	4.8406+05	1.7520+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	5.70000+00	1.0029+06	2.5731+05	9.8655+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	4.0472+05	1.0354+05	3.9593+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.6391+05	4.1593+04	6.0788+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	9.5392+04	2.4142+04	9.4464+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	4.3859+04	1.1100+04	4.3432+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	1.0636+04	2.6917+03	1.0532+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	1.7623+02	4.4602+01	1.7452+18	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.204

SOURCE 2 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

BETA ENERGY SPECTRA (MEV/SEC)

-----COOLING TIMES-----											
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000-01	1.1355+08	6.0056+07	4.5833+07	2.7230+07	2.0209+07	8.4916+06	4.6038+06	7.7316+05	6.4681+04	1.0122+04
2	6.00000-01	2.6425+08	1.3706+08	9.4563+07	4.3981+07	2.8521+07	7.2128+06	3.4674+06	5.7110+05	4.7777+04	7.4779+03
3	9.00000-01	2.8984+08	1.4499+08	8.8153+07	3.8011+07	1.9733+07	1.4002+06	1.9812+04	1.4043+03	1.1748+02	1.8385+01
4	1.20000+00	2.2346+08	1.0295+08	4.7349+07	1.2401+07	6.9123+06	4.7270+05	3.8582+03	4.0406+04	1.7056+14	0.0000
5	1.50000+00	1.7278+08	6.9982+07	1.9912+07	1.0640+06	2.9433+05	6.8314+03	5.5064+01	5.7668+06	2.4343+16	0.0000
6	1.80000+00	1.5582+08	5.6444+07	1.0730+07	2.3282+05	3.3628+04	2.8572+01	1.2346+01	1.2930+08	5.4580+19	0.0000
7	2.10000+00	1.4001+08	4.6731+07	5.4736+06	7.6758+04	1.0920+04	4.3880+00	1.1368+06	1.2016+28	0.0000	0.0000
8	2.80000+00	1.1996+08	3.6671+07	1.9768+06	2.7726+03	2.5928+02	9.3608+02	2.4250+08	2.5634+30	0.0000	0.0000
9	2.70000+00	1.0661+08	3.1299+07	1.0197+06	4.8641+00	2.9496+04	4.8901+29	0.0000	0.0000	0.0000	0.0000
10	3.00000+00	9.6302+07	2.8011+07	9.0250+05	5.8391+01	9.0996+08	0.0000	0.0000	0.0000	0.0000	0.0000
11	3.30000+00	8.2340+07	2.3660+07	7.6213+05	4.9309+01	7.6843+08	0.0000	0.0000	0.0000	0.0000	0.0000
12	3.60000+00	6.5869+07	1.8652+07	5.7350+05	3.7105+01	5.7824+08	0.0000	0.0000	0.0000	0.0000	0.0000
13	3.90000+00	5.0539+07	1.4152+07	3.8109+05	2.4656+01	3.8424+08	0.0000	0.0000	0.0000	0.0000	0.0000
14	4.20000+00	3.7932+07	1.0525+07	2.1303+05	1.3783+01	2.1479+08	0.0000	0.0000	0.0000	0.0000	0.0000
15	4.50000+00	2.7788+07	7.5318+06	7.2045+04	4.6612+02	7.2641+09	0.0000	0.0000	0.0000	0.0000	0.0000
16	4.80000+00	2.0473+07	5.3613+06	4.1809+03	2.7050+01	4.2155+10	0.0000	0.0000	0.0000	0.0000	0.0000
17	5.10000+00	1.4691+07	3.7799+06	1.7745+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	5.40000+00	9.8991+06	2.5413+06	9.1978+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	5.70000+00	5.5662+06	1.4281+06	5.8754+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	2.3676+06	6.0572+05	2.3162+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.0081+06	2.5579+05	3.7384+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	6.1528+05	1.5572+05	6.0929+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	2.9605+05	7.4924+04	2.9317+15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	7.4982+04	1.8977+04	7.4253+16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	1.2953+03	3.2782+02	1.2827+17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.205

SOURCE 2 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	5.6716-02	7.4759-02	1.4417+01	2.2887-01	2.6691-01	4.8291-01	5.7295-01	5.7456+01	5.7456-01	5.7456-01
2	6.00000+01	1.8870-01	2.4537-01	4.4161-01	5.9841-01	6.4360-01	8.9310-01	9.9710-01	9.9896+01	9.9896-01	9.9896-01
3	9.00000+01	3.3348-01	4.2585-01	7.1889-01	8.8422-01	9.0423-01	9.7273-01	9.9952-01	1.0000+00	1.0000+00	1.0000+00
4	1.20000+00	4.8509-01	5.5401-01	8.6783-01	9.8843-01	9.9552-01	9.9961-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00
5	1.50000+00	5.3140-01	6.4112-01	9.3046-01	9.9738-01	9.9941-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
6	1.80000+00	6.0923-01	7.1188-01	9.6421-01	9.9933-01	9.9985-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
7	2.10000+00	6.7916-01	7.7005-01	9.8143-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
8	2.40000+00	7.3908-01	8.1570-01	9.8744-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	7.9233-01	8.5466-01	9.9085-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	8.4043-01	8.8953-01	9.9369-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	8.8156-01	9.1898-01	9.9609-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.1446-01	9.4220-01	9.9789-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.3971-01	9.5982-01	9.9909-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.5865-01	9.7792-01	9.9976-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.7253-01	9.8230-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.8276-01	9.8897-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9010-01	9.9368-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9504-01	9.9684-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9782-01	9.9862-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9900-01	9.9937-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9951-01	9.9969-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	9.9981-01	9.9988-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9996-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235(ND)

Figure 3.136

SOURCE 2 (WATER), EQUILIBRIUM, 1 WATT, PURE U-235 (ND)

Figure 3.137

Table 3.206

SOURCE 1 (AIR). EQUILIBRIUM, 4000 MW, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

1

-----COOLING TIME-----

GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	2.5639+19	1.5666+19	1.5205+19	1.9567+19	2.1392+19	1.7418+19	7.5282+18	5.1079+17	9.6533+15	2.0731+08
2	3.00000+01	3.0846+19	1.9375+19	1.1569+19	8.0580+18	5.7607+18	1.4868+18	2.9713+17	2.4988+16	2.5227+15	1.5149+07
3	4.50000+01	1.2697+19	2.2654+18	4.0582+18	2.2720+18	2.5753+18	2.3513+18	1.1860+18	1.8588+17	1.3040+16	7.1860+04
4	6.00000+01	3.5002+19	2.3660+19	4.8193+18	2.6087+18	2.1597+18	2.5411+17	2.1003+16	1.3798+16	1.2180+16	5.5192+15
5	7.50000+01	6.2853+18	4.3086+18	2.0829+18	3.8431+17	3.3892+17	2.5923+17	1.2740+17	1.9978+16	1.4130+15	5.6880+12
6	9.00000+01	1.0661+19	8.9196+18	5.1080+18	4.2251+17	1.7741+17	1.5591+16	1.3578+14	8.3949+12	1.5399+12	4.8013+07
7	1.05000+00	2.8007+18	2.3285+18	1.2786+18	1.3322+17	4.0425+16	3.5611+15	8.0343+12	2.4579+12	4.5037+11	1.4128+04
8	1.20000+00	7.9173+18	3.6200+18	1.1940+18	3.1666+17	1.1694+17	1.2907+15	8.5488+12	8.4994+05	1.2547+04	0.0000
9	1.35000+00	4.8901+18	2.6085+18	9.4376+17	4.0681+17	1.9460+17	9.3221+15	6.4588+13	2.5695+10	1.6783+10	2.1787+08
10	1.50000+00	2.0728+18	1.4961+18	1.7410+18	1.1788+17	3.6477+16	2.1966+13	7.7762+06	1.8108+06	1.5680+06	3.5789+05
11	1.65000+00	3.7168+18	2.2162+18	7.7578+17	8.8730+16	1.2920+16	1.2362+14	9.2299+13	2.8226+13	5.1734+12	1.6230+05
12	1.80000+00	4.4623+18	3.0489+18	7.0045+17	2.1871+17	7.8246+16	4.8418+13	1.1084+07	4.7103+01	4.3811+01	2.0614+01
13	1.95000+00	9.7438+17	7.9250+17	1.0558+18	1.2069+17	1.0689+16	2.0406+12	5.1987+05	7.8695+08	9.1569+21	0.0000
14	2.10000+00	3.3928+18	2.6987+18	6.3241+17	4.7420+16	5.3021+15	1.7152+12	3.8273+05	1.6886+12	0.0000	0.0000
15	2.25000+00	1.4982+18	1.2674+18	1.0773+18	8.3733+16	5.5646+15	4.5991+08	5.5340+06	4.6206+06	4.0011+06	9.1323+05
16	2.40000+00	3.0338+18	2.4954+18	1.6447+18	1.7019+17	1.1329+16	9.3208+11	7.2693+11	2.2230+11	4.0749+10	1.2782+03
17	2.55000+00	7.9714+17	3.6090+17	7.9352+16	4.4148+15	2.9107+14	3.8002+12	2.9646+12	9.0661+11	1.6618+11	5.2130+03
18	2.70000+00	1.2153+18	1.0950+18	7.9159+17	1.5744+16	9.1548+14	2.0156+07	5.6319+09	0.0000	0.0000	0.0000
19	2.85000+00	6.0758+17	2.4739+17	3.3614+16	1.5528+15	1.0007+14	2.2111+06	1.0348+09	0.0000	0.0000	0.0000
20	3.00000+00	5.2511+17	3.1141+17	3.9963+14	5.2826+10	2.8367+10	7.3559+10	5.7384+10	1.7549+10	3.2167+09	1.0090+02
21	3.15000+00	1.9976+17	1.5172+17	1.6509+16	1.8518+15	1.2335+14	2.4518+10	1.9125+10	5.8486+09	1.0721+09	3.3630+01
22	3.30000+00	8.0798+16	6.1597+16	1.4495+16	1.6982+15	1.1311+14	2.5008+06	8.3896+10	0.0000	0.0000	0.0000
23	3.45000+00	2.3463+17	2.7531+17	2.6794+16	7.1552+13	1.3132+11	6.2927+02	2.8058+10	0.0000	0.0000	0.0000
24	3.60000+00	1.4789+17	2.0963+17	8.9080+15	8.8788+14	5.9109+13	1.3068+06	3.6512+10	0.0000	0.0000	0.0000
25	3.75000+00	1.1715+17	1.0414+17	7.5727+14	1.6458+13	1.0948+12	2.4202+04	6.7623+12	0.0000	0.0000	0.0000
26	3.90000+00	4.7566+16	5.7044+16	5.9143+13	2.2358+09	1.3103+07	1.3447+07	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	1.1658+17	8.3589+16	1.1149+15	8.7662+13	5.8385+12	1.2908+05	3.6065+11	0.0000	0.0000	0.0000
28	4.20000+00	1.8290+16	1.0383+17	4.5427+14	4.7905+08	1.1560+02	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	1.5866+16	2.8815+16	1.8051+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	1.7295+16	8.6856+16	2.0043+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	2.3287+15	2.2427+16	1.1014+14	1.3149+13	8.7578+11	1.9362+04	5.4098+12	0.0000	0.0000	0.0000
32	4.80000+00	2.3282+15	2.0127+15	4.4949+15	3.5688+14	3.5758+13	7.9553+05	2.2088+10	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	2.0610+14	3.3027+14	3.9447+13	2.6273+12	5.8085+04	1.6229+11	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	3.5568+15	7.9340+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	9.4274+15	2.2151+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	5.9928+15	1.8122+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	1.4908+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	8.0505+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	1.2523+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	2.9226+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.207

SOURCE 1 (ATR), EQUILIBRIUM, 4000 MW, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.9229+18	1.1750+18	1.1400+18	1.4675+18	1.6044+18	1.3064+18	5.6462+17	3.8309+16	7.2400+14	1.5548+0
2	3.00000+01	6.8504+18	8.3594+18	2.6030+18	1.8131+18	1.2962+18	3.3454+17	6.6854+16	5.6213+15	5.6760+14	3.4086+0
3	4.50000+01	4.7614+18	3.4745+18	1.6703+18	8.5198+17	9.6572+17	8.4174+17	4.4476+17	6.9705+16	4.8901+15	2.6948+0
4	6.00000+01	1.8376+19	1.2421+19	2.3201+18	1.3696+18	1.1338+18	1.3341+17	1.1026+16	7.2440+15	6.3945+15	2.8976+1
5	7.50000+01	4.2426+18	2.9083+18	1.4060+18	2.5901+17	2.2877+17	1.7498+17	8.5993+16	1.3485+16	9.5378+14	3.8367+1
6	9.00000+01	8.7953+18	7.3587+18	4.2108+18	3.4857+17	1.8636+17	1.2863+16	1.1202+14	6.9258+12	1.2704+12	3.4610+0
7	1.05000+00	2.7307+18	2.2703+18	1.2467+18	1.2989+17	3.9414+16	3.4721+13	7.8334+12	2.3956+12	4.3911+11	1.3774+0
8	1.20000+00	8.9069+18	4.0725+18	1.3433+18	3.5628+17	1.3155+17	1.4520+15	9.6174+12	9.5619+05	1.4115+04	0.0000
9	1.35000+00	6.2349+18	3.3258+18	1.2033+18	5.2123+17	2.4812+17	1.1886+16	8.2349+13	3.2761+10	2.1398+10	2.7778+0
10	1.50000+00	2.9538+18	2.1320+18	2.4810+18	1.6798+17	5.1979+16	3.1302+13	1.1041+07	2.5803+06	2.2344+06	5.0999+0
11	1.65000+00	5.8540+18	3.4905+18	1.2219+18	1.3975+17	2.0349+16	1.9469+14	1.4537+14	4.4456+13	8.1489+12	2.5562+0
12	1.80000+00	7.6974+18	5.2594+18	1.2083+18	3.7727+17	1.3497+17	8.3521+13	1.9119+07	8.1252+01	7.5574+01	3.5559+0
13	1.95000+00	1.8270+19	1.4859+18	1.9797+18	2.2629+17	2.0041+16	3.8261+12	9.7476+05	1.4755+07	1.7169+20	0.0000
14	2.10000+00	6.8704+18	5.4609+18	1.2808+18	9.6026+16	1.0818+16	3.4733+12	7.7503+05	3.4195+12	0.0000	0.0000
15	2.25000+00	3.2586+18	2.7566+18	2.3431+18	1.8212+17	1.2103+16	1.0003+04	1.2036+07	1.0050+07	8.7024+06	1.4863+0
16	2.40300+00	7.0536+18	5.8019+18	3.8239+18	3.9570+17	2.6340+16	2.1671+12	1.6901+12	5.1666+11	9.4741+10	2.9719+0
17	2.55000+00	1.9729+18	8.9322+17	1.8650+17	1.0927+16	7.2039+14	9.4056+12	7.3373+12	2.2439+12	4.1130+11	1.2902+0
18	2.70000+00	3.1903+18	2.8745+18	2.0779+18	4.1327+16	2.4031+15	5.2910+07	1.4784+08	0.0000	0.0000	0.0000
19	2.85000+00	1.8660+18	6.8649+17	9.3279+16	3.0889+15	2.7768+14	6.1358+06	2.8816+09	0.0000	0.0000	0.0000
20	3.00000+00	1.5359+18	9.1088+17	1.1689+15	1.5451+11	8.2974+10	2.1511+11	1.6785+11	5.1330+10	9.4089+09	2.9515+0
21	3.15000+00	6.1425+17	4.6655+17	5.0764+16	5.6941+15	3.7929+14	7.5394+10	5.8809+10	1.7984+10	3.2966+09	1.0341+0
22	3.30000+00	2.6057+17	1.9885+17	4.6745+16	3.4767+15	3.6477+14	8.0652+06	2.7056+09	0.0000	0.0000	0.0000
23	3.45000+00	7.9188+17	9.2917+17	9.4028+16	2.4149+14	4.0320+11	2.1258+03	9.4696+10	0.0000	0.0000	0.0000
24	3.60000+00	5.2130+17	7.3895+17	3.1401+16	3.1284+15	2.0836+14	4.6064+06	1.2871+09	0.0000	0.0000	0.0000
25	3.75000+00	4.3054+17	3.8271+17	2.7830+15	6.0082+13	4.0236+12	8.8942+04	2.4851+11	0.0000	0.0000	0.0000
26	3.90000+00	1.8194+17	2.1819+17	2.2622+14	8.5518+09	5.1120+07	5.1435+07	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	4.6341+17	3.3227+17	4.4317+15	3.4846+14	2.3208+13	5.1308+05	1.4336+10	0.0000	0.0000	0.0000
28	4.20000+00	7.5444+16	4.2831+17	1.8739+15	1.9761+09	4.7685+02	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	6.6118+16	1.2318+17	7.7168+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	7.6532+16	3.8434+17	8.8692+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	1.0652+16	1.0260+17	5.0389+14	6.0157+13	4.0067+12	8.8579+04	2.7550+11	0.0000	0.0000	0.0000
32	4.80000+00	1.1001+16	9.5098+15	2.1239+16	2.5367+15	1.6896+14	3.7352+06	1.9437+09	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	1.0047+15	1.6101+15	1.9231+14	1.2808+13	2.8316+05	7.9119+11	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	1.7873+16	3.9868+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	4.8787+16	1.1496+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	3.1912+16	7.5202+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	8.1624+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	4.5284+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	7.2321+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	1.7317+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.208

SOURCE 1 (ATR), EQUILIBRIUM, 4000 MW, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.40000+01	1.7445-02	1.5154-02	3.3449-02	1.6720-01	2.6408-01	4.5716-01	4.8109-01	2.8499-01	5.3469-02	5.3588-09
2	3.00000+01	7.9595-02	7.1378-02	1.0980-01	3.7377-01	4.7742-01	5.7423-01	5.3805-01	3.2681-01	9.5388-02	6.5136-09
3	4.50000+01	1.2279-01	1.1619-01	1.5879-01	4.7084-01	6.3638-01	8.8279-01	9.1702-01	8.4537-01	4.5654-01	8.5429-09
4	6.00000+01	2.8951-01	2.7639-01	2.2684-01	6.2689-01	8.2306-01	9.2947-01	9.2642-01	8.9926-01	4.2879-01	9.9868-01
5	7.50000+01	3.2800-01	3.1390-01	2.6808-01	6.5644-01	8.6065-01	9.9070-01	9.9969-01	9.9958-01	9.9923-01	1.0000+00
6	9.00000+01	4.0779-01	4.0881-01	3.9159-01	6.9616-01	8.8474-01	9.9521-01	9.9978-01	9.9963-01	9.9933-01	1.0000+00
7	1.05000+02	4.3256-01	4.3809-01	4.2816-01	7.1096-01	8.9123-01	9.9522-01	9.9979-01	9.9965-01	9.9936-01	1.0000+00
8	1.20000+02	5.1337-01	4.9061-01	4.6756-01	7.5155-01	9.1288-01	9.9573-01	9.9980-01	9.9965-01	9.9936-01	1.0000+00
9	1.35000+02	5.6990-01	5.3350-01	5.0285-01	8.1093-01	9.5372-01	9.9989-01	9.9987-01	9.9965-01	9.9936-01	1.0000+00
10	1.50000+02	5.9673-01	5.6100-01	5.7562-01	8.3007-01	9.6228-01	9.9990-01	9.9987-01	9.9965-01	9.9936-01	1.0000+00
11	1.65000+02	6.4984-01	6.0602-01	6.1146-01	8.4599-01	9.6563-01	9.9996-01	9.9999-01	9.9968-01	9.9936-01	1.0000+00
12	1.80000+02	7.1968-01	6.7385-01	6.4690-01	8.8898-01	9.8784-01	9.9999-01	9.9999-01	9.9998-01	9.9996-01	1.0000+00
13	1.95000+02	7.3625-01	6.9302-01	7.0097-01	9.1876-01	9.9114-01	9.9999-01	9.9999-01	9.9998-01	9.9996-01	1.0000+00
14	2.10000+02	7.9850-01	7.6350-01	7.8253-01	9.2570-01	9.9292-01	1.0000+00	9.9999-01	9.9998-01	9.9996-01	1.0000+00
15	2.25000+02	8.2815-01	7.9905-01	8.1126-01	9.4645-01	9.9491-01	1.0000+00	9.9999-01	9.9998-01	9.9996-01	1.0000+00
16	2.40000+02	8.9214-01	8.7384-01	9.2382-01	9.9153-01	9.9925-01	1.0000+00	9.9999-01	9.9998-01	9.9997-01	1.0000+00
17	2.55000+02	9.1004-01	8.8540-01	9.2889-01	9.9278-01	9.9937-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	2.70000+02	9.3898-01	9.2287-01	9.8984-01	9.9749-01	9.9976-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	2.85000+02	9.5424-01	9.3132-01	9.9257-01	9.9798-01	9.9981-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	3.00000+02	9.6821-01	9.4307-01	9.9261-01	9.9798-01	9.9981-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	3.15000+02	9.7379-01	9.4909-01	9.9410-01	9.9863-01	9.9987-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+02	9.7615-01	9.5165-01	9.9547-01	9.9925-01	9.9993-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+02	9.8333-01	9.6363-01	9.9812-01	9.9928-01	9.9993-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+02	9.8806-01	9.7316-01	9.9904-01	9.9964-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+02	9.9197-01	9.7810-01	9.9912-01	9.9964-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+02	9.9362-01	9.8091-01	9.9913-01	9.9964-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+02	9.9782-01	9.8570-01	9.9926-01	9.9968-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+02	9.9851-01	9.9072-01	9.9932-01	9.9968-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+02	9.9911-01	9.9231-01	9.9932-01	9.9968-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+02	9.9980-01	9.9727-01	9.9932-01	9.9968-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+02	9.9990-01	9.9859-01	9.9933-01	9.9968-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+02	1.0000+00	9.9872-01	9.9995-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+02	1.0000+00	9.9873-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+02	1.0000+00	9.9896-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+02	1.0000+00	9.9959-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+02	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+02	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+02	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+02	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+02	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (AIR), EQUILIBRIUM, 4000 MW, PURE U-235

SOURCE 1 (AIR), EQUILIBRIUM, 4000 MM, PURE U-235

Table 3.209

SOURCE 1 (AIR), EQUILIBRIUM, 4000 MH, PURE U-235

RETA SPECTRA (RETAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	4.4562+19	3.9450+19	3.1421+19	2.1134+19	1.8109+19	1.2789+19	7.1599+13	1.5492+18	9.7726+17	9.1056+17
2	6.00000+01	1.5175+19	1.2386+19	6.4889+18	2.2201+18	1.2638+18	5.1919+17	4.3277+17	4.2066+17	4.3073+17	4.0756+17
3	9.00000+01	1.0150+19	7.4546+18	2.6337+18	5.6435+17	2.6654+17	1.9156+16	4.0490+15	7.2983+15	7.6934+15	7.2745+15
4	1.20000+00	9.0599+18	6.1811+18	1.3864+18	1.0526+17	4.3877+16	3.1698+15	5.4722+13	2.5148+13	1.7637+13	3.6050+11
5	1.50000+00	8.7139+18	5.7563+18	1.0681+18	2.7762+16	2.4615+15	4.0895+13	5.6167+12	4.7124+12	3.2752+12	9.1215+10
6	1.80000+00	8.1952+18	5.3375+18	9.3323+17	2.2750+16	1.1487+15	3.6026+11	2.0059+11	1.0068+11	3.9498+10	2.1771+10
7	2.10000+00	7.2912+18	4.7071+18	7.9109+17	2.0796+16	9.9424+14	8.4224+10	4.5800+10	2.4881+10	1.1791+10	7.9414+09
8	2.40000+00	6.1635+18	3.9494+18	6.3672+17	1.8925+16	8.8486+14	1.1238+10	7.4858+08	6.6966+08	5.8447+08	5.3218+08
9	2.70000+00	5.0559+18	3.1941+18	4.9404+17	1.7305+16	8.1206+14	1.8708+09	6.5808+06	7.7067+06	7.7362+06	3.6853+06
10	3.00000+00	3.9989+18	2.4403+18	3.7409+17	1.5776+16	7.4548+14	4.9780+07	1.0535+06	1.2439+06	1.2487+06	5.9484+05
11	3.30000+00	2.9227+18	1.6928+18	2.7539+17	1.3871+16	6.6011+14	1.1375+07	6.1331+08	0.0000	0.0000	0.0000
12	3.60000+00	1.9174+18	1.0192+18	2.0029+17	1.1737+16	5.6150+14	9.6061+06	1.4271+06	0.0000	0.0000	0.0000
13	3.90000+00	1.1061+18	5.0732+17	1.4878+17	9.4574+15	4.5359+14	7.7446+06	2.6548+09	0.0000	0.0000	0.0000
14	4.20000+00	5.6954+17	1.8889+17	1.0623+17	7.0173+15	3.3678+14	5.7497+06	1.9677+09	0.0000	0.0000	0.0000
15	4.50000+00	2.8929+17	5.3569+16	7.0735+16	4.5935+15	2.2043+14	3.7637+06	1.2841+09	0.0000	0.0000	0.0000
16	4.80000+00	1.7957+17	2.4777+16	3.7414+16	2.4307+15	1.1664+14	1.9916+06	6.8158+10	0.0000	0.0000	0.0000
17	5.10000+00	1.0683+17	1.1881+16	1.2534+16	8.1428+14	3.9075+13	6.6718+05	2.2833+10	0.0000	0.0000	0.0000
18	5.40000+00	5.4539+16	5.8465+15	9.2883+14	6.0343+13	2.8957+12	4.9442+04	1.6921+11	0.0000	0.0000	0.0000
19	5.70000+00	1.9906+16	2.5350+15	2.5397+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	3.0302+15	9.4290+14	1.0531+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	7.6518+12	1.5376+14	1.8118+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	2.0301+12	4.6522+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	1.1771+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	5.2575+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	1.1776+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.210

SOURCE 1 (APR), EQUILIBRIUM, 4000 MR, PURE U-235

BETA ENERGY SPECTRA V/S(E.C)

-----COOLING TIMES-----												
GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	3.00000+01	6.6843+18	5.9175+18	4.7131+18	3.1699+18	2.7163+18	1.9184+18	1.0740+18	2.3238+17	1.4659+17	1.3658+17	
2	4.00000+01	6.8287+18	5.5737+18	3.0100+18	9.9905+17	5.6871+17	2.3364+17	1.9475+17	1.8930+17	1.9383+17	1.8340+17	
3	5.00000+01	7.6152+18	5.5917+18	1.9753+18	4.2326+17	1.9990+17	1.4367+16	4.5367+15	5.4033+15	5.7700+15	5.4559+15	
4	1.20000+00	9.5129+18	6.4902+18	1.4557+18	1.1052+17	4.6071+16	3.1283+15	5.7444+13	2.6406+13	1.8519+13	3.7853+13	
5	1.50000+00	1.1764+19	7.7711+18	1.4419+18	3.7479+16	3.3230+15	5.5208+13	7.5825+12	6.3617+12	4.4215+12	1.2310+12	
6	1.80000+00	1.3522+19	8.8069+18	1.5398+18	3.7518+16	1.8954+15	5.9443+11	3.3097+11	1.6617+11	6.5172+10	3.5922+10	
7	2.10000+00	1.4218+19	9.1788+18	1.5426+18	4.0552+16	1.4388+15	1.6424+11	8.9310+10	4.8518+10	2.2993+10	1.5486+10	
8	2.40000+00	1.3868+19	8.8862+18	1.4326+18	4.2580+16	1.9909+15	2.5285+10	1.6843+09	1.5067+09	1.3151+09	1.1974+09	
9	2.70000+00	1.2893+19	8.1449+18	1.2598+18	4.4128+16	2.0707+15	4.7704+09	1.6781+07	1.9652+07	1.9727+07	9.3974+06	
10	3.00000+00	1.1397+19	6.9550+18	1.0661+18	4.4962+16	2.1246+15	1.4187+08	3.0025+06	3.5452+06	3.5588+06	1.6953+06	
11	3.30000+00	9.2066+18	5.3322+18	8.6707+17	4.3695+16	2.0793+15	3.5831+07	1.9949+07	0.0000	0.0000	0.0000	
12	3.60000+00	6.6150+18	3.5162+18	6.9102+17	4.0492+16	1.9372+15	3.3141+07	4.9235+08	0.0000	0.0000	0.0000	
13	3.90000+00	4.1477+18	1.8837+18	5.5776+17	3.5865+16	1.7009+15	2.9042+07	9.9556+09	0.0000	0.0000	0.0000	
14	4.20000+00	2.3067+18	7.6502+17	4.3834+17	2.8420+16	1.3638+15	2.3286+07	7.9694+09	0.0000	0.0000	0.0000	
15	4.50000+00	1.2593+18	2.3303+17	3.0770+17	1.9982+16	9.5888+14	1.6372+07	5.6032+09	0.0000	0.0000	0.0000	
16	4.80000+00	8.3500+17	1.1521+17	1.7398+17	1.1303+16	5.4218+14	9.2608+06	3.1694+09	0.0000	0.0000	0.0000	
17	5.10000+00	5.2879+17	5.8819+16	6.2043+16	4.0307+15	1.9342+14	3.3025+06	1.1343+09	0.0000	0.0000	0.0000	
18	5.40000+00	2.8633+17	3.0694+16	4.8764+15	3.1680+14	1.5202+13	2.5957+05	8.8834+11	0.0000	0.0000	0.0000	
19	5.70000+00	1.1048+17	1.4069+16	1.4096+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
20	6.00000+00	1.7727+16	5.5159+15	6.1607+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
21	6.30000+00	4.7058+15	9.4560+14	1.1142+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
22	6.60000+00	0.0000	1.3094+13	3.0007+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
23	6.90000+00	0.0000	7.9456+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
24	7.20000+00	0.0000	3.7065+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
25	7.50000+00	0.0000	8.6556+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Table 3.211

SOURCE 1 (AIP), EQUILIBRIUM, 4000 MW, PORT U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E(MFV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	5.0026-02	6.9396-02	7.0910-01	6.1747-01	7.6448-01	8.8414-01	8.4344-01	5.4407-01	4.2341-01	4.1968-01
2	6.00000+01	1.0113-01	1.3476-01	3.4264-01	8.1208-01	9.2454-01	9.9182-01	9.9639-01	9.8727-01	9.8327-01	9.8323-01
3	9.00000+01	1.5813-01	2.0034-01	4.3027-01	8.9453-01	9.8080-01	9.9840-01	9.9995-01	9.9992-01	9.9993-01	1.0000+00
4	1.20000+00	2.2932-01	2.7645-01	4.9485-01	4.1606-01	9.9377-01	9.9997-01	9.9499-01	9.9998-01	9.9999-01	1.0000+00
5	1.50000+00	3.1736-01	3.6758-01	5.5882-01	9.2336-01	9.9471-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
6	1.80000+00	4.1857-01	4.7086-01	6.2714-01	9.3067-01	9.9524-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
7	2.10000+00	5.2497-01	5.7850-01	6.9558-01	9.3857-01	9.9578-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
8	2.40000+00	6.2876-01	6.8272-01	7.5913-01	9.4686-01	9.9635-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	7.2525-01	7.7823-01	8.1503-01	9.5548-01	9.9693-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	8.1055-01	8.5980-01	8.6233-01	9.6422-01	9.9753-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	8.7945-01	9.2233-01	9.0081-01	9.7273-01	9.9811-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.2896-01	9.6356-01	9.3147-01	9.8062-01	9.9886-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.6000-01	9.8565-01	9.5621-01	9.8752-01	9.9913-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.7727-01	9.9463-01	9.7566-01	9.9306-01	9.9952-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.8689-01	9.9736-01	9.8931-01	9.9695-01	9.9979-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.9294-01	9.9871-01	9.9703-01	9.9915-01	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9690-01	9.9940-01	9.9978-01	9.9994-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9904-01	9.9976-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9987-01	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	1.0000+00	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (AIR), EQUILIBRIUM, 4000 MW, PURE U-235

SOURCE 1 (AIR), EQUILIBRIUM, 4000 MW, PURE U 235

Table 3.212

SOURCE 1 (AIR), 200 DAYS, 4000 MW, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.6032+19	7.1530+12	5.7693+18	5.4173+18	5.0420+18	3.7390+18	1.6417+18	9.8090+16	1.7870+15	2.0813+08
2	3.00000+01	2.3483+19	1.2900+19	5.0408+18	2.2244+18	1.2695+18	1.6622+17	5.6925+16	6.4414+15	4.2862+14	5.6918+05
3	4.50000+01	9.9938+18	6.6854+18	2.5008+18	9.4629+17	9.6175+17	9.5514+17	5.2893+17	7.5093+16	4.9147+15	6.4229+04
4	6.00000+01	1.6719+19	9.1413+18	3.3873+18	1.6423+18	1.2070+18	1.4337+17	3.1662+15	3.6074+14	6.0649+13	4.8531+13
5	7.50000+01	6.0781+18	3.9720+18	1.7671+18	1.9594+17	1.3936+17	1.0675+17	5.6845+16	8.0694+15	5.2985+14	1.5475+12
6	9.00000+01	1.0047+19	8.0673+18	4.3773+18	2.6634+17	9.9645+16	9.5652+15	9.1445+13	5.1225+12	8.7645+11	4.8204+07
7	1.05000+00	2.6774+18	2.1406+18	1.1241+18	8.4302+16	2.2777+16	2.1852+13	5.4132+12	1.4992+12	2.5633+11	1.4184+04
8	1.20000+00	7.6313+18	3.2944+18	1.0373+18	2.0034+17	6.5887+16	7.9199+14	5.7599+12	5.1863+05	7.1411+05	0.0000
9	1.35000+00	4.7289+18	2.3972+18	8.2367+17	2.5868+17	1.0965+17	5.7203+15	4.3516+13	1.5679+10	9.5520+09	2.1873+08
10	1.50000+00	2.0293+18	1.4013+18	1.5324+18	7.4581+16	2.0553+16	1.3479+13	5.2391+06	1.1049+06	8.9243+05	3.5931+05
11	1.65000+00	1.5556+18	2.0161+18	6.7812+17	5.6128+16	7.2795+15	7.5854+13	6.2187+13	1.7223+13	2.9447+12	1.6295+05
12	1.80000+00	4.1742+18	2.7153+18	5.8608+17	1.3831+17	4.4087+16	2.9711+13	7.4676+06	2.8732+01	2.4435+01	2.0696+01
13	1.95000+00	9.2888+17	7.2650+17	9.3321+17	7.6370+16	6.0223+15	1.2521+12	3.5027+05	4.8019+08	5.2116+21	0.0000
14	2.10000+00	3.2444+18	2.4664+18	5.1177+17	2.9877+16	3.0097+15	1.0525+12	2.5787+05	1.0304+12	0.0000	0.0000
15	2.25000+00	1.4765+18	1.1964+18	9.5216+17	5.2987+16	3.1152+15	2.8221+08	3.7286+06	2.8194+06	2.2772+06	9.1687+05
16	2.40000+00	2.9610+18	2.3358+18	1.4536+18	1.0770+17	6.3829+15	5.7195+11	4.8977+11	1.3565+11	2.3192+10	1.2833+03
17	2.55000+00	7.7768+17	3.3422+17	6.2825+16	2.7832+15	1.6398+14	2.3319+12	1.9974+12	5.5320+11	9.4583+10	5.2337+03
18	2.70000+00	5.8758+17	2.2437+17	4.8730+17	9.3726+15	5.1484+14	1.2368+07	3.7944+09	0.0000	0.0000	0.0000
19	2.85000+00	4.4691+17	2.4362+16	9.6773+14	5.6355+13	1.3567+06	6.9962+10	0.0000	0.0000	0.0000	0.0000
20	3.00000+00	1.9686+17	3.5207+14	3.3630+10	1.5983+10	4.5138+10	3.8663+10	1.0708+10	1.8308+09	1.0131+02	0.0000
21	3.15000+00	7.9627+16	1.4323+17	1.4591+16	1.1718+15	6.9495+13	1.5045+10	1.2886+10	3.5688+09	6.1016+08	3.3763+01
22	3.30000+00	2.1576+17	2.4721+17	1.6289+16	2.4735+13	4.0566+10	3.8614+02	1.8904+10	0.0000	0.0000	0.0000
23	3.45000+00	1.4574+17	1.9790+17	7.8733+15	5.6160+14	3.3303+13	6.0183+05	2.4599+10	0.0000	0.0000	0.0000
24	3.60000+00	1.1546+17	9.8308+16	6.6993+14	1.0014+13	6.1686+11	1.4850+04	4.5559+12	0.0000	0.0000	0.0000
25	3.75000+00	4.6877+16	5.3850+16	5.2275+13	1.4149+09	7.3829+06	8.2515+08	0.0000	0.0000	0.0000	0.0000
26	3.90000+00	1.1489+17	7.8909+16	9.8581+18	5.5473+13	3.2895+12	7.9202+04	2.4298+11	0.0000	0.0000	0.0000
27	4.05000+00	1.8025+16	9.8014+16	4.0153+14	3.0316+08	6.5134+01	0.0000	0.0000	0.0000	0.0000	0.0000
28	4.20000+00	1.5242+16	2.7202+16	1.5955+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	1.7045+16	8.1994+16	1.7716+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	2.2945+15	2.1171+16	9.7346+13	8.3208+12	4.9343+11	1.1880+04	3.6447+12	0.0000	0.0000	0.0000
31	4.65000+00	0.0000	1.9000+15	3.9728+15	3.3974+14	2.0147+13	4.8507+05	1.4881+10	0.0000	0.0000	0.0000
32	4.80000+00	0.0000	1.9456+14	2.9191+14	2.4962+13	1.4803+12	3.5641+04	1.0934+11	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	3.3577+15	7.0127+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	8.8994+15	1.9636+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	5.6573+15	1.2483+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	1.4074+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	7.5998+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	1.1827+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	2.7590+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000									

Table 3.213

SOURCE 1 (AIR), 200 DAYS, 4000 MW, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.2024+18	5.3644+17	4.3270+17	4.0630+17	3.7815+17	2.8043+17	1.2313+17	7.3567+15	1.3403+14	1.5610+07
2	3.00000+01	5.2836+18	2.9025+18	1.1342+18	5.0050+17	2.8564+17	3.7399+16	1.2808+16	1.4493+15	9.6440+13	1.2807+05
3	4.50000+01	3.7477+18	2.5070+18	9.3917+17	3.5486+17	3.6066+17	3.5818+17	1.9835+17	2.8160+16	1.8430+15	2.4086+04
4	6.00000+01	8.7773+18	4.7992+18	1.7783+18	8.6219+17	6.3365+17	7.5270+16	1.6633+15	1.8939+14	4.2341+13	2.5479+13
5	7.50000+01	4.1027+18	2.6811+18	1.1928+18	1.3226+17	9.4067+16	7.2059+16	3.8371+16	5.4468+15	3.5785+14	1.0446+12
6	9.00000+01	8.2887+18	6.6555+18	3.6113+18	2.1973+17	8.2208+16	7.8913+15	7.5475+13	4.2261+12	7.2307+11	3.9768+07
7	1.05000+00	2.6104+18	2.0871+18	1.0999+18	8.2195+16	2.2208+16	2.1306+13	5.2779+12	1.4618+12	7.4492+11	1.3829+04
8	1.20000+00	8.5852+18	3.7062+18	1.1669+18	2.2539+17	7.4123+16	8.9099+14	6.4798+12	5.8346+05	8.0337+05	0.0000
9	1.35000+00	6.0293+18	3.0565+18	1.0499+18	3.2981+17	1.3980+17	7.2933+15	5.5483+13	1.9990+10	1.2179+10	2.7888+08
10	1.50000+00	2.8918+18	1.9969+18	2.1837+18	1.0628+17	2.9287+16	1.9207+13	7.4660+06	1.5745+06	1.2717+06	5.1202+05
11	1.65000+00	5.6001+18	3.1753+18	1.0680+18	8.8402+16	1.1465+16	1.1947+14	9.945+13	2.7127+13	4.6380+12	2.5664+05
12	1.80000+00	7.2005+18	4.6839+18	1.0110+18	2.3859+17	7.6050+16	5.1251+13	1.2882+07	4.9579+01	4.3013+01	3.5700+01
13	1.95000+00	1.7417+18	1.3622+18	1.7498+18	1.4319+17	1.1292+16	2.3478+12	6.5675+05	9.0035+08	9.7718+21	0.0000
14	2.10000+00	6.5707+18	4.9952+18	1.0363+18	6.0500+16	6.0947+15	2.1313+12	5.2218+05	2.0865+12	0.0000	0.0000
15	2.25000+00	3.2113+18	2.6022+18	2.0709+18	1.1525+17	6.8191+15	6.1381+08	8.1096+06	6.1322+06	4.9530+06	1.9942+06
16	2.40000+00	6.8843+18	5.4308+18	3.1797+18	2.5040+17	1.4840+16	1.3298+12	1.1387+12	3.1538+11	5.3922+10	2.9838+03
17	2.55000+00	1.9248+18	8.2720+17	1.5509+17	6.8884+15	4.0584+14	5.7715+12	4.9436+12	1.3692+12	2.3409+11	1.2954+04
18	2.70000+00	1.9773+18	1.7587+18	1.2792+18	2.4603+16	1.3515+15	3.2466+07	9.9602+09	0.0000	0.0000	0.0000
19	2.85000+00	1.6305+18	6.2264+17	6.7604+16	2.6854+15	1.5639+14	3.7649+06	1.9410+09	0.0000	0.0000	0.0000
20	3.00000+00	7.1072+18	7.1752+17	1.0298+15	9.7782+10	4.6751+10	1.3203+11	1.1309+11	3.1321+10	5.3551+09	2.9652+02
21	3.15000+00	6.0535+17	4.4043+17	4.8868+16	3.6738+15	2.1370+14	4.6264+10	3.9623+10	1.0974+10	1.8763+09	1.0382+02
22	3.30000+00	2.5680+17	1.8753+17	4.1315+16	3.4657+15	2.0552+14	4.9488+06	1.8229+09	0.0000	0.0000	0.0000
23	3.45000+00	7.2818+17	8.3441+17	5.4975+16	8.3481+13	1.3691+11	1.3032+03	6.3802+10	0.0000	0.0000	0.0000
24	3.60000+00	5.1375+17	6.9758+17	2.7753+16	1.9796+15	1.1739+14	2.8264+06	8.6713+10	0.0000	0.0000	0.0000
25	3.75000+00	4.2430+17	3.6128+17	2.4598+15	3.8273+13	2.2669+12	5.4575+04	1.6743+11	0.0000	0.0000	0.0000
26	3.90000+00	1.7930+17	2.0598+17	1.9995+14	5.4119+09	2.8240+07	3.1562+07	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	4.5670+17	3.1366+17	3.9170+15	2.2050+14	1.3078+13	3.1483+05	9.6586+11	0.0000	0.0000	0.0000
28	4.20000+00	7.8351+16	4.0433+17	1.6543+15	1.2505+09	2.6868+02	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	6.5159+16	1.1679+17	6.8208+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	7.5423+16	3.6782+17	7.8398+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	5.1375+16	9.6859+16	4.4536+14	3.8068+13	2.2574+12	5.4352+04	1.6675+11	0.0000	0.0000	0.0000
32	4.80000+00	1.0841+16	8.9774+15	1.8772+16	1.6053+15	9.5193+13	2.2919+06	7.0315+10	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	9.4887+14	1.4230+15	1.2169+14	7.2164+12	1.7375+05	5.3504+11	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	1.6872+16	3.5239+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	4.6055+14	1.0161+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	3.0125+16	6.6470+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	7.7058+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	4.2749+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	6.8272+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	1.6347+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.214

SOURCE 1 (AIR), 200 DAYS, 4000 MW, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

-----COOLING TIMES-----

GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.2933-02	6.7619-03	1.6263-02	9.7641-02	1.6966-01	3.3399-01	3.2873-01	1.7254-01	5.4057-02	5.6853-07
2	3.00000+01	6.9766-02	5.6167-02	5.8892-02	2.1792-01	2.9781-01	3.7853-01	3.6292-01	8.0540-01	9.2954-02	5.9336-07
3	4.50000+01	1.1008-01	9.7113-02	9.4191-02	3.0320-01	4.5961-01	8.0512-01	8.9246-01	8.0700-01	8.3629-01	5.9427-07
4	6.00000+01	2.0449-01	1.7549-01	1.6103-01	5.1040-01	7.4390-01	8.9477-01	8.9690-01	8.7144-01	8.5336-01	9.6060-01
5	7.50000+01	2.4862-01	2.1928-01	2.0586-01	5.4218-01	7.8610-01	9.8059-01	9.9934-01	9.9919-01	9.9761-01	9.9999-01
6	9.00000+01	3.3778-01	3.2798-01	3.4160-01	5.9898-01	8.2299-01	9.8999-01	9.9954-01	9.9929-01	9.9790-01	9.9999-01
7	1.05000+00	3.6585-01	3.6207-01	3.8294-01	6.1478-01	8.3295-01	9.9001-01	9.9956-01	9.9932-01	9.9801-01	9.9999-01
8	1.20000+00	4.5820-01	4.2260-01	4.2680-01	6.6890-01	8.6620-01	9.9107-01	9.9957-01	9.9932-01	9.9801-01	9.9999-01
9	1.35000+00	5.2305-01	4.7252-01	4.6626-01	7.4814-01	9.2893-01	9.9976-01	9.9972-01	9.9932-01	9.9801-01	1.0000+00
10	1.50000+00	5.5416-01	5.0513-01	5.4834-01	7.7370-01	9.2207-01	9.9978-01	9.9972-01	9.9932-01	9.9801-01	1.0000+00
11	1.65000+00	6.1440-01	5.5700-01	5.8848-01	7.9495-01	9.4721-01	9.9992-01	9.9998-01	9.9996-01	9.9988-01	1.0000+00
12	1.80000+00	6.9185-01	6.3349-01	6.2648-01	8.5224-01	9.8133-01	9.9999-01	9.9998-01	9.9996-01	9.9988-01	1.0000+00
13	1.95000+00	7.1058-01	6.5574-01	6.9224-01	8.8674-01	9.8640-01	9.9999-01	9.9998-01	9.9996-01	9.9988-01	1.0000+00
14	2.10000+00	7.8126-01	7.3732-01	7.3120-01	9.0124-01	9.8913-01	9.9999-01	9.9998-01	9.9996-01	9.9988-01	1.0000+00
15	2.25000+00	8.1580-01	7.7982-01	8.0903-01	9.2493-01	9.9219-01	9.9999-01	9.9998-01	9.9996-01	9.9988-01	1.0000+00
16	2.40000+00	8.8985-01	8.6852-01	9.3606-01	9.8911-01	9.9885-01	9.9999-01	9.9999-01	9.9997-01	9.9990-01	1.0000+00
17	2.55000+00	9.1055-01	8.8203-01	9.4191-01	9.9076-01	9.9903-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	2.70000+00	9.3182-01	9.1076-01	9.8999-01	9.9667-01	9.9968-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	2.85000+00	9.4936-01	9.2092-01	9.9253-01	9.9732-01	9.9971-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	3.00000+00	9.6342-01	9.3260-01	9.9257-01	9.9732-01	9.9971-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	3.15000+00	9.6993-01	9.3980-01	9.9425-01	9.9819-01	9.9980-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.7270-01	9.4290-01	9.9581-01	9.9902-01	9.9989-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.8053-01	9.5653-01	9.9787-01	9.9904-01	9.9989-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.8605-01	9.6792-01	9.9891-01	9.9951-01	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.9062-01	9.7382-01	9.9901-01	9.9952-01	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.9255-01	9.7718-01	9.9901-01	9.9952-01	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.9746-01	9.8231-01	9.9916-01	9.9958-01	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.9826-01	9.8891-01	9.9922-01	9.9958-01	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9896-01	9.9081-01	9.9922-01	9.9958-01	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9977-01	9.9474-01	9.9922-01	9.9958-01	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9988-01	9.9832-01	9.9924-01	9.9958-01	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	1.0000+00	9.9846-01	9.9995-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	1.0000+00	9.9948-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	1.0000+00	9.9974-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	1.0000+00	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (AIR), 200 DAYS, 4000 MW, PURE U-235

Figure 3.142

SOURCE 1 (AIR), 200 DAYS, 4000 MM, PURE U-235

Table 3.215

SOURCE 1 (AIR), 200 DAYS, 4000 MW, PURE U-235

NETA SPECTRA (BETAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	30.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	2.6581+19	2.2026+19	1.6075+19	9.3322+18	7.4498+18	4.3039+18	2.0586+18	1.9268+17	1.5218+16	7.9770+15
2	6.00000+01	1.1538+19	8.7645+18	6.5847+18	1.3739+18	7.0642+17	1.2940+17	6.2993+16	1.3494+16	4.4866+15	3.5704+15
3	9.00000+01	7.8475+18	3.2935+18	2.1780+18	4.8314+17	2.3493+17	1.3129+16	2.7895+14	1.0353+14	9.4121+13	6.4326+13
4	1.20000+00	6.6837+18	4.0721+18	1.2360+18	1.0971+17	4.5344+16	3.0947+15	5.1270+13	2.0293+13	1.6400+13	3.5046+11
5	1.50000+00	6.0597+18	3.4646+18	9.2391+17	2.8681+16	2.5433+15	3.0926+13	5.2632+12	3.8040+12	3.0473+12	9.1213+10
6	1.80000+00	5.3959+18	2.9629+18	7.9037+17	2.3447+16	1.1867+15	3.5172+11	1.8796+11	8.1272+10	3.6749+10	2.1771+10
7	2.10000+00	4.5260+18	2.3962+18	6.5984+17	2.1433+16	1.0270+15	8.2228+10	4.2918+10	2.0085+10	1.0971+10	7.9412+09
8	2.40000+00	3.6142+18	1.8445+18	5.2754+17	1.9531+16	9.1407+14	1.0971+10	7.0147+08	5.4057+08	5.4380+08	5.3217+08
9	2.70000+00	2.8829+18	1.4116+18	4.1423+17	1.7906+16	8.3893+14	1.8264+09	6.1666+06	6.2212+06	7.1978+06	3.8852+06
10	3.00000+00	2.3126+18	1.0580+18	3.2585+17	1.6380+16	7.7023+14	4.8600+07	9.8721+05	1.0042+06	1.1618+06	5.9482+05
11	3.30000+00	1.7639+18	7.3931+17	2.5411+17	1.4451+16	6.8208+14	1.1105+07	5.9344+08	0.0000	0.0000	0.0000
12	3.60000+00	1.2512+18	4.6384+17	1.9585+17	1.2258+16	5.8023+14	9.3781+06	1.3373+08	0.0000	0.0000	0.0000
13	3.90000+00	8.2149+17	2.5461+17	1.5033+17	9.8887+15	4.6673+14	7.5607+06	2.4876+09	0.0000	0.0000	0.0000
14	4.20000+00	5.0865+17	1.1024+17	1.1024+17	7.3393+15	3.4799+14	5.6132+06	1.8438+09	0.0000	0.0000	0.0000
15	4.50000+00	3.0124+17	5.0781+16	7.2047+16	4.8043+15	2.2779+14	3.6744+06	1.2070+09	0.0000	0.0000	0.0000
16	4.80000+00	1.8924+17	2.4766+16	3.8108+16	2.5422+15	1.2054+14	1.9443+06	6.3866+10	0.0000	0.0000	0.0000
17	5.10000+00	1.1258+17	1.1876+16	1.2766+16	8.5163+14	4.0380+13	6.5134+05	2.1395+10	0.0000	0.0000	0.0000
18	5.40000+00	5.7478+16	5.8439+15	4.4685+14	6.3111+14	2.9924+12	4.8268+04	1.5655+11	0.0000	0.0000	0.0000
19	5.70000+00	2.0979+16	2.5339+15	2.5869+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	7.1935+15	9.4248+14	1.0727+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	8.0641+12	1.5369+14	1.8454+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	2.0292+12	4.7387+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	1.1766+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	5.2551+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	1.1771+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.216

SOURCE 1 (AIR), 200 DAYS, 4000 MW, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	3.9872+18	3.3041+18	2.4112+18	1.3998+18	1.1175+18	6.4559+17	3.0878+17	2.8901+16	2.2826+15	1.1966+15
2	6.00000+01	5.1923+18	3.9440+18	2.0631+18	6.1827+17	3.1789+17	5.8231+16	2.8347+16	6.0723+15	2.0190+15	1.6067+15
3	9.00000+01	5.8856+18	3.9701+18	1.6335+18	3.6235+17	1.7620+17	9.8468+15	2.0921+14	7.7647+13	7.0591+13	4.8244+13
4	1.20000+00	7.0179+18	4.2757+18	1.2978+18	1.1519+17	4.7611+16	3.2494+15	5.3834+13	2.1308+13	1.7220+13	3.6799+11
5	1.40000+00	8.1806+18	4.6772+18	1.2473+18	3.8719+16	3.4334+15	5.3900+13	7.1053+12	5.1354+12	4.1138+12	1.2314+11
6	1.60000+00	8.9033+18	4.8887+18	1.3041+18	3.8687+16	1.9580+15	5.8034+11	3.1014+11	1.3410+11	6.0636+10	3.5921+10
7	2.10000+00	8.8258+18	4.6725+18	1.2867+18	4.1795+16	2.0027+15	1.6034+11	6.3689+10	3.9165+10	2.1493+10	1.5485+10
8	2.40000+00	8.1320+18	4.1502+18	1.1870+18	4.3984+16	2.0567+15	2.4686+10	1.5783+09	1.2163+09	1.2235+09	1.1974+09
9	2.70000+00	7.3515+18	3.5995+18	1.0563+18	4.5661+16	2.1393+15	4.6574+09	1.5725+07	1.5864+07	1.8354+07	9.3972+06
10	3.00000+00	6.5908+18	3.0153+18	9.2866+17	4.6884+16	2.1951+15	1.3851+08	2.8135+06	2.8618+06	3.3111+06	1.6952+06
11	3.30000+00	5.5563+18	2.3288+18	8.0003+17	4.5519+16	2.1485+15	3.4981+07	1.8693+07	0.0000	0.0000	0.0000
12	3.60000+00	4.3167+18	1.6002+18	6.7569+17	4.2289+16	2.0018+15	3.2354+07	4.6135+08	0.0000	0.0000	0.0000
13	3.90000+00	3.0806+18	9.5477+17	5.6374+17	3.7083+16	1.7577+15	2.8353+07	9.3286+09	0.0000	0.0000	0.0000
14	4.20000+00	2.0438+18	4.8663+17	4.0646+17	2.9724+16	1.4094+15	2.2733+07	7.4674+09	0.0000	0.0000	0.0000
15	4.50000+00	1.3104+18	2.2090+17	3.1380+17	2.0899+16	9.9090+14	1.5984+07	5.2503+09	0.0000	0.0000	0.0000
16	4.80000+00	8.7999+17	1.1516+17	1.7720+17	1.1821+16	5.6049+14	9.0409+06	2.9698+09	0.0000	0.0000	0.0000
17	5.10000+00	5.5729+17	5.8784+16	6.3193+16	4.2156+15	1.9988+14	3.2241+06	1.0591+09	0.0000	0.0000	0.0000
18	5.40000+00	3.0174+17	3.0680+16	4.9668+15	3.3133+14	1.5710+13	2.5341+05	8.3239+11	0.0000	0.0000	0.0000
19	5.70000+00	1.1643+17	1.4063+16	1.4357+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	1.8682+16	5.5135+15	6.2752+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	4.9594+13	9.4519+14	1.1349+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	1.3088+13	3.0564+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	7.9421+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	3.7049+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	8.6517+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.217

SOURCE 1 (AIR), 200 DAYS, 4000 MW, PWF U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	10.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	4.5181-02	7.1342-02	1.3809-01	4.7565-01	8.6435-01	9.0044-01	9.1518-01	8.2392-01	5.1954-01	4.1954-01
2	6.00000-01	1.0402-01	1.5650-01	2.5625-01	6.8573-01	8.5331-01	9.8166-01	9.9920-01	9.9703-01	9.7906-01	9.8289-01
3	9.00000-01	1.7071-01	2.4222-01	3.4980-01	8.0885-01	9.5816-01	9.9539-01	9.9987-01	9.9924-01	9.9513-01	9.9981-01
4	1.70000+00	2.5023-01	3.3454-01	4.2413-01	8.4799-01	9.8640-01	9.9992-01	9.9998-01	9.9985-01	9.9904-01	9.9994-01
5	1.50000+00	3.4293-01	4.3553-01	4.9556-01	8.6115-01	9.8884-01	1.0000+00	1.0000+00	1.0000+00	9.9996-01	9.9998-01
6	1.80000+00	4.4382-01	5.4109-01	5.7025-01	8.7429-01	9.8961-01	1.0000+00	1.0000+00	1.0000+00	9.9999-01	9.9999-01
7	2.10000+00	5.4383-01	6.4197-01	6.4394-01	8.8849-01	9.9080-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
8	2.80000+00	6.3598-01	7.3158-01	7.1192-01	9.0342-01	9.9202-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	7.1929-01	8.0930-01	7.7242-01	9.1894-01	9.9329-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	7.9397-01	8.7441-01	8.2560-01	9.3480-01	9.9460-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	8.5693-01	9.2469-01	8.7145-01	9.5027-01	9.9588-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.0585-01	9.5925-01	9.1014-01	9.6684-01	9.9707-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.4075-01	9.7986-01	9.4243-01	9.7728-01	9.9817-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.6391-01	9.9037-01	9.6800-01	9.8734-01	9.9895-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.7876-01	9.9514-01	9.8595-01	9.9444-01	9.9954-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.8873-01	9.9762-01	9.9610-01	9.9846-01	9.9987-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9505-01	9.9889-01	9.9972-01	9.9989-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9847-01	9.9956-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9979-01	9.9986-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	1.0000+00	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (AIR), 200 DAYS, 4000 MW, PURE U-235

Figure 3.144

SOURCE 1 (AIR), 200 DAYS, 4000 MH, PURE U-235

Figure 3.145

Table 3.218

SOURCE 1 (P.O.), EQUILIBRIUM, 4000 MW, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	7.7300+18	6.4109+18	5.8912+18	5.9710+18	5.1699+18	3.2732+18	2.4603+18	1.5722+18	9.3088+17	1.5366+16
2	3.00000+01	2.6853+18	1.7949+18	1.0439+18	1.2555+18	9.5517+17	2.7980+17	1.6075+17	6.0456+16	2.5565+16	3.4079+14
3	4.50000+01	4.4814+18	3.2054+18	2.2183+18	1.8941+18	1.7727+18	1.3262+18	8.3871+17	2.1761+17	5.2708+16	6.8929+14
4	6.00000+01	7.6517+18	6.3122+18	5.7109+18	4.2283+18	3.4814+18	2.0933+18	1.7373+18	1.2694+18	8.2051+17	7.4136+16
5	7.50000+01	6.2727+18	5.2177+18	4.1416+18	2.2570+18	2.0444+18	1.6895+18	1.5129+18	1.2881+18	1.1236+18	8.4465+17
6	9.00000+01	1.0722+19	8.9225+18	5.7707+18	2.2948+18	2.1325+18	1.8368+18	1.7079+18	1.5618+18	1.3723+18	3.4822+17
7	1.05000+00	2.1477+18	1.7563+18	1.1348+18	5.0154+17	4.0571+17	2.9761+17	2.2802+17	1.2452+17	6.1779+16	3.5441+15
8	1.20000+00	2.3472+18	1.9626+18	1.4082+18	5.9435+17	4.3660+17	3.2850+17	2.6043+17	1.8101+17	3.6780+16	5.3559+15
9	1.35000+00	3.7454+18	2.8411+18	1.0935+18	6.0434+17	4.2333+17	2.8363+17	2.2077+17	9.6872+16	2.6773+16	5.6583+12
10	1.50000+00	1.0725+18	8.6417+17	5.7863+17	1.6847+17	1.0544+17	6.6126+16	4.4612+16	2.1013+16	1.3538+16	9.4562+15
11	1.65000+00	1.5064+18	1.2554+18	1.0955+18	8.7985+17	7.3062+17	2.7871+17	8.9925+16	2.7642+16	5.9747+15	9.2047+12
12	1.80000+00	7.5067+17	6.3051+17	5.0313+17	1.5498+17	4.6973+16	2.9099+15	2.2325+15	9.8689+14	2.7823+14	3.2950+12
13	1.95000+00	3.9706+17	3.2669+17	1.8203+17	6.1737+16	5.4977+16	4.6385+16	3.6608+16	1.6171+16	4.5083+15	6.8703+11
14	2.10000+00	3.5303+17	2.7784+17	2.1298+17	1.7574+17	1.6829+17	1.4770+17	1.1706+17	5.1813+16	1.4446+16	1.3807+12
15	2.25000+00	1.8870+17	1.5393+17	1.0706+17	8.9864+16	8.8094+16	7.8173+16	6.2203+16	2.7976+16	8.3396+15	4.8195+14
16	2.40000+00	2.4014+17	1.4602+17	4.1315+16	2.2750+16	2.1194+16	1.5861+16	1.1520+16	4.9999+15	1.3819+15	2.0462+12
17	2.55000+00	2.1548+17	1.4433+17	5.7909+16	2.7881+16	2.3364+16	8.9776+15	2.8966+15	8.9048+14	1.9285+14	1.0227+12
18	2.70000+00	1.6737+17	9.4586+16	6.3007+15	1.4327+13	5.9635+11	1.3480+11	1.4302+11	1.4802+11	1.1360+11	1.1360+11
19	2.85000+00	2.0562+16	1.3408+16	1.4910+15	1.1679+13	1.0735+12	3.1500+11	2.6951+11	2.8603+11	2.9605+11	2.2721+11
20	3.00000+00	7.5119+16	3.9824+16	3.3046+15	5.5732+14	4.5149+14	1.7339+14	5.6035+13	1.7352+13	3.8551+12	1.1360+11
21	3.15000+00	1.0071+16	6.8466+15	1.5894+15	1.8838+14	1.5043+14	5.7744+13	1.8630+13	5.7355+12	1.2355+12	1.0988+05
22	3.30000+00	4.3417+15	3.0167+15	7.6151+14	5.5919+14	8.4587+10	1.5592+09	1.1361+07	8.1193+01	1.4651+11	0.0000
23	3.45000+00	2.0784+16	1.3502+16	1.2183+15	8.4314+12	1.3848+11	1.5592+09	1.1361+07	8.1193+01	1.4651+11	0.0000
24	3.60000+00	2.7095+16	1.4986+16	3.8758+14	1.8170+12	8.2631+09	8.4797+02	2.9226+17	0.0000	0.0000	0.0000
25	3.75000+00	8.2501+15	4.6008+15	1.4055+15	1.0467+13	8.7484+10	1.9772+03	5.4128+19	0.0000	0.0000	0.0000
26	3.90000+00	5.1472+15	2.5518+15	1.5318+14	1.1358+12	5.1627+09	4.4369+05	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	6.2112+14	3.6800+14	1.0081+14	4.5026+11	2.0651+09	8.3866+03	2.8868+18	0.0000	0.0000	0.0000
28	4.20000+00	1.4580+16	8.2244+15	1.1775+13	5.4644+06	9.9713+01	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	4.0576+15	1.8974+15	1.7536+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	9.8833+15	6.2712+15	1.7535+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	2.9774+15	1.7275+15	3.3864+11	1.3127+06	6.7806+04	1.2553+03	4.3303+19	0.0000	0.0000	0.0000
32	4.80000+00	1.9728+14	1.4974+14	1.3633+13	5.3596+07	2.7685+06	5.1255+02	1.7680+17	0.0000	0.0000	0.0000
33	4.95000+00	3.7634+14	2.3860+13	1.0017+12	3.9380+06	2.0342+05	3.7660+03	1.2991+18	0.0000	0.0000	0.0000
34	5.10000+00	5.4636+14	2.9414+14	8.1941+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	1.6802+15	7.8486+14	2.7943+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	9.0629+14	4.9893+14	1.4585+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	8.6774+13	1.1503+14	5.9348+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	4.6858+14	4.0983+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	7.2890+13	6.1751+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	1.7011+14	1.4878+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.219

SOURCE 1 (P.O.), EQUILIBRIUM, 4000 MW, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	5.7975+17	4.8082+17	4.4184+17	4.4783+17	3.8774+17	2.4549+17	1.8453+17	1.1791+17	6.9816+16	1.1526+15
2	3.00000+01	6.0375+17	4.0386+17	2.3489+17	2.8250+17	2.1491+17	6.2955+16	3.6169+16	1.3603+16	5.7522+15	7.6678+13
3	4.50000+01	1.6805+18	1.2020+18	8.3188+17	7.1028+17	6.6477+17	4.9734+17	3.1452+17	8.1979+16	1.9765+16	2.5848+14
4	6.00000+01	4.0171+18	3.3139+18	2.9982+18	2.2198+18	1.8277+18	1.0990+18	9.1207+17	6.6645+17	4.3077+17	3.8921+16
5	7.50000+01	4.2341+18	3.5216+18	2.7956+18	1.5235+18	1.3799+18	1.1404+18	1.0212+18	8.6946+17	7.5845+17	5.7014+17
6	9.00000+01	8.8455+18	7.3610+18	4.7608+18	1.8932+18	1.7593+18	1.5153+18	1.4090+18	1.2885+18	1.1321+18	2.8728+17
7	1.05000+00	2.0940+18	1.7124+18	1.1065+18	4.8900+17	3.9557+17	2.9017+17	2.2232+17	1.2141+17	6.0205+16	3.4555+15
8	1.20000+00	2.6406+18	2.2080+18	1.5842+18	6.6864+17	4.9117+17	3.6957+17	2.9299+17	1.3287+17	4.1378+16	6.0254+15
9	1.35000+00	4.7754+18	2.9122+18	1.3942+18	7.7053+17	5.3974+17	3.6162+17	2.8148+17	1.2351+17	3.4135+16	7.2143+12
10	1.50000+00	1.5283+18	1.2315+18	8.2454+17	2.4007+17	1.5026+17	9.4230+16	6.3572+16	2.9944+16	1.9292+16	1.3475+16
11	1.65000+00	2.3726+18	1.9773+18	1.7254+18	1.3858+18	1.1507+18	4.3897+17	1.4163+17	4.3615+16	9.4101+15	1.4497+13
12	1.80000+00	1.2949+18	1.0876+18	8.6790+17	2.6734+17	8.1029+16	5.0195+15	3.8511+15	1.7024+15	4.7994+14	5.6838+12
13	1.95000+00	7.4449+17	6.1254+17	3.4130+17	1.1576+17	1.0308+17	8.6972+16	6.8640+16	3.0320+16	8.4531+15	1.2882+12
14	2.10000+00	7.1489+17	5.6262+17	4.3128+17	3.5588+17	3.4070+17	2.9909+17	2.3704+17	1.0492+17	2.9252+16	2.7959+12
15	2.25000+00	4.1043+17	3.3481+17	2.3286+17	1.9545+17	1.9161+17	1.7003+17	1.3529+17	6.0847+16	1.8139+16	1.0462+15
16	2.40000+00	5.5832+17	3.3950+17	9.6058+16	5.2894+16	4.9253+16	3.6877+16	2.6783+16	1.1625+16	3.2130+15	4.7573+12
17	2.55000+00	5.3331+17	3.5722+17	1.4332+17	6.9005+16	5.7826+16	2.2220+16	7.1690+15	2.2039+15	4.7730+14	2.5311+12
18	2.70000+00	4.3936+17	2.4829+17	1.6539+16	3.7608+16	1.5654+12	4.2982+11	3.5385+11	3.7542+11	3.8856+11	2.9821+11
19	2.85000+00	5.7059+16	3.7206+16	4.1376+15	3.2410+13	2.9791+12	8.7414+11	7.4789+11	7.9374+11	6.2153+11	6.3050+11
20	3.00000+00	2.1972+17	1.1649+17	9.6660+15	1.6302+15	1.3206+15	5.0718+14	1.6390+14	5.0756+13	1.1276+13	3.3229+11
21	3.15000+00	3.0968+18	2.1054+16	4.8875+15	5.7928+14	4.6257+14	1.7756+14	5.7289+13	1.7657+13	3.7991+12	3.3788+05
22	3.30000+00	1.4002+16	9.7289+15	2.4559+15	1.8034+13	2.7279+11	5.0284+09	3.6639+07	2.6165+00	4.7251-11	0.0000
23	3.45000+00	7.0146+16	4.5569+16	4.1119+15	2.8456+13	4.6736+11	5.2624+09	3.8344+07	2.7402+00	4.9449-11	0.0000
24	3.60000+00	9.5510+16	5.2824+16	1.3662+15	6.4050+12	2.9127+10	2.9891-01	1.0302+16	0.0000	0.0000	0.0000
25	3.75000+00	3.0319+16	1.6908+16	5.1654+15	3.8392+13	1.7450+11	7.2664-03	1.9892+18	0.0000	0.0000	0.0000
26	3.90000+00	1.9688+16	9.7605+15	5.8592+14	4.3445+12	1.9747+10	1.6971-04	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	2.4690+15	1.4628+15	4.0073+14	1.8057+12	8.2087+09	3.3337-02	1.1475-17	0.0000	0.0000	0.0000
28	4.20000+00	6.0144+16	3.3927+16	4.8572+13	2.2541+07	4.1132+00	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	1.7346+16	8.1112+15	7.4965+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	4.3734+16	2.7750+16	7.7594+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	1.3622+16	7.8804+15	1.5493+12	6.0055+06	3.1021+05	5.7431-03	1.9811-18	0.0000	0.0000	0.0000
32	4.80000+00	9.3213+14	7.0751+14	6.4414+13	2.5324+08	1.3081+07	2.4218-01	8.3539-17	0.0000	0.0000	0.0000
33	4.95000+00	1.8347+15	1.1637+14	4.8832+12	1.9198+07	9.9166+05	1.8359-02	6.3330-18	0.0000	0.0000	0.0000
34	5.10000+00	2.7455+15	1.4781+15	4.1175+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	8.6953+15	4.0616+15	1.1873+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	4.8260+15	2.6568+15	7.7667+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	4.7509+14	6.2981+14	3.2493+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	2.6358+15	2.3053+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	4.2094+14	3.6816+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	1.0079+15	8.8154+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.220

SOURCE 1 (P.O.), EQUILIBRIUM, 8000 MW, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.4955+02	1.5687+02	2.1181+02	3.8309+02	3.9617+02	3.6445+02	3.4436+02	3.1861+02	2.6434+02	1.2502+03
2	3.00000+01	3.0528+02	2.9230+02	3.2441+02	6.2475+02	6.1576+02	4.5791+02	4.1166+02	3.5537+02	2.6612+02	1.3334+03
3	4.50000+01	7.3677+02	6.8946+02	7.2320+02	1.2324+01	1.2950+01	1.1962+01	9.9882+02	5.7688+02	3.6095+02	1.6138+03
4	6.00000+01	1.7750+01	1.7844+01	2.1605+01	3.1313+01	3.1624+01	2.8278+01	2.7009+01	2.3777+01	1.9919+01	4.3833+02
5	7.50000+01	2.8672+01	2.9480+01	3.5006+01	4.4345+01	4.5724+01	4.5208+01	4.6067+01	4.7270+01	4.8636+01	6.6229+01
6	9.00000+01	5.1489+01	5.3801+01	5.7829+01	6.0541+01	6.3699+01	6.7708+01	7.2362+01	8.2085+01	9.1502+01	9.7392+01
7	1.05000+00	5.6890+01	5.9459+01	6.3133+01	6.4724+01	6.7741+01	7.2012+01	7.6511+01	8.5365+01	9.3781+01	9.7767+01
8	1.20000+00	6.3702+01	6.6754+01	7.0727+01	7.0444+01	7.2760+01	7.7498+01	8.1978+01	8.8955+01	9.5348+01	9.8420+01
9	1.35000+00	7.6020+01	7.6376+01	7.7411+01	7.7035+01	7.8274+01	8.2867+01	8.7231+01	9.2292+01	9.6640+01	9.8421+01
10	1.50000+00	7.9962+01	8.0845+01	8.1364+01	7.9089+01	7.9810+01	8.4266+01	8.8416+01	9.3102+01	9.7371+01	9.9883+01
11	1.65000+00	8.6082+01	8.6979+01	8.9635+01	9.0943+01	9.1567+01	9.0783+01	9.1061+01	9.4280+01	9.7727+01	9.9884+01
12	1.80000+00	8.9423+01	9.0572+01	9.3796+01	9.3230+01	9.2395+01	9.0857+01	9.1133+01	9.4326+01	9.7745+01	9.9885+01
13	1.95000+00	9.1343+01	9.2598+01	9.5432+01	9.4221+01	9.3408+01	9.2148+01	9.2414+01	9.5145+01	9.8065+01	9.9885+01
14	2.10000+00	9.3187+01	9.4455+01	9.7499+01	9.7265+01	9.6930+01	9.6588+01	9.6837+01	9.7980+01	9.9173+01	9.9885+01
15	2.25000+00	9.4246+01	9.5561+01	9.8615+01	9.8937+01	9.8888+01	9.9112+01	9.9362+01	9.9624+01	9.9860+01	9.9999+01
16	2.40000+00	9.5686+01	9.6883+01	9.9076+01	9.9389+01	9.9391+01	9.9660+01	9.9862+01	9.9939+01	9.9981+01	1.0000+00
17	2.55000+00	9.7062+01	9.7863+01	9.9763+01	9.9980+01	9.9982+01	9.9990+01	9.9996+01	9.9998+01	9.9999+01	1.0000+00
18	2.70000+00	9.8195+01	9.8684+01	9.9842+01	9.9980+01	9.9982+01	9.9990+01	9.9996+01	9.9998+01	9.9999+01	1.0000+00
19	2.85000+00	9.8342+01	9.8807+01	9.9862+01	9.9980+01	9.9982+01	9.9990+01	9.9996+01	9.9998+01	9.9999+01	1.0000+00
20	3.00000+00	9.8909+01	9.9191+01	9.9988+01	9.9994+01	9.9995+01	9.9997+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00
21	3.15000+00	9.8989+01	9.9261+01	9.9932+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.9025+01	9.9293+01	9.9944+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.9206+01	9.9444+01	9.9963+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.9452+01	9.9618+01	9.9970+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.9531+01	9.9674+01	9.9995+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.9581+01	9.9706+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.9588+01	9.9711+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.9743+01	9.9823+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9788+01	9.9850+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9900+01	9.9942+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9936+01	9.9968+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	9.9938+01	9.9970+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	9.9943+01	9.9971+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	9.9950+01	9.9975+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	9.9972+01	9.9989+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	9.9985+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	9.9986+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	9.9993+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	9.9994+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (P.O.), EQUILIBRIUM, 4000 MW, PURE U-235

SOURCE 1 (P.O.), EQUILIBRIUM, 4000 MW, PURE U-235

(0 11) SPECT.
Figure 3.147

Table 3.221

SOURCE 1 (P.O.), EQUILIBRIUM, 4000 MW, PURE U-235

BETA SPECTRA (BETAS/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	2.3300+19	1.8834+19	1.8504+19	1.7516+19	1.6611+19	1.4729+19	1.3731+19	1.1827+19	1.0015+19	3.7946+18
2	6.00000+01	1.0624+19	8.3828+18	7.3458+18	5.4902+18	4.5300+18	2.6225+18	1.8757+18	1.1144+18	7.3174+17	3.1398+17
3	9.00000+01	5.8569+18	4.4823+18	3.4767+18	2.0991+18	1.6237+18	7.7168+17	5.0728+17	3.3075+17	2.3158+17	8.0598+16
4	1.20000+00	3.2570+18	2.2849+18	1.4324+18	7.1430+17	5.8646+17	3.6645+17	2.8164+17	2.1231+17	1.6489+17	7.0269+16
5	1.50000+00	2.0049+18	1.2816+18	6.4081+17	2.8076+17	2.4826+17	2.0149+17	1.7189+17	1.3019+17	1.0381+17	5.7394+16
6	1.80000+00	1.3768+18	8.1862+17	3.4527+17	1.6110+17	1.4507+17	1.2523+17	1.0919+17	8.2842+16	6.7164+16	3.9568+16
7	2.10000+00	9.0129+17	4.9501+17	1.5631+17	7.8055+16	6.9835+16	6.2994+16	5.7322+16	4.5707+16	3.8269+16	2.0336+16
8	2.40000+00	5.7645+17	2.9009+17	5.0690+16	2.4812+16	2.0251+16	1.8748+16	1.8834+16	1.7842+16	1.6890+16	7.7824+15
9	2.70000+00	4.2333+17	2.0234+17	1.9556+16	7.2853+15	4.8320+15	4.5123+15	5.2002+15	6.3745+15	6.9905+15	3.3348+15
10	3.00000+00	3.2148+17	1.4974+17	9.7550+15	2.2581+15	1.0581+15	9.5963+14	1.1093+15	1.3669+15	1.5062+15	7.4722+14
11	3.30000+00	2.2863+17	1.0504+17	5.1497+15	7.2122+14	1.9087+14	1.2545+14	1.4509+14	1.8009+14	2.0062+14	1.1076+14
12	3.60000+00	1.4980+17	6.7236+16	2.3823+15	1.2959+14	2.7860+13	1.3757+13	1.5785+13	1.9591+13	2.1624+13	1.2044+13
13	3.90000+00	9.0527+16	3.9648+16	1.2424+15	2.8178+12	3.4723+11	3.1826+10	2.6025+08	2.1720+01	4.2185+10	0.0000
14	4.20000+00	5.1461+16	2.1510+16	7.3402+14	9.5761+11	6.2608+09	1.6104+08	1.3169+06	1.0990+01	2.1345+12	0.0000
15	4.50000+00	2.7883+16	1.0597+16	3.8383+14	1.6665+11	8.4723+08	1.6019+00	5.6590+16	0.0000	0.0000	0.0000
16	4.80000+00	1.5908+16	5.0113+15	1.7709+14	7.1972+08	3.7120+07	7.7355+01	2.9945+16	0.0000	0.0000	0.0000
17	5.10000+00	9.5390+15	1.9730+15	5.6580+13	2.3194+08	1.2392+07	2.5914+01	1.0032+16	0.0000	0.0000	0.0000
18	5.40000+00	6.6101+15	7.8755+14	4.1845+12	1.7188+07	9.1833+05	1.9204+02	7.4339+18	0.0000	0.0000	0.0000
19	5.70000+00	4.8820+15	3.5903+14	3.8955+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	3.5913+15	1.4652+14	1.6153+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	2.5339+15	3.2715+13	2.7789+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	1.7039+15	6.9809+12	7.1358+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	1.0168+15	2.9324+12	7.6242+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	4.8062+14	5.9536+11	1.8489+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	1.4138+14	1.3175+10	3.0636+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.222

SOURCE 1 (P.O.), EQUILIBRIUM, 4000 MW, PURE U-235

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	3.4949+18	2.8251+18	2.7756+18	2.6273+18	2.4916+18	2.2093+18	2.0596+18	1.7740+18	1.5023+18	5.6919+17
2	6.00000+01	4.7806+18	3.7723+18	3.3056+18	2.4733+18	2.0385+18	1.1801+18	8.4406+17	5.0149+17	3.2929+17	1.4129+17
3	9.00000+01	5.3927+18	3.3617+18	2.6075+18	1.5743+18	1.2178+18	5.7876+17	3.8046+17	2.4606+17	1.7368+17	6.0448+16
4	1.20000+00	3.4198+18	2.3991+18	1.5040+18	7.5001+17	6.1579+17	3.8477+17	2.9572+17	2.2293+17	1.7314+17	7.3783+16
5	1.50000+00	2.7066+18	1.7302+18	9.6509+17	3.7903+17	3.3515+17	2.7201+17	2.3206+17	1.7575+17	1.4015+17	7.7482+16
6	1.80000+00	2.2717+18	1.3507+18	5.6970+17	2.6587+17	2.4002+17	2.0663+17	1.8017+17	1.3669+17	1.1082+17	6.5288+16
7	2.10000+00	1.7575+18	9.6527+17	3.0440+17	1.5221+17	1.3618+17	1.2284+17	1.1178+17	8.9128+16	7.4625+16	3.9655+16
8	2.40000+00	1.2970+18	6.5270+17	1.1405+17	5.5827+16	4.5565+16	4.2183+16	4.2376+16	4.0145+16	3.8001+16	1.7510+16
9	2.70000+00	1.0795+18	5.1595+17	4.9869+16	1.8578+16	1.2322+16	1.1506+16	1.3261+16	1.6255+16	1.7826+16	8.5037+15
10	3.00000+00	9.1622+17	4.2677+17	2.7802+16	6.4356+15	3.0155+15	2.7349+15	3.1616+15	3.8957+15	4.2928+15	2.1296+15
11	3.30000+00	7.2018+17	3.3088+17	1.6221+16	2.2718+15	6.0124+14	3.9516+14	4.5704+14	5.6729+14	6.3194+14	3.4889+14
12	3.60000+00	5.1804+17	2.3196+17	8.2190+15	4.0708+14	9.6117+13	4.7461+13	5.4457+13	6.7589+13	7.5293+13	4.1568+13
13	3.90000+00	3.3947+17	1.4408+17	4.6591+15	1.0567+13	1.3021+12	1.1935+11	9.7594+08	6.1450+01	1.5819+09	0.0000
14	4.20000+00	2.0842+17	8.7116+16	2.9744+15	3.8783+12	2.5356+10	6.5222+08	5.3333+06	4.4511+01	8.6449+12	0.0000
15	4.50000+00	1.2129+17	4.6099+16	1.6697+15	7.2494+11	3.6854+09	6.3592+00	2.4617+15	0.0000	0.0000	0.0000
16	4.80000+00	7.3974+16	2.3301+16	8.2346+14	3.3467+09	1.7261+08	3.5970+00	1.3924+15	0.0000	0.0000	0.0000
17	5.10000+00	4.7218+16	9.7666+15	2.7968+14	1.1481+09	6.1341+07	1.2827+00	4.9656+16	0.0000	0.0000	0.0000
18	5.40000+00	3.4703+16	4.1346+15	2.1969+13	9.0238+07	4.8212+06	1.0482+01	1.9028+17	0.0000	0.0000	0.0000
19	5.70000+00	2.7095+16	1.9926+15	2.1620+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	2.1009+16	8.5714+14	9.4495+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.5584+16	2.0120+14	1.7091+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	1.0990+16	4.4769+13	4.8026+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	6.8635+15	1.9794+13	5.1463+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	3.3884+15	4.1973+12	1.3035+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	1.0392+15	9.6839+10	2.2517+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.223

SOURCE 1 (P.O.), EQUILIBRIUM, 4000 MW, PUNE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

-----COOLING TIMES-----

GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.00000-01	1.2366-01	1.4960-01	2.2828-01	3.1633-01	3.4913-01	4.4087-01	4.9472-01	5.5283-01	5.8573-01	5.3917-01
2	6.00000-01	2.9282-01	3.4935-01	5.0018-01	6.1412-01	6.3477-01	6.7636-01	6.9747-01	7.0910-01	7.1411-01	6.7301-01
3	9.00000-01	4.4825-01	5.2736-01	7.1459-01	8.0366-01	8.0541-01	7.9185-01	7.8885-01	7.8640-01	7.8183-01	7.3027-01
4	1.20000+00	5.6925-01	6.5440-01	8.3829-01	8.9397-01	8.9169-01	8.6863-01	8.5489-01	8.5587-01	8.4934-01	8.0017-01
5	1.50000+00	6.6502-01	7.4602-01	9.0944-01	9.3960-01	9.3865-01	9.2291-01	9.1563-01	9.1060-01	9.0398-01	8.7356-01
6	1.80000+00	7.4540-01	8.1754-01	9.5630-01	9.7161-01	9.7229-01	9.6414-01	9.5690-01	9.5324-01	9.4719-01	9.3541-01
7	2.10000+00	8.0759-01	8.6865-01	9.8136-01	9.8994-01	9.9137-01	9.8865-01	9.8575-01	9.8101-01	9.7628-01	9.7297-01
8	2.40000+00	8.5348-01	9.0321-01	9.9074-01	9.9666-01	9.9775-01	9.9707-01	9.9593-01	9.9352-01	9.9110-01	9.8956-01
9	2.70000+00	8.9167-01	9.3054-01	9.9485-01	9.9890-01	9.9948-01	9.9937-01	9.9912-01	9.9859-01	9.9805-01	9.9761-01
10	3.00000+00	9.2409-01	9.5313-01	9.9713-01	9.9967-01	9.9990-01	9.9991-01	9.9986-01	9.9980-01	9.9972-01	9.9963-01
11	3.30000+00	9.4954-01	9.7065-01	9.9847-01	9.9994-01	9.9999-01	9.9999-01	9.9999-01	9.9998-01	9.9997-01	9.9996-01
12	3.60000+00	9.6776-01	9.8298-01	9.9914-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.7978-01	9.9081-01	9.9953-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.8715-01	9.9542-01	9.9977-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.9144-01	9.9786-01	9.9991-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.9406-01	9.9910-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9573-01	9.9962-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9696-01	9.9983-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9792-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9866-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9921-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	9.9960-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9984-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (P.O.), EQUILIBRIUM, 4000 MW, PURE U-235

Figure 3.148

SOURCE 1 (P.O.), EQUILIBRIUM, 4000 MW, PURE U-235

Table 3.224

SOURCE 1 (P.O.), 200 DAYS, 4000 MW, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.0954+18	7.4320+17	4.5196+17	8.7332+17	6.8831+17	2.2846+17	1.3735+17	5.2573+16	2.6510+16	1.6481+15
2	3.00000+01	1.9779+18	1.1111+18	5.3242+17	7.5731+17	5.4094+17	8.5142+16	3.6773+16	6.0329+15	7.5978+14	8.3412+12
3	4.50000+01	3.1105+18	1.9410+18	1.0875+18	7.9287+17	7.3785+17	5.6449+17	3.3171+17	6.0331+16	5.2421+15	1.3180+13
4	6.00000+01	4.6521+18	3.5333+18	2.8826+18	1.5307+18	1.0079+18	1.7043+17	6.8770+16	3.2490+16	1.4448+16	2.3135+14
5	7.50000+01	3.8987+18	2.9897+18	1.9546+18	3.8167+17	2.6934+17	1.3418+17	7.5581+16	3.1543+16	1.8897+16	1.8041+15
6	9.00000+01	7.9839+18	6.1565+18	3.2475+18	3.3217+17	2.4112+17	1.5152+17	1.1923+17	9.2070+16	7.2093+16	4.0516+15
7	1.05000+00	1.5648+18	1.1809+18	6.2612+17	1.0023+17	4.0096+16	1.1967+16	6.2971+15	1.7253+15	4.0768+14	1.3507+13
8	1.20000+00	1.7817+18	1.3829+18	8.5898+17	1.6923+17	5.2968+16	2.2569+15	5.3619+14	6.1644+13	2.1300+13	4.9965+12
9	1.35000+00	3.1369+18	1.7053+18	6.4439+17	2.1874+17	8.3611+16	4.3741+15	4.6720+14	1.3949+14	7.9038+13	2.0571+12
10	1.50000+00	8.9979+17	6.7157+17	4.0744+17	6.7169+16	2.1058+16	2.9214+15	8.6979+14	9.3704+13	7.0409+13	3.3562+13
11	1.65000+00	4.4049+17	3.2867+17	1.9178+17	9.1975+16	8.2456+16	7.1992+16	5.2316+16	1.7319+16	3.3741+15	1.2575+12
12	1.80000+00	6.8840+17	5.3854+17	4.0835+17	1.1572+17	3.3040+16	7.0369+15	1.0306+13	1.2538+12	8.4213+11	4.5005+11
13	1.95000+00	2.9483+17	2.2466+17	1.0636+17	6.9611+15	2.4521+15	3.9017+14	1.1117+14	6.8808+12	1.5084+12	9.3096+10
14	2.10000+00	1.4393+17	9.5359+16	4.2387+16	5.9727+15	2.2229+15	5.6528+14	1.8053+14	1.9818+13	4.6848+12	1.8619+11
15	2.25000+00	8.1912+16	5.9369+16	1.0089+16	8.6757+14	5.5089+14	3.6785+14	2.5057+14	1.8597+14	1.6460+14	8.1065+13
16	2.40000+00	1.9964+17	1.0773+17	1.6129+16	9.7352+14	7.8088+14	6.4977+14	4.3726+14	1.3879+14	2.7432+13	2.7929+11
17	2.55000+00	1.6983+17	1.0083+17	2.4790+16	2.6664+15	2.5718+15	2.3315+15	1.6858+15	5.5653+14	1.0854+14	1.3970+11
18	2.70000+00	1.5338+17	8.0179+16	4.9866+15	1.0745+15	3.8422+11	5.6171+10	3.0017+10	2.8028+10	2.6219+10	1.5518+10
19	2.85000+00	1.9029+16	1.1540+16	1.2125+15	8.7485+12	6.8293+11	1.0291+11	5.9970+10	5.6057+10	5.2438+10	3.1037+10
20	3.00000+00	6.9258+16	3.4013+16	2.2683+15	6.5074+13	4.9146+13	4.4785+13	3.2554+13	1.0794+13	2.1226+12	1.5519+10
21	3.15000+00	8.8656+15	5.5435+15	1.1343+15	2.3739+13	1.6369+13	1.4915+13	1.0840+13	3.5882+12	6.9669+11	4.7922+08
22	3.30000+00	3.7618+15	2.4026+15	6.0394+14	4.2874+12	6.4533+10	1.1786+09	8.0453+06	5.0804+01	8.2859+12	0.0000
23	3.45000+00	1.9323+16	1.1688+16	9.9741+14	6.4644+12	1.0565+11	1.1787+09	8.0453+06	5.0804+01	8.2859+12	0.0000
24	3.60000+00	2.5051+16	1.2865+16	3.0712+14	1.3931+12	6.3040+09	6.4099+02	2.0696+17	0.0000	0.0000	0.0000
25	3.75000+00	7.6685+15	3.9812+15	1.1512+15	8.0098+12	3.6226+10	1.4946+03	3.8331+19	0.0000	0.0000	0.0000
26	3.90000+00	4.7461+15	2.2094+15	1.2548+14	8.7086+11	3.9587+09	3.5539+05	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	5.6321+14	3.0771+14	8.1531+13	3.4829+11	1.5755+09	6.3396+03	2.0443+18	0.0000	0.0000	0.0000
28	4.20000+00	1.1557+16	7.1209+15	9.6189+12	4.1716+06	7.5735+01	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	3.7730+15	1.6428+15	1.4365+10	0.2825	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	9.1901+15	5.4297+15	1.4365+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	2.7664+15	1.4897+15	1.2360+11	1.0064+06	5.1730+04	9.4893+04	3.0665+19	0.0000	0.0000	0.0000
32	4.80000+00	9.6399+13	6.3477+13	4.8875+12	4.1093+07	2.1121+06	3.8744+02	1.2520+17	0.0000	0.0000	0.0000
33	4.95000+00	3.4355+14	1.5797+13	3.5911+11	3.0193+06	1.5519+05	2.8468+03	9.1994+19	0.0000	0.0000	0.0000
34	5.10000+00	5.0804+14	2.5847+14	6.7124+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	1.5624+15	6.7954+14	1.8795+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	8.4272+14	4.3194+14	1.1948+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	8.0687+13	9.9594+13	4.4617+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	4.3571+14	3.5483+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	6.7777+13	5.5196+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	1.5818+14	1.2882+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.225

SOURCE 1 (P.O.), 200 DAYS, 4000 MW, PURE U-235

GAMMA ENRGY SPECTRA (MEV/SEC)

-----COUNTING TIMES-----											
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	8.2158+16	5.5740+16	3.3897+16	6.5499+16	5.1623+16	1.7134+16	1.0301+16	3.9430+15	1.9882+15	1.2361+14
2	3.00000+01	4.3379+17	2.4999+17	1.1979+17	1.7039+17	1.2171+17	1.9157+16	8.2740+15	1.3574+15	1.7095+14	1.8768+12
3	4.50000+01	1.1664+18	7.2786+17	4.0781+17	2.9733+17	2.7669+17	2.1168+17	1.2439+17	2.2624+16	1.9658+15	4.9427+12
4	6.00000+01	2.4424+18	1.8550+18	1.5134+18	8.0336+17	5.2917+17	8.9477+16	3.6104+16	1.7057+16	7.5849+15	1.2146+14
5	7.50000+01	2.6316+18	2.0181+18	1.3193+18	2.5767+17	1.8181+17	9.0570+16	5.1017+16	2.1291+16	1.2755+16	1.2178+15
6	9.00000+01	6.5867+18	5.0791+18	2.6792+18	2.7404+17	1.9892+17	1.2501+17	9.8363+16	7.5958+16	5.9477+16	3.3426+15
7	1.05000+00	1.5257+18	1.1514+18	6.1047+17	9.7720+16	3.9094+16	1.1668+16	6.1397+15	1.6822+15	3.9749+14	1.3169+13
8	1.20000+00	2.0044+18	1.5557+18	9.6635+17	1.9038+17	5.9590+16	2.5390+15	6.0322+14	6.9349+13	2.3963+13	5.6211+12
9	1.35000+00	3.9995+18	2.1742+18	8.2160+17	2.7889+17	1.0660+17	5.5769+15	5.9568+14	1.7785+14	1.0077+14	2.6227+12
10	1.50000+00	1.2822+18	9.5698+17	5.8061+17	9.5715+16	3.0008+16	4.1630+15	1.2394+15	1.3353+14	1.0033+14	4.7826+13
11	1.65000+00	6.9377+17	5.1766+17	3.0206+17	1.4886+17	1.2987+17	1.1339+17	8.2398+16	2.7278+16	5.3142+15	1.9806+12
12	1.80000+00	1.1875+18	9.2898+17	7.0440+17	1.9961+17	5.6995+16	1.2139+14	1.7778+13	2.1626+12	1.4527+12	7.7633+11
13	1.95000+00	5.5281+17	4.2123+17	1.9943+17	1.3052+16	4.5676+15	7.3157+14	2.0844+14	1.2902+13	2.8282+12	1.7456+11
14	2.10000+00	2.9146+17	1.9310+17	8.5833+16	1.2095+16	4.5013+15	1.1447+15	3.6558+14	4.0132+13	9.4868+12	3.7704+11
15	2.25000+00	1.7816+17	1.2913+17	3.9343+16	1.5335+15	1.2178+15	8.0007+14	5.4498+14	4.0444+14	3.5801+14	1.7632+14
16	2.40000+00	4.6416+17	2.5047+17	3.7500+16	2.2634+15	1.8155+15	1.5107+15	1.0166+15	3.2270+14	6.3779+13	6.4934+11
17	2.55000+00	4.2033+17	2.4957+17	6.1355+16	6.5993+15	6.3652+15	5.7704+15	4.1723+15	1.3774+15	2.6864+14	3.4577+11
18	2.70000+00	4.0262+17	2.1047+17	1.3090+16	2.8206+15	1.0086+15	1.4745+11	7.8795+10	7.3575+10	6.8625+10	4.0736+10
19	2.85000+00	5.2805+16	3.2025+16	3.3647+15	2.4277+15	1.8951+12	2.8558+11	1.6642+11	1.5556+11	1.4552+11	8.6127+10
20	3.00000+00	2.0258+17	9.9488+16	6.6347+15	1.9034+14	1.4375+14	1.3100+14	9.5220+13	3.1573+13	6.2087+12	4.5392+10
21	3.15000+00	2.7262+16	1.7046+16	3.4879+15	7.2999+13	5.0334+13	4.5863+13	3.3332+13	1.1034+13	2.1485+12	1.4736+05
22	3.30000+00	1.2132+16	7.7483+15	1.9477+15	1.3827+13	2.0812+11	3.8011+09	2.5946+07	1.6384+00	2.6722+11	0.0000
23	3.45000+00	6.5216+16	3.9447+16	3.3663+15	2.1817+13	3.5656+11	3.9780+09	2.7153+07	1.7146+00	2.7965+11	0.0000
24	3.60000+00	8.8304+16	4.5350+16	1.0826+15	4.9108+12	2.2222+10	2.2595+01	7.2955+17	0.0000	0.0000	0.0000
25	3.75000+00	2.8182+16	1.4631+16	4.2305+15	2.9436+13	1.3313+11	5.4928+03	1.4087+18	0.0000	0.0000	0.0000
26	3.90000+00	1.8307+16	8.4508+15	4.7998+14	3.3310+12	1.5065+10	1.2829+04	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	2.2388+15	1.2237+15	3.2889+14	1.3845+12	6.2625+09	2.5200+02	8.1261+18	0.0000	0.0000	0.0000
28	4.20000+00	5.5925+16	2.9374+16	3.9678+13	1.7208+07	3.1241+00	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	1.6130+16	7.0228+15	6.1410+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	4.0666+16	2.4026+16	6.3563+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	1.2856+16	6.8156+15	5.6586+11	4.6045+06	2.3666+05	4.3413+03	1.4029+18	0.0000	0.0000	0.0000
32	4.80000+00	4.5540+16	2.9993+14	2.3093+13	1.9416+08	9.9798+06	1.8307+01	5.9158+17	0.0000	0.0000	0.0000
33	4.95000+00	1.6748+15	1.7809+13	1.7507+12	1.4719+07	7.5655+05	1.3878+02	4.4847+18	0.0000	0.0000	0.0000
34	5.10000+00	2.5529+15	1.2797+15	3.3730+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	8.0853+15	3.5166+15	9.7263+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	4.4875+15	2.3003+15	6.3624+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	4.4176+14	5.4530+14	2.6618+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	2.4509+15	1.9959+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	3.9141+14	3.1876+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	9.3721+14	7.6324+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.226

SOURCE 1 (P.O.), 200 DAYS, 4000 MW, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	3.0439-03	2.9236-03	3.2220-03	2.2495-02	2.8667-02	2.4456-02	2.8188-02	2.2690-02	2.1947-02	2.4418-02
2	3.00000+01	1.9116-02	1.6034-02	1.4609-02	8.1014-02	9.6256-02	5.1799-02	4.3616-02	3.0501-02	2.3834-02	2.4788-02
3	4.50000+01	6.2332-02	5.4213-02	5.3373-02	1.8313-01	2.4991-01	3.5394-01	3.3570-01	1.6069-01	4.5534-02	2.5765-02
4	6.00000+01	1.5282-01	1.5151-01	1.9722-01	4.5903-01	5.4376-01	4.8165-01	4.2047-01	2.5885-01	1.2926-01	4.9758-02
5	7.50000+01	2.5032-01	2.5736-01	3.2263-01	5.4751-01	6.4472-01	6.1092-01	5.4026-01	3.8137-01	2.7006-01	2.9012-01
6	9.00000+01	4.9436-01	5.2376-01	5.7730-01	6.4162-01	7.5519-01	7.8934-01	7.7123-01	6.1848-01	9.2660-01	9.5061-01
7	1.05000+02	5.5084-01	5.8415-01	6.4532-01	6.7518-01	7.7690-01	8.0600-01	7.8564-01	8.2816-01	9.3099-01	9.5321-01
8	1.20000+02	6.2514-01	6.6575-01	7.2718-01	7.4057-01	8.0999-01	8.0962-01	7.8706-01	8.2958-01	9.3125-01	9.5432-01
9	1.35000+02	7.7332-01	7.7979-01	8.0527-01	8.3635-01	8.6919-01	8.1758-01	7.8846-01	8.2958-01	9.3238-01	9.5484-01
10	1.50000+02	8.2083-01	8.2999-01	8.6046-01	8.6922-01	8.8585-01	8.2352-01	7.9137-01	8.3035-01	9.3347-01	9.6429-01
11	1.65000+02	8.4653-01	8.5714-01	8.8917-01	9.1897-01	9.5797-01	9.8536-01	9.8484-01	9.8737-01	9.9213-01	9.6468-01
12	1.80000+02	8.9053-01	9.0587-01	9.5613-01	9.8752-01	9.8962-01	9.8553-01	9.8489-01	9.8734-01	9.9215-01	9.6483-01
13	1.95000+02	9.1101-01	9.2796-01	9.7509-01	9.9701-01	9.9217-01	9.8658-01	9.8538-01	9.8741-01	9.9218-01	9.6487-01
14	2.10000+02	9.2181-01	9.3809-01	9.8324-01	9.9616-01	9.9467-01	9.8821-01	9.8623-01	9.8766-01	9.9228-01	9.6494-01
15	2.25000+02	9.2841-01	9.4486-01	9.8698-01	9.9682-01	9.9535-01	9.8935-01	9.8751-01	9.8997-01	9.9624-01	9.9777-01
16	2.40000+02	9.4561-01	9.5800-01	9.9055-01	9.9760-01	9.9636-01	9.9151-01	9.8970-01	9.9163-01	9.9694-01	9.9990-01
17	2.55000+02	9.6118-01	9.7109-01	9.9638-01	9.9987-01	9.9989-01	9.9975-01	9.9770-01	9.9975-01	9.9991-01	9.9997-01
18	2.70000+02	9.7610-01	9.8213-01	9.9763-01	9.9988-01	9.9989-01	9.9975-01	9.9970-01	9.9975-01	9.9991-01	9.9997-01
19	2.85000+02	9.7805-01	9.8381-01	9.9795-01	9.9988-01	9.9989-01	9.9975-01	9.9970-01	9.9975-01	9.9991-01	9.9997-01
20	3.00000+02	9.8536-01	9.7903-01	9.9858-01	9.9995-01	9.9997-01	9.9993-01	9.9992-01	9.9994-01	9.9998-01	1.0000+00
21	3.15000+02	9.8657-01	9.8997-01	9.9891-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+02	9.8702-01	9.9033-01	9.9909-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+02	9.8943-01	9.9941-01	9.9999-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+02	9.9271-01	9.9477-01	9.9952-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+02	9.9375-01	9.9544-01	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+02	9.9443-01	9.9598-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+02	9.9451-01	9.9605-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+02	9.9458-01	9.9759-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+02	9.9718-01	9.9726-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+02	9.9869-01	9.9922-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+02	9.9916-01	9.9958-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+02	9.9917-01	9.9959-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+02	9.9923-01	9.9959-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+02	9.9933-01	9.9966-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+02	9.9943-01	9.9985-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+02	9.9949-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+02	9.9981-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+02	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+02	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+02	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (P.O.), 200 DAYS, 4000 MW, PURE U-235

SOURCE 1 (P.O.), 200 DAYS, 4000 MW, PURE U-235

GAMMA CUMUL. SPECT (10%)
Figure 3.151

Table 3.227

SOURCE 1 (P.D.), 200 DAYS, 4000 MW, PURE U-235

BETA SPECTRA (BETAS/SEC)

-----COOLING TIMES-----												
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	3.00000+01	7.2808+18	5.0986+18	3.8208+18	2.5054+18	1.9843+18	1.1016+18	7.0636+17	2.8323+17	1.5855+17	2.1013+16	
2	6.00000+01	5.2461+18	3.6179+18	2.4599+18	1.2790+18	8.6732+17	2.7493+17	1.6260+17	6.1520+16	2.6612+16	2.1440+15	
3	9.00000+01	3.4224+18	2.2981+18	1.3976+18	5.7857+17	3.6106+17	8.7879+16	5.2812+16	3.1547+16	1.9102+16	2.1232+15	
4	1.20000+00	1.8816+18	1.1891+18	5.8053+17	1.6515+17	1.0304+17	3.5074+16	2.5159+16	1.7682+16	1.2195+16	2.1263+15	
5	1.50000+00	1.1120+18	6.3635+17	2.2528+17	3.6446+16	2.0811+16	1.0540+16	8.8448+15	6.8895+15	5.4210+15	1.9069+15	
6	1.80000+00	8.0147+17	4.1704+17	1.1322+17	1.7631+16	9.2925+15	4.4697+15	3.9155+15	3.4347+15	3.0863+15	1.5949+15	
7	2.10000+00	6.1107+17	2.8928+17	5.6189+16	1.0491+16	5.4290+15	2.9080+15	2.7266+15	2.5312+15	2.3154+15	1.1867+15	
8	2.40000+00	4.6961+17	2.0270+17	2.3849+16	5.9894+15	3.0297+15	1.6904+15	1.6452+15	1.5721+15	1.4489+15	7.3642+14	
9	2.70000+00	3.6801+17	1.5050+17	1.1075+16	2.8368+15	1.2906+15	7.6455+14	7.4728+14	7.1597+14	6.6056+14	3.3762+14	
10	3.00000+00	2.7966+17	1.1138+17	5.7438+15	1.0083+15	2.8593+14	1.5682+14	1.5350+14	1.4739+14	1.3642+14	7.2185+13	
11	3.30000+00	1.9805+17	7.7510+16	3.0082+15	3.7545+14	6.3413+13	1.7867+13	1.7431+13	1.6867+13	1.5795+13	9.3768+12	
12	3.60000+00	1.2798+17	4.8813+16	1.2692+15	7.0418+13	1.0785+13	1.9935+12	1.8966+12	1.8349+12	1.7182+12	1.0200+12	
13	3.90000+00	7.6790+16	2.8060+16	5.7800+14	1.6299+12	1.9016+11	1.4390+10	9.9821+07	6.4949+00	1.0604+10	0.0000	
14	4.20000+00	4.2964+16	1.4681+16	3.0479+14	5.5390+11	3.4287+09	7.2813+07	5.0510+05	3.2864+02	5.3657+13	0.0000	
15	4.50000+00	2.2946+16	6.9059+15	1.3541+14	9.6394+10	4.6398+08	6.6097+01	2.1706+16	0.0000	0.0000	0.0000	
16	4.80000+00	1.3171+16	3.1913+15	5.0447+13	4.1630+08	2.0329+07	3.4975+01	1.1486+16	0.0000	0.0000	0.0000	
17	5.10000+00	8.1687+15	1.2975+15	1.6372+13	1.3416+08	6.7866+06	1.1717+01	3.8477+17	0.0000	0.0000	0.0000	
18	5.40000+00	5.8727+15	5.9407+14	1.2116+12	9.9420+06	5.0292+05	8.6827+03	2.8514+18	0.0000	0.0000	0.0000	
19	5.70000+00	4.3561+15	2.7874+14	2.5766+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
20	6.00000+00	3.2044+15	1.1375+14	1.0684+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
21	6.30000+00	2.2610+15	2.5399+13	1.8381+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
22	6.60000+00	1.5203+15	5.3887+12	4.7198+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
23	6.90000+00	9.0728+14	2.2767+12	5.0429+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
24	7.20000+00	4.2885+14	4.6222+11	1.2229+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
25	7.50000+00	1.2615+14	1.0229+10	2.0263+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Table 3.228

SOURCE 1 (P.O.), 200 DAYS, 4000 MA, PURE U-235

BETA ENRGY SPECTRA (MEV/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	1.0921+18	7.6479+17	5.7372+17	3.7597+17	2.9765+17	1.6524+17	1.0595+17	4.2485+16	2.3783+16	3.1519+15
2	6.00000+01	2.3608+18	1.6281+18	1.1069+18	5.7553+17	3.9030+17	1.2372+17	7.3171+16	2.7684+16	1.1975+16	9.6506+14
3	9.00000+01	2.5668+18	1.7235+18	1.0482+18	4.2791+17	2.7080+17	6.5909+16	3.9609+16	2.3655+16	1.4327+16	1.5924+15
4	1.20000+00	1.9757+18	1.2486+18	6.0956+17	1.7341+17	1.0819+17	3.6828+16	2.6417+16	1.8566+16	1.2805+16	2.2326+15
5	1.50000+00	1.5012+18	8.5907+17	3.0413+17	4.9203+16	2.8095+16	1.4229+16	1.1900+16	9.4009+15	7.3164+15	2.5743+15
6	1.80000+00	1.3274+18	6.8812+17	1.8681+17	2.9092+16	1.5333+16	7.3750+15	6.4605+15	5.6673+15	5.0924+15	2.6316+15
7	2.10000+00	1.1916+18	5.6410+17	1.0957+17	2.0457+16	1.0586+16	5.4706+15	5.3168+15	4.9358+15	4.5151+15	2.3141+15
8	2.40000+00	1.0566+18	4.5608+17	5.3660+16	1.3476+16	6.8168+15	3.8034+15	3.7017+15	3.5373+15	3.2601+15	1.6570+15
9	2.70000+00	9.3843+17	3.8376+17	2.8242+16	7.2339+15	3.2911+15	1.9496+15	1.9056+15	1.8257+15	1.6844+15	8.6042+14
10	3.00000+00	7.9704+17	3.1744+17	1.6370+16	2.6735+15	8.1489+14	4.4693+14	4.3748+14	4.2005+14	3.8880+14	2.0573+14
11	3.30000+00	6.2386+17	2.4416+17	9.4759+15	1.1827+15	1.9975+14	5.6287+13	5.4908+13	5.3131+13	4.9754+13	2.9537+13
12	3.60000+00	4.4152+17	1.6841+17	4.3788+15	2.4294+14	3.7207+13	6.8775+12	6.5432+12	6.3302+12	5.9279+12	3.5191+12
13	3.90000+00	2.8796+17	1.0522+17	2.1675+15	6.1120+12	7.1311+11	5.3962+10	3.7433+08	2.4356+01	3.9765+10	0.0000
14	4.20000+00	1.7400+17	5.9458+16	1.2344+15	2.2433+12	1.3886+10	2.9489+08	2.0456+06	1.3310+01	2.1731+12	0.0000
15	4.50000+00	9.9814+16	3.0041+16	5.4904+14	4.1931+11	2.0183+09	2.8752+00	9.4420+16	0.0000	0.0000	0.0000
16	4.80000+00	6.1247+16	1.4840+16	2.5318+14	1.9358+09	9.4528+07	1.6263+00	5.3408+16	0.0000	0.0000	0.0000
17	5.10000+00	4.0435+16	6.4229+15	8.1039+13	6.6409+08	3.3594+07	5.7997+01	1.9046+16	0.0000	0.0000	0.0000
18	5.40000+00	3.0832+16	3.1189+15	6.3609+12	5.2195+07	2.6404+06	4.5584+02	1.4970+17	0.0000	0.0000	0.0000
19	5.70000+00	2.4176+16	1.5470+15	1.4300+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	1.8746+16	6.6546+14	6.2502+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.3905+16	1.5621+14	1.1304+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	9.8062+15	3.4757+13	3.0443+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	6.1242+15	1.5367+13	3.4039+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	3.0234+15	3.2586+12	8.6214+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	9.2723+14	7.5183+10	1.4894+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.229

SOURCE 1 (P.O.), 200 DAYS, 4000 MW, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	6.5636+02	8.2522+02	1.4147+01	2.2417+01	2.6292+01	3.8858+01	3.8532+01	3.0756+01	2.7913+01	1.7300+01
2	6.00000+01	7.0752+01	2.5820+01	4.1443+01	5.6748+01	6.0767+01	6.7953+01	6.5142+01	5.0797+01	4.1968+01	2.2598+01
3	9.00000+01	3.6178+01	4.4417+01	6.7290+01	8.2273+01	8.4687+01	8.3452+01	7.9547+01	6.7921+01	5.8782+01	3.1338+01
4	1.20000+00	4.8052+01	5.7889+01	8.2321+01	9.2617+01	9.4243+01	9.2113+01	8.9154+01	8.1362+01	7.3810+01	4.3592+01
5	1.50000+00	5.7074+01	6.7159+01	8.9820+01	9.5552+01	9.6725+01	9.5459+01	9.3496+01	8.8095+01	8.2399+01	5.7723+01
6	1.80000+00	6.5022+01	7.4584+01	9.4426+01	9.7287+01	9.8079+01	9.7194+01	9.5846+01	9.2197+01	8.8370+01	7.2167+01
7	2.10000+00	7.2183+01	8.0671+01	9.7128+01	9.8508+01	9.9014+01	9.8527+01	9.7779+01	9.5771+01	9.3675+01	8.4869+01
8	2.40000+00	7.8533+01	8.5592+01	9.8451+01	9.9312+01	9.9616+01	9.9422+01	9.9126+01	9.8331+01	9.7501+01	9.3964+01
9	2.70000+00	8.4173+01	8.9733+01	9.9148+01	9.9743+01	9.9907+01	9.9880+01	9.9819+01	9.9653+01	9.9478+01	9.8689+01
10	3.00000+00	8.8963+01	9.3158+01	9.9552+01	9.9914+01	9.9979+01	9.9985+01	9.9978+01	9.9957+01	9.9935+01	9.9819+01
11	3.30000+00	9.2713+01	9.5793+01	9.9785+01	9.9985+01	9.9997+01	9.9998+01	9.9998+01	9.9995+01	9.9993+01	9.9981+01
12	3.60000+00	9.5366+01	9.7610+01	9.9893+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.7097+01	9.8745+01	9.9947+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.8143+01	9.9387+01	9.9977+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.8743+01	9.9711+01	9.9992+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.9111+01	9.9871+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9354+01	9.9940+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9539+01	9.9974+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9684+01	9.9991+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9797+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9881+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	9.9939+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9976+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	9.9994+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (P.O.), 200 DAYS, 4000 MM, PURE U-235

SOURCE 1 (P.O.), 200 DAYS, 4000 MW, PURE U-235

Table 3.230

SOURCE 1 (WATER), EQUILIBRIUM, 8000 MW, PURE U-235

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	8.7433+18	6.5143+18	6.0068+18	6.9274+18	5.9282+18	3.4070+18	2.5058+18	1.5722+18	9.3059+17	1.5568+18
2	3.00000+01	4.4444+18	2.5592+18	1.4936+18	2.1850+18	1.6259+18	3.7734+17	2.1366+17	7.0866+16	2.6449+16	3.4079+14
3	4.50000+01	8.3913+18	5.3211+18	1.7960+18	3.3804+18	2.3952+18	2.3935+18	1.4876+18	3.4858+17	6.3586+16	6.8929+14
4	6.00000+01	1.2645+19	9.5573+18	8.7278+18	6.0943+18	4.7096+18	2.1926+18	1.7153+18	1.2624+18	8.1991+17	7.4136+16
5	7.50000+01	1.0938+19	8.0420+18	6.0380+18	2.5390+18	2.2547+18	1.8009+18	1.5619+18	1.2946+18	1.1239+18	8.4465+17
6	9.00000+01	2.0593+19	1.5848+19	9.2674+18	2.5126+18	2.2500+18	1.8363+18	1.6831+18	1.5525+18	1.3712+18	3.4822+17
7	1.05000+00	3.5059+18	2.6608+18	1.7321+18	5.8981+17	3.3223+17	2.9680+17	2.2470+17	1.2378+17	6.1700+16	3.5041+15
8	1.20000+00	4.4108+18	3.3415+18	2.3638+18	8.1247+17	5.0590+17	3.2773+17	2.5665+17	1.1740+17	3.8751+16	5.3559+15
9	1.35000+00	7.6021+18	4.0486+18	1.8193+18	8.0970+17	5.3563+17	2.8671+17	2.1759+17	9.6300+16	2.6751+16	5.6583+12
10	1.50000+00	3.7205+18	2.0418+18	9.4857+17	2.4296+17	1.2634+17	6.5863+16	4.3962+16	2.0889+16	1.3527+16	9.4562+15
11	1.65000+00	2.6351+18	1.7002+18	1.1882+18	9.0172+17	7.0380+17	2.7754+17	8.8616+16	2.7528+16	5.9699+15	9.2047+12
12	1.80000+00	1.5625+18	1.1853+18	9.6669+17	3.6648+17	9.0622+16	4.9200+16	2.2000+15	9.8106+14	2.7801+14	3.2950+12
13	1.95000+00	8.5040+17	6.3442+17	3.2254+17	6.9207+16	5.7450+16	4.6194+16	3.6075+16	1.6075+16	4.5048+15	6.8703+11
14	2.10000+00	5.8736+17	3.8755+17	2.5445+17	1.8312+17	1.7179+17	1.4709+17	1.1535+17	5.1507+16	1.4434+16	1.3807+12
15	2.25000+00	2.3326+17	1.7374+17	1.1678+17	9.0718+16	8.9124+16	7.7850+16	6.1298+16	2.7810+16	8.3330+15	4.8195+14
16	2.40000+00	5.3604+17	2.6710+17	4.8258+16	2.3102+16	2.1437+16	1.5796+16	1.1352+16	4.9704+15	1.3809+15	2.0462+12
17	2.55000+00	4.4884+17	2.7302+17	8.7688+16	2.8093+16	2.3636+16	8.9005+15	2.8544+15	8.8521+14	1.9270+14	1.0227+12
18	2.70000+00	4.0329+17	1.8889+17	9.8701+15	2.2673+15	8.8917+15	1.6306+15	1.3284+15	1.4217+15	1.4791+15	1.1360+11
19	2.85000+00	2.2419+17	9.2347+16	4.6431+15	1.2851+15	1.1168+15	3.1370+14	2.6559+14	2.8434+14	2.9581+14	2.2721+11
20	3.00000+00	1.7002+17	7.9484+16	3.5515+15	5.6072+14	4.5672+14	1.7268+14	5.5219+13	1.7554+13	3.8521+12	1.1360+11
21	3.15000+00	3.3824+16	2.8611+16	6.4100+15	1.9076+14	1.5221+14	5.7506+13	1.8359+13	5.7016+12	1.2345+12	1.0988+05
22	3.30000+00	2.5380+16	1.8697+16	5.1175+15	6.2972+12	1.5228+11	1.5528+09	1.1196+07	8.0713+01	1.4640+01	0.0000
23	3.45000+00	4.8745+16	3.0294+16	6.8267+15	8.6345+12	1.4029+11	1.5528+09	1.1196+07	8.0713+01	1.4640+01	0.0000
24	3.60000+00	2.9006+16	1.5555+16	3.8836+14	2.1774+12	2.6501+10	3.3074+02	1.1289+13	0.0000	0.0000	0.0000
25	3.75000+00	8.8318+15	4.9463+15	1.3645+15	1.0517+13	8.8370+10	6.1258+00	2.0908+15	0.0000	0.0000	0.0000
26	3.90000+00	5.5181+15	2.7573+15	1.4914+14	1.1828+12	5.2225+09	4.4185+05	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	6.3261+16	4.7577+16	1.3289+16	4.9978+11	3.8810+09	3.2669+01	1.1151+14	0.0000	0.0000	0.0000
28	4.20000+00	1.9620+17	7.5047+16	5.5371+14	3.4397+08	5.3423+01	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	4.3488+15	1.9807+15	1.8295+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	1.0580+16	6.6516+15	1.8433+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	3.1874+15	1.8145+15	3.9192+11	5.1768+09	2.6888+08	4.9003+00	1.6727+15	0.0000	0.0000	0.0000
32	4.80000+00	2.1119+14	1.5324+14	1.5799+13	2.1137+11	1.0978+10	2.0008+02	6.8294+14	0.0000	0.0000	0.0000
33	4.95000+00	4.0288+14	2.3184+13	1.1688+12	1.5536+10	8.0659+08	1.4701+01	5.0180+15	0.0000	0.0000	0.0000
34	5.10000+00	5.8489+14	3.0857+14	8.5392+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	1.7987+15	8.2613+14	2.3910+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	9.7020+14	5.2517+14	1.5200+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	8.2534+16	2.2502+16	9.8867+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	5.0162+14	4.8354+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	7.8030+13	6.2773+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	1.8211+14	1.4650+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.231

SOURCE 1 (WATER), EQUILIBRIUM, 4000 MW, PURE U-235

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	6.5574+17	4.8857+17	4.5051+17	5.1955+17	4.4462+17	2.5552+17	1.8793+17	1.1791+17	6.9794+16	1.1526+15
2	3.00000+01	1.0001+18	5.7582+17	3.3606+17	4.9163+17	3.6583+17	8.4902+16	4.8073+16	1.5945+16	5.9509+15	7.6678+13
3	4.50000+01	3.1467+18	1.9954+18	1.4235+18	1.2676+18	1.1982+18	8.9756+17	5.5786+17	1.3072+17	2.3830+16	2.5848+14
4	6.00000+01	6.6597+18	5.0176+18	4.5821+18	3.1995+18	2.4725+18	1.1511+18	9.0055+17	6.6277+17	4.3045+17	3.8921+16
5	7.50000+01	7.3835+18	5.4284+18	4.0757+18	1.7139+18	1.5219+18	1.2156+18	1.0543+18	8.7384+17	7.5864+17	5.7014+17
6	9.00000+01	1.6989+19	1.2745+19	7.6456+18	2.0729+18	1.8563+18	1.5149+18	1.3685+18	1.2804+18	1.1312+18	2.8728+17
7	1.05000+00	3.5060+18	2.5942+18	1.6888+18	5.7507+17	4.2142+17	2.8899+17	2.1909+17	1.2069+17	6.0157+16	3.4555+15
8	1.20000+00	4.9621+18	3.7592+18	2.6592+18	9.1403+17	5.6913+17	3.6870+17	2.4873+17	1.3208+17	4.1345+16	6.0254+15
9	1.35000+00	9.6926+18	5.1620+18	2.3195+18	1.1356+18	6.8293+17	3.6556+17	2.7742+17	1.2278+17	3.4108+16	7.2143+12
10	1.50000+00	4.3018+18	2.9046+18	1.3517+18	3.4622+17	1.8003+17	9.3855+16	6.2646+16	2.9767+16	1.9276+16	1.3475+16
11	1.65000+00	4.1503+18	2.6779+18	1.8714+18	1.4202+18	1.1715+18	4.3716+17	1.3957+17	4.3357+16	9.4027+15	1.4497+13
12	1.80000+00	2.6952+18	2.0446+18	1.6675+18	5.2867+17	1.5632+17	5.0369+15	3.7950+15	1.6923+15	4.7456+14	5.6838+12
13	1.95000+00	1.5945+18	1.1933+18	6.0476+17	1.2975+17	1.0772+17	6.6614+16	6.7601+16	3.0141+16	8.4465+15	1.2862+12
14	2.10000+00	1.1894+18	7.8078+17	5.1526+17	3.7081+17	3.4786+17	2.9785+17	2.3359+17	1.0430+17	2.9224+16	2.7959+12
15	2.25000+00	5.0735+17	3.7789+17	2.5400+17	1.9730+17	1.9384+17	1.6932+17	1.3332+17	6.0487+16	1.8124+16	1.0482+15
16	2.40000+00	1.7463+18	6.2101+17	1.1220+17	5.3712+16	4.9841+16	3.6725+16	2.6393+16	1.1556+16	3.2105+15	4.7573+12
17	2.55000+00	1.1109+18	6.7572+17	2.1703+17	6.9530+16	5.8699+16	2.2128+16	7.0646+15	2.1909+15	4.7692+14	2.5311+12
18	2.70000+00	1.0586+18	4.9583+17	2.5909+16	3.3702+13	2.3341+12	4.2804+11	3.4870+11	3.7320+11	3.8826+11	2.9821+11
19	2.85000+00	6.2214+17	2.5626+17	1.7885+16	3.4550+13	3.0992+12	8.7052+11	7.3700+11	7.2905+11	8.2088+11	6.1050+11
20	3.00000+00	4.9730+17	2.3249+17	1.0388+16	1.6401+15	1.3359+15	5.0508+14	1.6152+14	5.0456+13	1.1267+13	3.3229+11
21	3.15000+00	1.0401+17	7.5679+16	1.9711+16	5.8506+14	4.6804+14	1.7683+14	5.0455+13	1.7542+13	3.7961+12	3.3788+05
22	3.30000+00	8.1851+16	6.0299+16	1.6504+16	2.0308+13	3.8791+11	5.0077+09	3.6106+07	2.6030+00	4.7214+11	0.0000
23	3.45000+00	1.6451+17	1.1574+17	2.3040+16	2.9141+13	4.7349+11	5.2407+09	3.7785+07	2.7241+00	4.9410+11	0.0000
24	3.60000+00	1.0225+17	5.4832+16	1.3690+15	7.6753+12	9.3414+10	1.1658+03	3.9795+13	0.0000	0.0000	0.0000
25	3.75000+00	3.2457+16	1.8251+16	5.6218+15	3.8650+13	1.7776+11	2.2512+01	7.6838+15	0.0000	0.0000	0.0000
26	3.90000+00	2.1076+16	1.0547+16	5.7045+14	4.3710+12	1.9976+10	1.6901+04	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	2.5146+17	1.8912+17	5.2824+16	1.9866+12	1.5627+10	1.2986+02	4.4326+14	0.0000	0.0000	0.0000
28	4.20000+00	8.0933+17	3.0957+17	2.2681+15	1.4189+09	2.2037+02	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	1.8570+16	8.4674+15	7.8210+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	4.6818+16	2.9433+16	8.1566+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	1.4582+16	6.3014+15	1.7930+12	2.3684+10	1.2301+09	2.2419+01	7.6524+15	0.0000	0.0000	0.0000
32	4.80000+00	9.9786+14	7.2405+14	7.4650+13	9.9870+11	5.1869+10	9.4537+02	3.2269+13	0.0000	0.0000	0.0000
33	4.95000+00	1.9640+15	1.1307+14	5.6591+12	7.5710+10	3.9371+09	7.1667+01	2.4463+14	0.0000	0.0000	0.0000
34	5.10000+00	2.9391+15	1.5504+15	4.2910+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	9.3084+15	4.2752+15	1.2173+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	5.1663+15	2.7965+15	8.0939+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	3.4237+17	1.2320+17	5.3035+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	2.8216+15	2.2699+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	4.5062+14	3.6251+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	1.0790+15	8.6401+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.232

SOURCE 1 (WATER), EQUILIBRIUM, 4000 MW, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

-----COOLING TIMES-----

GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	8.6241-03	9.5673-03	1.4102-02	3.4617-02	3.7678-02	3.5040-02	3.3579-02	3.1517-02	2.6395-02	1.2502-03
2	3.00000+01	2.1777-02	2.0843-02	2.4622-02	6.7374-02	6.8680-02	6.6683-02	6.2169-02	5.5774-02	2.8646-02	1.3334-03
3	4.50000+01	6.3162-02	5.9918-02	6.9182-02	1.5184-01	1.7022-01	1.6977-01	1.4188-01	7.0720-02	3.7658-02	1.6138-03
4	6.00000+01	1.5075-01	1.5817-01	2.1262-01	3.6507-01	3.7975-01	3.2762-01	3.0275-01	2.4788-01	2.0045-01	4.3833-02
5	7.50000+01	2.4785-01	2.6447-01	3.4020-01	4.7921-01	5.0873-01	4.9432-01	4.9113-01	4.8145-01	4.4736-01	6.6229-01
6	9.00000+01	4.7128-01	5.1405-01	5.7953-01	6.1737-01	6.6603-01	7.0207-01	7.3923-01	8.2362-01	9.1518-01	9.7392-01
7	1.05000+02	5.1739-01	5.6485-01	6.3240-01	6.5564-01	7.0175-01	7.4169-01	7.7837-01	8.5608-01	9.3793-01	9.7767-01
8	1.20000+02	5.8265-01	6.3846-01	7.1564-01	7.1654-01	7.4998-01	7.9225-01	8.2996-01	8.4139-01	9.5357-01	9.8420-01
9	1.35000+02	7.1013-01	7.3954-01	7.8825-01	7.9221-01	8.0785-01	8.4238-01	8.7953-01	9.2420-01	9.6647-01	9.8421-01
10	1.50000+02	7.7985-01	7.9652-01	8.3056-01	8.1528-01	8.2311-01	8.5525-01	8.9072-01	9.3216-01	9.7376-01	9.9883-01
11	1.65000+02	8.3444-01	8.4896-01	8.8918-01	9.0990-01	9.2238-01	9.1520-01	9.1566-01	9.4375-01	9.7732-01	9.9884-01
12	1.80000+02	8.6989-01	8.8900-01	9.4134-01	9.4513-01	9.3563-01	9.1589-01	9.1634-01	9.4420-01	9.7750-01	9.9885-01
13	1.95000+02	8.9086-01	9.1236-01	9.6027-01	9.5377-01	9.4476-01	9.2777-01	9.2842-01	9.5226-01	9.8069-01	9.9885-01
14	2.10000+02	9.0650-01	9.2773-01	9.7640-01	9.7888-01	9.7424-01	9.6867-01	9.7016-01	9.8014-01	9.9174-01	9.9885-01
15	2.25000+02	9.1317-01	9.3513-01	9.8435-01	9.9163-01	9.9067-01	9.9184-01	9.9398-01	9.9631-01	9.9860-01	9.9999-01
16	2.40000+02	9.2956-01	9.4729-01	9.8787-01	9.9521-01	9.9484-01	9.9687-01	9.9870-01	9.9940-01	9.9981-01	1.0000+00
17	2.55000+02	9.4417-01	9.6057-01	9.9466-01	9.9984-01	9.9985-01	9.9991-01	9.9996-01	9.9998-01	9.9999-01	1.0000+00
18	2.70000+02	9.5810-01	9.7023-01	9.9547-01	9.9984-01	9.9985-01	9.9991-01	9.9996-01	9.9998-01	9.9999-01	1.0000+00
19	2.85000+02	9.6628-01	9.7525-01	9.9587-01	9.9984-01	9.9985-01	9.9991-01	9.9996-01	9.9998-01	9.9999-01	1.0000+00
20	3.00000+02	9.7282-01	9.7980-01	9.9620-01	9.9995-01	9.9996-01	9.9998-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00
21	3.15000+02	9.7819-01	9.8129-01	9.9682-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+02	9.7526-01	9.8247-01	9.9733-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+02	9.7703-01	9.8473-01	9.9805-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+02	9.7877-01	9.8581-01	9.9810-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+02	9.7920-01	9.8616-01	9.9825-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+02	9.7947-01	9.8637-01	9.9827-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+02	9.8278-01	9.9007-01	9.9993-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+02	9.9383-01	9.9814-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+02	9.9367-01	9.9836-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+02	9.9290-01	9.9688-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+02	9.9448-01	9.9708-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+02	9.9449-01	9.9705-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+02	9.9452-01	9.9706-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+02	9.9455-01	9.9709-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+02	9.9468-01	9.9717-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+02	9.9474-01	9.9723-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+02	9.9495-01	9.9944-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+02	9.9498-01	9.9962-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+02	9.9499-01	9.9964-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+02	9.9930-01	9.9964-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (WATER), EQUILIBRIUM, 4000 MW, PURE U-235

Figure 3.154

SOURCE 1 (WATER), EQUILIBRIUM, 4000 MM, PURE U-235

Figure 3.155

Table 3.233

SOURCE 1 (WATER), EQUILIBRIUM, 4000 MW, PURE U-235

BETA SPECTRA (BETAS/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000-01	3.5641+19	2.2595+19	2.1701+19	1.9658+19	1.8332+19	1.5866+19	1.4388+19	1.1920+19	1.0020+19	3.7946+18
2	6.00000-01	1.8737+19	1.1573+19	9.7707+18	6.8211+18	5.4357+18	2.8961+18	2.0430+18	1.1575+18	7.3586+17	3.1398+17
3	9.00000-01	1.1059+19	6.5840+18	4.7977+18	2.6062+18	1.9165+18	7.6466+17	4.8489+17	3.2593+17	2.3119+17	8.0598+16
4	1.20000+00	6.3222+18	3.4486+18	1.9322+18	8.1121+17	6.3124+17	3.5485+17	2.6891+17	2.0916+17	1.6461+17	7.0269+16
5	1.50000+00	3.9957+18	1.9693+18	7.9714+17	2.6830+17	2.3254+17	1.9072+17	1.6407+17	1.2826+17	1.0364+17	5.7394+16
6	1.80000+00	2.8723+18	1.3118+18	4.1418+17	1.4991+17	1.3481+17	1.1848+17	1.0422+17	8.1613+16	6.7050+16	3.9568+16
7	2.10000+00	2.0136+18	4.5421+17	1.9003+17	7.2250+16	6.4662+16	5.9597+16	5.4714+16	4.5028+16	3.8205+16	2.0336+16
8	2.90000+00	1.3746+18	5.4057+17	6.6037+16	2.2833+16	1.8731+16	1.7737+16	1.7977+16	1.7577+16	1.6861+16	7.7824+15
9	2.70000+00	1.0376+18	3.9161+17	2.9620+16	6.7126+15	4.8697+15	4.2690+15	4.9636+15	6.2799+15	6.9787+15	3.3348+15
10	3.00000+00	8.2367+17	3.0514+17	1.8161+16	2.0918+15	9.7938+14	9.0789+14	1.0588+15	1.3466+15	1.5037+15	7.4722+14
11	3.30000+00	6.2929+17	2.2905+17	1.1641+16	6.7735+14	1.7728+14	1.1868+14	1.3849+14	1.7742+14	2.0028+14	1.1076+14
12	3.60000+00	4.5494+17	1.6157+17	6.8782+15	1.3126+14	2.6411+13	1.3015+13	1.5067+13	1.9300+13	2.1787+13	1.2049+13
13	3.90000+00	3.1801+17	1.0940+17	3.9990+15	1.2112+13	8.4250+11	3.0110+10	2.4841+08	2.1398+01	4.2113+10	0.0000
14	4.20000+00	2.1817+17	7.2323+16	2.1736+15	8.0770+12	3.9283+11	1.5237+08	1.2569+06	1.0827+01	2.1309+12	0.0000
15	4.50000+00	1.4770+17	4.6566+16	4.5318+14	4.8641+12	2.5414+11	5.4213+03	2.1173+12	0.0000	0.0000	0.0000
16	4.80000+00	1.0169+17	3.0160+16	2.1622+14	2.4933+12	1.3410+11	2.8687+03	1.1204+12	0.0000	0.0000	0.0000
17	5.10000+00	6.8677+16	1.9502+16	6.1754+13	8.3526+11	4.4923+10	9.6101+02	3.7533+13	0.0000	0.0000	0.0000
18	5.40000+00	4.4516+16	1.1977+16	4.5741+12	6.1897+10	3.3290+09	7.1217+01	2.7814+14	0.0000	0.0000	0.0000
19	5.70000+00	7.5258+16	6.3050+15	3.8292+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	1.2082+16	2.5390+15	1.5878+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	6.1738+15	1.0034+15	2.7316+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	3.8680+15	5.7394+14	7.0183+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	2.0504+15	2.6365+14	1.1738+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	7.6999+14	6.3829+13	2.8464+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	1.6625+14	1.0608+12	4.7165+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.234

SOURCE 1 (WATER), EQUILIBRIUM, 4000 MW, PURE U-235

BFTA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	5.3461+18	3.3893+18	3.2551+18	2.9488+18	2.7498+18	2.3799+18	2.1563+18	1.7880+18	1.5031+18	5.6919+17
2	6.00000+01	8.4315+18	5.2079+18	4.3968+18	3.0695+18	2.4461+18	1.4032+18	9.1934+17	5.2089+17	3.3114+17	1.4129+17
3	9.00000+01	8.2945+18	4.9380+18	3.5983+18	1.9546+18	1.4374+18	5.7349+17	3.6367+17	2.4445+17	1.7339+17	6.0848+16
4	1.20000+00	6.6383+18	3.6210+18	2.0288+18	8.5177+17	6.6280+17	3.7259+17	2.8235+17	2.1962+17	1.7284+17	7.3781+16
5	1.50000+00	5.3942+18	2.6586+18	1.0761+18	3.6221+17	3.1392+17	2.5747+17	2.2150+17	1.7315+17	1.3991+17	7.7482+16
6	1.80000+00	4.7394+18	2.1604+18	6.3340+17	2.8736+17	2.2243+17	1.9509+17	1.7197+17	1.3466+17	1.1063+17	6.5288+16
7	2.10000+00	3.9265+18	1.6657+18	3.7057+17	1.4089+17	1.2609+17	1.1621+17	1.0669+17	8.7805+16	7.4499+16	3.9655+16
8	2.40000+00	3.0929+18	1.2163+18	1.4858+17	5.1375+16	4.2145+16	3.9909+16	4.0488+16	3.9549+16	3.7937+16	1.7510+16
9	2.70000+00	2.8458+18	9.9861+17	7.5530+16	1.7117+16	1.1398+16	1.0886+16	1.2657+16	1.6014+16	1.7796+16	8.5037+15
10	3.00000+00	2.3474+18	8.6964+17	5.1759+16	5.9617+15	2.7912+15	2.5875+15	3.0177+15	3.6379+15	4.2855+15	2.1296+15
11	3.30000+00	1.9823+18	7.2149+17	3.6668+16	2.1336+15	5.5843+14	3.7386+14	4.3675+14	5.5887+14	6.3087+14	3.4889+14
12	3.60000+00	1.5695+18	5.5747+17	2.3716+16	4.5284+14	9.1118+13	4.4902+13	5.1980+13	6.6587+13	7.5165+13	4.1568+13
13	3.90000+00	1.1925+18	4.1026+17	1.4996+16	4.6171+13	3.1594+12	1.1291+11	9.3153+08	8.0241+01	1.5792+09	0.0000
14	4.20000+00	8.8359+17	2.9291+17	8.8030+15	3.2712+13	1.5910+12	6.1709+08	5.0906+06	4.3850+01	8.6302+12	0.0000
15	4.50000+00	6.4251+17	2.0256+17	3.7113+15	2.1159+13	1.1055+12	2.3583+04	9.2103+12	0.0000	0.0000	0.0000
16	4.80000+00	4.7287+17	1.4117+17	1.0054+15	1.1594+13	6.2355+11	1.3339+04	5.2097+12	0.0000	0.0000	0.0000
17	5.10000+00	3.4094+17	9.6535+16	3.0568+14	4.1345+12	2.2237+11	4.7570+03	1.8579+12	0.0000	0.0000	0.0000
18	5.40000+00	2.3371+17	6.2879+16	2.4014+13	3.2496+11	1.7477+10	3.7389+02	1.4602+13	0.0000	0.0000	0.0000
19	5.70000+00	1.4018+17	3.4993+16	2.1252+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	7.0682+16	1.4853+16	9.2887+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	3.7969+16	6.1707+15	1.6800+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	2.4949+16	3.7019+15	4.5202+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	1.3840+16	1.7796+15	7.9231+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	5.4284+15	4.4999+14	2.0067+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	1.2366+15	7.7970+12	3.4667+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.235

SOURCE 1 (WATER), EQUILIBRIUM, 4000 MW, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000-01	9.1435-02	1.1577-01	2.0636-01	3.0550-01	3.4306-01	4.5313-01	5.0422-01	5.5380-01	5.8572-01	5.3917-01
2	6.00000-01	2.3564-01	2.9165-01	4.4509-01	6.2351-01	6.4823-01	7.0126-01	7.1900-01	7.1514-01	7.1475-01	6.7301-01
3	9.00000-01	3.7750-01	4.6232-01	7.1320-01	8.2601-01	8.2755-01	8.1045-01	8.0396-01	7.9085-01	7.8232-01	7.3027-01
4	1.20000+00	4.9104-01	5.8600-01	8.4182-01	9.1826-01	9.1024-01	8.8139-01	8.6993-01	8.5887-01	8.4967-01	8.0017-01
5	1.50000+00	5.8330-01	6.7681-01	9.1084-01	9.5178-01	9.4941-01	9.3041-01	9.2167-01	9.1250-01	9.0420-01	8.7356-01
6	1.80000+00	6.6435-01	7.5074-01	9.5336-01	9.7741-01	9.7716-01	9.6763-01	9.6185-01	9.5421-01	9.4731-01	9.3541-01
7	2.10000+00	7.3151-01	8.0764-01	9.7685-01	9.9701-01	9.9269-01	9.8976-01	9.8677-01	9.8141-01	9.7634-01	9.7297-01
8	2.40000+00	7.8441-01	8.4918-01	9.8627-01	9.9733-01	9.9815-01	9.9735-01	9.9622-01	9.9366-01	9.9112-01	9.8956-01
9	2.70000+00	8.2966-01	8.8329-01	9.9166-01	9.9916-01	9.9957-01	9.9943-01	9.9918-01	9.9862-01	9.9805-01	9.9761-01
10	3.00000+00	8.6981-01	9.1300-01	9.9434-01	9.9972-01	9.9992-01	9.9992-01	9.9989-01	9.9981-01	9.9972-01	9.9963-01
11	3.30000+00	9.0371-01	9.3764-01	9.9667-01	9.9994-01	9.9999-01	9.9999-01	9.9999-01	9.9998-01	9.9997-01	9.9996-01
12	3.60000+00	9.3055-01	9.5668-01	9.9817-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.5095-01	9.7069-01	9.9912-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.6606-01	9.8070-01	9.9968-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.7705-01	9.8762-01	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.8514-01	9.9244-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9097-01	9.9574-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9497-01	9.9788-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9736-01	9.9908-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9857-01	9.9959-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9922-01	9.9980-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	9.9965-01	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9989-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (WATER), EQUILIBRIUM, 4000 MW, PURE U-235

Figure 3.156

SOURCE 1 (WATER), EQUILIBRIUM, 4000 MW, PURE U-235

Figure 3.157

Table 3.236

SOURCE 1 (WATER), 200 DAYS, 4000 MW, PURE U=235

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	F(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.6421+18	1.0292+18	6.7746+17	1.5624+18	1.2047+18	3.3552+17	1.9270+17	5.7795+16	2.6729+16	1.6481+15
2	3.00000+01	3.5931+18	1.8122+18	9.0481+17	1.4293+18	1.0102+18	1.3922+17	6.4025+16	1.0572+16	1.0996+15	8.3412+12
3	4.50000+01	6.3243+18	3.5232+18	2.0869+18	1.5488+18	1.4432+18	6.5292+17	1.1558+17	9.3303+15	1.3180+13	
4	6.00000+01	9.4501+18	6.6119+18	5.5582+18	2.9301+18	1.9035+18	2.5423+17	7.1301+16	3.2846+16	1.4478+16	2.3135+14
5	7.50000+01	8.3000+18	5.6195+18	3.6093+18	5.4645+17	3.7242+17	1.9672+17	1.1052+17	3.7595+16	1.9356+16	1.8041+15
6	9.00000+01	1.7567+19	1.2233+19	6.3301+18	4.8729+17	3.1128+17	1.5872+17	1.2049+17	9.2497+16	7.2171+16	4.0518+15
7	1.05000+00	2.9732+18	2.0378+18	1.1562+18	1.6511+17	5.6578+16	1.2113+16	6.3615+15	1.7333+15	4.0812+14	1.3507+13
8	1.20000+00	3.7899+18	2.6688+18	1.6974+18	3.3256+17	1.0147+17	2.7354+15	5.4514+14	6.1930+13	2.1323+13	4.9965+12
9	1.35000+00	6.9131+18	3.3438+18	1.7817+18	4.3399+17	1.6669+17	7.6930+15	4.9812+14	1.8014+14	7.9123+13	2.0571+12
10	1.50000+00	3.4627+18	1.7466+18	7.3279+17	1.2310+17	3.5912+16	2.9627+15	8.7868+14	9.4139+13	7.0484+13	3.3562+13
11	1.65000+00	1.4679+18	7.6481+17	2.9589+17	1.0452+17	6.6058+16	7.2822+16	5.2851+16	1.7400+16	3.3777+15	1.2575+12
12	1.80000+00	1.4888+18	1.0508+18	8.1079+17	2.3036+17	6.5581+16	8.8150+13	1.0412+13	1.2596+12	8.4303+11	4.5005+11
13	1.95000+00	7.3391+17	5.1034+17	2.2906+17	1.2359+16	3.8190+15	3.9537+14	1.1231+14	6.9127+12	1.5100+12	9.3096+10
14	2.10000+00	3.6000+17	2.0178+17	8.2386+16	1.0772+16	3.3961+15	5.7238+14	1.8238+14	1.9910+13	4.6899+12	1.8619+11
15	2.25000+00	1.2049+17	8.1708+16	2.8817+16	1.1169+15	5.6683+14	3.7208+14	2.5313+14	1.8683+14	1.6478+14	8.1065+13
16	2.40000+00	4.8827+17	2.1987+17	2.2957+16	1.1357+15	7.8682+14	6.5724+14	4.4173+14	1.3944+14	2.7461+13	2.7929+11
17	2.55000+00	3.9699+17	2.1976+17	5.1252+16	2.6977+15	2.5739+15	2.3583+15	1.7030+15	5.5912+14	1.0866+14	1.3970+11
18	2.70000+00	3.8653+17	1.6691+17	8.1424+15	1.8247+13	6.0015+11	5.8817+10	3.0324+10	2.8158+10	2.6247+10	1.5518+10
19	2.85000+00	2.1504+17	8.2369+16	3.9036+15	9.2768+12	7.0654+11	1.0410+11	6.0583+10	5.6317+10	5.2494+10	3.1037+10
20	3.00000+00	1.6250+17	7.0490+16	2.5541+15	6.5050+13	4.9170+13	4.5300+13	3.2887+13	1.0844+13	2.1249+12	1.5519+10
21	3.15000+00	3.1908+16	2.1588+16	5.2737+15	2.4288+13	1.6406+13	1.5086+13	1.0950+13	3.6048+12	6.9944+11	4.7922+04
22	3.30000+00	2.4052+16	1.6483+16	4.2975+15	4.7971+12	4.0759+10	1.1922+09	8.1276+08	5.1040+01	8.2948+12	0.0000
23	3.45000+00	4.6774+16	3.0611+16	5.7520+15	6.5776+12	1.0586+11	1.1922+09	8.1276+08	5.1040+01	8.2948+12	0.0000
24	3.60000+00	2.7676+16	1.3777+16	3.1687+14	1.6587+12	1.9996+10	2.5393+02	8.1956+14	0.0000	0.0000	0.0000
25	3.75000+00	8.4722+15	4.4312+15	1.1512+15	8.0117+12	3.6698+10	4.7033+00	1.5179+15	0.0000	0.0000	0.0000
26	3.90000+00	5.2877+15	2.4614+15	1.2567+14	8.7053+11	3.9407+09	3.3925+05	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	6.0692+16	4.2461+16	1.1197+16	3.8072+11	2.9284+09	2.5083+01	0.0953+15	0.0000	0.0000	0.0000
28	4.20000+00	1.8878+17	6.6994+16	4.6057+14	2.6201+08	4.3308+01	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	4.1685+15	1.7481+15	1.4616+14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	1.0153+16	5.9378+15	1.5533+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	3.0564+15	1.6182+15	1.7650+11	3.9436+09	2.0287+08	3.7624+00	1.2143+15	0.0000	0.0000	0.0000
32	4.80000+00	1.0650+14	7.1092+13	7.0354+12	1.6101+11	8.2832+09	1.5362+02	4.9579+18	0.0000	0.0000	0.0000
33	4.95000+00	3.7955+14	1.5868+13	5.1693+11	1.1831+10	6.0862+08	1.1287+01	3.6429+15	0.0000	0.0000	0.0000
34	5.10000+00	5.6128+14	2.7546+14	7.1957+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	1.7281+15	7.3747+14	2.0148+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	9.3104+14	4.6881+14	1.2808+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	6.0010+16	2.0087+16	8.1626+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	4.8138+14	3.6023+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	7.4881+13	5.6036+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	1.7476+14	1.3078+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.237

SOURCE 1 (WATER), 200 DAYS, 4000 MM, PUKT U-235

GAMMA ENERGY SPECTRA (MFV/SEC)

GROUP	E (MFV)	COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.2316+17	7.7193+16	5.0809+16	1.1718+17	9.0352+16	2.5164+16	1.4452+16	4.3346+15	2.0046+15	1.2361+14
2	3.00000+01	8.0844+17	4.0774+17	2.0358+17	3.2160+17	2.2730+17	3.1325+16	1.4406+16	2.3787+15	2.4741+14	1.6768+12
3	4.50000+01	2.3717+18	1.3212+18	7.8258+17	5.8880+17	5.4121+17	4.1868+17	2.4485+17	4.3341+16	3.4949+15	4.9427+12
4	6.00000+01	4.9613+18	3.4712+18	2.9180+18	1.5383+18	9.9931+17	1.3347+17	3.7433+16	1.7244+16	7.6011+15	1.2146+14
5	7.50000+01	5.6025+18	3.7932+18	2.4363+18	3.6886+17	2.5138+17	1.3279+17	7.4603+16	2.5377+16	1.3065+16	1.2178+15
6	9.00000+01	1.4493+19	1.0092+19	5.2223+18	4.2011+17	2.5681+17	1.3094+17	9.9406+16	7.6310+16	5.9541+16	3.3426+15
7	1.05000+00	2.8989+18	1.9849+18	1.1273+18	1.6098+17	5.5168+16	1.1811+16	6.2025+15	1.6900+15	3.9792+14	1.3169+13
8	1.20000+00	4.2637+18	3.0024+18	1.9096+18	3.7413+17	1.1415+17	3.0773+15	6.1328+14	6.9671+13	2.3989+13	5.6211+12
9	1.35000+00	8.8142+18	4.2633+18	1.8342+18	5.5334+17	2.0998+17	9.8986+15	6.3510+14	1.7866+14	1.0088+14	2.6227+12
10	1.50000+00	4.9343+18	2.4489+18	1.0442+18	1.7542+17	5.1175+16	4.2218+15	1.2521+15	1.3415+14	1.0044+14	4.7826+13
11	1.65000+00	2.3119+18	1.2046+18	4.6602+17	1.6461+17	1.3554+17	1.1469+17	8.3240+16	2.7405+16	5.3199+15	1.9806+12
12	1.80000+00	2.5681+18	1.8126+18	1.3986+18	3.9738+17	1.1313+17	1.5206+14	1.7960+13	2.1728+12	1.4542+12	7.7633+11
13	1.95000+00	1.3761+18	9.5489+17	4.2948+17	2.3173+16	7.1984+15	4.1332+14	2.1057+14	1.2961+13	2.8313+12	1.7456+11
14	2.10000+00	7.2900+17	4.0861+17	1.6683+17	2.1814+16	6.8772+15	1.1591+15	3.6932+14	4.0318+13	9.4969+12	3.7704+11
15	2.25000+00	2.6207+17	1.7772+17	4.2677+16	2.4293+15	1.2329+15	8.0928+14	5.5056+14	4.0635+14	3.5834+14	1.7452+14
16	2.40000+00	1.1352+18	5.1120+17	5.3374+16	2.6405+15	1.8294+15	1.5281+15	1.0270+15	3.2419+14	6.3848+13	6.4577+11
17	2.55000+00	9.8255+17	5.4390+17	1.2685+17	4.6769+15	6.3704+15	5.8308+15	4.2150+15	1.3848+15	2.6893+14	3.4577+11
18	2.70000+00	1.0094+18	4.3415+17	2.1374+16	4.7898+13	1.5754+12	1.4914+11	7.4601+10	3.9161+10	6.8899+10	4.0736+10
19	2.85000+00	5.9675+17	2.2857+17	1.0833+16	2.5748+13	1.9607+12	2.8868+11	1.6812+11	1.5624+11	1.4567+11	8.6127+10
20	3.00000+00	4.7531+17	2.0618+17	7.4707+15	1.9027+14	1.4382+14	1.3250+14	9.0194+13	3.1720+13	6.2154+12	4.5392+10
21	3.15000+00	9.8116+16	6.6384+16	1.6094+16	7.4685+13	5.0447+13	4.6391+13	3.3673+13	1.1085+13	2.1508+12	1.7336+05
22	3.30000+00	7.7566+16	5.3157+16	1.3843+16	1.5471+13	2.9270+11	3.8448+09	2.6212+07	1.6460+06	2.6751+11	0.0000
23	3.45000+00	1.5784+17	1.0331+17	1.9413+16	2.2199+13	3.5777+11	4.0237+09	2.7431+07	1.7226+00	2.7495+11	0.0000
24	3.60000+00	9.7558+16	4.8565+16	1.1170+15	5.8469+12	7.0486+10	8.9512+02	2.8889+13	0.0000	0.0000	0.0000
25	3.75000+00	3.1132+16	1.6285+15	4.2308+15	2.9443+13	1.3413+11	1.7285+01	5.5782+15	0.0000	0.0000	0.0000
26	3.90000+00	2.6226+16	9.4150+15	4.8069+14	3.3298+12	1.5073+10	1.2976+04	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	2.4125+17	1.6878+17	4.4509+16	1.5134+12	1.1643+10	9.9703+01	3.2179+14	0.0000	0.0000	0.0000
28	4.20000+00	7.7666+17	2.7635+17	1.9246+15	1.0808+09	1.6627+02	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	1.7820+16	7.5587+15	6.5904+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	4.4928+16	2.6275+16	8.8732+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	1.3983+16	7.4032+15	8.0750+11	1.8042+10	9.2814+08	1.7213+01	5.5554+15	0.0000	0.0000	0.0000
32	4.80000+00	5.0322+10	3.3591+14	3.3242+13	7.6079+11	3.9138+10	7.2584+02	2.3426+13	0.0000	0.0000	0.0000
33	4.95000+00	1.8503+15	7.7358+13	2.5201+12	5.7675+10	2.9670+09	5.5025+01	1.7759+14	0.0000	0.0000	0.0000
34	5.10000+00	2.8205+15	1.3442+15	3.6158+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	8.9327+15	3.8164+15	1.0427+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	4.9578+15	2.4964+15	6.8204+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	3.2855+17	1.0998+17	4.4698+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	2.7077+15	2.0263+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	4.3244+18	3.2361+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	1.0354+15	7.7466+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.238

SOURCE 1 (WATER), 200 DAYS, 4000 MW, PURE U-235

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.9643-03	2.0149-03	2.5186-03	2.2483-02	2.9436-02	2.4517-02	2.4744-02	2.1600-02	2.1445-02	2.4417-02
2	3.00000+01	1.4859-02	1.2658-02	1.2610-02	8.4189-02	1.0350-01	5.5037-02	4.9447-02	3.3453-02	2.8316-02	2.4788-02
3	4.50000+01	5.2686-02	4.7145-02	5.1401-02	1.9563-01	2.7983-01	4.6295-01	4.6898-01	2.4943-01	6.2095-02	2.5765-02
4	6.00000+01	1.3182-01	1.3775-01	1.9608-01	4.9079-01	6.0542-01	5.9299-01	5.3312-01	3.3536-01	1.8417-01	4.9757-02
5	7.50000+01	2.2117-01	2.3676-01	3.1681-01	5.6156-01	6.8733-01	7.2236-01	6.6096-01	4.6182-01	2.8524-01	2.9032-01
6	9.00000+01	4.5233-01	5.0019-01	5.7567-01	6.3870-01	7.7100-01	8.4994-01	8.3128-01	6.4208-01	9.2812-01	9.5061-01
7	1.05000+00	4.9857-01	5.5206-01	6.3155-01	6.6959-01	7.8897-01	8.6145-01	8.4191-01	6.5051-01	9.3292-01	9.5321-01
8	1.20000+00	5.6657-01	6.3042-01	7.2620-01	7.4137-01	8.2617-01	8.6445-01	8.4296-01	6.5085-01	9.3268-01	9.5437-01
9	1.35000+00	7.0716-01	7.4171-01	8.0721-01	8.4754-01	8.9456-01	8.7400-01	8.4405-01	6.5174-01	9.3377-01	9.5484-01
10	1.50000+00	7.8586-01	8.0667-01	8.5897-01	8.8120-01	9.1126-01	8.7812-01	8.4620-01	6.5241-01	9.3485-01	9.6429-01
11	1.65000+00	8.2273-01	8.3812-01	8.8207-01	9.1279-01	9.5542-01	9.8986-01	9.8883-01	9.8897-01	9.9230-01	9.6468-01
12	1.80000+00	8.6349-01	8.8543-01	9.5140-01	9.8903-01	9.9228-01	9.9001-01	9.8886-01	9.8898-01	9.9231-01	9.6483-01
13	1.95000+00	8.8564-01	9.1041-01	9.7268-01	9.9348-01	9.9462-01	9.9073-01	9.8422-01	9.8905-01	9.9238-01	9.6487-01
14	2.10000+00	8.9727-01	9.2107-01	9.8095-01	9.9767-01	9.9686-01	9.9186-01	9.8985-01	9.8925-01	9.9244-01	9.6494-01
15	2.25000+00	9.0145-01	9.2571-01	9.8406-01	9.9813-01	9.9726-01	9.9265-01	9.9080-01	9.8127-01	9.9631-01	9.9977-01
16	2.40000+00	9.1956-01	9.3905-01	9.8671-01	9.9844-01	9.9786-01	9.9414-01	9.9255-01	9.9279-01	9.9700-01	9.9990-01
17	2.55000+00	9.3523-01	9.5325-01	9.9299-01	9.9992-01	9.9994-01	9.9983-01	9.9978-01	9.9979-01	9.9991-01	9.9997-01
18	2.70000+00	9.5133-01	9.6469-01	9.9405-01	9.9993-01	9.9994-01	9.9983-01	9.9978-01	9.9979-01	9.9991-01	9.9997-01
19	2.85000+00	9.6084-01	9.7065-01	9.9499-01	9.9993-01	9.9994-01	9.9983-01	9.9978-01	9.9979-01	9.9991-01	9.9994-01
20	3.00000+00	9.6883-01	9.7604-01	9.9496-01	9.9997-01	9.9998-01	9.9995-01	9.9994-01	9.9994-01	9.9996-01	1.0000+00
21	3.15000+00	9.6999-01	9.7777-01	9.9576-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.7123-01	9.7916-01	9.9645-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.7375-01	9.8185-01	9.9781-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.7530-01	9.8312-01	9.9786-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.7580-01	9.8355-01	9.9767-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.7612-01	9.8379-01	9.9770-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.7997-01	9.8820-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.9236-01	9.9541-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9264-01	9.9561-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9336-01	9.9629-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9358-01	9.9649-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	9.9359-01	9.9650-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	9.9362-01	9.9653-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	9.9366-01	9.9653-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	9.9381-01	9.9663-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	9.9388-01	9.9670-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	9.9912-01	9.9957-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	9.9917-01	9.9957-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	9.9917-01	9.9957-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	9.9919-01	9.9957-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (WATER), 200 DAYS, 4000 MW, PURE U-235

Figure 3.158

SOURCE 1 (WATER), 200 DAYS, 4000 MM, PURE U-235

Figure 3.159

Table 3.239

SOURCE 1 (WATER), 200 DAYS, 4000 MW, PURE U-235

BETA SPECTRA (BETAS/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	1.7009+19	9.1694+18	6.9668+18	4.4254+18	3.4289+18	1.7687+18	1.0668+18	3.3852+17	1.6230+17	2.1013+16
2	6.00000+01	1.2835+19	6.7784+18	4.6166+18	2.3172+18	1.5287+18	4.1057+17	2.2652+17	7.3212+16	2.7499+16	2.1446+15
3	9.00000+01	8.5748+18	4.3716+18	2.5899+18	9.9960+17	6.0730+17	1.0301+17	5.2231+16	3.1425+16	1.9099+16	2.1232+15
4	1.20000+00	4.9105+18	2.3240+18	1.0394+18	2.6337+17	1.5563+17	3.8485+16	2.4806+16	1.7608+16	1.2192+16	2.1263+15
5	1.50000+00	3.0656+18	1.3025+18	3.8106+17	4.3079+16	2.2579+16	1.0451+16	8.7098+15	6.8605+15	5.4197+15	1.9069+15
6	1.80000+00	2.2804+18	8.8787+17	1.8588+17	1.8859+16	9.4664+15	4.4136+15	3.8556+15	3.4202+15	3.0855+15	1.5949+15
7	2.10000+00	1.7353+18	6.2518+17	9.0980+16	1.0858+16	5.4803+15	2.8714+15	2.6849+15	2.5205+15	2.3148+15	1.1867+15
8	2.40000+00	1.2968+18	4.3305+17	3.8419+16	6.0282+15	3.0345+15	1.6691+15	1.6200+15	1.5455+15	1.4486+15	7.3842+14
9	2.70000+00	1.0097+18	3.2338+17	1.9703+16	2.8561+15	1.2926+15	7.5493+14	7.3585+14	7.1295+14	6.6040+14	3.3762+14
10	3.00000+00	8.0225+17	2.5224+17	1.2542+16	1.0216+15	2.8675+14	1.5484+14	1.5115+14	1.4676+14	1.3639+14	7.2185+13
11	3.30000+00	6.1234+17	1.8896+17	8.0958+15	3.8569+14	6.3931+13	1.7643+13	1.7165+13	1.6796+13	1.5791+13	9.3768+12
12	3.60000+00	4.4182+17	1.3276+17	4.7084+15	7.8293+13	1.1179+13	1.9684+12	1.8676+12	1.8271+12	1.7175+12	1.0200+12
13	3.90000+00	3.0819+17	8.9467+16	2.6728+15	7.7709+12	4.9944+11	1.4209+10	9.8294+07	6.4675+00	1.0601+10	0.0000
14	4.20000+00	2.1115+17	5.8925+16	1.4037+15	5.0978+12	2.3288+11	7.1901+07	4.9737+05	3.2725+02	5.3644+13	0.0000
15	4.50000+00	1.4303+17	3.7819+16	5.0302+14	3.0700+12	1.5066+11	2.5583+03	8.3781+13	0.0000	0.0000	0.0000
16	4.80000+00	9.8473+16	2.4883+16	9.4437+13	1.5717+12	7.9495+10	1.3537+03	4.4332+13	0.0000	0.0000	0.0000
17	5.10000+00	6.7419+16	1.6198+16	2.3839+13	5.2718+11	2.6631+10	4.5349+02	1.4852+13	0.0000	0.0000	0.0000
18	5.40000+00	4.3826+16	1.0073+16	1.7650+12	3.9067+10	1.9735+09	3.3606+01	1.1006+14	0.0000	0.0000	0.0000
19	5.70000+00	2.4885+16	5.3121+15	2.7956+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	1.1904+16	2.1191+15	1.1592+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	6.0826+15	8.4535+14	1.9943+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	3.8109+15	4.8355+14	5.1288+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	2.0202+15	2.2213+14	8.5693+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	7.5862+14	5.3777+13	2.0781+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	1.6576+14	8.9375+11	3.4433+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.240

SOURCE 1 (WATER), 200 DAYS, 4000 MW, PURE U-235

REACTOR ENERGY SPECTRA (MEV/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000-01	2.5513+18	1.3754+18	1.0450+18	6.6381+17	5.1434+17	2.6531+17	1.6003+17	5.0778+16	2.4345+16	3.1519+15
2	6.00000-01	5.7757+18	3.0504+18	2.0776+18	1.0424+18	6.8790+17	1.8475+17	1.0194+17	3.2945+16	1.2374+16	9.6508+14
3	9.00000-01	6.4311+18	3.2787+18	1.9424+18	7.4970+17	4.5547+17	7.7259+16	3.9173+16	2.3569+16	1.4324+16	1.5924+15
4	1.20000+00	5.1560+18	2.4402+18	1.0913+18	2.7654+17	1.6362+17	4.0409+16	2.6046+16	1.8488+16	1.2802+16	2.2326+15
5	1.50000+00	4.1386+18	1.7583+18	5.1443+17	5.8156+16	3.0482+16	1.4109+16	1.1758+16	9.2616+15	7.3166+15	2.5743+15
6	1.80000+00	1.7627+18	1.4650+18	1.0670+17	3.1114+16	1.5620+16	7.2825+15	6.3617+15	5.6434+15	5.0911+15	2.6316+15
7	2.10000+00	3.3838+18	1.2191+18	1.7742+17	2.1173+16	1.0687+16	5.5993+15	5.2355+15	4.9149+15	4.5139+15	2.3141+15
8	2.80000+00	2.9177+18	9.7436+17	8.6443+16	1.3563+16	6.8277+15	3.7555+15	3.6450+15	3.5223+15	3.2593+15	1.6570+15
9	2.70000+00	2.5744+18	8.2463+17	5.0344+16	7.2832+15	3.2961+15	1.9251+15	1.8764+15	1.8180+15	1.6840+15	8.6092+14
10	3.00000+00	2.2864+18	7.1887+17	3.5705+16	2.9117+15	8.1723+14	4.4130+14	4.3079+14	4.1628+14	3.8870+14	2.0573+14
11	3.30000+00	1.9289+18	5.9521+17	2.5502+16	1.2149+15	2.0138+14	5.5574+13	5.4068+13	5.2907+13	4.9742+13	2.4537+13
12	3.60000+00	1.5243+18	4.5801+17	1.6244+16	2.7011+14	3.8567+13	6.7910+12	6.4431+12	6.3635+12	5.9264+12	3.5191+12
13	3.90000+00	1.1557+18	3.3550+17	1.0023+16	2.9141+13	1.8729+12	5.3283+10	3.6860+08	2.4253+08	3.9756+10	0.0000
14	4.20000+00	8.5515+17	2.3865+17	5.6851+15	2.0446+13	9.4315+11	2.9120+08	2.0143+06	1.3254+01	2.1726+12	0.0000
15	4.50000+00	6.2220+17	1.6495+17	2.1881+15	1.3354+13	6.5536+11	1.1128+08	3.6445+12	0.0000	0.0000	0.0000
16	4.80000+00	4.5976+17	1.1571+17	4.3913+14	7.3178+12	3.6965+11	6.2947+03	2.0615+12	0.0000	0.0000	0.0000
17	5.10000+00	3.3372+17	8.0178+16	1.1800+14	2.6095+12	1.3182+11	2.2448+03	7.3515+13	0.0000	0.0000	0.0000
18	5.40000+00	2.3009+17	5.2885+16	9.7662+12	2.0510+11	1.0361+10	1.7643+02	5.7781+14	0.0000	0.0000	0.0000
19	5.70000+00	1.3811+17	2.9482+16	1.5515+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	6.9638+16	1.2514+16	6.7813+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	3.7408+16	5.1989+15	1.2265+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	2.4580+16	3.1189+15	3.3029+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	1.3636+16	1.4994+15	5.7843+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	5.3483+15	3.7913+14	1.4650+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	1.2184+15	6.5691+12	2.5309+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.241

SOURCE 1 (WATER), 200 DAYS, 4000 MW, PURE U-235

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS
1	3.00000+01	5.5012-02	7.1642-02	1.4145-01	2.3141-01	2.7224-01	4.4152-01	4.4882-01	3.3535-01	2.8257-01	1.7301-01
2	6.00000+01	1.7955-01	2.3053-01	4.2268-01	5.9497-01	6.3634-01	7.4897-01	7.3471-01	5.5293-01	4.7620-01	2.2598-01
3	9.00000+01	3.1822-01	4.0132-01	6.8561-01	8.5627-01	8.7742-01	8.7755-01	8.4458-01	7.0858-01	5.9246-01	3.1338-01
4	1.20000+02	4.2939-01	5.2842-01	8.3333-01	9.5267-01	9.6402-01	9.4474-01	9.1763-01	8.3068-01	7.4105-01	4.3543-01
5	1.50000+02	5.1863-01	6.2001-01	9.0297-01	9.7295-01	9.8016-01	9.6827-01	9.5061-01	8.9185-01	8.2598-01	5.1723-01
6	1.80000+02	5.9976-01	6.9631-01	9.4448-01	9.8379-01	9.8842-01	9.8639-01	9.6845-01	9.2912-01	8.8507-01	7.2167-01
7	2.10000+02	6.7272-01	7.5981-01	9.6850-01	9.9117-01	9.9408-01	9.8971-01	9.8314-01	9.6158-01	9.3746-01	8.4864-01
8	2.40000+02	7.3563-01	8.1057-01	9.8020-01	9.9590-01	9.9769-01	9.9596-01	9.9336-01	9.8484-01	9.7530-01	9.3964-01
9	2.70000+02	7.9115-01	8.5352-01	9.8701-01	9.9844-01	9.9944-01	9.9916-01	9.9862-01	9.9685-01	9.9484-01	9.8689-01
10	3.00000+02	8.4045-01	8.9097-01	9.9185-01	9.9946-01	9.9987-01	9.9990-01	9.9983-01	9.9961-01	9.9935-01	9.9819-01
11	3.30000+02	8.8204-01	9.2197-01	9.9530-01	9.9988-01	9.9998-01	9.9999-01	9.9998-01	9.9996-01	9.9993-01	9.9981-01
12	3.60000+02	9.1490-01	9.4583-01	9.9750-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+02	9.3982-01	9.6330-01	9.9886-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+02	9.5826-01	9.7573-01	9.9963-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+02	9.7168-01	9.8432-01	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+02	9.8159-01	9.9035-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+02	9.8879-01	9.9453-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+02	9.9375-01	9.9728-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+02	9.9673-01	9.9882-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+02	9.9823-01	9.9947-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+02	9.9903-01	9.9974-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+02	9.9956-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+02	9.9986-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+02	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+02	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (WATER), 200 DAYS, -000 MW, PURE U-235

Figure 3.160

SOURCE 1 (WATER), 200 DAYS, 4000 MW, PURE U-235

Figure 3.161

Table 3.242

SOURCE 1 (AIR), 200 DAYS, 4000 MW, U=235+PU=239

GAMMA SPECTRA (GAMMAS/SEC)

-----COOLING TIMES-----											
GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.5274+19	7.1135+18	5.8129+18	5.4575+18	5.0585+18	3.7237+18	1.6335+18	9.7863+16	1.7937+15	1.9187+08
2	3.00000+01	2.2439+19	1.2425+19	4.9052+18	2.2253+18	1.2758+18	1.6827+17	5.8071+16	6.6261+15	4.4293+14	5.7933+05
3	4.50000+01	9.5421+18	6.4254+18	2.4319+18	9.7502+17	9.9413+17	9.8225+17	5.4136+17	7.7315+16	5.0805+15	6.1807+04
4	6.00000+01	1.6019+19	8.9780+18	3.3860+18	1.6494+18	1.2088+18	1.4275+17	1.2088+15	3.6548+14	7.8957+13	4.6888+11
5	7.50000+01	5.8952+18	3.9195+18	1.8008+18	2.0107+17	1.4298+17	1.0965+17	5.8397+16	8.3081+15	5.4766+14	1.5394+12
6	9.00000+01	9.8031+18	7.9004+18	4.3009+18	2.6177+17	9.9400+16	9.5150+15	8.9750+13	4.7775+12	8.2069+11	4.3285+07
7	1.05000+00	2.5557+18	2.0529+18	1.1087+18	8.4041+16	2.2701+16	2.1228+13	5.0374+12	1.3983+12	2.4003+11	1.3315+04
8	1.20000+00	7.1105+18	3.1431+18	1.0260+18	2.0002+17	6.5758+16	7.8781+14	5.7243+12	5.1655+05	6.6546+05	0.0000
9	1.35000+00	4.5230+18	2.3211+18	8.1238+17	2.5875+17	1.0959+17	5.6909+15	4.3245+13	1.4134+10	8.6455+09	1.9846+08
10	1.50000+00	1.9137+18	1.3362+18	1.4986+18	7.4132+16	2.0481+16	1.3365+13	5.0037+06	9.9111+05	8.0373+05	3.2440+05
11	1.65000+00	3.2840+18	1.8766+18	6.3540+17	5.3098+16	7.0822+15	7.0860+13	5.7871+13	1.6064+13	2.7575+12	1.5296+05
12	1.80000+00	3.9763+18	2.6173+18	5.7687+17	1.3819+17	4.3995+16	2.9462+13	7.3742+06	2.6072+01	2.2710+01	1.8896+01
13	1.95000+00	8.8765+17	6.9532+17	8.7159+17	7.1737+16	5.7021+15	1.2416+12	3.4232+05	4.3476+08	4.7380+21	0.0000
14	2.10000+00	3.1022+18	2.3665+18	4.8141+17	2.8122+16	2.8985+15	1.0437+12	2.5523+05	9.2887+13	0.0000	0.0000
15	2.25000+00	1.3635+18	1.1095+18	8.9295+17	4.9111+16	2.8964+15	2.5352+08	3.3170+06	2.5290+06	2.0509+06	8.2778+05
16	2.40000+00	2.7566+18	2.1793+18	1.3463+18	9.9783+16	5.8956+15	5.3207+11	4.5578+11	1.2651+11	2.1718+10	1.2047+03
17	2.55000+00	7.2787+17	3.1664+17	5.9552+16	2.5820+15	1.5156+14	2.1724+12	1.8588+12	5.1595+11	8.6569+10	4.9131+01
18	2.70000+00	6.9999+17	6.2129+17	4.5644+17	8.6820+15	4.7550+14	1.1347+07	3.4773+09	0.0000	0.0000	0.0000
19	2.85000+00	5.3843+17	2.0708+17	2.2689+16	8.9647+14	5.2049+13	1.2447+06	6.3605+10	0.0000	0.0000	0.0000
20	3.00000+00	4.1581+17	2.2874+17	3.4127+14	1.0651+10	1.4986+10	4.2050+10	3.5979+10	9.9870+09	1.7144+09	9.5099+01
21	3.15000+00	1.8063+17	1.3183+17	1.3540+16	1.0856+15	6.8185+13	1.4016+10	1.1991+10	3.3285+09	5.7137+08	3.1695+01
22	3.30000+00	7.3180+16	5.3630+16	1.1860+16	9.9552+14	5.8856+13	1.4078+06	5.1630+10	0.0000	0.0000	0.0000
23	3.45000+00	1.9806+17	2.2699+17	1.5426+16	2.2891+13	3.7422+10	3.4729+02	1.6984+10	0.0000	0.0000	0.0000
24	3.60000+00	1.3344+17	1.8113+17	7.2755+15	5.2026+14	3.0758+13	7.3562+05	2.2544+10	0.0000	0.0000	0.0000
25	3.75000+00	1.0553+17	9.0098+16	6.4371+14	9.6477+12	5.6972+11	1.3624+04	4.1752+12	0.0000	0.0000	0.0000
26	3.90000+00	4.2852+16	4.9335+16	4.8222+13	1.2861+09	6.6908+06	7.4281+08	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	1.0503+17	7.2453+16	9.2718+14	5.1389+13	3.0382+12	7.2661+04	2.2268+11	0.0000	0.0000	0.0000
28	4.20000+00	1.6477+16	8.9491+16	3.8642+14	2.9576+08	6.3352+01	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	1.3933+16	2.4837+16	1.0590+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	1.5581+16	7.4952+16	1.6200+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	2.0975+15	1.9377+16	9.0072+13	7.7083+12	4.5572+11	1.0899+04	3.3402+12	0.0000	0.0000	0.0000
32	4.80000+00	2.0975+15	1.7845+15	3.6755+15	3.1473+14	1.8607+13	4.4501+05	1.3638+10	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	1.8250+14	2.7009+14	2.3125+13	1.3672+12	3.2698+04	1.0021+11	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	3.0718+15	6.4084+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	8.1295+15	1.7944+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	5.1678+15	1.1407+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	1.2761+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	6.8910+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	1.0719+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	2.5017+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.243

SOURCE 1 (AIR), 200 DAYS, 4000 MH, U-235+PU-239

GAMMA ENERGY SPECTRA (MEV/SEC)

COOLING TIMES-----

GROUP	E (MEV)	SHUTDOWN	60.0 SFC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS
1	1.50000+01	1.1458+18	5.3352+17	4.3597+17	4.0931+17	3.7939+17	2.7928+17	1.2251+17	7.3397+15	1.3453+14	1.4390+
2	3.00000+01	5.0489+18	2.7957+18	1.1037+18	5.0070+17	2.8705+17	3.7862+16	1.3066+16	1.4909+15	9.9659+13	1.3035+
3	4.50000+01	3.5783+18	2.4095+18	9.1197+17	3.6563+17	3.7280+17	3.6834+17	2.0376+17	2.8993+16	1.9052+15	2.3178+
4	6.00000+01	8.4099+18	4.7134+18	1.7777+18	8.6594+17	6.3463+17	7.4944+16	1.6846+15	1.9188+14	4.1453+13	2.4616+
5	7.50000+01	3.9793+18	2.6057+18	1.2155+18	1.3572+17	9.6512+16	7.4012+16	3.9418+16	5.6080+15	3.6967+14	1.0391+
6	9.00000+01	6.0876+18	6.5178+18	3.5483+18	2.1596+17	8.2005+16	7.8498+15	7.4044+13	3.9415+12	6.7707+11	3.5710+
7	1.05000+00	2.4918+18	2.0016+18	1.0810+18	6.1940+16	2.2134+16	2.0697+13	4.9115+12	1.3633+12	2.3403+11	1.2982+
8	1.20000+00	7.9993+18	3.5360+18	1.1543+18	2.2502+17	7.3978+16	8.8629+14	6.4598+12	5.8112+05	7.4639+05	0.0000
9	1.35000+00	5.7669+18	2.9594+18	1.0358+18	3.2991+17	1.3972+17	7.2559+15	5.5138+13	1.8021+10	1.1023+10	2.5304+
10	1.50000+00	2.7271+18	1.9069+18	2.1355+18	1.0564+17	2.9186+16	1.9045+13	7.1303+06	1.4123+06	1.1453+06	4.6227+
11	1.65000+00	5.1724+18	2.9557+18	1.0008+18	8.3629+16	1.1154+16	1.1160+14	9.1146+13	2.5300+13	4.3431+12	2.4092+
12	1.80000+00	6.8592+18	4.5149+18	9.9511+17	2.3837+17	7.5891+16	5.0822+13	1.2721+07	4.4974+01	3.9175+01	3.2595+
13	1.95000+00	1.6643+18	1.3037+18	1.6342+18	1.3357+17	1.0691+16	2.3280+12	6.4185+05	8.1518+08	8.8838+21	0.0000
14	2.10000+00	6.2820+18	4.7922+18	9.7486+17	5.6947+16	5.8695+15	2.1135+12	5.1685+05	1.8810+12	0.0000	0.0000
15	2.25000+00	2.9657+18	2.4132+18	1.9422+18	1.0682+17	6.2996+15	5.5140+08	7.2586+06	5.5006+06	4.4607+06	1.8004+
16	2.40000+00	6.4090+18	5.0669+18	3.1301+18	2.3200+17	1.3707+16	1.2388+12	1.0597+12	2.9414+11	5.0493+10	2.8009+
17	2.55000+00	1.7891+18	7.8367+17	1.4739+17	6.5904+15	3.7512+14	5.3767+12	4.6002+12	1.2770+12	2.1921+11	1.2160+
18	2.70000+00	1.8375+18	1.6309+18	1.1981+18	2.2790+16	1.2482+15	2.9785+07	9.1279+09	0.0000	0.0000	0.0000
19	2.85000+00	1.4941+18	7.7465+17	6.2961+16	2.4877+15	1.4444+14	3.4540+06	1.7650+04	0.0000	0.0000	0.0000
20	3.00000+00	1.2163+18	6.6907+17	9.9822+14	8.9654+10	4.3833+10	1.2300+11	1.0524+11	2.9212+10	5.0146+09	2.7817+
21	3.15000+00	5.5542+17	4.0539+17	4.1636+16	3.3381+15	1.9737+14	4.3099+10	3.6873+10	1.0235+10	1.7570+09	9.7461+
22	3.30000+00	2.3601+17	1.7296+17	3.8247+16	3.2106+15	1.8981+14	4.5401+06	1.6651+09	0.0000	0.0000	0.0000
23	3.45000+00	6.6844+17	7.6610+17	5.2063+16	7.7258+13	1.2630+11	1.1721+03	5.7322+10	0.0000	0.0000	0.0000
24	3.60000+00	4.7937+17	6.3848+17	2.5646+16	1.8339+15	1.0842+14	2.5930+06	7.9467+10	0.0000	0.0000	0.0000
25	3.75000+00	3.8781+17	3.3111+17	2.3656+15	3.5455+13	2.0937+12	5.0068+04	1.5344+11	0.0000	0.0000	0.0000
26	3.90000+00	1.6391+17	1.8871+17	1.8445+14	4.9194+09	2.5592+07	2.8413+07	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	4.1749+17	2.8800+17	3.6856+15	2.0427+14	1.2077+13	2.8883+05	8.8514+11	0.0000	0.0000	0.0000
28	4.20000+00	6.7968+16	3.6915+17	1.5940+15	1.2200+09	2.6133+02	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	5.9565+16	1.0618+17	6.2371+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	6.8948+16	3.3166+17	7.1686+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	9.5961+15	8.8648+16	4.1208+14	3.5265+13	2.0849+12	4.9868+04	1.5281+11	0.0000	0.0000	0.0000
32	4.80000+00	9.9107+15	8.2615+15	1.7369+16	1.4871+15	8.7919+13	2.1027+06	6.4439+10	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	8.8969+14	1.3167+15	1.1273+14	6.6650+12	1.8850+11	0.0000	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	1.5436+16	3.2202+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	4.2078+16	9.2858+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	2.7518+16	6.0742+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	6.9867+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	3.8762+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	6.1904+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	1.4823+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

-3-407

Table 3.244

SOURCE 1 (AIR), 200 DAYS, 4000 MW, U=235+PU-239

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

-----COOLING TIMES-----

GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.3015+02	9.1192+03	1.6983+02	9.9129+02	1.6911+01	3.2831+01	3.2183+01	1.6813+01	5.2631+02	5.6090+01
2	3.00000+01	7.0362+02	5.6904+02	5.9976+02	2.2039+01	2.9707+01	3.7282+01	3.5615+01	2.0228+01	9.1620+02	5.6598+01
3	4.50000+01	1.1101+01	9.8069+02	9.5501+02	3.0894+01	4.6325+01	8.0584+01	8.9141+01	8.6641+01	8.3699+01	5.6689+01
4	6.00000+01	2.0653+01	1.7865+01	1.6475+01	5.1866+01	7.4613+01	8.9394+01	8.9583+01	8.7080+01	8.5321+01	9.5949+01
5	7.50000+01	2.5173+01	2.2387+01	2.1210+01	5.5152+01	7.8915+01	9.8095+01	9.9938+01	9.9926+01	9.9783+01	9.9999+01
6	9.00000+01	3.4359+01	3.5528+01	3.5032+01	6.0381+01	8.2571+01	9.9018+01	9.9957+01	9.9935+01	9.9810+01	9.9999+01
7	1.05000+00	3.7189+01	3.6949+01	3.9243+01	6.2367+01	8.3557+01	9.9020+01	9.9958+01	9.9938+01	9.9819+01	9.9999+01
8	1.20000+00	4.6276+01	4.2993+01	4.3740+01	6.7817+01	8.6855+01	9.9124+01	9.9960+01	9.9938+01	9.9819+01	9.9999+01
9	1.35000+00	5.2826+01	4.8052+01	4.7775+01	7.5807+01	9.3883+01	9.9977+01	9.9975+01	9.9938+01	9.9819+01	1.0000+00
10	1.50000+00	5.5923+01	5.1311+01	5.6093+01	7.8365+01	9.4884+01	9.9980+01	9.9975+01	9.9938+01	9.9819+01	1.0000+00
11	1.65000+00	6.1798+01	5.6363+01	5.9992+01	8.0390+01	9.4861+01	9.9943+01	9.9998+01	9.9996+01	9.9989+01	1.0000+00
12	1.80000+00	6.9589+01	6.4080+01	6.3868+01	8.6163+01	9.8264+01	9.9999+01	9.9999+01	9.9996+01	9.9989+01	1.0000+00
13	1.95000+00	7.1440+01	6.6309+01	7.0234+01	8.9398+01	9.8741+01	9.9999+01	9.9998+01	9.9996+01	9.9989+01	1.0000+00
14	2.10000+00	7.8615+01	7.4508+01	7.4032+01	9.0777+01	9.9002+01	9.9999+01	9.9998+01	9.9996+01	9.9989+01	1.0000+00
15	2.25000+00	8.1984+01	7.8624+01	8.1598+01	9.3364+01	9.9283+01	9.9999+01	9.9998+01	9.9996+01	9.9989+01	1.0000+00
16	2.40000+00	8.9263+01	8.7285+01	9.3791+01	9.8983+01	9.9894+01	9.9999+01	9.9999+01	9.9997+01	9.9991+01	1.0000+00
17	2.55000+00	9.1296+01	8.8625+01	9.4365+01	9.9138+01	9.9911+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	2.70000+00	9.3383+01	9.1412+01	9.9032+01	9.9689+01	9.9967+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	2.85000+00	9.5080+01	9.2394+01	9.9277+01	9.9750+01	9.9973+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	3.10000+00	9.6461+01	9.3538+01	9.9281+01	9.9750+01	9.9973+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	3.15000+00	9.7092+01	9.4231+01	9.9483+01	9.9831+01	9.9982+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.7360+01	9.4527+01	9.9592+01	9.9908+01	9.9990+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.8120+01	9.5836+01	9.9795+01	9.9910+01	9.9990+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.8654+01	9.6927+01	9.9895+01	9.9955+01	9.9995+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.9094+01	9.7493+01	9.9904+01	9.9955+01	9.9995+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.9280+01	9.7816+01	9.9945+01	9.9955+01	9.9995+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.9755+01	9.8308+01	9.9915+01	9.9960+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.9832+01	9.8939+01	9.9926+01	9.9960+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9900+01	9.9121+01	9.9926+01	9.9960+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9978+01	9.9687+01	9.9926+01	9.9960+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9989+01	9.9839+01	9.9927+01	9.9961+01	9.9996+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	1.0000+00	9.9853+01	9.9995+01	9.9997+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	1.0000+00	9.9855+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	1.0000+00	9.9881+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	1.0000+00	9.9953+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

3-408

SOURCE 1 (AIR), 200 DAYS, 4000 MW, U-235+PU-239

SOURCE 1 (AIR), 200 DAYS, 4000 MM, U-235+PU-239

Figure 3.163

Table 3.245

SOURCE 1 (AIR), 200 DAYS, 4000 MW, U-235+PU-239

BETA SPECTRA (BETAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	2.5954+19	2.1606+19	1.5858+19	9.3441+18	7.4887+18	4.5332+18	2.0745+18	1.9455+17	1.5063+16	7.7060+15
2	6.00000+01	1.1119+19	8.5085+18	4.4886+18	1.5737+18	7.1246+17	1.3274+17	6.4900+16	1.4769+16	4.3882+15	3.4491+15
3	9.00000+01	7.4997+18	5.1129+18	2.1279+18	4.8160+17	2.3550+17	1.3172+16	2.7664+14	9.9292+13	8.9318+13	6.2111+13
4	1.20000+00	6.3325+18	3.9015+18	1.1866+18	1.0800+17	4.5348+16	3.1027+15	4.9265+13	1.8635+13	1.5000+13	5.2128+11
5	1.50000+00	5.7244+18	3.3109+18	8.7540+17	2.6931+16	2.4625+15	3.9604+13	4.8677+12	3.4940+12	2.7869+12	8.3450+10
6	1.80000+00	5.0956+18	2.8322+18	7.4388+17	2.1722+16	1.1074+15	3.5639+11	1.7628+11	7.5898+10	3.3867+10	1.9874+10
7	2.10000+00	4.2769+18	2.2937+18	6.1782+17	1.9797+16	9.5214+14	7.7369+10	4.0196+10	1.8710+10	1.0079+10	7.2494+09
8	2.40000+00	3.4188+18	1.7091+18	4.9142+17	1.8016+16	8.4491+14	9.9895+09	6.4979+08	4.9698+08	4.9585+08	4.8573+08
9	2.70000+00	2.7288+18	1.3569+18	3.8427+17	1.6517+16	7.7542+14	1.6542+09	5.5735+06	5.6202+06	6.4817+06	3.5267+06
10	3.00000+00	2.1860+18	1.0185+18	3.0145+17	1.5110+16	7.1193+14	4.4018+07	8.9224+05	9.0715+05	1.0462+06	5.4696+05
11	3.30000+00	1.6627+18	7.1224+17	2.3481+17	1.3330+16	6.3046+14	1.0273+07	5.3907+08	0.0000	0.0000	0.0000
12	3.60000+00	1.1735+18	4.4629+17	1.8087+17	1.1307+16	5.3632+14	8.6765+06	1.2188+08	0.0000	0.0000	0.0000
13	3.90000+00	7.6417+17	2.4370+17	1.3879+17	9.1216+15	4.3326+14	6.9954+06	2.3021+09	0.0000	0.0000	0.0000
14	4.20000+00	4.6439+17	1.1376+17	1.0177+17	6.7700+15	3.2165+14	5.1935+06	1.7064+09	0.0000	0.0000	0.0000
15	4.50000+00	2.7424+17	4.7316+16	6.6511+16	4.4316+15	2.1055+14	3.3996+06	1.1170+09	0.0000	0.0000	0.0000
16	4.80000+00	1.7151+17	2.2964+16	3.5180+16	2.3450+15	1.1141+14	1.7989+06	5.9105+10	0.0000	0.0000	0.0000
17	5.10000+00	1.0181+17	1.0986+16	1.1785+16	7.8557+14	3.7324+13	6.0264+05	1.9800+10	0.0000	0.0000	0.0000
18	5.40000+00	5.1975+16	5.4093+15	8.7336+14	5.8215+13	2.7659+12	4.4659+04	1.4673+11	0.0000	0.0000	0.0000
19	5.70000+00	1.8973+16	2.3451+15	2.3586+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	2.8906+15	8.7177+14	9.7802+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	7.8357+12	1.4205+14	1.6826+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	1.8385+12	4.3205+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	1.0660+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	4.7609+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	1.0664+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.246

SOURCE 1 (AIR), 200 DAYS, 4000 MB, U=235+PU+239

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	3.8931+18	3.2408+18	2.3787+18	1.4016+18	1.1233+18	6.8999+17	3.1118+17	2.9183+16	2.2590+15	1.1559+15
2	4.00000+01	5.0036+18	3.8788+18	2.0199+18	6.1815+17	3.2061+17	5.9733+16	2.9205+16	6.1961+15	1.9747+15	1.5521+15
3	5.00000+01	5.6248+18	3.8347+18	1.5959+18	3.6120+17	1.7662+17	9.8788+15	2.0748+16	7.4469+13	6.6989+13	4.6583+13
4	1.20000+00	6.6492+18	4.0966+18	1.2460+18	1.1341+17	4.7616+16	3.2578+15	5.1729+13	1.9566+13	1.5750+13	3.3735+11
5	1.50000+00	7.7279+18	4.4697+18	1.1817+18	3.6356+16	3.3278+15	5.3465+13	6.5714+12	4.7169+12	3.7623+12	1.1266+11
6	1.80000+00	8.4078+18	4.6731+18	1.2278+18	3.5881+16	1.8272+15	5.5504+11	2.9087+11	1.2523+11	5.5881+10	3.2792+10
7	2.10000+00	8.3400+18	4.4726+18	1.2047+18	3.8684+16	1.8567+15	1.5087+11	7.8382+10	3.6484+10	1.9653+10	1.4136+10
8	2.40000+00	7.6924+18	3.9805+18	1.1057+18	4.0536+16	1.9010+15	2.2476+10	1.4620+09	1.1182+09	1.1157+09	1.0929+09
9	2.70000+00	6.9585+18	3.4600+18	9.7988+17	4.2118+16	1.9773+15	4.2183+09	1.4212+07	1.4331+07	1.6528+07	8.4831+06
10	3.00000+00	6.2301+18	2.9028+18	8.5913+17	4.3063+16	2.0290+15	1.2585+08	2.5429+06	2.5854+06	2.9817+06	1.5303+06
11	3.30000+00	5.2376+18	2.2436+18	7.3967+17	4.1988+16	1.9859+15	3.2359+07	1.6981+07	0.0000	0.0000	0.0000
12	3.60000+00	4.0485+18	1.5397+18	6.2402+17	3.9008+16	1.8503+15	2.9938+07	4.2050+08	0.0000	0.0000	0.0000
13	3.90000+00	2.8656+18	9.1387+17	5.2045+17	3.4206+16	1.6247+15	2.6233+07	8.6329+09	0.0000	0.0000	0.0000
14	4.20000+00	1.8808+18	4.6074+17	4.1215+17	2.7818+16	1.3027+15	2.1034+07	6.9108+09	0.0000	0.0000	0.0000
15	4.50000+00	1.1930+18	2.0582+17	2.8932+17	1.9777+16	9.1591+14	1.4788+07	4.8589+09	0.0000	0.0000	0.0000
16	4.80000+00	7.9751+17	1.0678+17	1.6359+17	1.6904+16	5.1807+14	8.3649+06	2.7484+09	0.0000	0.0000	0.0000
17	5.10000+00	5.0397+17	5.4383+16	5.8337+16	3.8886+15	1.8475+14	2.9831+06	9.8011+10	0.0000	0.0000	0.0000
18	5.40000+00	2.7287+17	2.8399+16	4.5852+15	3.0563+14	1.4521+13	2.3446+05	7.7034+11	0.0000	0.0000	0.0000
19	5.70000+00	1.0530+17	1.3015+16	1.3090+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	1.6910+16	5.0999+15	5.7214+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	4.8190+13	8.7359+14	1.0388+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	1.1858+13	2.7867+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	7.1952+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	3.1565+12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	7.8381+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3-412

Table 3.247

SOURCE 1 (AIR), 200 DAYS, 4000 MW, U=235+PU-239

FRACTION BETA ENERGY BELOW GIVEN ENERGY

-----COOLING TIMES-----											
GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000-01	4.6652-02	7.2776-02	1.4320-01	4.8201-01	6.6489-01	8.9912-01	9.1348-01	8.2256-01	5.2293-01	4.1955-01
2	6.00000-01	1.0661-01	1.5876-01	2.6480-01	6.9458-01	8.5466-01	9.8175-01	9.9922-01	9.9721-01	9.7996-01	9.8291-01
3	9.00000-01	1.7401-01	2.4487-01	3.6087-01	8.1880-01	9.5920-01	9.9542-01	9.9983-01	9.9931-01	9.9547-01	9.9982-01
4	1.20000+00	2.5369-01	3.3686-01	4.3588-01	8.5780-01	9.8739-01	9.9993-01	9.9998-01	9.9986-01	9.9911-01	9.9994-01
5	1.50000+00	3.4630-01	4.3723-01	5.0702-01	8.7030-01	9.8935-01	1.0000+00	1.0000+00	1.0000+00	9.9998-01	9.9998-01
6	1.80000+00	4.4705-01	5.4717-01	5.8091-01	8.8262-01	9.9043-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	9.9999-01
7	2.10000+00	5.4699-01	6.4260-01	6.5303-01	8.9590-01	9.9153-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
8	2.40000+00	6.3917-01	7.3199-01	7.2000-01	9.0980-01	9.9266-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	7.2256-01	8.0969-01	7.7899-01	9.2432-01	9.9383-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	7.9722-01	8.7487-01	8.3071-01	9.3913-01	9.9503-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	8.5998-01	9.2525-01	8.7524-01	9.5357-01	9.9621-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.0850-01	9.5983-01	9.1280-01	9.6699-01	9.9730-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.4884-01	9.8035-01	9.4413-01	9.7875-01	9.9826-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.6537-01	9.9069-01	9.6895-01	9.8818-01	9.9903-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.7967-01	9.9532-01	9.8636-01	9.9081-01	9.9958-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.8923-01	9.9771-01	9.9621-01	9.9856-01	9.9988-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9527-01	9.9894-01	9.9972-01	9.9989-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9853-01	9.9957-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9980-01	9.9987-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	1.0000+00	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (AIR), 200 DAYS, 4000 MW, U-235+PU-239

Figure 3.164

SOURCE 1 (AIR), 200 DAYS, 4000 MH, U-235+PU-239

Table 3.248

SOURCE 1 (P.N.), 200 DAYS, 4000 MW, U=235+PU=239

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000-n1	1.1253+18	7.7335+17	4.5892+17	8.7896+17	6.9346+17	2.3289+17	1.4098+17	5.4817+16	2.7782+16	1.6242+15
2	3.00000-n1	1.9326+18	1.1293+18	5.3436+17	7.5954+17	5.4321+17	8.7160+16	3.7844+16	6.1969+15	7.7361+14	8.8553+12
3	4.50000-n1	3.1116+18	1.9727+18	1.1176+18	8.2048+17	7.6393+17	5.8402+17	3.4299+17	6.2252+16	5.3842+15	1.5747+13
4	6.00000-n1	4.6274+18	3.5450+18	2.8928+18	1.5362+18	1.0133+18	1.7408+17	7.1831+16	3.4734+16	1.5876+16	3.3865+14
5	7.50000-n1	5.9233+18	3.0370+18	1.9923+18	3.8656+17	2.7262+17	1.5688+17	7.6856+16	3.1581+16	1.8774+16	1.8459+15
6	9.00000-n1	7.9120+18	6.1546+18	3.2543+18	3.3301+17	2.4076+17	1.5027+17	1.1763+17	9.0488+16	7.0760+16	3.9748+15
7	1.05000-n0	1.5836+18	1.1757+18	6.2793+17	9.9815+16	4.0031+16	1.2133+16	6.3632+15	1.7455+15	4.2223+14	2.1509+13
8	1.20000-n0	1.7601+18	1.3787+18	8.5831+17	1.6938+17	5.3134+16	2.3794+15	1.5459+15	8.0421+13	3.0800+13	7.5992+12
9	1.35000-n0	3.0600+18	1.6827+18	6.4487+17	2.1890+17	8.3788+16	4.4719+15	6.0473+14	8.6651+13	3.0006+12	2.0006+12
10	1.50000-n0	8.8407+17	6.4662+17	4.0624+17	6.7105+16	2.1149+16	2.9911+15	8.9024+14	5.1977+14	3.3287+15	2.0679+14
11	1.65000-n0	4.3327+17	3.2632+17	1.9030+17	9.0959+16	8.1459+16	7.1029+16	5.1621+16	1.7085+16	3.3287+15	2.0679+14
12	1.80000-n0	6.8444+17	5.3712+17	4.0776+17	1.1562+17	3.3009+16	7.2092+13	1.1475+13	1.9370+12	1.3714+12	7.4013+11
13	1.95000-n0	2.8953+17	2.2280+17	1.0607+17	6.9771+15	2.4706+15	4.0862+14	1.2036+14	9.6130+12	2.2593+12	1.5310+11
14	2.10000-n0	1.4166+17	9.5169+16	4.2895+16	6.0575+15	2.2851+15	6.0825+14	2.0604+14	2.8521+13	6.9846+12	3.0620+11
15	2.25000-n0	7.9555+16	5.8232+16	1.8050+16	9.1219+14	5.8021+14	3.6291+14	2.5926+14	1.8718+14	1.6277+14	7.9644+13
16	2.40000-n0	1.9350+17	1.0545+17	1.6027+16	9.7576+14	7.8063+14	6.0724+14	4.3464+14	1.3805+14	2.7561+13	4.5930+11
17	2.55000-n0	1.6498+17	9.9023+16	2.4565+16	2.6355+15	2.5406+15	2.3012+15	1.6637+15	5.4913+14	1.0719+14	2.2974+11
18	2.70000-n0	1.4697+17	7.7525+16	4.8761+15	1.1121+13	6.7260+11	9.8558+10	4.9429+10	4.6102+10	4.3115+10	2.9251+10
19	2.85000-n0	1.7887+16	1.0928+16	1.1653+15	9.3153+12	1.1513+12	1.7931+11	9.8737+10	9.2204+10	8.6229+10	5.1041+10
20	3.00000-n0	6.4908+16	3.3156+16	2.2260+15	6.4258+13	4.8582+13	4.4209+13	3.2140+13	1.0666+13	2.1104+12	2.5521+10
21	3.15000-n0	8.5491+15	5.4138+15	1.1226+15	2.3405+13	1.6166+13	1.4716+13	1.0695+13	3.5393+12	6.8900+11	4.7261+04
22	3.30000-n0	3.5857+15	2.3085+15	5.9083+14	4.2153+12	7.4657+10	2.2253+09	1.5193+07	9.5912+01	1.5639+11	0.0000
23	3.45000-n0	1.8008+16	1.1017+16	9.8436+14	6.3409+12	1.1368+11	2.2253+09	1.5193+07	9.5912+01	1.5639+11	0.0000
24	3.60000-n0	2.3163+16	1.2038+16	2.9722+14	1.3670+12	4.1855+09	5.7419+02	1.8547+17	0.0000	0.0000	0.0000
25	3.75000-n0	7.2181+15	3.8248+15	1.1322+15	7.8598+12	3.5547+10	1.3651+03	3.4340+19	0.0000	0.0000	0.0000
26	3.90000-n0	4.4188+15	2.0615+15	1.2300+14	8.5455+11	3.8608+09	3.2903+05	0.0000	0.0000	0.0000	0.0000
27	4.05000-n0	5.4390+14	2.9866+14	7.8554+13	3.4177+11	1.5459+09	5.6796+03	1.8315+18	0.0000	0.0000	0.0000
28	4.20000-n0	1.2372+16	6.5504+15	9.1571+12	4.0415+06	7.3445+01	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000-n0	3.4605+15	1.5204+15	1.3479+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000-n0	8.3663+15	4.9845+15	1.3453+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000-n0	2.5286+15	1.3711+15	1.1440+11	9.0170+05	4.6345+04	8.4997+04	2.7472+19	0.0000	0.0000	0.0000
32	4.80000-n0	8.9833+13	5.9313+13	4.5219+12	3.6816+07	4.8922+06	3.4704+02	1.1217+17	0.0000	0.0000	0.0000
33	4.95000-n0	3.1654+14	1.5208+13	3.3225+11	2.7051+06	1.3903+05	2.5499+03	8.2417+19	0.0000	0.0000	0.0000
34	5.10000-n0	4.6423+14	2.3429+14	6.2863+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000-n0	1.4241+15	6.2330+14	1.7602+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000-n0	7.6728+14	3.9623+14	1.1190+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000-n0	7.4007+13	8.9951+13	4.3917+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000-n0	3.9946+14	3.2833+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000-n0	6.2166+13	5.1073+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000-n0	1.4508+14	1.1920+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.249

SOURCE 1 (P.U.), 200 DAYS, 4000 MW, U=235+PU=239

GAMMA ENERGY SPECTRA (MEV/SEC)

-----COOLING TIMES-----											
GROUP	F (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000-01	8.4394+16	5.8001+16	3.4419+16	6.5922+16	5.2009+16	1.7467+16	1.0573+16	4.1113+15	2.0837+15	1.2182+14
2	3.00000-01	4.3483+17	2.5408+17	1.2023+17	1.7090+17	1.2722+17	1.4611+16	8.5146+15	1.3943+15	1.7406+14	1.9924+12
3	4.50000-01	1.1669+18	7.3975+17	4.1911+17	3.0768+17	2.6647+17	2.1901+17	1.2862+17	2.3335+16	2.0191+15	5.9049+12
4	6.00000-01	2.4294+18	1.8611+18	1.5187+18	8.0653+17	5.3196+17	9.1392+16	3.7711+16	1.8235+16	8.3350+15	1.7779+14
5	7.50000-01	2.6482+18	2.0500+18	1.3448+18	2.6093+17	1.8415+17	9.2393+16	5.1878+16	2.1317+16	1.2672+16	1.2460+15
6	9.00000-01	6.5274+18	5.0809+18	2.6881+18	2.7473+17	1.9862+17	1.2397+17	9.7042+16	7.4653+16	5.8377+16	3.2792+15
7	1.05000+00	1.5050+18	1.1463+18	6.1223+17	9.7319+16	3.9030+16	1.1830+16	6.2041+15	1.7019+15	4.1168+14	2.0972+13
8	1.20000+00	1.9801+18	1.5510+18	9.6560+17	1.9055+17	5.9775+16	2.6768+15	6.8032+14	9.7482+13	3.4650+13	8.5491+12
9	1.35000+00	3.9014+18	2.1455+18	8.2222+17	2.7910+17	1.0683+17	5.7016+15	6.6270+14	1.9710+14	1.0254+14	2.5508+12
10	1.50000+00	1.2598+18	9.4944+17	5.7890+17	9.5625+16	3.0138+16	4.2623+15	1.2686+15	1.3024+14	9.9354+13	4.7138+13
11	1.65000+00	6.8240+17	5.1395+17	2.9972+17	1.4326+17	1.2827+17	1.1187+17	8.1503+16	2.6909+16	5.2427+15	3.2570+12
12	1.80000+00	1.1738+18	9.2653+17	7.0338+17	1.9945+17	5.6941+16	1.2436+14	1.9795+13	3.3413+12	2.5657+12	1.2767+12
13	1.95000+00	5.4287+17	4.1774+17	1.9889+17	1.3082+16	4.6323+15	7.6615+14	2.2568+14	1.8024+13	4.2362+12	2.8706+11
14	2.10000+00	2.8687+17	1.9272+17	8.6863+16	1.2266+16	4.6274+15	1.2317+15	4.1723+14	5.7755+13	1.4144+13	6.2006+11
15	2.25000+00	1.7303+17	1.2665+17	3.9259+16	1.9840+15	1.2620+15	8.3283+14	5.6388+14	4.0711+14	3.5403+14	1.7323+14
16	2.40000+00	4.4989+17	2.4516+17	3.7262+16	2.2686+15	1.8150+15	1.5048+15	1.0105+15	3.2096+14	6.4079+13	1.0679+12
17	2.55000+00	4.0832+17	2.4508+17	6.0797+16	6.5228+15	6.2881+15	5.6954+15	4.1176+15	1.3591+15	2.6530+14	5.6862+11
18	2.70000+00	3.8580+17	2.0350+17	1.2800+16	2.9194+13	1.7656+12	2.5872+11	1.2975+11	1.2102+11	1.1318+11	6.6992+10
19	2.85000+00	4.9635+16	3.0324+16	3.2892+15	2.5850+13	3.1948+12	4.9760+11	2.7399+11	2.5587+11	2.3929+11	1.4164+11
20	3.00000+00	1.4571+17	9.6980+16	6.5112+15	1.8795+14	1.4210+14	1.2931+14	9.4009+13	3.1197+13	6.1731+12	7.4648+10
21	3.15000+00	2.6288+16	1.6647+16	3.4519+15	1.1972+13	4.9710+13	4.5250+13	3.2888+13	1.0883+13	2.1187+12	1.4533+10
22	3.30000+00	1.1564+16	7.4048+15	1.9054+15	1.3594+13	2.4077+11	7.1765+09	4.8997+07	3.0932+00	5.0435+11	0.0000
23	3.45000+00	6.0777+16	3.7181+16	3.3222+15	2.1401+13	3.8366+11	7.5103+09	5.1276+07	3.2370+00	5.2780+11	0.0000
24	3.60000+00	8.1651+16	4.2432+16	1.0477+15	4.9188+12	2.1804+10	2.0240+01	6.5360+17	0.0000	0.0000	0.0000
25	3.75000+00	2.6527+16	1.4056+16	4.1608+15	2.8885+13	1.3064+11	5.0167+03	1.2620+18	0.0000	0.0000	0.0000
26	3.90000+00	1.6902+16	7.8853+15	4.7047+14	3.2687+12	1.4783+10	1.2585+04	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	2.1620+15	1.1872+15	3.1225+14	1.3585+12	6.1450+09	2.2576+02	7.2802+18	0.0000	0.0000	0.0000
28	4.20000+00	5.1037+16	2.7021+16	3.7773+13	1.6671+07	3.0296+00	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	1.4794+16	6.4995+15	5.7623+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	3.7021+16	2.2056+16	5.9528+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	1.1564+16	6.2728+15	5.2337+11	4.1253+06	2.1203+05	3.8886+03	1.2569+18	0.0000	0.0000	0.0000
32	4.80000+00	4.2446+14	2.8025+14	2.1366+13	1.7396+08	8.9608+06	1.6398+01	5.3000+17	0.0000	0.0000	0.0000
33	4.95000+00	1.5431+15	7.4141+13	1.6197+12	1.3187+07	6.7779+05	1.2431+02	4.0178+18	0.0000	0.0000	0.0000
34	5.10000+00	2.3327+15	1.1773+15	3.1589+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	7.3697+15	3.2256+15	9.1088+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	4.0058+15	2.1099+15	5.9585+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	4.0519+14	4.9248+14	2.4045+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	2.2480+15	1.8668+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	3.5901+14	2.9095+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	8.5962+14	7.0623+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.250

SOURCE 1 (P.O.), 200 DAYS, 4000 MI., U-235+PU-239

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	3.1671-03	3.0477-03	3.2570-03	2.2510-02	2.8651-02	2.4584-02	2.4535-02	2.3587-02	2.3084-02	2.3921-02
2	3.00000+01	1.9485-02	1.6399-02	1.4634-02	8.0867-02	9.5983-02	5.2185-02	4.4294-02	3.1586-02	2.5012-02	2.4312-02
3	4.50000+01	6.3776-02	5.5269-02	5.4793-02	1.8593-01	2.5380-01	3.6042-01	3.4276-01	1.6552-01	4.7380-02	2.5472-02
4	6.00000+01	1.5444-01	1.5306-01	1.9800-01	4.6134-01	5.4685-01	4.8905-01	4.3027-01	2.7014-01	1.3972-01	6.8184-01
5	7.50000+01	2.5383-01	2.6078-01	3.2526-01	5.5044-01	6.4430-01	6.1909-01	5.5065-01	3.9243-01	2.8011-01	3.0505-01
6	9.00000+01	4.9879-01	5.2775-01	5.7942-01	6.4425-01	7.5772-01	7.9357-01	7.7584-01	8.2072-01	9.2684-01	9.4899-01
7	1.05000+00	5.5527-01	5.8798-01	6.3756-01	6.7748-01	7.7922-01	8.1022-01	7.9023-01	8.3049-01	9.3140-01	9.5310-01
8	1.20000+00	6.2957-01	6.6948-01	7.2893-01	7.4255-01	8.1215-01	8.1399-01	7.9181-01	8.3105-01	9.3179-01	9.5478-01
9	1.35000+00	7.7499-01	7.8222-01	8.0673-01	8.3785-01	8.7100-01	8.2201-01	7.9335-01	8.3218-01	9.3242-01	9.5528-01
10	1.50000+00	8.2127-01	8.3213-01	8.6151-01	8.7051-01	8.8760-01	8.2801-01	7.9630-01	8.3295-01	9.3402-01	9.6454-01
11	1.65000+00	8.4887-01	8.5914-01	8.8488-01	9.1943-01	9.5624-01	9.8546-01	9.8496-01	9.8733-01	9.9210-01	9.6518-01
12	1.80000+00	8.9292-01	9.0782-01	9.5643-01	9.8753-01	9.8943-01	9.8564-01	9.8500-01	9.8735-01	9.9213-01	9.6543-01
13	1.95000+00	9.1330-01	9.2977-01	9.7525-01	9.9200-01	9.9218-01	9.8671-01	9.8553-01	9.8745-01	9.9218-01	9.6549-01
14	2.10000+00	9.2406-01	9.3990-01	9.8347-01	9.9619-01	9.9473-01	9.8845-01	9.8650-01	9.8778-01	9.9233-01	9.6561-01
15	2.25000+00	9.3056-01	9.4655-01	9.8719-01	9.9487-01	9.9543-01	9.8962-01	9.8780-01	9.9012-01	9.9626-01	9.9962-01
16	2.40000+00	9.4744-01	9.5944-01	9.9071-01	9.9744-01	9.9643-01	9.9174-01	9.9015-01	9.9196-01	9.9697-01	9.9983-01
17	2.55000+00	9.6276-01	9.7231-01	9.9647-01	9.9987-01	9.9989-01	9.9974-01	9.9970-01	9.9976-01	9.9990-01	9.9994-01
18	2.70000+00	9.7724-01	9.8301-01	9.9768-01	9.9988-01	9.9989-01	9.9975-01	9.9973-01	9.9976-01	9.9991-01	9.9996-01
19	2.85000+00	9.7910-01	9.8460-01	9.9799-01	9.9989-01	9.9989-01	9.9975-01	9.9971-01	9.9976-01	9.9991-01	9.9994-01
20	3.00000+00	9.8645-01	9.8970-01	9.9861-01	9.9995-01	9.9997-01	9.9994-01	9.9992-01	9.9994-01	9.9998-01	1.0000+00
21	3.15000+00	9.8743-01	9.9057-01	9.9893-01	9.9947-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.8787-01	9.9086-01	9.9911-01	9.9994-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.9015-01	9.9291-01	9.9943-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.9321-01	9.9514-01	9.9953-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.9421-01	9.9588-01	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.9484-01	9.9630-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.9492-01	9.9634-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.9648-01	9.9778-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9739-01	9.9812-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9878-01	9.9928-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9922-01	9.9961-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	9.9923-01	9.9962-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	9.9929-01	9.9963-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	9.9938-01	9.9969-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	9.9946-01	9.9986-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	9.9981-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	9.9982-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	9.9991-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (P.O.), 200 DAYS, 4000 MW, U-235+PU-239

Figure 3.166

SOURCE 1 (P.O.), 200 DAYS, 4000 MW, U-235+PU-239

Figure 3.167

Table 3.251

SOURCE 1 (P.O.), 200 DAYS, 4000 MW, U=235+PU-239

BETA SPECTRA (BETAS/SEC)

-----COOLING TIMES-----												
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	3.00000+01	7.2710+18	5.1445+18	3.8622+18	2.5344+18	2.0104+18	1.1177+18	7.1440+17	2.8359+17	1.5768+17	2.1139+16	
2	6.00000+01	5.2141+18	3.6341+18	2.4711+18	1.2828+18	8.7053+17	2.7641+17	1.6252+17	6.0339+16	2.5724+16	2.1317+15	
3	9.00000+01	3.3851+18	2.2979+18	1.3980+18	5.6839+17	3.5901+17	8.6117+16	5.1180+16	3.0351+16	1.8353+16	2.1240+15	
4	1.20000+00	1.8519+18	1.1836+18	5.7866+17	1.6367+17	1.0191+17	3.4225+16	2.4360+16	1.7066+16	1.1793+16	2.1399+15	
5	1.50000+00	1.0897+18	6.3069+17	2.2375+17	3.5777+16	2.0493+16	1.0415+16	8.7158+15	6.7894+15	5.3641+15	1.9324+15	
6	1.80000+00	7.8320+17	4.1193+17	1.1200+17	1.7262+16	9.2188+15	4.5315+15	3.9664+15	3.4775+15	3.1267+15	1.6251+15	
7	2.10000+00	5.9551+17	2.8466+17	5.5173+16	1.0723+16	5.3897+15	2.9652+15	2.7776+15	2.5758+15	2.3575+15	1.2170+15	
8	2.40000+00	4.5660+17	1.9877+17	2.3149+16	5.8285+15	3.0226+15	1.7374+15	1.6902+15	1.6145+15	1.4891+15	7.6397+14	
9	2.70000+00	3.5747+17	1.4734+17	1.0688+16	2.7746+15	1.3123+15	8.0439+14	7.8590+14	7.5302+14	6.9558+14	3.6008+14	
10	3.00000+00	2.7128+17	1.0888+17	5.5336+15	9.9342+14	3.1170+14	1.8492+14	1.8084+14	1.7376+14	1.6118+14	8.7190+13	
11	3.30000+00	1.9175+17	7.5621+16	2.8935+15	3.6911+14	7.4566+13	2.9387+13	2.8621+13	2.7676+13	2.5921+13	1.5408+13	
12	3.60000+00	1.2360+17	4.7532+16	1.2209+15	6.8929+13	1.2357+13	3.2907+12	3.1141+12	3.0107+12	2.8198+12	1.6762+12	
13	3.90000+00	7.3863+16	2.7742+16	5.5382+14	1.8449+12	3.5038+11	2.7131+10	1.8811+08	1.2232+01	1.9974+10	0.0000	
14	4.20000+00	4.1047+16	1.4183+16	2.8900+14	5.4430+11	4.1868+09	1.3728+08	9.5186+05	6.1894+02	1.0107+12	0.0000	
15	4.50000+00	2.1718+16	6.6266+15	1.2706+14	9.4458+10	4.5162+08	5.9123+01	1.9406+16	0.0000	0.0000	0.0000	
16	4.80000+00	1.2353+16	3.8432+15	5.0578+13	3.7406+08	1.8202+07	3.1285+01	1.0269+16	0.0000	0.0000	0.0000	
17	5.10000+00	7.5978+15	1.2301+15	1.5147+13	1.2011+08	6.0748+06	1.0480+01	3.4400+17	0.0000	0.0000	0.0000	
18	5.40000+00	5.4424+15	5.6069+14	1.1209+12	8.9010+06	4.5018+05	7.7666+03	2.5492+18	0.0000	0.0000	0.0000	
19	5.70000+00	4.0235+15	2.6086+14	2.4129+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
20	6.00000+00	2.9526+15	1.0771+14	1.0085+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
21	6.30000+00	2.0803+15	2.3781+13	1.7213+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
22	6.60000+00	1.3988+15	4.9155+12	4.4198+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
23	6.90000+00	8.3541+14	2.0747+12	4.5541+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
24	7.20000+00	3.9469+14	4.2075+11	1.1046+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
25	7.50000+00	1.1723+14	9.3795+09	1.8303+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Table 3.252

SOURCE 1 (P.O.), 200 DAYS, 4000 MW, U=235+PU=239

RETA ENRGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	1.0907+18	7.7167+17	5.7932+17	3.8016+17	3.0156+17	1.6766+17	1.0716+17	4.2530+16	2.3651+16	3.1708+15
2	6.00000+01	2.1064+18	1.6353+18	1.1120+18	5.7727+17	3.9178+17	1.2439+17	7.3134+16	2.7153+16	1.1576+16	9.5925+14
3	9.00000+01	2.5388+18	1.7234+18	1.0485+18	4.2529+17	2.6926+17	6.4587+16	3.8385+16	2.2764+16	1.3765+16	1.5930+15
4	1.20000+00	1.9445+18	1.2828+18	6.0759+17	1.7185+17	1.0700+17	3.5937+16	2.5578+16	1.7920+16	1.2383+16	2.2469+15
5	1.50000+00	1.4711+18	8.5143+17	1.0206+17	4.8299+16	2.7665+16	1.4060+16	1.1766+16	9.7656+15	7.2415+15	2.6086+15
6	1.80000+00	1.2923+18	6.7969+17	1.8480+17	2.8482+16	1.5210+16	7.4770+15	6.5446+15	5.7379+15	5.1591+15	2.6814+15
7	2.10000+00	1.1613+18	5.5509+17	1.0759+17	1.9935+16	1.0510+16	5.7783+15	5.4144+15	5.0228+15	4.5972+15	2.3731+15
8	2.40000+00	1.0274+18	4.4722+17	5.2086+16	1.3114+16	6.8009+15	3.9091+15	3.8030+15	3.6326+15	3.3506+15	1.7189+15
9	2.70000+00	9.1142+17	3.7571+17	2.7254+16	7.0751+15	3.3463+15	2.0512+15	2.0041+15	1.9202+15	1.7737+15	9.1821+14
10	3.00000+00	7.7314+17	3.1031+17	1.5771+16	2.8312+15	8.8836+14	5.2702+14	5.1541+14	4.9521+14	4.5945+14	2.4849+14
11	3.30000+00	6.8002+17	2.3821+17	9.1144+15	1.1627+15	2.3488+14	9.2569+13	9.0155+13	8.7180+13	8.1651+13	4.8537+13
12	3.60000+00	4.2642+17	1.6399+17	4.2121+15	2.3780+14	4.2632+13	1.1353+13	1.0744+13	1.0387+13	9.7282+12	5.7829+12
13	3.90000+00	2.7699+17	1.0216+17	2.0768+15	6.9185+12	1.3139+12	1.0174+11	7.0543+08	4.5870+01	7.4902+10	0.0000
14	4.20000+00	1.6624+17	5.7440+16	1.1721+15	2.2044+12	1.6956+10	5.5600+08	3.8550+06	2.5067+01	4.0932+12	0.0000
15	4.50000+00	9.4473+16	2.8826+16	5.5273+14	4.1089+11	1.9646+09	2.5719+00	8.4416+16	0.0000	0.0000	0.0000
16	4.80000+00	5.7443+16	1.4151+16	2.1519+14	1.7394+09	8.4641+07	1.4547+00	4.7749+16	0.0000	0.0000	0.0000
17	5.10000+00	3.7609+16	6.0892+15	7.4978+13	5.9456+08	3.0070+07	5.1878+01	1.7028+16	0.0000	0.0000	0.0000
18	5.40000+00	2.8573+16	2.9646+15	5.8848+12	4.6730+07	2.3634+06	4.0775+02	1.3384+17	0.0000	0.0000	0.0000
19	5.70000+00	2.2331+16	1.4700+15	1.3391+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	1.7273+16	6.3013+14	5.8530+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.2794+16	1.4625+14	1.0586+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	9.0220+15	3.1705+13	2.8508+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	5.6390+15	1.4004+13	3.0747+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	2.1896+15	2.9663+12	7.7875+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	1.1655+14	6.8940+10	1.3453+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3-422

Table 3.253

SOURCE 1 (P.O.), 200 DAYS, 4000 MW, U=235+PU=239

FRACTION BETA ENERGY BELOW GIVEN ENERGY

-----COOLING TIMES-----											
GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	6.6832-02	8.3798-02	1.4289-01	2.2673-01	2.6587-01	3.9313-01	3.9052-01	3.1176-01	2.8140-01	1.7072-01
2	6.00000+01	2.1061-01	2.6138-01	4.1715-01	5.7101-01	6.1123-01	6.8479-01	6.5703-01	5.1076-01	4.1913-01	2.2237-01
3	9.00000+01	3.6618-01	4.4853-01	6.7576-01	8.2525-01	8.4862-01	8.3623-01	7.9692-01	6.7759-01	5.8290-01	3.0814-01
4	1.20000+00	4.8533-01	5.8349-01	8.2562-01	9.2775-01	9.4296-01	9.2050-01	8.9013-01	8.0892-01	7.3024-01	4.2911-01
5	1.50000+00	5.7548-01	6.7595-01	9.0012-01	9.5655-01	9.6735-01	9.5346-01	9.3301-01	8.7610-01	8.1640-01	5.6957-01
6	1.80000+00	6.5466-01	7.4976-01	9.4570-01	9.7354-01	9.8076-01	9.7100-01	9.5686-01	9.1815-01	8.7778-01	7.1394-01
7	2.10000+00	7.2582-01	8.1003-01	9.7274-01	9.8544-01	9.9002-01	9.8454-01	9.7659-01	9.5496-01	9.3248-01	8.4171-01
8	2.40000+00	7.8878-01	8.5860-01	9.8509-01	9.9325-01	9.9602-01	9.9371-01	9.9045-01	9.8158-01	9.7254-01	9.3426-01
9	2.70000+00	8.4462-01	8.9940-01	9.9181-01	9.9747-01	9.9897-01	9.9852-01	9.9775-01	9.9566-01	9.9345-01	9.8370-01
10	3.00000+00	8.9200-01	9.3310-01	9.9570-01	9.9916-01	9.9975-01	9.9976-01	9.9963-01	9.9928-01	9.9891-01	9.9708-01
11	3.30000+00	9.2901-01	9.5896-01	9.9795-01	9.9985-01	9.9996-01	9.9997-01	9.9996-01	9.9992-01	9.9988-01	9.9969-01
12	3.60000+00	9.5514-01	9.7677-01	9.9898-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.7212-01	9.8786-01	9.9950-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.8230-01	9.9410-01	9.9979-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.8889-01	9.9723-01	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.9161-01	9.9877-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9392-01	9.9943-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9567-01	9.9975-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9704-01	9.9991-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9889-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9888-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	9.9943-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9978-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (P.O.), 200 DAYS, 4000 MW, U-235+PU-239

Figure 3.168

SOURCE 1 (P.O.), 200 DAYS, 4000 MH, U-235+PU-239

Figure 3.169

Table 3.254

SOURCE 1 (WATER), 200 DAYS, 4000 MM, U=215+PU=239

GAMMA SPECTRA (GAMMAS/SEC)

-----COOLING TIMES-----											
GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000-01	1.6919+18	1.0798+18	6.8684+17	1.5685+18	1.2105+18	3.4069+17	1.9677+17	6.0123+16	2.8008+16	1.6242+15
2	3.00000-01	3.5747+18	1.8472+18	9.0878+17	1.4333+18	1.0143+18	1.4283+17	6.6029+16	1.0899+16	1.1256+15	8.8553+12
3	4.50000-01	6.2528+18	3.5714+18	2.1424+18	1.6026+18	1.4945+18	1.1555+18	6.7563+17	1.1949+17	9.6184+15	1.5747+13
4	6.00000-01	9.3039+18	6.6258+18	5.5768+18	2.9398+18	1.9111+18	2.5899+17	7.4418+16	3.5111+16	1.5910+16	3.3866+14
5	7.50000-01	1.2396+18	5.6972+18	3.6832+18	5.5554+17	3.7872+17	2.0150+17	1.1302+17	3.7849+16	1.9249+16	1.8459+15
6	9.00000-01	1.7210+19	1.2209+19	6.3488+18	4.8923+17	3.1111+17	1.5741+17	1.1884+17	9.0916+16	7.0840+16	3.9748+15
7	1.05000+00	2.9117+18	2.0330+18	1.1621+18	1.6488+17	5.6511+16	1.2277+16	6.4266+15	1.7538+15	4.2271+14	2.1509+13
8	1.20000+00	3.7092+18	2.6592+18	1.6962+18	3.3269+17	1.0162+17	2.8594+15	6.1422+14	8.7061+13	3.0855+13	7.5992+12
9	1.35000+00	6.6699+18	3.2956+18	1.7624+18	4.3422+17	1.6493+17	7.7966+15	5.5114+14	1.5532+14	8.0512+13	2.0006+12
10	1.50000+00	3.2578+18	1.6971+18	7.3405+17	1.2312+17	3.5998+16	3.0322+15	8.9911+14	9.4648+13	6.9800+13	3.3079+13
11	1.65000+00	1.3820+18	7.2184+17	7.9383+17	1.0350+17	8.5048+16	7.1826+16	5.2135+16	1.7166+16	3.3325+15	2.0679+12
12	1.80000+00	1.4559+18	1.0463+18	8.0945+17	2.3020+17	6.5510+16	8.9847+13	1.1590+13	1.9461+12	1.3730+12	7.4013+11
13	1.95000+00	7.0740+17	5.0104+17	2.7697+17	1.2384+16	3.8570+15	4.1390+14	1.2156+14	9.6585+12	2.2618+12	1.5310+11
14	2.10000+00	3.4574+17	1.9886+17	8.3147+16	1.0874+16	3.4583+15	6.1565+14	2.0809+14	2.8656+13	6.9925+12	3.0620+11
15	2.25000+00	1.1601+17	8.0044+16	2.8742+16	1.1451+15	5.8727+14	3.8720+14	2.6184+14	1.8806+14	1.6295+14	7.9644+13
16	2.40000+00	4.6387+17	2.1339+17	2.2853+16	1.1366+15	7.8651+14	6.5448+14	4.3897+14	1.3870+14	2.7592+13	4.5930+11
17	2.55000+00	3.7940+17	2.1374+17	5.0234+16	2.6674+15	2.5430+15	2.3269+15	1.6803+15	5.5172+14	1.0731+14	2.2974+11
18	2.70000+00	3.6149+17	1.6009+17	7.8609+15	1.8001+13	8.6932+11	9.9661+10	4.9921+10	4.6320+10	4.3163+10	2.5521+10
19	2.85000+00	1.9512+17	7.6211+16	3.6974+15	9.7988+12	1.1732+12	1.8132+11	9.9720+10	9.2640+10	8.6326+10	5.1041+10
20	3.00000+00	1.5439+17	6.8211+16	2.4930+15	6.4240+13	4.8612+13	4.4704+13	3.2460+13	1.0716+13	1.0802+13	2.5521+10
21	3.15000+00	2.9617+16	2.0352+16	4.9506+15	2.3906+13	1.6202+13	1.4880+13	1.0802+13	3.5561+12	6.8978+11	4.7261+04
22	3.30000+00	2.2155+16	1.5435+16	4.0352+15	4.6792+12	9.8531+10	2.2502+09	1.5344+07	9.6366+01	1.5650+11	0.0000
23	3.45000+00	4.3000+16	2.8612+16	5.4239+15	6.4458+12	1.1389+11	2.2502+09	1.5344+07	9.6366+01	1.5650+11	0.0000
24	3.60000+00	2.5340+16	1.2838+16	3.0599+14	1.6087+12	1.8641+10	2.3084+02	7.4522+14	0.0000	0.0000	0.0000
25	3.75000+00	7.8964+15	4.2220+15	1.1323+15	7.8620+12	3.5800+10	4.2756+00	1.3802+15	0.0000	0.0000	0.0000
26	3.90000+00	4.8341+15	2.2841+15	1.2316+14	8.5431+11	3.8672+09	3.3271+05	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	5.5642+16	3.9617+16	1.0459+16	3.7144+11	2.7768+09	2.2802+01	7.3610+15	0.0000	0.0000	0.0000
28	4.20000+00	1.7041+17	6.1723+16	4.3586+16	2.4490+08	3.7680+01	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	3.7857+15	1.6304+15	1.4412+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	9.1525+15	5.4317+15	1.4489+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	2.7662+15	1.4839+15	1.6250+11	3.5873+09	1.8454+08	3.4203+00	1.1041+15	0.0000	0.0000	0.0000
32	4.80000+00	9.8275+13	6.6068+13	6.7752+12	1.4647+11	7.5388+09	1.3965+02	4.5082+14	0.0000	0.0000	0.0000
33	4.95000+00	3.4629+14	1.5259+13	4.7577+11	1.0762+10	5.5363+08	1.0261+01	3.3124+15	0.0000	0.0000	0.0000
34	5.10000+00	5.0785+14	2.5252+14	6.7147+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	1.5579+15	6.7415+14	1.8801+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	8.3938+14	4.2856+14	1.1952+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	5.4243+16	1.8487+16	7.5178+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	4.3720+14	3.3291+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	6.8808+13	5.1787+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	1.5872+14	1.2086+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.255

SOURCE 1 (WATER), 200 DAYS, 4000 MW, U=235+PU=239

GAMMA ENERGY SPECTRA (MEV/SEC)

-----COOLING TIMES-----

GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.2689+17	8.0986+16	5.1363+16	1.1764+17	9.0790+16	2.5552+16	1.4758+16	4.5092+15	2.1006+15	1.2182+14
2	3.00000+01	8.0431+17	4.1562+17	2.0448+17	3.2249+17	2.2822+17	3.2136+16	1.4857+16	2.4523+15	2.5325+14	1.9924+12
3	4.50000+01	2.3448+18	1.3393+18	8.0341+17	6.0097+17	5.6044+17	4.3330+17	2.5336+17	4.4808+16	3.6069+15	5.9049+12
4	6.00000+01	4.8845+18	3.4783+18	2.9278+18	1.5634+18	1.0033+18	1.3550+17	3.9070+16	1.8443+16	8.3526+15	1.7779+14
5	7.50000+01	5.5617+18	3.8456+18	2.4861+18	3.7499+17	2.5564+17	1.3601+17	7.6287+16	2.5548+16	1.2943+16	1.2460+15
6	9.00000+01	1.4198+19	1.0073+19	5.2378+18	4.0361+17	2.5667+17	1.2987+17	9.8045+16	7.5006+16	5.8443+16	3.2792+15
7	1.05000+00	2.8389+18	1.9821+18	1.1331+18	1.6075+17	5.5098+16	1.1971+16	6.2659+15	1.7094+15	4.1214+14	2.0972+13
8	1.20000+00	4.1728+18	2.9916+18	1.9082+18	3.7428+17	1.1432+17	3.2168+15	6.9100+14	9.7943+13	3.4644+13	8.5491+12
9	1.35000+00	4.5041+18	4.2020+18	1.6350+18	5.5363+17	2.1029+17	9.9407+15	7.0271+14	1.9804+14	1.0265+14	2.5508+12
10	1.50000+00	4.6424+18	2.4183+18	1.0460+18	1.7545+17	5.1297+16	4.3209+15	1.2812+15	1.3487+14	9.9465+13	4.7158+13
11	1.65000+00	2.1767+18	1.1684+18	4.6278+17	1.6301+17	1.3395+17	1.1313+17	8.2113+16	2.7036+16	5.2486+15	3.2570+12
12	1.80000+00	2.5113+18	1.8049+18	1.3963+18	3.9709+17	1.1304+17	1.5499+14	1.9992+13	3.3571+12	2.3684+12	1.2767+12
13	1.95000+00	1.3264+18	9.3945+17	4.2558+17	2.3219+16	7.2318+15	7.7607+14	2.2793+14	1.8110+13	4.2409+12	2.8706+11
14	2.10000+00	7.0013+17	4.0269+17	1.6837+17	2.2020+16	7.0031+15	1.2467+15	4.2138+14	5.8029+13	1.4160+13	6.2006+11
15	2.25000+00	2.5233+17	1.7410+17	6.2514+16	2.4907+15	1.2773+15	8.4216+14	5.6950+14	4.0903+14	3.5442+14	1.7323+14
16	2.40000+00	1.0785+18	4.9612+17	5.3133+16	2.6425+15	1.8286+15	1.5217+15	1.0206+15	3.2248+14	6.4151+13	1.0679+12
17	2.55000+00	9.3901+17	5.2911+17	1.2433+17	6.6027+15	6.2940+15	5.7592+15	4.1587+15	1.3655+15	2.6560+14	5.6862+11
18	2.70000+00	9.4891+17	4.7025+17	2.0635+16	4.7753+13	2.2820+12	2.6161+11	1.3104+11	1.2159+11	1.1330+11	6.6992+10
19	2.85000+00	5.4146+17	2.1148+17	1.0260+16	2.7192+13	3.2556+12	5.0316+11	2.7672+11	2.5708+11	2.3956+11	1.4164+11
20	3.00000+00	4.5160+17	1.9952+17	7.2919+15	1.8790+14	1.4219+14	1.3076+14	9.4945+13	3.1345+13	6.1800+12	7.4648+10
21	3.15000+00	9.1071+16	6.2583+16	1.5223+16	7.3511+13	4.9821+13	4.5757+13	3.3215+13	1.0935+13	2.1211+12	1.4533+05
22	3.30000+00	7.1449+16	4.9778+16	1.3013+16	1.5091+13	3.1774+11	7.2568+09	4.9485+07	3.1078+00	5.0491+11	0.0000
23	3.45000+00	1.4513+17	9.6566+16	1.8306+16	2.1755+13	3.8439+11	7.5944+09	5.1787+07	3.2523+00	5.2840+11	0.0000
24	3.60000+00	8.9324+16	4.5254+16	1.0786+15	5.6707+12	6.5711+10	8.1372+02	2.6269+13	0.0000	0.0000	0.0000
25	3.75000+00	2.9019+16	1.5516+16	4.1610+15	2.8893+13	1.3156+11	1.5713+01	5.0722+15	0.0000	0.0000	0.0000
26	3.90000+00	1.8490+16	8.7368+15	4.7110+14	3.2677+12	1.4792+10	1.2726+04	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	2.2118+17	1.5748+17	4.1574+16	1.4765+12	1.1036+10	9.0637+01	2.9260+14	0.0000	0.0000	0.0000
28	4.20000+00	7.0294+17	2.5461+17	1.7979+15	1.0102+09	1.5543+02	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	1.6184+16	6.9701+15	6.1610+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	4.0500+16	2.4033+16	6.4114+10	3.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	1.2656+16	6.7889+15	7.0345+11	1.6412+10	8.4428+08	1.5648+01	5.0515+15	0.0000	0.0000	0.0000
32	4.80000+00	4.6435+14	3.1217+14	3.0596+13	9.2066+11	3.5602+10	6.5984+02	2.1301+13	0.0000	0.0000	0.0000
33	4.95000+00	1.6881+15	7.4388+13	2.3194+12	5.2464+10	2.6989+09	5.0022+01	1.6148+14	0.0000	0.0000	0.0000
34	5.10000+00	2.5520+15	1.2689+15	3.3741+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	8.0623+15	3.4887+15	9.7295+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	4.4697+15	2.2821+15	6.3645+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	2.9698+17	1.0121+17	4.1160+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	2.4592+15	1.8726+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	3.9275+14	2.9907+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	9.4000+14	7.1609+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.256

SOURCE 1 (WATER), 200 DAYS, 4000 MW, U-235+PU-239

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

-----COOLING TIMES-----

GROUP	E(MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	2.0866-03	2.1298-03	2.5352-03	2.2430-02	2.9316-02	2.4442-02	2.4846-02	2.2306-02	2.2744-02	2.3921-02
2	3.00000+01	1.5314-02	1.3060-02	1.2624-02	8.3919-02	1.0301-01	5.5162-02	4.9858-02	3.4437-02	2.5486-02	2.4312-02
3	4.50000+01	5.3875-02	4.8281-02	5.2283-02	1.9851-01	2.8398-01	4.6966-01	1.7641-01	2.5609-01	6.4538-02	2.5472-02
4	6.00000+01	1.3420-01	1.3976-01	1.9679-01	4.9277-01	6.0796-01	5.9927-01	5.4219-01	3.4728-01	1.5497-01	6.0384-02
5	7.50000+01	2.2567-01	2.4089-01	3.1950-01	5.6424-01	6.9050-01	7.2937-01	6.7062-01	4.7366-01	2.9565-01	3.0505-01
6	9.00000+01	4.5917-01	5.0579-01	5.7803-01	6.4124-01	7.7338-01	8.5360-01	8.3568-01	8.4469-01	9.2642-01	9.4899-01
7	1.05000+00	5.0586-01	5.5792-01	6.3396-01	6.7189-01	7.9117-01	8.6505-01	8.4623-01	8.5335-01	9.3288-01	9.5310-01
8	1.20000+00	5.7448-01	6.3659-01	7.2810-01	7.4325-01	8.2800-01	8.6812-01	8.4740-01	8.5363-01	9.3326-01	9.5478-01
9	1.35000+00	7.1433-01	7.4710-01	8.0844-01	8.4441-01	8.9599-01	8.7763-01	8.4858-01	8.5461-01	9.3437-01	9.5528-01
10	1.50000+00	7.9064-01	8.1070-01	8.6047-01	8.8226-01	9.1255-01	8.8177-01	8.5074-01	8.5524-01	9.3545-01	9.6454-01
11	1.65000+00	8.2648-01	8.4142-01	8.8331-01	9.1335-01	9.5540-01	9.8998-01	9.8698-01	9.8902-01	9.9227-01	9.6518-01
12	1.80000+00	8.6774-01	8.8849-01	9.5223-01	9.8964-01	9.9230-01	9.9013-01	9.8401-01	9.8904-01	9.9230-01	9.6543-01
13	1.95000+00	8.8959-01	9.1360-01	9.7324-01	9.9349-01	9.9464-01	9.9087-01	9.8940-01	9.8913-01	9.9235-01	9.6549-01
14	2.10000+00	9.0110-01	9.2819-01	9.8155-01	9.9768-01	9.9690-01	9.9206-01	9.9011-01	9.8942-01	9.9250-01	9.6561-01
15	2.25000+00	9.0525-01	9.2877-01	9.8463-01	9.9816-01	9.9731-01	9.9287-01	9.9106-01	9.9144-01	9.9634-01	9.6962-01
16	2.40000+00	9.2299-01	9.4181-01	9.8726-01	9.9866-01	9.9790-01	9.9432-01	9.9278-01	9.9303-01	9.9703-01	9.9983-01
17	2.55000+00	9.3843-01	9.5573-01	9.9339-01	9.9902-01	9.9994-01	9.9983-01	9.9978-01	9.9979-01	9.9991-01	9.9994-01
18	2.70000+00	9.5404-01	9.6678-01	9.9441-01	9.9993-01	9.9994-01	9.9983-01	9.9978-01	9.9979-01	9.9991-01	9.9996-01
19	2.85000+00	9.6294-01	9.7234-01	9.9492-01	9.9994-01	9.9994-01	9.9983-01	9.9978-01	9.9979-01	9.9991-01	9.9994-01
20	3.00000+00	9.7037-01	9.7759-01	9.9524-01	9.9997-01	9.9998-01	9.9996-01	9.9994-01	9.9995-01	9.9998-01	1.0000+00
21	3.15000+00	9.7187-01	9.7924-01	9.9603-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.7304-01	9.8054-01	9.9667-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.7543-01	9.8308-01	9.9758-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.7690-01	9.8427-01	9.9763-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.7737-01	9.8468-01	9.9783-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.7768-01	9.8491-01	9.9786-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.7813-01	9.8505-01	9.9991-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.7868-01	9.8575-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.7914-01	9.8593-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.7981-01	9.8656-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.8002-01	9.8674-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	9.8027-01	9.8675-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	9.8050-01	9.8675-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	9.8070-01	9.8679-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	9.8092-01	9.8688-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	9.8114-01	9.8694-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	9.8136-01	9.8694-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	9.8158-01	9.8694-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	9.8180-01	9.8694-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	9.8202-01	9.8694-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (WATER), 200 DAYS, 4000 MW, U-235+PU-239

SOURCE 1 (WATER), 200 DAYS, 4000 MW, U-235+PU-239

Figure 3.171

Table 3.257

SOURCE 1 (WATER), 200 DAYS, 4000 MW, U=235+PU=239

BETA SPECTRA (BETAS/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	1.6661+19	9.2228+18	7.0327+18	4.4787+18	3.4779+18	1.8012+18	1.0843+18	3.4053+17	1.6155+17	2.1139+16
2	6.00000+01	1.2489+19	6.7785+18	4.6377+18	2.3275+18	1.5376+18	4.1606+17	2.2878+17	7.2444+16	2.6642+16	2.1317+15
3	9.00000+01	8.2848+18	4.3448+18	2.5915+18	9.9792+17	6.0552+17	1.0133+17	5.0648+16	3.0246+16	1.8350+16	2.1240+15
4	1.20000+00	0.7007+18	2.2913+18	1.0371+18	2.6705+17	1.5478+17	3.7665+16	2.4030+16	1.6997+16	1.1791+16	2.1399+15
5	1.50000+00	2.9071+18	1.2723+18	3.7890+17	4.2443+16	2.2263+16	1.0311+16	8.5864+15	6.7617+15	5.3629+15	1.9324+15
6	1.80000+00	2.1513+18	8.6175+17	1.8390+17	1.8505+16	9.3937+15	4.4765+15	3.9070+15	3.4633+15	3.1260+15	1.6251+15
7	2.10000+00	1.6327+18	6.0406+17	8.9142+16	1.0593+16	5.4418+15	2.9272+15	2.7353+15	2.5653+15	2.3570+15	1.2170+15
8	2.40000+00	1.2188+18	4.1722+17	3.6976+16	5.8662+15	3.0278+15	1.7162+15	1.6650+15	1.6079+15	1.4888+15	7.6397+14
9	2.70000+00	9.4887+17	3.1128+17	1.8789+16	2.7928+15	1.3144+15	7.9459+14	7.7421+14	7.4995+14	6.9542+14	3.6008+14
10	3.00000+00	7.5230+17	2.4227+17	1.1869+16	1.0059+15	3.1255+14	1.8267+14	1.7815+14	1.7305+14	1.6114+14	8.7190+13
11	3.30000+00	5.7198+17	1.8084+17	7.6357+15	3.7851+14	7.5067+13	2.9029+13	2.8195+13	2.7563+13	2.5915+13	1.5408+13
12	3.60000+00	4.1049+17	1.2645+17	6.4270+15	7.6105+13	1.2720+13	3.2507+12	3.0678+12	2.9984+12	2.8191+12	1.6762+12
13	3.90000+00	2.8440+17	8.4704+16	2.5065+15	7.4283+12	6.3172+11	2.6801+10	1.8531+06	1.2182+01	1.0969+10	0.0000
14	4.20000+00	1.9334+17	5.5393+16	1.3133+15	4.6748+12	2.1273+11	1.3562+08	9.3769+05	6.1641+02	1.0104+12	0.0000
15	4.50000+00	1.2997+17	3.5380+16	4.6907+14	2.7974+12	1.3696+11	2.3241+03	7.4076+13	0.0000	0.0000	0.0000
16	4.80000+00	8.9372+16	2.5085+16	8.7338+13	1.4304+12	7.2250+10	1.2298+03	4.0255+13	0.0000	0.0000	0.0000
17	5.10000+00	6.0743+16	1.4967+16	2.1928+13	4.7919+11	2.4204+10	4.1149+02	1.3486+13	0.0000	0.0000	0.0000
18	5.40000+00	3.9465+16	9.3023+15	1.6234+12	3.5511+10	1.7937+09	3.0531+01	9.9936+15	0.0000	0.0000	0.0000
19	5.70000+00	2.2406+16	4.9042+15	2.6071+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	1.0720+16	1.9735+15	1.0810+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	5.4770+15	7.7859+14	1.8598+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	3.4319+15	4.4497+14	4.7756+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	1.8210+15	2.0440+14	7.8875+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	6.8574+14	4.9487+13	1.9127+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	1.5129+14	8.2249+11	3.1694+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.253

SOURCE 1 (WATER), 200 DAYS, 4000 MW, U-235+PU-239

BETA ENERGY SPECTRA (MEV/SEC)

-----COOLING TIMES-----												
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.	
1	3.00000+01	2.4991+18	1.3834+18	1.0549+18	6.7181+17	5.2168+17	2.7018+17	1.6265+17	5.1080+16	2.4232+16	3.1708+15	
2	6.00000+01	5.6203+18	3.0503+18	2.0870+18	1.0474+18	6.9194+17	1.8723+17	1.0295+17	3.2600+16	1.1989+16	9.5927+14	
3	9.00000+01	8.2136+18	3.2586+18	1.9436+18	7.4884+17	4.5414+17	7.5998+16	3.7986+16	2.2684+16	1.3762+16	1.5930+15	
4	1.20000+00	4.9357+18	2.4059+18	1.0889+18	2.7516+17	1.6252+17	3.9548+16	2.5231+16	1.7847+16	1.2380+16	2.2469+15	
5	1.50000+00	3.9246+18	1.7176+18	5.1152+17	5.7298+16	3.0056+16	1.3948+16	1.1592+16	9.1282+15	7.2199+15	2.6088+15	
6	1.80000+00	3.5497+18	1.4219+18	3.0384+17	3.0534+16	1.5500+16	7.3862+15	6.4472+15	5.7144+15	5.1579+15	2.6814+15	
7	2.10000+00	3.1837+18	1.1779+18	1.7383+17	2.0657+16	1.0612+16	5.7080+15	5.3338+15	5.0023+15	4.5961+15	2.3731+15	
8	2.40000+00	2.7424+18	9.3874+17	8.3196+16	1.3199+16	6.8126+15	3.8615+15	3.7464+15	3.6178+15	3.3498+15	1.7189+15	
9	2.70000+00	2.4196+18	7.9377+17	4.7861+16	7.1217+15	3.3517+15	2.0262+15	1.9742+15	1.9124+15	1.7733+15	9.1821+14	
10	3.00000+00	2.1441+18	6.9046+17	3.3827+16	2.8667+16	8.9077+14	5.2060+14	5.0774+14	4.9319+14	4.5924+14	2.4849+14	
11	3.30000+00	1.8017+18	5.6964+17	2.4052+16	1.1927+15	2.3646+14	9.1442+13	8.8813+13	8.6824+13	8.1632+13	4.8537+13	
12	3.60000+00	1.4162+18	4.3626+17	1.5273+16	2.6256+14	4.3884+13	1.1215+13	1.0584+13	1.0345+13	9.7260+12	5.7829+12	
13	3.90000+00	1.0665+18	3.1764+17	9.3993+15	2.7856+13	2.3690+12	1.0050+11	6.9493+08	4.5662+01	7.4884+10	0.0000	
14	4.20000+00	7.8301+17	2.2434+17	5.3190+15	1.8933+13	8.6155+11	5.4925+08	3.7977+06	2.4965+01	4.0923+12	0.0000	
15	4.50000+00	5.6535+17	1.5390+17	2.0404+15	1.2169+13	5.9577+11	1.0110+04	3.3093+12	0.0000	0.0000	0.0000	
16	4.80000+00	4.1558+17	1.0734+17	4.0612+14	6.6515+12	3.3596+11	5.7186+03	1.8719+12	0.0000	0.0000	0.0000	
17	5.10000+00	3.0068+17	7.4088+16	1.0855+14	2.3720+12	1.1981+11	2.0393+03	6.6754+13	0.0000	0.0000	0.0000	
18	5.40000+00	2.0719+17	4.8837+16	8.5231+12	1.8643+11	9.4167+09	1.6029+02	5.2467+14	0.0000	0.0000	0.0000	
19	5.70000+00	1.2435+17	2.7218+16	1.4869+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
20	6.00000+00	6.2712+16	1.1547+16	6.3240+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
21	6.30000+00	3.3684+16	4.7883+15	1.1438+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
22	6.60000+00	2.2136+16	2.8701+15	3.0882+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
23	6.90000+00	1.2292+16	1.3797+15	5.3241+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
24	7.20000+00	4.8344+15	3.4888+14	1.3445+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
25	7.50000+00	1.1120+15	6.0453+12	2.3295+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Table 3.250

SOURCE 1 (WATER), 200 DAYS, 4000 MW, U=235+PU=239

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	5.6734+02	7.3513+02	1.4285+01	2.3359+01	2.7489+01	4.4547+01	4.5367+01	3.4013+01	2.8498+01	1.7072+01
2	6.00000+01	1.8432+01	2.3560+01	4.2545+01	5.9777+01	6.3949+01	7.5417+01	7.4083+01	5.5721+01	4.2597+01	2.2237+01
3	9.00000+01	3.2538+01	4.0876+01	6.8865+01	8.5801+01	8.7879+01	8.7947+01	8.4678+01	7.0826+01	5.8782+01	3.0814+01
4	1.20000+00	4.3743+01	5.3660+01	8.3611+01	9.5369+01	9.6443+01	9.4468+01	9.1716+01	8.2710+01	7.3342+01	4.2911+01
5	1.50000+00	5.2652+01	6.2787+01	9.8538+01	9.7361+01	9.8027+01	9.6768+01	9.4949+01	8.8788+01	8.1856+01	5.6957+01
6	1.80000+00	6.0710+01	7.0343+01	9.2647+01	9.8423+01	9.8843+01	9.7985+01	9.6747+01	9.2593+01	8.7922+01	7.1394+01
7	2.10000+00	6.7938+01	7.6602+01	9.7001+01	9.9141+01	9.9402+01	9.8926+01	9.8235+01	9.5924+01	9.3327+01	8.4171+01
8	2.40000+00	7.4163+01	8.1590+01	9.8127+01	9.9600+01	9.9761+01	9.9563+01	9.9280+01	9.8333+01	9.7267+01	9.3426+01
9	2.70000+00	7.9656+01	8.5808+01	9.8775+01	9.9847+01	9.9938+01	9.9897+01	9.9831+01	9.9607+01	9.9352+01	9.8370+01
10	3.00000+00	8.4524+01	8.9477+01	9.9233+01	9.9947+01	9.9985+01	9.9983+01	9.9972+01	9.9935+01	9.9894+01	9.9708+01
11	3.30000+00	8.8614+01	9.2504+01	9.9559+01	9.9989+01	9.9997+01	9.9998+01	9.9997+01	9.9993+01	9.9989+01	9.9969+01
12	3.60000+00	9.1829+01	9.4823+01	9.9766+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.4250+01	9.6511+01	9.9893+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.6027+01	9.7703+01	9.9945+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.7311+01	9.8520+01	9.9993+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.8254+01	9.9091+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.8937+01	9.9485+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9407+01	9.9744+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9690+01	9.9889+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9837+01	9.9950+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9908+01	9.9976+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	9.9959+01	9.9991+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9987+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	9.9997+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 1 (WATER), 200 DAYS, 4000 MW, U-235+PU-239

SOURCE 1 (WATER), 200 DAYS, 4000 MW, U-235+PU-239

Figure 3.173

Table 3.260

SOURCE 2 (AIR), 200 DAYS, 4000 MW, U=235+PU=239

GAMMA SPECTRA (GAMMAS/SEC)

-----COOLING TIMES-----													
GROUP	F (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.		
1	1.50000+01	1.5647+18	7.4022+17	5.9853+17	5.8715+17	5.1017+17	3.2636+17	1.4580+17	9.3182+15	1.9026+14	1.9156+07		
2	3.00000+01	2.6504+18	1.5465+18	7.2398+17	3.2209+17	1.7606+17	2.1998+16	8.7951+15	1.1541+15	8.1132+13	7.5186+04		
3	4.50000+01	1.2478+18	8.4149+17	3.8133+17	1.8463+17	1.7657+17	1.6407+17	9.1930+16	1.3759+16	9.5528+14	7.7700+03		
4	6.00000+01	1.9631+18	1.2007+18	6.0736+17	3.0874+17	2.1431+17	2.3655+16	5.4700+14	7.0108+13	2.0119+13	1.4024+13		
5	7.50000+01	8.6909+17	6.3902+17	3.4922+17	3.7409+16	2.5301+16	1.8320+16	9.8818+15	1.4785+15	1.0260+14	1.5554+11		
6	9.00000+01	1.6676+18	1.3542+18	7.3166+17	4.1690+16	1.7195+16	1.5880+15	1.3733+13	4.2554+11	7.7075+10	4.3155+06		
7	1.05000+00	3.5372+17	2.8473+17	1.6270+17	1.5022+16	3.9773+15	3.0041+12	4.2662+11	1.2455+11	2.2542+10	1.3287+03		
8	1.20000+00	8.6273+17	4.3974+17	1.8645+17	3.6681+16	1.1615+16	1.3163+14	9.6867+11	9.1915+04	7.8330+06	0.0000		
9	1.35000+00	7.2868+17	3.8597+17	1.4463+17	4.7897+16	1.9398+16	9.5086+14	7.3161+12	1.2581+09	8.1119+08	1.9787+07		
10	1.50000+00	2.4463+17	1.7781+17	1.8130+17	1.3099+16	3.5872+15	2.2315+12	6.9736+05	8.8198+04	7.5414+04	3.2344+04		
11	1.65000+00	3.5297+17	2.0708+17	7.3207+16	6.3534+15	1.0526+15	6.1943+12	4.9010+12	1.4308+12	2.5897+11	1.5265+04		
12	1.80000+00	4.5596+17	3.1020+17	9.7559+16	2.5533+16	7.7810+15	4.9218+12	2.86+06	2.3201+00	2.1308+00	1.8839+00		
13	1.95000+00	1.1088+17	8.7720+16	9.6021+16	7.2659+15	6.7070+14	2.0738+11	5.4435+04	3.8689+09	4.4456+22	0.0000		
14	2.10000+00	3.1937+17	2.4313+17	5.1352+16	3.1631+15	3.9682+14	1.7438+11	4.3019+04	8.2660+14	0.0000	0.0000		
15	2.25000+00	1.3775+17	1.1213+17	8.9276+16	4.6291+15	2.5745+14	2.1179+07	2.8235+05	2.2506+05	1.9244+05	8.2532+04		
16	2.40000+00	2.9016+17	2.2556+17	1.3394+17	9.3629+15	5.2305+14	4.4554+10	3.8599+10	1.1269+10	2.0396+09	1.2022+02		
17	2.55000+00	8.4606+16	3.9169+16	7.4627+15	2.4540+14	1.3530+13	1.8165+11	1.5742+11	4.5956+10	8.3180+09	4.9024+02		
18	2.70000+00	7.9244+16	6.6817+16	4.5299+16	8.1358+14	4.2157+13	9.4792+05	2.9422+10	0.0000	0.0000	0.0000		
19	2.85000+00	5.3744+16	2.0681+16	2.2469+15	8.4005+13	4.6145+12	1.0398+05	5.3816+11	0.0000	0.0000	0.0000		
20	3.00000+00	4.6825+16	2.5533+16	3.3811+13	2.8733+09	1.3298+09	3.5162+09	3.0470+09	8.8955+08	1.6101+08	9.4903+00		
21	3.15000+00	1.8031+16	1.3164+16	1.3409+15	1.0172+14	5.6905+12	1.1720+09	1.0155+09	2.9647+08	5.3660+07	3.1629+00		
22	3.30000+00	7.3052+15	5.3556+15	1.1743+15	3.4286+13	5.2181+12	1.1761+05	4.3684+11	0.0000	0.0000	0.0000		
23	3.45000+00	1.9771+16	2.2664+16	1.5279+15	2.1450+12	3.3178+09	2.9013+01	1.4371+11	0.0000	0.0000	0.0000		
24	3.60000+00	1.3320+16	1.8084+16	7.2046+14	4.8751+13	2.7270+12	6.1455+04	1.9074+11	0.0000	0.0000	0.0000		
25	3.75000+00	1.0534+16	8.9954+15	6.3769+13	9.0404+11	5.0510+10	1.1382+03	3.5327+13	0.0000	0.0000	0.0000		
26	3.90000+00	4.2777+15	4.9257+15	4.7764+12	1.2055+08	5.9334+05	6.2070+09	0.0000	0.0000	0.0000	0.0000		
27	4.05000+00	1.0484+16	7.2336+15	9.1830+13	4.8155+12	2.6936+11	6.0703+03	1.8841+12	0.0000	0.0000	0.0000		
28	4.20000+00	1.6448+15	8.9345+15	3.8280+13	2.7728+07	5.6194+00	0.0000	0.0000	0.0000	0.0000	0.0000		
29	4.35000+00	1.3909+15	2.4797+15	1.8448+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
30	4.50000+00	1.5554+15	7.4830+15	1.6042+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
31	4.65000+00	2.0938+14	1.9346+15	8.9194+12	7.2231+11	4.9404+10	9.1054+02	2.8261+13	0.0000	0.0000	0.0000		
32	4.80000+00	7.1384+14	1.7458+14	3.6401+14	2.9492+13	1.6497+12	3.7177+04	1.1539+11	0.0000	0.0000	0.0000		
33	4.95000+00	6.0000	1.8236+13	2.6746+13	2.1669+12	1.2121+11	2.7316+03	8.4784+13	0.0000	0.0000	0.0000		
34	5.10000+00	0.0000	3.0669+14	6.3460+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
35	5.25000+00	0.0000	8.1161+14	1.7769+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
36	5.40000+00	0.0000	5.1593+14	1.1296+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
37	5.55000+00	0.0000	1.2740+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
38	5.70000+00	0.0000	8.8797+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
39	5.85000+00	0.0000	1.0702+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
40	6.00000+00	0.0000	2.4976+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		

Table 3.261

SOURCE 2 (AIR), 200 DAYS, 4000 MW, U=235+Pu=239

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	COOLING TIMES									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.1735+17	5.5516+16	4.4890+16	4.4036+16	3.8263+16	2.4477+16	1.0935+16	6.9887+14	1.4269+13	1.4367+00
2	3.00000+01	5.9634+17	3.4797+17	1.6289+17	7.2471+16	3.9614+16	4.9496+15	1.9789+15	2.5968+14	1.8255+13	1.6917+00
3	4.50000+01	4.6793+17	3.1556+17	1.4300+17	5.9235+16	6.6212+16	6.1528+16	3.4474+16	5.1595+15	3.5748+14	2.9137+00
4	6.00000+01	1.0306+18	6.3037+17	3.1887+17	1.6209+17	1.1251+17	1.2524+16	2.8717+14	3.6807+13	1.0562+13	7.3627+12
5	7.50000+01	6.0014+17	4.3134+17	2.3572+17	2.5251+16	1.7078+16	1.2366+16	6.6702+15	9.9796+14	6.9255+13	1.0499+11
6	9.00000+01	1.3758+18	1.1172+18	6.0362+17	3.4394+16	1.4186+16	1.3101+15	1.1330+13	3.5107+11	6.3587+10	3.5603+00
7	1.05000+00	3.4487+17	2.7761+17	1.5863+17	1.4647+16	3.3779+15	2.9290+12	4.1595+11	1.2143+11	2.1979+10	1.2955+00
8	1.20000+00	9.7057+17	4.9471+17	2.0976+17	4.1266+16	1.3067+16	1.4808+14	1.0898+12	1.0340+05	8.8128+06	0.0000
9	1.35000+00	9.2397+17	4.9211+17	1.8440+17	6.1069+16	2.4733+16	1.2123+15	9.3211+12	1.6041+09	1.0343+09	2.5228+07
10	1.50000+00	3.4880+17	2.5339+17	2.5836+17	1.8667+16	5.1117+15	3.1799+12	9.9373+05	1.2568+05	1.0746+05	4.6090+00
11	1.65000+00	5.5594+17	3.2614+17	1.1530+17	1.0007+16	1.6578+15	4.7560+12	7.7191+12	2.2535+12	4.0788+11	2.4042+00
12	1.80000+00	7.8652+17	5.3509+17	1.6829+17	4.4045+16	1.3422+16	8.4902+12	2.1193+06	4.0022+00	3.6757+00	3.2497+00
13	1.95000+00	2.0790+17	1.6044+17	1.8004+17	1.3624+16	1.2576+15	3.8883+11	1.0266+05	7.2541+09	8.3354+22	0.0000
14	2.10000+00	6.4673+17	4.9234+17	1.0349+17	6.4052+15	8.0356+14	3.5312+11	8.7114+04	1.6739+13	0.0000	0.0000
15	2.25000+00	2.9980+17	2.4387+17	1.9418+17	1.0060+16	5.5475+14	4.6065+07	6.1412+05	4.8950+05	4.1855+05	1.7951+00
16	2.40000+00	6.7463+17	5.2443+17	7.1140+17	2.1769+16	1.2161+15	1.0359+11	8.9744+10	2.6200+10	4.7421+09	2.7951+00
17	2.55000+00	2.0940+17	9.9944+16	1.8470+16	6.0746+14	3.3486+13	4.4960+11	3.8901+11	1.1374+11	2.0587+10	1.2135+00
18	2.70000+00	2.0801+17	1.7539+17	1.1891+17	2.1356+15	1.1066+14	2.4883+06	7.7232+10	0.0000	0.0000	0.0000
19	2.85000+00	1.4915+17	5.7390+16	6.2352+15	2.3311+14	1.2805+13	2.8855+05	4.4934+10	0.0000	0.0000	0.0000
20	3.00000+00	1.3696+17	7.4683+16	4.8898+13	8.4044+09	3.8898+09	1.0285+10	8.9126+09	2.6019+09	4.7394+08	2.7759+01
21	3.15000+00	5.5445+16	4.0480+16	4.1212+15	3.1280+14	1.7498+13	3.6039+09	3.1227+09	4.1164+08	1.6501+08	4.7259+00
22	3.30000+00	2.3559+16	1.7272+16	3.7875+15	3.0085+14	1.6828+13	3.7929+05	1.4088+10	0.0000	0.0000	0.0000
23	3.45000+00	6.6726+16	7.6492+16	5.1567+15	7.2145+12	1.1198+10	9.7919+01	4.8500+11	0.0000	0.0000	0.0000
24	3.60000+00	4.6954+16	6.3742+16	2.5396+15	1.7185+14	9.6125+12	2.1663+05	6.7237+11	0.0000	0.0000	0.0000
25	3.75000+00	3.8713+16	3.3058+16	2.3435+14	3.3224+12	1.8562+11	4.1828+03	1.2988+12	0.7000	0.0000	0.0000
26	3.90000+00	1.6362+16	1.8841+16	1.8270+13	4.6109+08	2.2695+06	2.3742+08	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	4.1675+16	2.8754+16	3.6502+14	1.9142+13	1.0707+12	2.4129+04	7.4893+12	0.0000	0.0000	0.0000
28	4.20000+00	6.7848+15	3.6855+16	1.5790+14	1.1438+08	2.3180+01	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	5.9460+15	1.0601+16	6.1744+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	6.8822+15	3.3112+16	7.0987+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	9.5792+14	8.8307+15	4.0806+13	3.3046+12	1.8485+11	4.1657+03	1.2930+12	0.0000	0.0000	0.0000
32	4.80000+00	9.8932+14	8.2887+14	1.7200+11	1.3935+14	7.7947+12	1.7566+05	5.4522+11	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	8.8980+13	1.3039+14	1.0564+13	5.9090+11	1.3317+04	4.1332+12	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	1.1511+15	3.1889+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	4.1211+15	9.1953+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	2.1713+15	6.0150+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	6.0251+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	3.1849+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	6.1803+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	1.4798+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.252

SNURCF 2 (AIR), 200 DAYS, 4000 MW, U=235+PU=239

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.0705-02	7.4180-03	1.2626-02	6.7439-02	1.0815-01	2.0648-01	2.0111-01	9.7666-02	3.0338-02	1.9239-07
2	3.00000+01	6.5106-02	5.3913-02	5.8443-02	1.7843-01	2.2012-01	2.4824-01	2.3750-01	1.3396-01	6.9149-02	1.9466-07
3	4.50000+01	1.0779-01	9.6078-02	9.8665-02	2.8445-01	4.0728-01	7.6729-01	8.7149-01	8.5499-01	8.2919-01	1.9505-07
4	6.00000+01	2.0181-01	1.8031-01	1.8835-01	5.3268-01	7.2531-01	8.7294-01	8.7677-01	8.6014-01	8.5165-01	9.8594-01
5	7.50000+01	2.5656-01	2.3794-01	2.5465-01	5.7135-01	7.7358-01	9.7726-01	9.9944-01	9.9960-01	9.9884-01	1.0000+00
6	9.00000+01	3.8206-01	3.8727-01	4.2443-01	6.2403-01	8.1368-01	9.8831-01	9.9965-01	9.9965-01	9.9901-01	1.0000+00
7	1.05000+00	4.1352-01	4.2431-01	4.6905-01	6.4646-01	8.2464-01	9.8833-01	9.9966-01	9.9966-01	9.9908-01	1.0000+00
8	1.20000+00	5.0206-01	4.9042-01	5.2805-01	7.0965-01	8.6158-01	9.8958-01	9.9968-01	9.9968-01	9.9908-01	1.0000+00
9	1.35000+00	5.8635-01	5.5617-01	5.7991-01	8.0318-01	9.3148-01	9.9981-01	9.9985-01	9.9987-01	9.9908-01	1.0000+00
10	1.50000+00	6.1815-01	5.9003-01	6.5258-01	8.3177-01	9.4593-01	9.9984-01	9.9985-01	9.9987-01	9.9908-01	1.0000+00
11	1.65000+00	6.6887-01	6.3361-01	6.8501-01	8.4709-01	9.5062-01	9.9992-01	9.9999-01	9.9998-01	9.9998-01	1.0000+00
12	1.80000+00	7.4062-01	7.0511-01	7.3235-01	9.1454-01	9.8850-01	9.9999-01	9.9999-01	9.9998-01	9.9994-01	1.0000+00
13	1.95000+00	7.5958-01	7.2708-01	7.8299-01	9.3591-01	9.9211-01	9.9999-01	9.9999-01	9.9998-01	9.9994-01	1.0000+00
14	2.10000+00	8.1858-01	7.9287-01	8.1224-01	9.4522-01	9.9438-01	1.0000+00	9.9999-01	9.9998-01	9.9994-01	1.0000+00
15	2.25000+00	8.4591-01	8.2545-01	8.6685-01	9.6062-01	9.9597-01	1.0000+00	9.9999-01	9.9998-01	9.9994-01	1.0000+00
16	2.40000+00	9.0745-01	8.9553-01	9.5444-01	9.9396-01	9.9940-01	1.0000+00	9.9999-01	9.9998-01	9.9995-01	1.0000+00
17	2.55000+00	9.2655-01	9.0848-01	9.5963-01	9.9489-01	9.9950-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	2.70000+00	9.4553-01	9.3192-01	9.9308-01	9.9814-01	9.9981-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	2.85000+00	9.5912-01	9.3958-01	9.9483-01	9.9852-01	9.9985-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	3.00000+00	9.7163-01	9.4956-01	9.9486-01	9.9857-01	9.9985-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	3.15000+00	9.7669-01	9.5497-01	9.9602-01	9.9900-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.7884-01	9.5728-01	9.9709-01	9.9944-01	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.8492-01	9.6750-01	9.9854-01	9.9947-01	9.9995-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.8921-01	9.7602-01	9.9925-01	9.9973-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.9274-01	9.8044-01	9.9932-01	9.9974-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.9423-01	9.8295-01	9.9932-01	9.9974-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.9803-01	9.8640-01	9.9942-01	9.9977-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.9865-01	9.9172-01	9.9947-01	9.9977-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9919-01	9.9314-01	9.9947-01	9.9977-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9982-01	9.9756-01	9.9947-01	9.9977-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9991-01	9.9970-01	9.9948-01	9.9977-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	1.0000+00	9.9985-01	9.9996-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	1.0000+00	9.9987-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	1.0000+00	9.9907-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	1.0000+00	9.9963-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (AIR), 200 DAYS, 4000 MW, U-235+PU-239

Figure 3.174

SOURCE 2 (AIR), 200 DAYS, 4000 MW, U-235+PU-239

Figure 3.175

Table 3.263

SOURCE 2 (AIR), 200 DAYS, 4000 MW, U=235+PU=239

RETA SPECTRA (BETAS/SEC)

GROUP	E(MEV)	-----COUPLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	3.2334+18	2.6665+18	2.0023+18	1.1649+18	9.2302+17	5.0914+17	2.4785+17	2.7134+16	3.5373+15	2.3114+15
2	6.00000+01	1.5675+18	1.2186+18	7.3409+17	2.5197+17	1.3664+17	2.6177+16	1.2961+16	3.1455+15	1.2503+15	1.0346+15
3	9.00000+01	9.8226+17	6.9259+17	3.3798+17	9.1381+16	4.6930+16	2.7257+15	5.7224+13	2.2499+13	2.1808+13	1.8519+13
4	1.20000+00	7.4382+17	4.6853+17	1.6124+17	2.0216+16	9.4525+15	6.4194+14	7.7217+12	1.9770+12	1.5501+12	3.2134+10
5	1.50000+00	6.3403+17	3.6803+17	1.0117+17	3.3899+15	4.1408+14	7.7067+12	5.3373+11	3.7069+11	2.8800+11	8.3451+09
6	1.80000+00	5.5392+17	3.0614+17	8.0188+16	2.3548+15	1.3116+14	4.7239+10	1.8345+10	8.0579+09	3.5012+09	1.9874+09
7	2.10000+00	4.6210+17	2.4517+17	6.4083+16	2.0769+15	1.0431+14	9.6338+09	4.1707+09	1.9862+09	1.0416+09	7.2495+08
8	2.40000+00	3.6854+17	1.8798+17	4.9639+16	1.8632+15	8.9112+13	1.0673+09	6.7398+07	5.2736+07	5.1244+07	4.8574+07
9	2.70000+00	2.9426+17	1.4424+17	3.8522+16	1.7073+15	8.1708+13	1.7186+08	5.7785+05	5.9625+05	6.6983+05	3.3268+05
10	3.00000+00	2.3532+17	1.0843+17	3.0213+16	1.5618+15	7.5018+13	4.5730+06	9.2505+04	9.6240+04	1.0812+05	5.3698+04
11	3.30000+00	1.7826+17	7.5805+16	2.3534+16	1.3778+15	6.6433+13	1.0672+06	5.5888+09	0.0000	0.0000	0.0000
12	3.60000+00	1.2508+17	4.7460+16	1.8128+16	1.1687+15	5.6513+13	9.0139+05	1.7636+09	0.0000	0.0000	0.0000
13	3.90000+00	8.0948+16	2.5944+16	1.3910+16	9.4287+14	4.5653+13	7.2674+05	2.3867+10	0.0000	0.0000	0.0000
14	4.20000+00	4.8853+16	1.2168+16	1.0199+16	6.9978+14	3.3893+13	5.3954+05	1.7691+10	0.0000	0.0000	0.0000
15	4.50000+00	2.8568+16	5.0661+15	6.6659+15	4.5808+14	2.2187+13	3.5318+05	1.1580+10	0.0000	0.0000	0.0000
16	4.80000+00	1.7689+16	2.4171+15	3.5258+15	2.4239+14	1.1740+13	1.8689+05	6.1277+11	0.0000	0.0000	0.0000
17	5.10000+00	1.0420+16	1.1274+15	1.1812+15	8.1201+13	3.9329+12	6.2607+04	2.0528+11	0.0000	0.0000	0.0000
18	5.40000+00	5.3183+15	5.5499+14	8.7531+13	6.0175+12	2.9145+11	4.6396+03	1.5212+12	0.0000	0.0000	0.0000
19	5.70000+00	1.9459+15	2.4212+14	2.3639+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	2.9964+14	9.0198+13	9.8019+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.5864+12	1.4672+13	1.6863+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	1.8457+11	4.3301+03	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	1.0701+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	4.7796+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	1.0706+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.264

SOURCE 2 (AIR), 200 DAYS, 4000 MW, U=235+PU=239

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	4.8501+17	3.9997+17	3.0034+17	1.7473+17	1.3845+17	7.6371+16	3.7178+16	4.0702+15	5.3059+14	3.4671+14
2	6.00000+01	7.0536+17	5.4838+17	3.3034+17	1.1339+17	6.1487+16	1.1780+16	5.8324+15	1.4155+15	5.6265+14	4.6555+14
3	9.00000+01	7.3669+17	5.1944+17	2.5348+17	6.8536+16	3.5198+16	2.0443+15	4.2918+13	1.6874+13	1.6356+13	1.3890+13
4	1.20000+00	7.8101+17	4.9196+17	1.6930+17	2.1227+16	9.9251+15	6.7403+14	8.1078+12	2.0759+12	1.6276+12	3.3740+10
5	1.50000+00	8.5594+17	4.9685+17	1.3658+17	4.5764+15	5.5900+14	1.0404+13	7.2054+11	5.0044+11	3.8880+11	1.1266+10
6	1.80000+00	9.1397+17	5.0514+17	1.3231+17	3.8855+15	2.1641+14	7.7944+10	3.0269+10	1.3295+10	5.7770+09	3.2793+09
7	2.10000+00	9.0109+17	4.7809+17	1.2496+17	4.0499+15	2.0340+14	1.8786+10	8.1329+09	3.8730+09	2.0315+09	1.4137+09
8	2.40000+00	8.2922+17	4.2295+17	1.1169+17	4.1922+15	2.0050+14	2.4014+09	1.5164+08	1.1865+08	1.1530+08	1.0929+08
9	2.70000+00	7.5037+17	3.6781+17	9.8230+16	4.3536+15	2.0836+14	4.3823+08	1.4735+06	1.5204+06	1.7081+06	8.4834+05
10	3.00000+00	6.7065+17	3.0902+17	8.6106+16	4.4512+15	2.1380+14	1.3033+07	2.6364+05	2.7428+05	3.0813+05	1.5304+05
11	3.30000+00	5.6151+17	2.3879+17	7.4132+16	4.3401+15	2.0926+14	3.3617+06	1.7605+08	0.0000	0.0000	0.0000
12	3.60000+00	4.3154+17	1.6374+17	6.2541+16	4.0321+15	1.9497+14	3.1098+06	4.3596+09	0.0000	0.0000	0.0000
13	3.90000+00	3.0356+17	9.7791+16	5.2161+16	3.5358+15	1.7120+14	2.7253+06	8.9502+10	0.0000	0.0000	0.0000
14	4.20000+00	1.9785+17	4.9279+16	4.1307+16	2.8341+15	1.3727+14	2.1851+06	7.1648+10	0.0000	0.0000	0.0000
15	4.50000+00	1.2427+17	2.2037+16	2.8997+16	1.9926+15	9.6512+13	1.5364+06	5.0375+10	0.0000	0.0000	0.0000
16	4.80000+00	8.2255+16	1.1740+16	1.6395+16	1.1271+15	5.4591+13	8.6902+05	2.8494+10	0.0000	0.0000	0.0000
17	5.10000+00	5.1578+16	5.5804+15	5.8467+15	4.0195+14	1.9468+13	3.0991+05	1.0161+10	0.0000	0.0000	0.0000
18	5.40000+00	2.7921+16	2.9137+15	4.5954+14	3.1592+13	1.5301+12	2.4358+04	7.9865+12	0.0000	0.0000	0.0000
19	5.70000+00	1.0800+16	1.3438+15	1.3120+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	1.7529+15	5.2766+14	5.7341+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	9.7561+12	9.0211+13	1.0371+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	1.1915+12	2.7929+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	7.2235+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	3.3697+11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	7.8689+10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3-442

Table 3.265

SOURCE 2 (AIR), 200 DAYS, 4000 MW, U=235+PU=239

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	F (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	5.1474-02	7.7930-02	1.4830-01	4.1436-01	5.5929-01	8.4075-01	8.6336-01	7.3935-01	4.7731-01	4.1964-01
2	6.00000+01	1.2633-01	1.8478-01	3.1142-01	6.8325-01	8.0768-01	9.6997-01	9.9880-01	9.9646-01	9.8347-01	9.8313-01
3	9.00000+01	2.0452-01	2.8598-01	4.3659-01	8.4578-01	9.4986-01	9.9247-01	9.9979-01	9.9953-01	9.9818-01	9.9994-01
4	1.20000+00	2.8741-01	3.8184-01	5.2018-01	8.9612-01	9.8996-01	9.9988-01	9.9998-01	9.9991-01	9.9964-01	9.9998-01
5	1.50000+00	3.7825-01	4.7864-01	5.8762-01	9.0697-01	9.9221-01	1.0000+00	1.0000+00	1.0000+00	9.9999-01	9.9999-01
6	1.80000+00	4.7525-01	5.7706-01	6.5296-01	9.1619-01	9.9309-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
7	2.10000+00	5.7088-01	6.7021-01	7.1466-01	9.2579-01	9.9391-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
8	2.40000+00	6.5889-01	7.5262-01	7.6981-01	9.3573-01	9.9472-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	7.3853-01	8.2428-01	8.1831-01	9.4606-01	9.9556-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	8.0970-01	8.8449-01	8.6083-01	9.5661-01	9.9643-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	8.6930-01	9.3102-01	8.9744-01	9.6691-01	9.9727-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.1510-01	9.6292-01	9.2832-01	9.7647-01	9.9806-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.4731-01	9.8188-01	9.5408-01	9.8485-01	9.9875-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.6831-01	9.9148-01	9.7447-01	9.9157-01	9.9930-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.8150-01	9.9577-01	9.8879-01	9.9630-01	9.9969-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.9023-01	9.9796-01	9.9689-01	9.9897-01	9.9992-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9570-01	9.9905-01	9.9977-01	9.9993-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9867-01	9.9962-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9981-01	9.9988-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	1.0000+00	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (AIR), 200 DAYS, 4000 MW, U-235+PU-239

Figure 3.176

SOURCE 2 (AIR), 200 DAYS, 4000 MH, U-235+PU-239

Figure 3.177

Table 3.266

SOURCE 2 (P.O.), 200 DAYS, 4000 MW, U=235+PU=234

GAMMA SPECTRA (GAMMAS/SEC)

GROUP	E (MEV)	COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	7.9663+16	6.0215+16	4.5151+16	1.3778+17	1.0335+17	2.1537+16	1.1171+16	1.0401+15	4.0949+13	6.0144+04
2	3.00000+01	2.5202+17	1.4094+17	7.3556+16	1.3441+17	9.4143+16	1.1198+16	5.7117+15	9.6311+14	7.3791+13	5.9253+04
3	4.50000+01	4.8750+17	3.1317+17	2.0337+17	1.5622+17	1.4605+17	1.1566+17	6.7621+16	1.1736+16	8.8869+14	3.6211+03
4	6.00000+01	7.3257+17	6.1035+17	5.3630+17	2.8042+17	1.7949+17	1.6802+16	3.8435+14	4.3739+13	3.3123+12	3.3841+01
5	7.50000+01	6.0485+17	4.9674+17	3.3690+17	3.3773+16	2.1511+16	1.2917+16	7.2700+15	1.2611+15	9.5499+13	4.6409+09
6	9.00000+01	1.3864+18	1.1339+18	6.0274+17	3.1214+16	1.4044+16	1.1185+15	9.0333+12	6.7476+08	1.3328+08	9.4925+00
7	1.05000+00	1.9838+17	1.5997+17	1.0429+17	1.3008+16	3.2916+15	1.7356+12	5.8310+08	1.9723+08	3.9015+07	2.7780+00
8	1.20000+00	3.0771+17	2.5255+17	1.6726+17	3.2629+16	9.6926+15	9.2815+13	7.1267+11	7.8394+04	2.9995+06	0.0000
9	1.35000+00	5.4965+17	3.0930+17	1.7652+17	4.3020+16	1.6222+16	6.7047+14	5.3812+12	5.9194+05	2.2618+05	0.0000
10	1.50000+00	1.0784+17	8.8671+16	6.4869+16	1.1192+16	2.9677+15	1.5724+12	4.0316+05	2.8127+00	2.4416+00	1.2649+00
11	1.65000+00	5.0602+16	3.9544+16	2.0278+16	2.5062+15	7.1155+14	3.8719+11	8.6937+09	2.2658+09	4.4822+08	3.1914+01
12	1.80000+00	1.1876+17	9.8043+16	7.9708+16	2.2890+16	6.5014+15	3.4700+12	8.8967+05	9.8779+17	0.0000	0.0000
13	1.95000+00	4.4815+16	3.6701+16	1.9143+16	1.0742+15	2.7672+14	1.4618+11	3.7478+04	4.1612+18	0.0000	0.0000
14	2.10000+00	1.9512+16	1.3766+16	7.2537+15	9.6021+14	2.3430+14	1.2295+11	3.1524+04	3.5000+18	0.0000	0.0000
15	2.25000+00	3.2817+15	2.7189+15	1.6785+15	4.2038+13	1.1067+12	3.8656+02	7.1933+00	6.6669+00	6.2303+00	3.2278+00
16	2.40000+00	3.0165+16	1.6011+16	1.2235+15	2.2914+13	6.0189+11	5.8304+07	5.2718+07	1.7845+07	3.5301+06	2.5135+01
17	2.55000+00	2.5042+16	1.5155+16	3.0861+15	6.3506+12	1.5479+11	2.3778+08	2.1499+08	7.2776+07	1.4396+07	1.0250+00
18	2.70000+00	1.8849+16	9.6041+15	1.9725+14	3.1114+10	2.3707+06	2.2527+11	0.0000	0.0000	0.0000	0.0000
19	2.85000+00	0.0000	1.3293+13	3.2349+11	6.7869+05	1.8604+03	1.6381+11	0.0000	0.0000	0.0000	0.0000
20	3.00000+00	1.0698+16	5.4064+15	3.2885+10	2.0890+06	2.0555+06	4.6025+06	4.1615+06	1.4087+06	2.7866+05	1.9841+02
21	3.15000+00	0.0000	4.8030+12	7.5786+10	8.7397+05	6.8563+05	1.5339+06	1.3870+06	1.6949+05	9.2873+04	6.6127+03
22	3.30000+00	0.0000	2.7808+12	1.3331+10	2.4656+05	1.0697+03	9.4197+12	0.0000	0.0000	0.0000	0.0000
23	3.45000+00	0.0000	4.3807+12	6.4413+10	9.1960+05	1.5615+03	1.3925+11	0.0000	0.0000	0.0000	0.0000
24	3.60000+00	0.0000	2.1230+12	2.5962+09	8.2068+04	3.7206+02	3.2763+12	0.0000	0.0000	0.0000	0.0000
25	3.75000+00	0.0000	7.1798+11	5.0258+10	5.1102+05	2.1393+03	1.8838+11	0.0000	0.0000	0.0000	0.0000
26	3.90000+00	0.0000	6.3275+11	2.4228+09	5.1304+04	2.7259+02	2.0481+12	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	0.0000	4.6748+11	2.9438+10	4.4982+04	9.3021+01	8.1907+15	0.0000	0.0000	0.0000	0.0000
28	4.20000+00	0.0000	1.9262+11	2.9148+10	7.4465+04	4.5668+03	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	0.0000	1.0278+11	2.1946+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	0.0000	1.3431+11	2.8699+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	0.0000	2.1331+11	4.5580+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
32	4.80000+00	0.0000	3.1601+10	6.7527+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	3.1601+10	6.7527+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	3.1601+10	6.7527+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.267

SOURCE 2 (P.O.), 200 DAYS, 4000 MW, U=235+PU=239

GAMMA ENERGY SPECTRA (MEV/SFC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	5.9747+15	4.5161+15	3.7863+15	1.0334+16	7.7513+15	1.6153+15	8.3785+14	7.8007+13	3.0712+12	4.5108+03
2	3.00000+01	5.6705+16	3.1711+16	1.6550+16	3.0243+16	2.1182+16	2.5194+15	1.2851+15	2.1670+14	1.6603+13	8.8320+03
3	4.50000+01	1.8281+17	1.1744+17	7.6265+16	5.3584+16	5.4767+16	4.3374+16	2.5358+16	4.4009+15	3.3326+14	1.3580+03
4	6.00000+01	3.8457+17	3.2043+17	2.8156+17	1.4772+17	9.4230+16	8.8209+15	2.0178+14	2.2963+13	1.7340+12	1.7766+01
5	7.50000+01	4.0827+17	3.3530+17	2.2741+17	2.2797+16	1.4277+16	8.7192+15	4.9073+15	8.5122+14	6.4462+13	3.1326+00
6	9.00000+01	1.1438+18	9.3543+17	4.9726+17	2.5751+16	1.1586+16	9.2273+14	7.4525+12	5.5667+08	1.0996+08	7.8313+00
7	1.05000+00	1.9342+17	1.5597+17	1.0168+17	1.2675+16	3.2093+15	1.6922+12	5.6852+08	1.9230+08	3.8040+07	2.7085+00
8	1.20000+00	3.4614+17	2.8417+17	1.8817+17	3.6707+16	1.0904+16	1.0442+14	8.0175+11	8.8193+04	3.3744+06	0.0000
9	1.35000+00	7.0081+17	3.9436+17	1.6131+17	5.4850+16	2.0683+16	8.5485+14	6.8611+12	7.5472+05	2.8838+05	0.0000
10	1.50000+00	1.5367+17	1.2636+17	9.2438+16	1.5948+16	4.2289+15	2.2407+12	5.7450+05	3.7231+00	3.4793+00	1.8025+00
11	1.65000+00	7.9697+16	6.2282+16	3.1938+16	3.9473+15	1.1207+15	6.0982+11	1.0543+10	3.5686+09	7.0594+08	5.0264+01
12	1.80000+00	2.0486+17	1.6912+17	1.1750+17	3.9486+16	1.1215+16	5.9857+12	1.5347+06	1.7039+16	0.0000	0.0000
13	1.95000+00	8.4028+16	6.8815+16	3.5893+16	2.0142+15	5.1885+14	2.7408+11	7.0272+04	7.8022+18	0.0000	0.0000
14	2.10000+00	3.9513+16	2.7877+16	1.4689+16	1.9444+15	4.7445+14	2.4898+11	6.3836+04	7.0876+18	0.0000	0.0000
15	2.25000+00	7.1177+15	5.9136+15	3.6508+15	9.1432+13	2.4071+12	8.4076+02	1.5645+01	1.4501+01	1.3551+01	7.0204+00
16	2.40000+00	7.0134+16	3.7225+16	2.8446+15	5.3276+13	1.3994+12	1.3556+08	1.2257+08	4.1490+07	8.2074+06	5.8438+01
17	2.55000+00	6.1979+16	3.7508+16	7.6381+15	1.5718+13	3.8311+11	5.8850+08	5.1211+08	1.8012+08	3.5631+07	2.5370+00
18	2.70000+00	4.9479+16	2.5211+16	5.1779+14	8.1674+10	6.2231+06	5.9132+11	0.0000	0.0000	0.0000	0.0000
19	2.85000+00	0.0000	3.6888+13	8.9769+11	1.4834+06	5.1625+03	4.5458+11	0.0000	0.0000	0.0000	0.0000
20	3.00000+00	3.1293+16	1.5814+16	9.6190+10	6.1105+06	6.0124+06	1.3462+07	1.2172+07	4.1204+06	8.1509+05	5.8036+02
21	3.15000+00	0.0000	1.4769+13	2.3304+11	2.6875+06	2.1083+06	4.7168+06	4.2649+06	1.4437+06	2.8558+05	2.0334+02
22	3.30000+00	0.0000	8.9680+12	4.2992+10	7.9515+05	3.4494+03	3.0379+11	0.0000	0.0000	0.0000	0.0000
23	3.45000+00	0.0000	1.4785+13	2.3089+12	3.1037+06	5.3375+03	4.6997+11	0.0000	0.0000	0.0000	0.0000
24	3.60000+00	0.0000	7.4834+12	9.1515+09	2.8929+05	1.3115+03	1.1549+11	0.0000	0.0000	0.0000	0.0000
25	3.75000+00	0.0000	2.6386+12	1.8470+11	1.8750+06	7.8618+03	6.9228+11	0.0000	0.0000	0.0000	0.0000
26	3.90000+00	0.0000	2.4203+12	9.2674+09	1.9624+05	8.8966+02	7.8340+12	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	0.0000	1.8582+12	1.1702+11	1.7880+05	3.8976+02	3.2558+12	0.0000	0.0000	0.0000	0.0000
28	4.20000+00	0.0000	7.9454+11	1.2024+11	1.0092+05	1.8838+02	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	0.0000	4.3906+11	9.3820+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	0.0000	5.9430+11	1.2699+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	0.0000	9.7589+11	2.0853+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
32	4.80000+00	0.0000	1.4932+11	3.1906+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	1.5406+11	3.2919+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	1.5880+11	3.3932+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.263

SOURCE 2 (P.O.), 200 DAYS, 4000 MW, CPU=239

FRACTION GAMMA ENERGY RELIN GIVEN ENERGY

GROUP	E (MFV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.4211+03	1.4312+03	1.4006+03	2.2335+02	3.0260+02	2.4130+02	2.5697+02	1.4005+02	7.3274+03	1.4400+06
2	3.00000+01	1.4908+02	1.1881+02	1.0600+02	8.7702+02	1.1295+01	6.1766+02	6.5112+02	5.2912+02	4.6440+02	4.2593+06
3	4.50000+01	5.8391+02	4.8698+02	5.1152+02	2.1433+01	3.2676+01	7.0970+01	8.4284+01	8.4305+01	8.4205+01	4.6928+06
4	6.00000+01	1.4986+01	1.5024+01	2.0086+01	5.3253+01	6.9463+01	8.4147+01	8.4903+01	8.4717+01	8.4620+01	4.6985+06
5	7.50000+01	2.4697+01	2.5650+01	3.2178+01	5.8180+01	7.5036+01	9.7172+01	9.9954+01	1.0000+00	1.0000+00	1.0000+00
6	9.00000+01	5.1902+01	5.5295+01	5.8618+01	6.3746+01	7.9560+01	9.8551+01	9.9976+01	1.0000+00	1.0000+00	1.0000+00
7	1.05000+00	5.6502+01	6.0238+01	6.4024+01	6.6486+01	8.0812+01	9.8553+01	9.9976+01	1.0000+00	1.0000+00	1.0000+00
8	1.20000+00	6.4736+01	6.9242+01	7.4030+01	7.4420+01	8.5069+01	9.8709+01	9.9979+01	1.0000+00	1.0000+00	1.0000+00
9	1.35000+00	8.1405+01	8.1739+01	8.2607+01	8.6275+01	9.3144+01	9.9986+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	1.50000+00	8.5060+01	8.5744+01	8.7522+01	8.9722+01	9.4795+01	9.9989+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	1.65000+00	8.6956+01	8.7717+01	8.9220+01	9.0575+01	9.5232+01	9.9990+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	1.80000+00	9.1828+01	9.3077+01	9.6531+01	9.9110+01	9.9611+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	1.95000+00	9.3827+01	9.5258+01	9.8440+01	9.9545+01	9.9813+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	2.10000+00	9.4767+01	9.6141+01	9.9221+01	9.9965+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	2.25000+00	9.4936+01	9.6329+01	9.9415+01	9.9985+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	2.40000+00	9.4605+01	9.7508+01	9.9546+01	9.9997+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	2.55000+00	9.8079+01	9.8697+01	9.9972+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	2.70000+00	9.9256+01	9.9494+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	2.85000+00	9.9256+01	9.9497+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	3.00000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	3.15000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (P.O.), 200 DAYS, 4000 MW, U-235+PU-239

Figure 3.178

SOURCE 2 (P.O.), 200 DAYS, 4000 MH, U-235+PU-239

Figure 3.179

Table 3.269

SOURCE 2 (P,O.), 200 DAYS, 4000 MW, U-235+PU-239

BETA SPECTRA (BETAS/SEC)

GROUP	E(MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000-01	1.0392+18	7.5132+17	6.1275+17	3.8778+17	2.9346+17	1.3550+17	7.2589+16	1.1168+16	7.6614+14	3.9817+09
2	6.00000-01	7.7914+17	5.5808+17	4.1790+17	2.0838+17	1.3342+17	2.7798+16	1.3099+16	2.3738+15	1.8114+14	6.3180+08
3	9.00000-01	4.8630+17	3.4181+17	2.2931+17	8.5675+16	4.9293+16	3.1612+15	4.3802+13	3.4953+12	2.6722+11	5.4207+07
4	1.20000+00	2.3889+17	1.5961+17	8.6201+16	1.9607+16	1.0567+16	7.4963+14	6.0064+12	2.0273+08	4.7391+07	9.2500+06
5	1.50000+00	1.2305+17	7.4035+16	2.7390+16	1.3131+15	3.4949+14	8.4258+12	6.6804+10	4.8644+07	9.7144+06	5.9453+01
6	1.80000+00	8.4172+16	4.5310+16	1.1479+16	2.3723+14	3.2716+13	2.8830+10	1.5819+08	1.2768+07	2.5503+06	5.1524+01
7	2.10000+00	6.3798+16	3.0960+16	4.4087+15	6.6162+13	8.9898+12	3.7435+09	7.8531+06	2.7869+06	5.5669+05	3.9142+01
8	2.40000+00	4.8951+16	2.1547+16	7.8979+14	2.0766+12	1.8548+11	6.9129+07	7.1055+04	2.5309+04	5.0927+03	2.4488+01
9	2.70000+00	3.9330+16	1.6657+16	1.9176+13	2.4685+09	1.9282+05	2.3811+01	2.2819+01	2.2231+01	2.0976+01	1.0723+01
10	3.00000+00	3.0506+16	1.2825+16	1.5570+12	1.4244+06	1.3474+03	3.8407+00	3.6831+00	3.5862+00	3.3857+00	1.7309+00
11	3.30000+00	2.1431+16	8.9330+15	6.4934+11	6.4391+05	9.8748+02	7.5702+12	0.0000	0.0000	0.0000	0.0000
12	3.60000+00	1.3374+16	5.5165+15	2.4041+11	2.7285+05	6.4386+02	4.9361+12	0.0000	0.0000	0.0000	0.0000
13	3.90000+00	7.4847+15	3.0707+15	5.7232+10	9.2825+04	3.4981+02	2.6819+12	0.0000	0.0000	0.0000	0.0000
14	4.20000+00	3.7264+15	1.5508+15	9.9674+09	3.2620+04	1.4510+02	1.1124+12	0.0000	0.0000	0.0000	0.0000
15	4.50000+00	1.5164+15	6.5612+14	1.8224+08	5.6581+03	2.5168+01	1.9296+13	0.0000	0.0000	0.0000	0.0000
16	4.80000+00	5.2099+14	2.3202+14	1.6222+02	9.3509-01	4.1594+03	3.1889+17	0.0000	0.0000	0.0000	0.0000
17	5.10000+00	1.1256+14	5.0659+13	8.7884+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	5.40000+00	5.5010+13	2.4801+13	3.3176+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	5.70000+00	3.0977+13	1.3890+13	1.8682+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	1.2432+13	5.5630+12	7.4976-01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.9087+12	8.5407+11	1.1511-01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.270

SOURCE 2 (P.O.), 200 DAYS, 4000 MW, U=235+PU-239

HFTA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000-01	1.5588+17	1.1270+17	9.1913+16	5.8167+16	4.4020+16	2.0324+16	1.0888+15	1.6752+15	1.1492+14	5.9725+08
2	6.00000-01	3.5061+17	2.5114+17	1.8806+17	9.3770+16	6.0037+16	1.2509+16	5.8946+15	1.0682+15	8.1512+13	2.8431+08
3	9.00000-01	3.6472+17	2.5635+17	1.7199+17	6.8257+16	3.6969+16	2.3709+15	3.2852+13	2.6200+12	2.0041+11	4.0655+07
4	1.20000+00	2.5883+17	1.6759+17	9.0511+16	2.0588+16	1.1095+16	7.8711+14	6.3067+12	2.1287+08	4.9760+07	9.7125+06
5	1.50000+00	1.6611+17	9.9447+16	3.6977+16	1.7727+15	4.7181+14	1.1375+13	9.0185+10	6.5669+07	1.3114+07	8.0262+01
6	1.80000+00	1.3888+17	7.4761+16	1.8941+16	3.9142+14	5.3981+13	4.7570+10	2.6101+08	2.1067+07	4.2080+06	8.5015+01
7	2.10000+00	1.2441+17	6.0372+16	8.5969+15	1.2905+14	1.7530+13	7.2998+09	1.5275+07	5.4344+06	1.0855+06	7.6327+01
8	2.40000+00	1.1014+17	4.8469+16	1.7769+15	4.6769+12	4.1733+11	1.5554+08	1.5987+05	5.6944+04	1.1459+04	5.5099+01
9	2.70000+00	1.0029+17	4.2475+16	4.8899+13	6.2946+04	4.9164+05	6.0717+01	5.8187+01	5.6688+01	5.3489+01	2.7345+01
10	3.00000+00	8.6442+16	3.6553+16	4.4375+12	4.0596+06	3.8400+03	1.0946+01	1.0497+01	1.1226+01	9.6493+00	4.4329+00
11	3.30000+00	6.7508+16	2.8139+16	2.0454+12	2.0283+06	3.1106+03	2.3846+11	0.0000	0.0000	0.0000	0.0000
12	3.60000+00	4.6142+16	1.9032+16	8.2942+11	9.4133+05	2.2213+03	1.7030+11	0.0000	0.0000	0.0000	0.0000
13	3.90000+00	2.8068+16	1.1515+16	2.1462+11	3.4109+05	1.3118+03	1.0057+11	0.0000	0.0000	0.0000	0.0000
14	4.20000+00	1.5094+16	6.2808+15	4.0368+10	1.3711+05	5.8765+02	4.5053+12	0.0000	0.0000	0.0000	0.0000
15	4.50000+00	6.5963+15	2.8541+15	7.9275+08	2.4613+04	1.0948+02	8.3937+13	0.0000	0.0000	0.0000	0.0000
16	4.80000+00	2.4226+15	1.0789+15	7.5432+02	4.3482+00	1.9341+02	1.4828+16	0.0000	0.0000	0.0000	0.0000
17	5.10000+00	5.5718+14	2.5076+14	3.3603+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	5.40000+00	2.8880+14	1.3020+14	1.7417+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	5.70000+00	1.7192+14	7.7088+13	1.0368+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	7.2727+13	3.2543+13	4.3861+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	1.1738+13	5.2525+12	7.0792+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.271

SOURCE 2 (P.O.), 200 DAYS, 4000 MW, U-235+PU-239

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	7.7333-02	9.2394-02	1.5097-01	2.4330-01	2.8834-01	5.6452-01	6.4726-01	6.1004-01	5.6444-01	6.4088-01
2	6.00000+01	2.5127-01	2.9829-01	4.5986-01	6.3551-01	6.8160-01	9.1197-01	9.9767-01	9.9905-01	9.9898-01	9.4595-01
3	9.00000+01	4.3270-01	5.0846-01	7.4235-01	9.0428-01	9.2376-01	9.7782-01	9.9962-01	1.0000+00	1.0000+00	9.8958-01
4	1.20000+00	5.5664-01	6.4585-01	8.9107-01	9.9039-01	9.9604-01	9.9968-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00
5	1.50000+00	6.3905-01	7.2779-01	9.5176-01	9.9780-01	9.9951-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
6	1.80000+00	7.0795-01	7.8908-01	9.8287-01	9.9944-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
7	2.10000+00	7.6966-01	8.3858-01	9.9699-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
8	2.40000+00	8.2430-01	8.7812-01	9.9991-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	8.7405-01	9.1314-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	9.1719-01	9.4311-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	9.5068-01	9.6618-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.7357-01	9.8178-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.8749-01	9.9122-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.9498-01	9.9637-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.9825-01	9.9871-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.9945-01	9.9959-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9973-01	9.9980-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9987-01	9.9991-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9996-01	9.9997-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (P.O.), 200 DAYS, 4000 MW, U-235+PU-239

Figure 3.180

SOURCE 2 (P.O.), 200 DAYS, 4000 MW, U-235+PU-239

Figure 3.181

Table 3.272

SOURCE 2 (WATER), 200 DAYS, 4000 MW, U=235+PU=239

GAMMA SPECTRA (GAMMAS/SEC)

-----COOLING TIMES-----											
GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.8173+17	1.2223+17	9.0351+16	2.7570+17	2.0677+17	4.3087+16	2.2343+16	2.0802+15	8.1898+13	1.2021+05
2	3.00000+01	5.7539+17	2.8521+17	1.4845+17	2.0915+17	1.8838+17	2.2402+16	1.1424+16	1.9262+15	1.4758+14	7.8454+04
3	4.50000+01	1.1177+18	6.3361+17	4.0834+17	3.1264+17	2.9220+17	2.3139+17	1.3525+17	2.3472+16	1.7774+15	7.2378+03
4	6.00000+01	1.6717+18	1.2774+18	1.0731+18	5.6112+17	3.5909+17	3.3614+16	7.6873+14	8.7479+13	6.6248+12	7.2900+07
5	7.50000+01	1.4681+18	1.0295+18	6.7510+17	6.7579+16	4.2317+16	2.5842+16	1.4541+16	2.5221+15	1.9100+14	9.2754+04
6	9.00000+01	3.2678+18	2.3445+18	1.2208+18	6.2465+16	2.8097+16	2.2376+15	1.8067+13	1.3495+09	2.6657+08	6.2081+02
7	1.05000+00	4.6740+17	3.3195+17	2.1113+17	2.6011+16	6.5856+15	3.4728+12	1.1662+09	3.9446+08	7.8031+07	5.5521+00
8	1.20000+00	7.0262+17	5.0891+17	3.3484+17	6.5289+14	1.9392+16	1.8569+14	1.4254+12	1.5679+05	5.9990+06	0.0000
9	1.35000+00	1.2819+18	6.3212+17	2.5402+17	8.6081+16	3.2455+16	1.3413+15	1.0763+13	9.8969+06	6.1432+06	1.8089+05
10	1.50000+00	5.7460+17	2.9396+17	1.3003+17	2.2395+16	5.9374+15	3.1458+12	8.0657+05	5.2254+00	4.8832+00	2.5281+00
11	1.65000+00	2.3673+17	1.2242+17	4.0990+16	5.0184+15	1.4238+15	7.7460+11	1.3388+10	4.5316+09	8.9643+08	6.3784+01
12	1.80000+00	2.7572+17	1.9997+17	1.6004+17	4.5803+16	1.3007+16	6.9420+12	1.7795+06	2.7036+02	2.7138+02	2.8963+02
13	1.95000+00	1.2813+17	9.2236+16	4.3319+16	2.1555+15	5.5394+14	2.9244+11	7.4965+08	2.5256+14	0.0000	0.0000
14	2.10000+00	5.9865+16	3.4481+16	1.5304+16	1.9235+15	4.6886+14	2.4594+11	6.3051+08	5.7975+16	0.0000	0.0000
15	2.25000+00	9.4571+15	7.1322+15	3.8172+15	8.8659+13	2.4483+12	2.0978+04	1.5257+01	1.3334+01	1.2461+01	6.4511+00
16	2.40000+00	8.4124+16	3.7589+16	2.5894+15	5.5115+13	1.6815+12	1.1665+08	1.0544+08	3.5690+07	7.0601+06	5.0235+01
17	2.55000+00	6.7778+16	3.8071+16	8.2190+15	1.2955+13	3.2183+11	4.7570+08	4.3000+08	1.4555+08	2.8793+07	2.0487+00
18	2.70000+00	6.1068+16	2.6697+16	7.9416+14	1.4066+12	3.2985+10	7.2905+02	2.3604+13	0.0000	0.0000	0.0000
19	2.85000+00	3.4611+16	1.2955+16	5.0242+14	9.7153+10	4.2357+09	7.9999+01	5.5617+14	0.0000	0.0000	0.0000
20	3.00000+00	2.8210+16	1.2413+16	5.1536+13	3.4370+07	4.1125+06	9.2078+06	8.3234+06	2.8174+06	5.5733+05	3.9655+02
21	3.15000+00	1.9951+15	2.9705+15	7.6514+14	1.0136+11	5.2007+09	3.0689+06	2.7740+06	9.3897+05	1.8575+05	1.3216+02
22	3.30000+00	3.5944+15	2.6051+15	6.8836+14	9.2946+10	4.7681+09	9.0461+01	3.9261+14	0.0000	0.0000	0.0000
23	3.45000+00	4.5936+15	3.5045+15	8.8792+14	2.1322+10	2.9471+07	3.8626+02	1.9957+14	0.0000	0.0000	0.0000
24	3.60000+00	0.0000	1.7863+14	1.7770+12	4.8370+10	2.4918+09	4.7266+01	1.5303+14	0.0000	0.0000	0.0000
25	3.75000+00	0.0000	8.5095+13	1.4679+11	8.9686+08	4.6153+07	8.7538+01	2.8342+16	0.0000	0.0000	0.0000
26	3.90000+00	0.0000	4.7796+13	4.0724+10	1.0266+05	4.6534+02	4.0974+12	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	1.0852+16	7.7853+15	2.0744+15	5.9495+09	2.4613+08	4.6687+00	1.5116+15	0.0000	0.0000	0.0000
28	4.20000+00	3.0928+16	1.0933+16	8.5300+13	4.8156+07	7.3976+00	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	0.0000	2.4172+13	1.8734+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	0.0000	2.6033+13	2.0813+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	0.0000	2.4595+13	9.6214+09	7.1667+08	3.6919+07	7.0031+01	2.2674+16	0.0000	0.0000	0.0000
32	4.80000+00	0.0000	1.4578+12	3.9067+11	2.9761+10	1.5074+09	2.8593+01	9.2575+15	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	6.4457+10	2.8755+10	2.1500+09	1.1076+08	2.1009+00	6.8021+16	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	1.9920+12	4.6076+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	1.1000+13	2.4101+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	6.9929+12	1.5321+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	1.0678+16	3.6423+15	1.4935+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	1.3987+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	2.1757+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	5.0777+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.273

SOURCE 2 (WATER), 200 DAYS, 4000 MW, U=235+PU=239

GAMMA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.3629+16	9.1675+15	6.7763+15	2.0678+16	1.5508+16	3.2315+15	1.6758+15	1.5601+14	6.1424+12	9.0154+03
2	3.00000+01	1.2946+17	6.4172+16	3.3401+16	6.0560+16	4.2386+16	5.0404+15	2.5703+15	4.3340+14	3.3206+13	1.7652+04
3	4.50000+01	4.1912+17	2.3760+17	1.5313+17	1.1724+17	1.0957+17	8.6773+16	5.0718+16	8.8018+15	6.6652+14	2.7142+03
4	6.00000+01	8.7766+17	6.4439+17	5.6338+17	2.9459+17	1.8852+17	1.7647+16	4.0358+14	4.5926+13	3.4780+12	3.8273+07
5	7.50000+01	5.9099+17	6.9092+17	4.5549+17	4.5616+16	2.8564+16	1.7444+16	9.8149+15	1.7024+15	1.2892+14	6.2609+09
6	9.00000+01	2.6960+18	1.9343+18	1.0072+18	5.1533+16	2.3180+16	1.8460+15	1.4906+13	1.1134+09	2.1492+08	6.7717+02
7	1.05000+00	4.5572+17	3.2365+17	2.0585+17	2.5363+16	6.4209+15	3.3858+12	1.1371+09	3.8460+08	7.6080+07	5.4135+00
8	1.20000+00	7.9045+17	5.7253+17	3.7669+17	7.3451+16	2.1816+16	2.0890+14	1.6036+12	1.7639+05	6.7488+06	0.0000
9	1.35000+00	1.6345+18	8.0595+17	3.2387+17	1.0975+17	4.1380+16	1.7102+15	1.3723+13	1.2619+07	7.8326+06	2.3063+05
10	1.50000+00	8.1880+17	4.1889+17	1.8587+17	3.1912+16	8.4608+15	4.4827+12	1.1494+06	7.4462+00	6.9586+00	3.6026+00
11	1.65000+00	3.7286+17	1.9281+17	6.4559+16	7.9040+15	2.2424+15	1.2200+12	2.1086+10	7.1373+09	1.4119+09	1.0046+02
12	1.80000+00	4.7562+17	3.4495+17	2.7608+17	7.9010+16	2.2437+16	1.1975+13	3.0697+06	4.6637+02	4.6813+02	4.9962+02
13	1.95000+00	2.4025+17	1.7294+17	8.1224+16	4.0416+15	1.0386+15	5.4832+11	1.4056+05	4.7356+14	0.0000	0.0000
14	2.10000+00	1.2123+17	6.9823+16	3.0990+16	3.8952+15	9.4944+14	4.9810+11	1.2788+05	1.1740+05	0.0000	0.0000
15	2.25000+00	2.0569+16	1.5514+16	8.3024+15	1.9283+14	5.3249+12	4.5628+04	3.3184+01	2.9001+01	2.7102+01	1.4031+01
16	2.40000+00	1.9559+17	8.7394+16	6.0203+15	1.2814+14	3.9094+12	2.7122+08	2.4515+08	8.2979+07	1.6415+07	1.1680+00
17	2.55000+00	1.6775+17	9.4225+16	2.0342+16	3.2062+13	7.9654+11	1.1774+09	1.0643+09	3.6024+08	7.1262+07	5.0705+00
18	2.70000+00	1.6030+17	6.8505+16	2.0847+15	3.6922+12	1.0312+11	1.9138+03	6.1961+13	0.0000	0.0000	0.0000
19	2.85000+00	9.6043+16	3.5949+16	1.3942+15	2.6960+11	1.1754+10	2.2200+02	1.5489+13	0.0000	0.0000	0.0000
20	3.00000+00	8.2515+16	3.6309+16	1.5659+14	1.0053+08	1.2029+07	2.6933+07	2.4346+07	8.2408+06	1.6302+06	1.1599+01
21	3.15000+00	1.2285+16	9.1342+15	2.3528+14	3.1169+11	1.5992+10	9.4368+06	8.5301+06	2.8873+06	5.7117+05	4.0640+02
22	3.30000+00	1.1592+16	8.4014+15	2.2199+13	2.9975+11	1.5377+10	2.9174+02	1.2662+13	0.0000	0.0000	0.0000
23	3.45000+00	1.5503+16	1.1828+16	2.9967+15	7.1962+10	9.9466+07	1.3036+01	6.7355+14	0.0000	0.0000	0.0000
24	3.60000+00	0.0000	6.2966+14	8.2640+12	1.7051+11	8.7835+09	1.6661+02	5.1943+14	0.0000	0.0000	0.0000
25	3.75000+00	0.0000	3.1273+14	5.3945+11	3.2960+09	1.6961+08	3.2170+00	1.0416+15	0.0000	0.0000	0.0000
26	3.90000+00	0.0000	1.8282+14	1.7107+11	3.9266+05	1.7799+03	1.5673+11	0.0000	0.0000	0.0000	0.0000
27	4.05000+00	4.3138+16	3.0947+16	8.2456+15	2.3649+10	9.7636+08	1.8558+01	6.0085+15	0.0000	0.0000	0.0000
28	4.20000+00	1.2758+17	4.5100+16	3.5188+14	1.9864+08	3.0515+01	0.0000	0.0000	0.0000	0.0000	0.0000
29	4.35000+00	0.0000	1.0333+14	8.0110+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	4.50000+00	0.0000	4.2495+14	9.2096+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	4.65000+00	0.0000	1.1252+14	4.0181+10	3.2788+09	1.6891+08	3.2039+00	1.0373+15	0.0000	0.0000	0.0000
32	4.80000+00	0.0000	6.8880+12	1.8459+12	1.3826+11	7.1225+09	1.3510+02	4.3742+14	0.0000	0.0000	0.0000
33	4.95000+00	0.0000	3.1423+11	1.3994+11	1.0481+10	5.3394+08	1.0242+01	3.3160+15	0.0000	0.0000	0.0000
34	5.10000+00	0.0000	2.0060+13	4.3253+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	5.25000+00	0.0000	5.6926+13	1.2472+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	5.40000+00	0.0000	3.7217+13	8.1587+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37	5.55000+00	5.8462+16	1.9942+16	8.1771+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
38	5.70000+00	0.0000	7.8675+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
39	5.85000+00	0.0000	1.2565+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	6.00000+00	0.0000	3.0085+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.274

SOURCE 2 (WATER), 200 DAYS, 4000 MW, U=235+PU=239

FRACTION GAMMA ENERGY BELOW GIVEN ENERGY

-----COOLING TIMES-----

GROUP	E (MEV)	SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	1.50000+01	1.2350-03	1.3183+03	1.7743-03	2.2332-02	3.0260-02	2.4130-02	2.5697-02	1.4005-02	7.3274+03	1.4312-06
2	3.00000+01	1.2966-02	1.0546-02	1.0520-02	6.7739-02	1.1296-01	6.1766-02	6.5112-02	5.2912-02	4.6940-02	4.2333-06
3	4.50000+01	5.0942-02	4.4713-02	5.0614-02	2.1836-01	3.2677-01	7.0970-01	6.4284-01	6.4305-01	8.4205-01	4.6642-06
4	6.00000+01	1.3047-01	1.3738-01	1.9813-01	5.3252-01	6.9463-01	8.4147-01	8.4903-01	8.4717-01	8.4620-01	6.0803-03
5	7.50000+01	2.2026-01	2.3730-01	3.1744-01	5.8179-01	7.5036-01	9.7172-01	9.9954-01	1.0000+00	1.0000+00	9.9996-01
6	9.00000+01	4.6654-01	5.1545-01	5.8116-01	6.3745-01	7.9559-01	9.8551-01	9.9976-01	1.0000+00	1.0000+00	9.9996-01
7	1.05000+00	5.0583-01	5.6199-01	6.3506-01	6.6484-01	8.0812-01	9.8553-01	9.9976-01	1.0000+00	1.0000+00	9.9996-01
8	1.20000+00	5.7746-01	6.4432-01	7.3369-01	7.4417-01	8.5069-01	9.8709-01	9.9979-01	1.0000+00	1.0000+00	9.9996-01
9	1.35000+00	7.2556-01	7.6921-01	8.1850-01	8.6271-01	9.3143-01	9.9986-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	1.50000+00	7.9975-01	8.2045-01	8.6716-01	8.9717-01	9.4794-01	9.9989-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	1.65000+00	8.3353-01	8.4817-01	8.8407-01	9.0571-01	9.5232-01	9.9990-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	1.80000+00	8.7663-01	8.9777-01	9.5635-01	9.9104-01	9.9910-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	1.95000+00	8.9840-01	9.2264-01	9.7762-01	9.9541-01	9.9813-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	2.10000+00	9.0938-01	9.3268-01	9.8574-01	9.9961-01	9.9998-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	2.25000+00	9.1124-01	9.3091-01	9.8791-01	9.9982-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	2.40000+00	9.2897-01	9.4788-01	9.9949-01	9.9996-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	2.55000+00	9.4417-01	9.6103-01	9.9841-01	9.9999-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	2.70000+00	9.5869-01	9.7088-01	9.9536-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	2.85000+00	9.6739-01	9.7605-01	9.9572-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	3.00000+00	9.7487-01	9.8127-01	9.9576-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	3.15000+00	9.7598-01	9.8259-01	9.9638-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	3.30000+00	9.7703-01	9.8379-01	9.9696-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	3.45000+00	9.7844-01	9.8550-01	9.9775-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	3.60000+00	9.7844-01	9.8550-01	9.9775-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	3.75000+00	9.7844-01	9.8550-01	9.9775-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
26	3.90000+00	9.7844-01	9.8550-01	9.9775-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
27	4.05000+00	9.8235-01	9.9011-01	9.9991-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
28	4.20000+00	9.9391-01	9.9659-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
29	4.35000+00	9.9391-01	9.9661-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
30	4.50000+00	9.9391-01	9.9661-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
31	4.65000+00	9.9391-01	9.9661-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
32	4.80000+00	9.9391-01	9.9661-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
33	4.95000+00	9.9391-01	9.9661-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
34	5.10000+00	9.9391-01	9.9661-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
35	5.25000+00	9.9391-01	9.9661-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
36	5.40000+00	9.9391-01	9.9661-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
37	5.55000+00	9.9391-01	9.9661-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
38	5.70000+00	9.9391-01	9.9661-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
39	5.85000+00	9.9391-01	9.9661-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
40	6.00000+00	9.9391-01	9.9661-01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

SOURCE 2 (WATER), 200 DAYS, 4000 MW, U-235+PU-239

SOURCE 2 (WATER), 200 DAYS, 4000 MW, U-235+PU-239

(0 01) SPECT. CUMUL. SPECT

Figure 3.183

Table 3.275

SOURCE 2 (WATER), 200 DAYS, 4000 MW, U=235+PLU=239

BETA SPECTRA (BETAS/SEC)

GROUP	F(MFV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	2.9552+18	1.5727+18	1.2473+18	7.7674+17	5.8700+17	2.7100+17	1.4518+17	2.2316+16	1.5323+15	1.9502+10
2	6.00000+01	2.2767+18	1.1905+18	8.5186+17	4.1740+17	2.6687+17	5.5599+16	2.6199+16	4.7477+15	3.6231+14	6.6185+09
3	9.00000+01	1.4874+18	7.5306+17	4.6827+17	1.7160+17	9.8596+16	6.3227+15	8.7650+13	7.0222+12	5.5867+11	7.2659+08
4	1.20000+00	8.1097+17	3.8165+17	1.7787+17	3.9271+16	2.1135+16	1.4943+15	1.2037+13	1.9735+10	1.3282+10	3.3200+08
5	1.50000+00	4.8207+17	2.0225+17	5.8331+16	2.6327+15	6.9919+14	1.6857+13	1.3814+11	3.6608+09	2.4616+09	9.0726+07
6	1.80000+00	3.5331+17	1.3505+17	2.5784+16	4.7805+14	6.5569+13	5.7707+10	3.3818+08	4.9470+07	2.9246+07	2.6534+07
7	2.10000+00	2.6773+17	9.4648+16	1.1149+16	1.3531+14	1.8104+13	7.5109+09	2.3453+07	1.4166+07	9.8214+06	9.6725+05
8	2.40000+00	1.9856+17	6.5113+16	3.5196+15	6.6810+12	4.8256+11	1.4662+08	6.5671+05	6.1824+05	5.8549+05	6.3907+05
9	2.70000+00	1.5575+17	4.9362+16	1.6156+15	2.2552+12	1.0130+11	1.2623+06	8.0749+01	4.4461+01	4.1953+01	2.2605+01
10	3.00000+00	1.2569+17	3.9406+16	1.2594+15	1.9902+12	9.2694+10	7.2468+03	7.6763+00	7.1765+00	6.7716+00	3.6487+00
11	3.30000+00	9.6903+16	2.9865+16	9.4402+14	1.6980+12	8.1995+10	1.3742+03	1.1802+11	0.0000	0.0000	0.0000
12	3.60000+00	7.0473+16	2.1184+16	6.4028+14	1.4035+12	6.9693+10	1.1545+03	2.4701+12	0.0000	0.0000	0.0000
13	3.90000+00	4.9396+16	1.4452+16	3.9029+14	1.1182+12	5.6280+10	9.2938+02	2.9934+13	0.0000	0.0000	0.0000
14	4.20000+00	3.4086+16	9.6942+15	2.0444+14	8.2763+11	4.1780+10	6.8999+02	2.2162+13	0.0000	0.0000	0.0000
15	4.50000+00	2.3079+16	6.3261+15	6.8282+13	5.4173+11	2.7349+10	4.5166+02	1.4507+13	0.0000	0.0000	0.0000
16	4.80000+00	1.5823+16	4.1779+15	7.2565+12	2.8664+11	1.4472+10	2.3900+02	7.6763+14	0.0000	0.0000	0.0000
17	5.10000+00	1.0630+16	2.7523+15	1.3256+12	9.6025+10	4.8480+09	8.0064+01	2.5716+14	0.0000	0.0000	0.0000
18	5.40000+00	6.7505+15	1.7427+15	9.8241+10	7.1160+09	3.5926+08	5.9332+00	1.9057+15	0.0000	0.0000	0.0000
19	5.70000+00	3.5904+15	9.2599+14	3.3529+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	1.4484+15	3.7247+14	1.3903+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	5.8584+14	1.4920+14	2.3918+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	3.4076+14	8.6465+13	6.1417+01	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	1.5667+14	3.9755+13	1.5721+04	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	3.7994+13	9.6406+12	3.8123+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	6.2955+11	1.5977+11	6.3170+09	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3.276

SOURCE 2 (WATER), 200 DAYS, 4000 MW, U=235+PU=239

BETA ENERGY SPECTRA (MEV/SEC)

GROUP	E (MEV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	4.4328+17	2.3591+17	1.8709+17	1.1651+17	8.8050+16	4.0650+16	2.1777+16	3.3503+15	2.2985+14	2.9253+09
2	6.00000+01	1.0245+18	5.3574+17	3.8334+17	1.8783+17	1.2009+17	2.5019+16	1.1789+16	2.1365+15	1.6304+14	2.9873+09
3	9.00000+01	1.1156+18	5.6479+17	3.5121+17	1.2870+17	7.3947+16	4.7420+15	6.5738+13	5.2666+12	4.1900+11	5.4494+08
4	1.20000+00	8.5151+17	4.0073+17	1.8676+17	4.1234+16	2.2192+16	1.5743+15	1.2639+13	2.0721+10	1.3947+10	3.4860+08
5	1.50000+00	6.5080+17	2.7304+17	7.8747+16	3.5542+15	9.8391+14	2.2757+13	1.8648+11	4.9421+09	3.3231+09	1.2248+08
6	1.80000+00	5.8297+17	2.2283+17	4.2544+16	7.8877+14	1.0819+14	9.5216+10	5.5800+08	8.1625+07	4.8256+07	4.3782+07
7	2.10000+00	5.2207+17	1.8456+17	2.1741+16	2.6386+14	3.5302+13	1.4646+10	4.5733+07	2.7623+07	1.9152+07	1.8861+07
8	2.40000+00	4.4676+17	1.4650+17	7.9192+15	1.5032+13	1.0858+12	3.2990+08	1.4776+06	1.3910+06	1.3173+06	1.4379+06
9	2.70000+00	3.9717+17	1.2587+17	4.1197+15	5.7508+12	2.5831+11	3.2188+06	2.0591+02	1.1338+02	1.0698+02	5.7643+01
10	3.00000+00	3.5822+17	1.1231+17	3.5892+15	5.6720+12	2.6418+11	2.0653+04	2.1878+01	2.0453+01	1.9299+01	1.0399+01
11	3.30000+00	3.0525+17	9.4076+16	2.9765+15	5.3487+12	2.5828+11	4.3286+03	3.7175+11	0.0000	0.0000	0.0000
12	3.60000+00	2.4296+17	7.3085+16	2.2090+15	4.8420+12	2.4044+11	3.9829+03	8.5217+12	0.0000	0.0000	0.0000
13	3.90000+00	1.8524+17	5.4194+16	1.4636+15	4.1932+12	2.1105+11	3.4852+03	1.1225+12	0.0000	0.0000	0.0000
14	4.20000+00	1.3805+17	3.9261+16	8.2881+14	3.3519+12	1.6921+11	2.7944+03	8.9755+13	0.0000	0.0000	0.0000
15	4.50000+00	1.0039+17	2.7518+16	2.9703+14	2.3565+12	1.1897+11	1.9647+03	6.3105+13	0.0000	0.0000	0.0000
16	4.80000+00	7.3578+16	1.9427+16	1.3743+13	1.3329+12	6.7293+10	1.1113+03	3.5695+13	0.0000	0.0000	0.0000
17	5.10000+00	5.2619+16	1.3624+16	6.5617+12	4.7532+11	2.3998+10	3.9632+02	1.2729+13	0.0000	0.0000	0.0000
18	5.40000+00	3.5440+16	9.1493+15	5.1576+11	3.7359+10	1.8861+09	3.1149+01	1.0005+14	0.0000	0.0000	0.0000
19	5.70000+00	1.9927+16	5.1193+15	1.8608+07	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	6.00000+00	8.4731+15	2.1789+15	8.1331+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	6.30000+00	3.6029+15	9.1758+14	1.4710+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	6.60000+00	2.1979+15	5.5770+14	3.9614+02	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	6.90000+00	1.0576+15	2.6835+14	1.0612+05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	7.20000+00	2.6785+14	6.7966+13	2.6877+06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	7.50000+00	4.6272+12	1.1743+12	4.6430+08	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3-462

Table 3.277

SOURCE 2 (WATER), 200 DAYS, 4000 MW, U-235+PU-239

FRACTION BETA ENERGY BELOW GIVEN ENERGY

GROUP	F(MFV)	-----COOLING TIMES-----									
		SHUTDOWN	60.0 SEC.	60.0 MIN.	12.0 HR.	1.0 DAYS	4.0 DAYS	10.0 DAYS	30.0 DAYS	60.0 DAYS	1.0 YRS.
1	3.00000+01	5.8620+02	7.5088+02	1.4675+01	2.4327+01	2.8834+01	5.6457+01	6.4726+01	6.1003+01	5.8437+01	4.1834+01
2	6.00000+01	1.9410+01	2.4561+01	4.4744+01	6.3546+01	6.8160+01	9.1197+01	9.9766+01	9.9904+01	9.9889+01	8.4554+01
3	9.00000+01	3.4163+01	4.2538+01	7.2292+01	9.0418+01	9.2376+01	9.7782+01	9.9962+01	1.0000+00	9.9996+01	9.2347+01
4	1.20000+00	4.5423+01	5.5293+01	8.6942+01	9.9028+01	9.9643+01	9.9968+01	9.9999+01	1.0000+00	9.9999+01	9.7332+01
5	1.50000+00	5.4030+01	6.3984+01	9.3119+01	9.9770+01	9.9952+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	9.9084+01
6	1.80000+00	6.1739+01	7.1076+01	9.6456+01	9.9935+01	9.9988+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	9.9710+01
7	2.10000+00	6.8643+01	7.6951+01	9.8161+01	9.9940+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	9.9979+01
8	2.40000+00	7.4551+01	8.1614+01	9.8782+01	9.9993+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
9	2.70000+00	7.9803+01	8.5620+01	9.9105+01	9.9994+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
10	3.00000+00	8.4540+01	8.9195+01	9.9387+01	9.9995+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
11	3.30000+00	8.8577+01	9.2189+01	9.9620+01	9.9997+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
12	3.60000+00	9.1790+01	9.4516+01	9.9794+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
13	3.90000+00	9.4239+01	9.6241+01	9.9908+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
14	4.20000+00	9.6065+01	9.7490+01	9.9974+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
15	4.50000+00	9.7393+01	9.8366+01	9.9997+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
16	4.80000+00	9.8366+01	9.8985+01	9.9999+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
17	5.10000+00	9.9061+01	9.9418+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
18	5.40000+00	9.9530+01	9.9709+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
19	5.70000+00	9.9794+01	9.9873+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
20	6.00000+00	9.9906+01	9.9942+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
21	6.30000+00	9.9953+01	9.9972+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
22	6.60000+00	9.9982+01	9.9989+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
23	6.90000+00	9.9996+01	9.9998+01	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
24	7.20000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00
25	7.50000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00	1.0000+00

3-463

SOURCE 2 (WATER), 200 DAYS, 4000 MW, U-235+PU-239

SOURCE 2 (WATER), 200 DAYS, 4000 MW, U-235+PU-239

Figure 3.185

Table 3.278. AVERAGE PARTICLE ENERGY (MeV) (POWER = 1 WATT, PURE U-235)

	Equilib.	5000 d	500 d	200 d	Equilib.	5000 d	500 d	200 d
	Source 1 (Air) - γ				Source 1 (Air) - β			
0	0.7095	0.7096	0.7096	0.7096	1.0066	1.0080	1.0098	1.0100
1 min.	0.7556	0.7556	0.7556	0.7556	0.7866	0.7879	0.7895	0.7897
1 hr.	0.6361	0.6361	0.6361	0.6361	0.5609	0.5622	0.5638	0.5639
12 hr.	0.2864	0.2864	0.2864	0.2864	0.2652	0.2654	0.2656	0.2657
1 day	0.2248	0.2247	0.2247	0.2247	0.2102	0.2098	0.2092	0.2092
4 days	0.1638	0.1638	0.1637	0.1637	0.1656	0.1538	0.1615	0.1612
10 days	0.1640	0.1639	0.1637	0.1637	0.1678	0.1643	0.1595	0.1590
30 days	0.2297	0.2284	0.2268	0.2267	0.2158	0.2014	0.1746	0.1700
60 days	0.3567	0.3428	0.3224	0.3201	0.2441	0.2432	0.2325	0.2217
1 year	0.5252	0.5253	0.5269	0.5296	0.2456	0.2456	0.2456	0.2456
	Source 1 (Plate Out) γ				Source 1 (Plate Out) β			
0	0.8320	0.8323	0.8325	0.8327	0.7492	0.7528	0.7550	0.7570
1 min.	0.8263	0.8266	0.8269	0.8271	0.6475	0.6501	0.6517	0.6530
1 hr.	0.7776	0.7780	0.7783	0.7785	0.4657	0.4663	0.4660	0.4659
12 hrs.	0.5367	0.5357	0.5354	0.5343	0.3719	0.3698	0.3670	0.3648
1 day	0.4781	0.4756	0.4748	0.4727	0.3493	0.3456	0.3409	0.3373
4 days	0.5012	0.4954	0.4937	0.4887	0.3131	0.3025	0.2901	0.2796
10 days	0.5282	0.5201	0.5179	0.5110	0.3307	0.3174	0.3002	0.2849
30 days	0.6069	0.5974	0.5966	0.5881	0.3934	0.3829	0.3613	0.3375
60 days	0.6466	0.6393	0.6425	0.6370	0.4249	0.4210	0.4012	0.3712
1 year	0.6551	0.6222	0.5985	0.6398	0.4631	0.4922	0.5568	0.5473
	Source 1 (Water) γ				Source 1 (Water) β			
0	0.8917	0.8914	0.8915	0.8917	0.8307	0.8330	0.8345	0.8357
1 min.	0.8658	0.8660	0.8661	0.8662	0.7063	0.7081	0.7092	0.7101
1 hr.	0.7876	0.7878	0.7880	0.7881	0.4628	0.4631	0.4630	0.4629
12 hrs.	0.5267	0.5260	0.5258	0.5252	0.3592	0.3578	0.3559	0.3546
1 day	0.4568	0.4552	0.4547	0.4534	0.3357	0.3331	0.3301	0.3278
4 days	0.4552	0.4505	0.4490	0.4452	0.2825	0.2736	0.2642	0.2566
10 days	0.4728	0.4654	0.4630	0.4570	0.2964	0.2836	0.2691	0.2568
30 days	0.5705	0.5585	0.5558	0.5460	0.3772	0.3641	0.3415	0.3181
60 days	0.6408	0.6322	0.6345	0.6281	0.4230	0.4185	0.3982	0.3680
1 year	0.6551	0.6222	0.5985	0.6398	0.4631	0.4922	0.5568	0.5473

Table 3.278 (CONTINUED)

	Equilib.	5000 d	500 d	200 d	Equilib.	5000 d	500 d	200 d
Source 2 (Air) γ					Source 2 (Air) β			
0	0.7192	0.7192	0.7192	0.7192	0.9435	0.9468	0.9510	0.9514
1 min.	0.7550	0.7550	0.7550	0.7550	0.7408	0.7438	0.7474	0.7478
1 hr.	0.6502	0.6502	0.6502	0.6502	0.5246	0.5273	0.5306	0.5310
12 hrs.	0.3369	0.3369	0.3369	0.3369	0.2785	0.2792	0.2801	0.2802
1 day	0.2766	0.2766	0.2765	0.2765	0.2296	0.2291	0.2285	0.2284
4 days	0.2109	0.2107	0.2105	0.2105	0.1781	0.1743	0.1691	0.1686
10 days	0.2099	0.2095	0.2091	0.2091	0.1829	0.1762	0.1660	0.1648
30 days	0.2803	0.2782	0.2755	0.2753	0.2283	0.2205	0.1895	0.1816
60 days	0.3951	0.3784	0.3513	0.3481	0.2449	0.2444	0.2387	0.2317
1 year	0.5251	0.5251	0.5257	0.5266	0.2455	0.2456	0.2456	0.2456
Source 2 (Plate Out) γ					Source 2 (Plate Out) β			
0	0.8397	0.8397	0.8397	0.8397	0.6820	0.6820	0.6820	0.6820
1 min.	0.8331	0.8331	0.8331	0.8331	0.6049	0.6049	0.6049	0.6049
1 hr.	0.7870	0.7870	0.7870	0.7870	0.4389	0.4389	0.4389	0.4389
12 hrs.	0.5141	0.5141	0.5141	0.5141	0.3411	0.3411	0.3411	0.3411
1 day	0.4286	0.4286	0.4286	0.4286	0.3146	0.3146	0.3146	0.3146
4 days	0.3716	0.3716	0.3716	0.3716	0.2155	0.2155	0.2155	0.2155
10 days	0.3528	0.3528	0.3528	0.3528	0.1959	0.1959	0.1959	0.1959
30 days	0.3698	0.3698	0.3698	0.3698	0.2025	0.2025	0.2025	0.2025
60 days	0.3801	0.3801	0.3801	0.3801	0.2075	0.2075	0.2075	0.2075
1 year	0.6750	0.6750	0.6750	0.6750	0.1993	0.1993	0.1993	0.1993
Source 2 (Water) γ					Source 2 (Water) β			
0	0.9007	0.9007	0.9007	0.9007	0.8165	0.8165	0.8165	0.8165
1 min.	0.8727	0.8727	0.8727	0.8727	0.6974	0.6974	0.6974	0.6974
1 hr.	0.7930	0.7930	0.7930	0.7930	0.4492	0.4492	0.4492	0.4492
12 hrs.	0.5141	0.5141	0.5141	0.5141	0.3411	0.3411	0.3411	0.3411
1 day	0.4286	0.4286	0.4286	0.4286	0.3146	0.3146	0.3146	0.3146
4 days	0.3716	0.3716	0.3716	0.3716	0.2155	0.2155	0.2155	0.2155
10 days	0.3528	0.3528	0.3528	0.3528	0.1959	0.1959	0.1959	0.1959
30 days	0.3698	0.3698	0.3698	0.3698	0.2025	0.2025	0.2025	0.2025
60 days	0.3801	0.3801	0.3801	0.3801	0.2075	0.2075	0.2075	0.2075
1 year	0.6738	0.6738	0.6738	0.6738	0.2576	0.2576	0.2576	0.2576

Table 3.278 (CONTINUED)

	Equilib.	5000 d	500 d	200 d	Equilib.	5000 d	500 d	200 d
Source 3 (100% Halogens) γ					Source 3 (100% Halogens) β			
0	0.9007	0.9007	0.9007	0.9007	0.8165	0.8165	0.8165	0.8165
1 min.	0.8727	0.8727	0.8727	0.8727	0.6974	0.6974	0.6974	0.6974
1 hr.	0.7930	0.7930	0.7930	0.7930	0.4492	0.4492	0.4492	0.4492
12 hr.	0.5141	0.5141	0.5141	0.5141	0.3411	0.3411	0.3411	0.3411
1 day	0.4286	0.4286	0.4286	0.4286	0.3146	0.3146	0.3146	0.3146
4 days	0.3716	0.3716	0.3716	0.3716	0.2154	0.2154	0.2154	0.2154
10 days	0.3528	0.3528	0.3528	0.3528	0.1959	0.1959	0.1959	0.1959
30 days	0.3698	0.3698	0.3698	0.3698	0.2025	0.2025	0.2025	0.2025
60 days	0.3801	0.3801	0.3801	0.3801	0.2075	0.2075	0.2075	0.2075
1 year	0.6738	0.6738	0.6738	0.6738	0.2576	0.2576	0.2576	0.2576
Source 4 (100% Iodines) γ					Source 4 (100% Iodines) β			
0	0.8397	0.8397	0.8397	0.8397	0.6820	0.6820	0.6820	0.6820
1 min.	0.8331	0.8331	0.8331	0.8331	0.6049	0.6049	0.6049	0.6049
1 hr.	0.7870	0.7870	0.7870	0.7870	0.4389	0.4389	0.4389	0.4389
12 hr.	0.5141	0.5141	0.5141	0.5141	0.3411	0.3411	0.3411	0.3411
1 day	0.4286	0.4286	0.4286	0.4286	0.3146	0.3146	0.3146	0.3146
4 days	0.3716	0.3716	0.3716	0.3716	0.2154	0.2154	0.2154	0.2154
10 days	0.3528	0.3528	0.3528	0.3528	0.1959	0.1959	0.1959	0.1959
30 days	0.3698	0.3698	0.3698	0.3698	0.2025	0.2025	0.2025	0.2025
60 days	0.3801	0.3801	0.3801	0.3801	0.2075	0.2075	0.2075	0.2075
1 year	0.6750	0.6750	0.6750	0.6750	0.1993	0.1993	0.1993	0.1993
Source 5 (100% Noble Gases) γ					Source 5 (100% Noble Gases) β			
0	0.6797	0.6797	0.6797	0.6797	1.0570	1.0588	1.0609	1.0612
1 min.	0.7329	0.7329	0.7329	0.7329	0.8207	0.8224	0.8244	0.8246
1 hr.	0.5793	0.5793	0.5793	0.5793	0.5907	0.5925	0.5947	0.5949
12 hr.	0.1887	0.1887	0.1887	0.1187	0.2433	0.2433	0.2433	0.2433
1 day	0.1187	0.1187	0.1187	0.1186	0.1821	0.1811	0.1798	0.1797
4 days	0.0787	0.0786	0.0784	0.0784	0.1573	0.1550	0.1520	0.1517
10 days	0.0770	0.0767	0.0764	0.0763	0.1629	0.1585	0.1524	0.1517
30 days	0.0856	0.0817	0.0768	0.0763	0.2131	0.2011	0.1646	0.1575
60 days	0.3138	0.2555	0.1196	0.0982	0.2447	0.2441	0.2364	0.2264
1 year	0.5252	0.5253	0.5269	0.5296	0.2456	0.2456	0.2456	0.2456

Table 3.27⁸ (CONTINUED)

	Equilib.	5000 d	500 d	200 d	Equilib.	5000 d	500 d	200 d
Source 6 (100% Solids) γ					Source 6 (100% Solids) β			
0	0.7962	0.7976	0.7985	0.7994	0.9094	0.9281	0.9415	0.9530
1 min.	0.7922	0.7938	0.7949	0.7959	0.7582	0.7732	0.7835	0.7925
1 hr.	0.7126	0.7137	0.7150	0.7155	0.5500	0.5592	0.5639	0.5687
12 hr.	0.6317	0.6296	0.6301	0.6277	0.4438	0.4448	0.4410	0.4383
1 day	0.6312	0.6289	0.6293	0.6266	0.4127	0.4096	0.4014	0.3944
4 days	0.6599	0.6587	0.6604	0.6584	0.3952	0.3883	0.3744	0.3614
10 days	0.6784	0.6788	0.6821	0.6812	0.4006	0.3934	0.3773	0.3610
30 days	0.6593	0.6566	0.6603	0.6567	0.4130	0.4067	0.3876	0.3648
60 days	0.6527	0.6467	0.6510	0.6465	0.4268	0.4236	0.4044	0.3746
1 year	0.6551	0.6222	0.5985	0.6398	0.4631	0.4922	0.5568	0.5473
Source 7 (All Fission Prod.) γ					Source 7 (All Fission Prod.) β			
0	0.7944	0.7954	0.7960	0.7966	0.9192	0.9343	0.9452	0.9542
1 min.	0.7972	0.7984	0.7992	0.8000	0.7595	0.7715	0.7798	0.7867
1 hr.	0.7112	0.7119	0.7128	0.7131	0.5439	0.5509	0.5544	0.5577
12 hr.	0.5822	0.5787	0.5782	0.5748	0.4218	0.4207	0.4158	0.4119
1 day	0.5843	0.5801	0.5795	0.5755	0.3927	0.3879	0.3791	0.3714
4 days	0.6307	0.6276	0.6281	0.6245	0.3785	0.3698	0.3551	0.3413
10 days	0.6572	0.6554	0.6575	0.6547	0.3898	0.3812	0.3643	0.3474
30 days	0.6556	0.6522	0.6555	0.6515	0.4108	0.4043	0.3854	0.3524
60 days	0.6524	0.6464	0.6506	0.6461	0.4256	0.4226	0.4041	0.3744
1 year	0.6551	0.6222	0.5985	0.6398	0.4608	0.4891	0.5543	0.5464

FIGURE 3.186

RT-16055

FIGURE 3.187

RT-16056

FIGURE 3.188

FIGURE 3.189

FIGURE 3.190

RT-16208

FIGURE 3.191

FIGURE 3.192

RT-16210

FIGURE 3.193

FIGURE 3.194

As may be observed in the figures, there is a softening of the spectra with a minimum in the neighborhood of 1 to 10 days, and then there is a rehardening at longer cooling times. The beta spectra show only a slight rehardening, but in the case of the gamma-ray spectra the effect is much more pronounced. This result is also found in the Source 7 spectra which include all fission products (Figure 3.194). This agrees qualitatively with the results reported by Bonzon (Ref. 9).

The average energy for spectra which do not include daughters if they are different than the originally specified types is given in Table 3.279 for the equilibrium case only. Other irradiation times are essentially the same. These results are shown in Figures 3.195 through 3.198 for Sources 1 and 2.

The average energy behavior with cooling time for the high power operation is shown in Figures 3.199 through 3.200 and listed in Table 3.280. Both equilibrium and 200 day irradiations are shown, but unlike the low power operation, there is an observable difference with irradiation time. Shape changes are not very different; generally the shorter irradiation spectra are higher, meaning the spectra are harder. This holds for both gamma-ray spectra and beta spectra.

Table 3.281 lists average energies for Sources 1 and 2 and 200 day irradiation under realistic conditions. These results are plotted in Figures 3.201 through 3.204.

Table 3.279. AVERAGE PARTICLE ENERGY (MeV) (EQUILIBRIUM - NO DAUGHTERS)

	Air	Plate Out	Water	Air	Plate Out	Water
		Source 1 γ			Source 1 β	
0	0.7095	0.8320	0.8912	1.0066	0.7492	0.8307
1 min.	0.7191	0.8268	0.8663	0.7522	0.6400	0.6982
1 hr.	0.5573	0.7941	0.8055	0.3583	0.4682	0.4652
12 hrs.	0.2766	0.6523	0.6553	0.2358	0.3844	0.3719
1 day	0.2238	0.5782	0.5681	0.2081	0.3629	0.3498
4 days	0.1638	0.5284	0.4869	0.1655	0.3324	0.3049
10 days	0.1640	0.5508	0.5005	0.1678	0.3466	0.3165
30 days	0.2295	0.6114	0.5777	0.2117	0.3961	0.3818
60 days	0.3561	0.6468	0.6412	0.2440	0.4249	0.4232
1 year	0.5250	0.6551	0.6551	0.2455	0.4631	0.4631
		Source 2 γ			Source 2 β	
0	0.7192	0.8397	0.9007	0.9435	0.6820	0.8165
1 min.	0.7264	0.8338	0.8730	0.7110	0.5943	0.6873
1 hr.	0.5936	0.8064	0.8124	0.3672	0.4416	0.4512
12 hrs.	0.3298	0.6593	0.6593	0.2559	0.3527	0.3527
1 day	0.2759	0.5535	0.5533	0.2279	0.3274	0.3274
4 days	0.2109	0.4073	0.4073	0.1781	0.2346	0.2346
10 days	0.2098	0.3846	0.3846	0.1829	0.2098	0.2098
30 days	0.2802	0.3842	0.3842	0.2283	0.2094	0.2094
60 days	0.3948	0.3842	0.3842	0.2449	0.2094	0.2094
1 year	0.5250	0.3842	0.3842	0.2455	0.2094	0.2094

FIGURE 3.195

FIGURE 3.196

RT-16060

FIGURE 3.197

RT-16061

FIGURE 3.198

RT-16062

Table 3.280. AVERAGE PARTICLE ENERGY (MeV) HIGH POWER AND FLUX (EQUILIBRIUM AND 200 d)

	Air		Plate Out		Water	
	Equilibrium	200 d	Equilibrium	200 d	Equilibrium	200 d
Source 1 γ						
0	0.6905	0.7793	0.7331	0.8326	0.8151	0.8916
1 min.	0.7247	0.8598	0.7227	0.8270	0.7883	0.8662
1 hr.	0.6215	0.8034	0.6684	0.7785	0.7063	0.7881
12 hrs.	0.2504	0.3530	0.5519	0.5344	0.5403	0.5253
1 day	0.1846	0.2474	0.5419	0.4730	0.5184	0.4536
4 days	0.1311	0.1638	0.5588	0.4892	0.5377	0.4455
10 days	0.1281	0.1637	0.5644	0.5115	0.5472	0.4574
30 days	0.1779	0.2267	0.5728	0.5885	0.5678	0.5464
60 days	0.3488	0.3201	0.5870	0.6370	0.5864	0.6282
1 year	0.5252	0.5296	0.7079	0.6413	0.7079	0.6413
Source 1 β						
0	1.0643	1.0701	0.5740	0.7570	0.6806	0.8357
1 min.	0.9037	0.8425	0.5040	0.6530	0.5824	0.7101
1 hr.	0.4767	0.6116	0.3801	0.4660	0.3969	0.4629
12 hrs.	0.2122	0.2564	0.3148	0.3649	0.3173	0.3546
1 day	0.1804	0.1992	0.2994	0.3373	0.2994	0.3278
4 days	0.1628	0.1611	0.2651	0.2798	0.2591	0.2567
10 days	0.1676	0.1590	0.2484	0.2850	0.2441	0.2569
30 days	0.2160	0.1700	0.2331	0.3375	0.2324	0.3181
60 days	0.2446	0.2217	0.2254	0.3712	0.2254	0.3679
1 year	0.2455	0.2456	0.2405	0.5479	0.2405	0.5479

FIGURE 3.199

FIGURE 3.200

Table 3.281. AVERAGE PARTICLE ENERGY (MeV) REALISTIC FUEL LOADING (200 d)

	Air	Plate Out	Water	Air	Plate Out	Water
	Source 1 - γ			Source 1 - β		
0	1.0560	0.8278	0.8835	0.7742	0.7498	0.8223
1 min.	0.8353	0.8225	0.8597	0.8495	0.6477	0.6999
1 hr.	0.5965	0.7765	0.7860	0.7903	0.4636	0.4605
12 hrs.	0.2534	0.5330	0.5242	0.3487	0.3627	0.3530
1 day	0.1990	0.4717	0.4527	0.2474	0.3354	0.3262
4 days	0.1613	0.4857	0.4433	0.1654	0.2778	0.2552
10 days	0.1592	0.5065	0.4541	0.1658	0.2827	0.2551
30 days	0.1702	0.5807	0.5397	0.2292	0.3355	0.3158
60 days	0.2209	0.6286	0.6199	0.3216	0.3706	0.3672
1 year	0.2456	0.6401	0.6401	0.5298	0.5538	0.5538
	Source 2 - γ			Source 2 - β		
0	0.7726	0.8361	0.8929	0.9843	0.6761	0.8022
1 min.	0.8268	0.8298	0.8665	0.7804	0.6002	0.6866
1 hr.	0.7615	0.7857	0.7913	0.5508	0.4379	0.4475
12 hrs.	0.3952	0.5134	0.5134	0.2727	0.3401	0.3401
1 day	0.3027	0.4283	0.4283	0.2216	0.3134	0.3134
4 days	0.2127	0.3719	0.3719	0.1687	0.2153	0.2153
10 days	0.2116	0.3537	0.3537	0.1651	0.1962	0.1962
30 days	0.2776	0.3702	0.3702	0.1817	0.2027	0.2027
60 days	0.3490	0.3803	0.3803	0.2311	0.2075	0.2075
1 year	0.5267	0.6750	0.6738	0.2456	0.1993	0.2559

FIGURE 3.201

RT-16065

FIGURE 3.202

FIGURE 3.203

RT-16067

FIGURE 3.204

4. VERIFICATION OF RESULTS

The fourth phase of this program was devoted to verification of the calculated energy release rates and spectra reported in previous sections. There are at least two approaches one might take to verify these calculations:

(1) comparing with the calculations of other people or other codes; (2) comparing with experimental results. Although it is potentially the most meaningful, the latter approach is very limited in this case since no measurements have been reported for the partitioned fission product sources of interest here. One can only hope to compare the results of Source 7 (all fission products) with experimental data. A second difficulty with this approach is that the experiments which do exist for fission product decay power are mostly for very short irradiation times compared to the irradiation times of concern here (≥ 200 days).

In recent years renewed interest in the fission product decay power has produced a considerable amount of high quality data on U-235 decay power (Ref. 10). The longest irradiation time reported is that of the IRT experiments (Ref. 11) which was 24 hours. This is still very short compared to 200 days, and it means that the distribution of fission products responsible for the decay power could be quite different for these two cases. Furthermore, other comparisons of calculated decay power with experimental results (Ref. 10) indicate that there are slight disagreements particularly at short cooling times. These are mostly attributed to insufficient fission product data at the early times.

A more appropriate test of the present calculations is by comparison with energy release rate or decay power calculations using other codes. Again only calculations of 100 percent release of all fission products are reported in the literature. As noted earlier, these calculations have been found to be independent of choice of code and only dependent on choice of data set (Ref. 10). Our results for equilibrium irradiation and pure U-235 without capture or depletion effects were compared with the tabulated decay heat data

given in the draft of the ANS decay heat standard (Ref. 12). The calculations agree to three significant figures or better. The same calculations for pure Pu-239 also show complete agreement with the ANS standard.

No decay power calculations have been found in the literature for the restricted source calculations of interest here with the exception of those recently reported by Bonzon (Ref. 9). For the cases reported by Bonzon where the conditions overlap with the present study, the results are in reasonable qualitative agreement. It should be noted that Bonzon's calculations included only a limited data base consisting of 326 nuclides, whereas the present results utilized the ENDF/B-IV fission product data set consisting of data for 818 nuclides.

Verification of the special partitioning of fission product nuclides necessary for the calculations was made by inspecting a full print-out of all the fission product isotopes as a function of cooling time. For a few cases hand calculations of the concentrations of certain daughter and granddaughter isotopes were made and compared with the computer results. These agreed precisely within the numerical accuracy of the hand calculations.

Verification of the spectral calculations is only possible in a limited sense for the same reasons discussed above. For all practical purposes, comparison with experimental data is not possible. Reported calculated spectra are few and limited to 100 percent release of all fission products. Some measure of confidence in the calculated spectra may be provided by comparison with a CINDER-10 result reported by Stamatelatos and England (Ref. 7). Their example was for a short exposure high power irradiation. We carried out a calculation under identical conditions, and the results are compared in Figures 4.1 and 4.2 for gamma-ray and beta spectra respectively. The finer group structure of the LASL results was rebinned to conform to our group structure. For both the gamma and beta cases the number spectra are plotted versus bin or channel number with the bin widths indicated on the figures.

The highly structured gamma-ray spectrum shows slight differences in the amplitudes (both peaks and valleys). The differences are random. We attribute this to numerical differences, probably having to do with the details of the binning procedures. The beta spectra shown in Figure 4.2 are identical.

FIGURE 4.1

FIGURE 4.2

Because the beta spectra are unstructured, slight numerical differences are not likely to have an effect on the shape. We take these results to verify the correctness of the spectrum code.

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5. CONCLUSIONS

In this report we have attempted to translate the LOCA sources as specified in Regulatory Guide 1.89 into energy release rates and spectra for both gamma rays and beta particles. In the process of doing so, it was necessary to provide certain interpretations of the Regulatory Guide specifications. That is, the guide did not provide all the information necessary to carry out such calculations. To better understand the implication of various possible interpretations, the unspecified variables were treated parametrically. These included length of irradiation, power level during irradiation, fuel composition, and treatment of progeny of the fission product nuclides.

This report provides a virtual gold mine of data pertaining to energy release rates and spectra. Some conclusions resulting from inspection and analysis of the data have been given. However, because there is such a large quantity of data it has not been possible to do an exhaustive analysis, particularly with regard to the spectra. Instead the data are presented here in their entirety to permit additional analysis if it is desired.

Some of the conclusions that have been made are summarized as follows. It was found that in the exposure range of 200 days to infinity (10^{13} sec), the irradiation time is important at long cooling times. The definition of long varies somewhat with the source under consideration, but it is generally greater than a few days. At shorter times the decay power is very insensitive to length of exposure in the range studied here.

Calculations at a high power level and flux but without including depletion effects were intended to show the effects of neutron capture. This is a complicated function of exposure and cooling times as well as flux level. For most cases neutron capture in the fission products increases the decay power. The equilibrium cases which showed the most dramatic effect are probably not very meaningful because the long exposure time exaggerates the importance of capture. At more realistic exposure times the effect of capture is small.

When effects of depletion and transmutation are included in the calculations the results are that the decay power in most cases decreases slightly. However, this is not a very large effect. The so-called realistic situation similarly shows only minor differences compared to the ideal pure U-235 calculations without capture or depletion effects.

The spectra calculated for the various sources discussed in Section 2 are presented largely without analysis. The trends of softening and rehardening as a function of cooling time are evident in the spectra presented and in plots of average energy as a function of cooling time. It was also noted that except for the case of high power operation, the spectrum shapes and average energies show little or no variation with exposure time.

Selected cases from the large body of spectral data will be used to investigate energy deposition in a model reactor component in the next phase of this program.

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APPENDIX A

TEN GREATEST CONTRIBUTORS TO DECAY POWER

Sources 1-7, Power = 1 Watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	KR 89 12.9	KR 90 11.1	KR 8A 10.6	XF 13A 10.0	XE 140 6.8	I 134 6.6	XE 139 6.4	XE 141 3.7	KR 91 3.4	I 132 3.2
1.0 SEC.	KR 89 13.4	KR 90 11.3	KR 8A 11.1	XE 13A 10.4	I 134 6.9	XF 140 6.7	XF 139 6.6	I 132 3.3	KR 91 3.3	I 135 3.2
2.0 SEC.	KR 89 13.7	KR 8A 11.4	KR 90 11.4	XE 13A 10.7	I 134 7.1	XF 139 6.6	XE 140 6.6	I 132 3.4	I 135 3.3	KR 91 3.1
5.0 SEC.	KR 89 14.4	KR 8A 12.0	KR 90 11.3	XF 13A 11.3	I 134 7.5	XE 139 6.7	XE 140 5.9	I 132 3.6	I 135 3.5	KR 87 3.1
10.0 SFC.	KR 89 14.9	KR 8A 12.7	XE 13A 11.8	KR 90 10.7	I 134 7.9	XF 139 6.5	XE 140 4.5	I 132 3.8	I 135 3.7	KR 87 3.2
20.0 SFC.	KR 89 15.4	KR 8A 13.6	XE 13A 12.6	KR 90 9.2	I 134 8.4	XE 139 5.8	I 132 4.1	I 135 4.0	KR 87 3.4	XE 140 3.1
50.0 SEC.	KR 89 15.7	KR 8A 15.5	XF 13A 14.0	I 134 9.6	KR 90 5.6	I 132 4.6	I 135 4.5	XE 139 4.0	KR 87 3.9	XE 135 3.4
60.0 SEC.	KR 8A 16.0	KR 8A 15.7	XE 13A 14.4	I 134 9.9	I 132 4.8	I 135 4.7	KR 90 4.6	KR 87 4.0	XE 135 3.5	XE 139 3.5
100.0 SFC.	KR 8A 17.6	XE 13A 15.3	KR 8A 14.9	I 134 10.8	I 132 5.2	I 135 5.1	KR 87 4.4	XF 135 3.8	RH 90 3.2	I 133 2.3
3.3 MIN.	KR 8A 19.9	XE 13A 16.1	I 134 12.0	KR 8A 11.8	I 132 5.9	I 135 5.8	KR 87 5.0	XF 135 4.4	RH 90 2.8	RH 89 2.7
8.3 MIN.	KR 8A 22.8	XE 13A 14.7	I 134 13.2	I 132 6.7	I 135 6.7	CS 13A 5.8	KR 87 5.5	XE 135 5.1	KR 89 4.6	RH 89 4.4
16.7 MIN.	KR 8A 24.4	I 134 13.1	XE 138 10.9	CS 138 9.7	I 135 7.4	I 132 7.2	KR 87 5.7	XF 135 5.6	RH 89 4.1	RH 88 3.7
33.3 MIN.	KR 8A 26.0	CS 138 12.6	I 134 12.0	I 135 8.2	I 132 7.5	XE 135 6.3	RH 88 6.1	KR 87 5.6	XE 138 5.5	I 133 3.7
60.0 MIN.	KR 8A 28.1	CS 138 11.5	I 134 10.2	I 135 9.4	RR 88 8.4	I 132 7.9	XE 135 7.4	KR 87 5.3	I 133 4.4	XE 133 2.5
1.4 HR.	KR 8A 29.5	I 135 10.5	RH 88 9.5	CS 138 9.0	I 134 8.7	XE 135 8.4	I 132 8.2	I 133 5.1	KR 87 4.9	XE 133 2.9
2.8 HR.	KR 8A 31.2	I 135 13.5	XF 135 11.5	RA 88 10.6	I 132 8.0	I 133 7.2	I 134 4.3	XF 133 4.3	KR 87 3.4	CS 138 2.5
5.6 HR.	KR 8A 26.5	I 135 17.0	XF 135 16.4	I 133 11.1	RA 88 9.0	XF 133 7.1	I 132 5.8	I 131 3.6	KR 85 1.3	KR 87 1.3
12.0 HR.	XF 135 23.0	I 133 18.9	I 135 18.1	XF 133 14.7	KR 8A 11.3	I 131 7.3	RH 88 3.8	I 132 1.7	KR 85 1.0	KR 87 .1
13.9 HR.	XF 135 21.6	I 133 20.6	I 135 17.3	XE 133 16.9	I 131 8.5	KR 88 8.2	RH 88 2.8	I 132 1.1	KR 85 .9	KR 87 .0
1.0 DAYS	XF 133 27.9	I 133 25.3	XF 135 20.5	I 131 14.0	I 135 10.2	KR 8A 1.2	RA 88 .4	KR 85 .3	I 132 .1	KR 85 .0
1.2 DAYS	XF 133 31.5	I 133 25.6	XE 135 18.1	I 131 15.9	I 135 7.9	KR 8A .5	KR 85 .2	RA 88 .2	KR 85 .0	I 132 .0
2.3 DAYS	XF 133 50.3	I 131 26.0	I 133 18.3	XF 135 4.5	I 135 .8	KR 85 .1	I 129 .0	LA 140 .0	KR 85 .0	SR 91 .0
4.0 DAYS	XF 133 59.9	I 131 32.7	I 133 6.9	XF 135 .3	KR 85 .1	I 135 .0	I 129 .0	LA 140 .0	BA 140 .0	I 130 .0
5.8 DAYS	XF 133 61.8	I 131 35.9	I 133 2.1	KR 85 .1	I 129 .0	XE 135 .0	LA 140 .0	RA 140 .0	I 135 .0	I 130 .0
10.0 DAYS	XF 133 59.0	I 131 40.6	KR 85 .2	I 133 .1	I 129 .0	LA 140 .0	BA 140 .0	CE 141 .0	XE 135 .0	Y 91 .0
11.6 DAYS	XF 133 57.4	I 131 42.2	KR 85 .3	I 133 .0	I 129 .0	LA 140 .0	BA 140 .0	CE 141 .0	Y 91 .0	XE 135 .0
23.1 DAYS	I 131 54.4	XF 133 44.5	KR 85 .9	I 129 .1	LA 140 .0	BA 140 .0	CF 141 .0	Y 91 .0	I 133 .0	ZR 95 .0
30.0 DAYS	I 131 61.0	XF 133 36.8	KR 85 1.8	I 129 .3	LA 140 .1	RA 140 .0	CF 141 .0	Y 91 .0	ZR 95 .0	NR 95 .0
57.9 DAYS	I 131 64.4	KR 85 21.2	XE 133 11.1	I 129 3.1	LA 140 .2	BA 140 .0	CF 141 .0	Y 91 .0	ZR 95 .0	NR 95 .0
60.0 DAYS	I 131 62.0	KR 85 24.5	XF 133 9.8	I 129 3.6	LA 140 .2	BA 140 .0	CE 141 .0	Y 91 .0	ZR 95 .0	NR 95 .0
115.7 DAYS	KR 85 85.5	I 129 12.6	I 131 1.8	LA 140 .0	XF 133 .0	BA 140 .0	CE 141 .0	Y 91 .0	NR 95 .0	ZR 95 .0
150.0 DAYS	KR 85 87.0	I 129 12.9	I 131 .1	LA 140 .0	RA 140 .0	Y 91 .0	CF 141 .0	XE 133 .0	NR 95 .0	ZR 95 .0
231.5 DAYS	KR 85 86.9	I 129 13.1	Y 91 .0	I 131 .0	LA 140 .0	CE 141 .0	NR 95 .0	Y 90 .0	ZR 95 .0	BA 140 .0
1.0 YRS.	KR 85 86.6	I 129 13.4	Y 91 .0	Y 90 .0	NR 95 .0	CE 141 .0	ZR 95 .0	PR 144 .0	CF 144 .0	CS 135 .0

Source 1 (Air), Equilibrium, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	XE 137 15.7	XF 139 12.8	KR 91 12.8	KR 89 8.0	KR 90 7.8	XE 138 5.7	KR 92 5.1	KR 87 4.7	XF 140 4.5	XE 135 2.8
1.0 SEC.	XF 137 16.4	XF 139 13.2	KR 91 12.2	KR 89 8.4	KR 90 8.0	XE 138 6.0	KR 87 4.9	XF 140 4.5	KR 92 3.7	XE 135 3.0
2.0 SEC.	XF 137 17.0	XF 139 13.5	KR 91 11.7	KR 89 8.7	KR 90 8.1	XE 138 6.2	KR 87 5.1	XF 140 4.5	XE 135 3.1	KR 92 2.6
5.0 SEC.	XE 137 18.3	XF 139 13.9	KR 91 10.0	KR 89 9.3	KR 90 8.3	XE 138 6.7	KR 87 5.6	XF 140 4.2	XE 135 3.4	I 134 2.2
10.0 SEC.	XF 137 19.8	XF 139 14.0	KR 89 10.1	KR 90 8.2	KR 91 7.4	XE 138 7.3	KR 87 6.1	XE 135 3.7	XE 140 3.5	I 134 2.4
20.0 SEC.	XF 137 21.8	XF 139 13.3	KR 89 10.9	XF 138 8.2	KR 90 7.4	KR 87 6.9	XE 135 4.1	KR 91 3.7	I 134 2.7	XE 140 2.4
50.0 SEC.	XF 137 24.4	KR 89 12.0	XE 138 4.8	XE 139 9.7	KR 87 8.3	XE 135 5.1	KR 90 4.8	I 134 3.2	CS 140 2.4	I 136 2.2
60.0 SEC.	XF 137 24.8	KR 89 12.1	XF 138 10.1	KR 87 8.7	XE 139 8.5	XE 135 5.3	KR 90 4.0	I 134 3.4	CS 140 2.4	KR 88 2.3
100.0 SEC.	XF 137 25.3	KR 89 12.0	XF 138 11.3	KR 87 10.0	XE 135 6.1	XE 139 4.9	I 134 3.8	KR 88 2.6	RR 90 2.6	I 133 2.1
3.3 MIN.	XF 137 23.1	XF 138 12.8	KR 87 12.1	KR 89 10.2	XF 135 7.5	I 134 4.6	RR 88 3.3	KR 88 3.2	I 133 2.6	XF 133 2.5
8.3 MIN.	KR 87 15.1	XF 138 13.1	XE 137 12.3	RR 88 9.8	XE 135 9.7	I 134 5.7	CS 138 5.1	KR 89 4.5	KR 88 4.1	I 133 3.4
16.7 MIN.	RR 88 10.0	KR 87 16.0	XE 135 11.1	XE 138 10.0	CS 138 8.7	I 134 5.8	KR 88 4.6	I 133 3.9	XE 133 3.8	I 135 3.3
33.3 MIN.	RR 88 29.4	KR 87 14.7	XE 135 11.6	CS 138 10.6	I 134 5.0	XE 138 4.7	KR 88 4.6	I 133 4.1	XE 133 4.0	I 135 3.5
60.0 MIN.	RR 88 37.1	KR 87 12.7	XF 135 12.5	CS 138 8.9	KR 88 4.5	XE 133 4.5	I 133 4.4	I 134 3.9	I 135 3.6	I 132 2.7
1.4 HR.	RR 88 40.3	XF 135 13.0	KR 87 11.4	CS 138 6.7	XE 133 4.9	I 133 4.9	KR 88 4.5	I 135 3.9	I 134 3.2	I 132 2.6
2.8 HR.	RR 88 42.4	XF 135 17.6	KR 87 7.5	XE 133 6.9	I 133 6.5	I 135 4.7	KR 88 4.5	I 132 2.4	KR 85 1.9	CS 138 1.7
5.6 HR.	RR 88 35.0	XE 135 24.4	XF 133 11.2	I 133 9.7	I 135 5.8	KR 88 3.7	KR 87 2.7	I 131 2.1	KR 85 2.1	I 132 1.7
12.0 HR.	XF 135 32.4	XE 133 21.7	I 133 15.7	RR 88 14.1	I 135 5.8	I 131 4.2	KR 85 2.3	KR 85 1.5	KR 88 1.5	I 132 .5
13.9 HR.	XE 135 32.7	XE 133 24.7	I 133 16.8	RR 88 10.1	I 135 5.5	I 131 4.7	KR 85 2.6	KR 85 1.3	KR 88 1.1	I 132 .3
1.0 DAYS	XF 133 37.0	XE 135 26.5	I 133 19.2	I 131 7.3	KR 85 4.2	I 135 3.0	RR 88 1.3	KR 85 .6	KR 88 .1	I 132 .0
1.2 DAYS	XF 133 42.0	XF 135 22.9	I 133 19.0	I 131 8.1	KR 85 4.8	I 135 2.3	RR 88 .6	KR 85 .3	KR 88 .1	I 124 .0
2.3 DAYS	XF 133 61.8	I 133 12.6	I 131 12.2	KR 85 7.9	XE 135 5.2	I 135 .2	I 129 .0	SR 89 .0	KR 85 .0	LA 140 .0
4.0 DAYS	XF 133 39.7	I 131 14.5	KR 85 10.9	I 133 4.5	XF 135 .4	I 129 .0	SR 89 .0	I 135 .0	LA 140 .0	BA 140 .0
5.8 DAYS	XF 133 69.6	I 131 15.4	KR 85 13.5	I 133 1.3	I 129 .0	SR 89 .0	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0
10.0 DAYS	XF 133 62.7	KR 85 20.7	I 131 16.4	I 133 .0	I 129 .0	SR 89 .0	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0
11.6 DAYS	XF 133 59.3	KR 85 24.0	I 131 16.6	I 129 .0	SR 89 .0	I 133 .0	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0
23.1 DAYS	KR 85 55.3	XF 133 38.4	I 131 14.1	I 129 .0	SR 89 .0	I 133 .0	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0
30.0 DAYS	KR 85 73.0	XE 133 16.4	I 131 10.3	I 129 .0	SR 89 .0	I 133 .0	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0
37.9 DAYS	KR 85 97.9	I 131 .3	XE 133 .6	I 129 .2	SR 89 .1	Y 91 .0	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0
60.0 DAYS	KR 85 98.2	I 131 .1	XE 133 .4	I 129 .2	SR 89 .1	Y 91 .0	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0
115.7 DAYS	KR 85 99.7	I 129 .2	SR 89 .0	I 131 .0	Y 91 .0	CS 137 .0	XE 133 .0	Y 90 .0	LA 140 .0	SR 90 .0
150.0 DAYS	KR 85 99.8	I 129 .2	SR 89 .0	Y 91 .0	I 131 .0	CS 137 .0	Y 90 .0	SR 90 .0	LA 140 .0	CE 141 .0
231.5 DAYS	KR 85 99.8	I 129 .2	SR 89 .0	CS 137 .0	Y 91 .0	Y 90 .0	SR 90 .0	CE 141 .0	I 131 .0	CS 135 .0
1.0 YRS.	KR 85 99.8	I 129 .2	SR 89 .0	CS 137 .0	Y 90 .0	Y 91 .0	SR 90 .0	CS 135 .0	PR 144 .0	CE 141 .0

Source 1 (Air), Equilibrium, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC	KR 89 12.9	KR 90 11.1	KR 88 10.6	XE 138 10.0	XF 140 6.8	I 134 6.6	XE 139 6.4	XF 141 3.7	KR 91 3.4	I 132 3.2
1.0 SFC	KR 89 13.4	KR 90 11.3	KR 88 11.1	XE 138 10.4	I 134 6.9	XF 140 6.7	XE 139 6.6	I 132 3.3	KR 91 3.3	I 135 3.2
2.0 SFC	KR 89 13.7	KR 88 11.4	KR 90 11.4	XE 138 10.7	I 134 7.1	XE 139 6.6	XE 140 6.6	I 132 3.4	I 135 3.3	KR 91 3.1
5.0 SEC	KR 89 14.4	KR 88 12.0	KR 90 11.3	XE 138 11.3	I 134 7.5	XE 139 6.7	XF 140 5.9	I 132 3.6	I 135 3.5	KR 87 3.1
10.0 SEC	KR 89 14.9	KR 88 12.7	XE 138 11.8	KR 90 10.7	I 134 7.9	XE 139 6.5	XE 140 4.9	I 132 3.8	I 135 3.7	KR 87 3.2
20.0 SEC	KR 89 15.4	KR 88 13.6	XE 138 12.6	KR 90 9.2	I 134 8.4	XE 139 5.8	I 132 4.1	I 135 4.0	KR 87 3.4	XE 140 3.1
50.0 SEC	KR 89 15.7	KR 88 15.5	XE 138 14.0	I 134 9.6	KR 90 5.6	I 132 4.6	I 135 4.5	XE 139 4.0	KR 87 3.9	XE 135 3.4
100.0 SEC	KR 88 16.0	KR 89 15.7	XE 138 14.4	I 134 9.9	I 132 4.8	I 135 4.7	KR 90 4.6	KR 87 4.0	XE 135 3.5	XE 139 3.5
3.3 MIN	KR 88 17.6	XF 138 15.3	KR 89 14.9	I 134 10.8	I 132 5.2	I 135 5.1	KR 87 4.4	XE 135 3.8	KR 90 3.2	I 133 2.3
8.3 MIN	KR 88 19.9	XE 138 16.1	I 134 12.0	KR 89 11.8	I 132 5.9	I 135 5.8	KR 87 5.0	XE 135 4.4	KR 90 2.8	RB 89 2.7
16.7 MIN	KR 88 22.8	XE 138 14.7	I 134 13.2	I 132 6.7	I 135 6.7	CS 138 5.8	KR 87 5.5	XE 135 5.1	KR 89 4.6	RB 89 4.4
33.3 MIN	KR 88 24.4	I 134 13.1	XE 138 10.9	CS 138 9.7	I 135 7.4	I 132 7.2	KR 87 5.7	XE 135 5.6	RB 89 4.1	RB 88 3.7
60.0 MIN	KR 88 26.0	CS 138 12.6	I 134 12.0	I 135 8.2	I 132 7.5	XF 135 6.3	RB 88 6.1	KR 87 5.6	XE 138 5.5	I 133 3.7
1.4 HR	KR 88 28.1	CS 138 11.5	I 134 10.2	I 135 9.4	RB 88 6.4	I 132 7.9	XE 135 7.4	KR 87 5.3	I 133 4.4	XE 133 2.5
2.8 HR	KR 88 29.5	I 135 10.5	KR 88 9.5	CS 138 9.0	I 134 8.7	XE 135 8.4	I 132 8.2	I 133 5.1	KR 87 4.9	XF 133 2.9
5.6 HR	KR 88 31.2	I 135 13.5	XE 135 11.5	RB 88 10.6	I 132 8.0	I 133 7.2	I 134 4.3	XE 133 4.3	KR 87 3.4	CS 138 2.5
12.0 HR	KR 88 26.5	I 135 17.0	XE 135 16.4	I 133 11.1	RB 88 9.0	XE 133 7.1	I 132 5.8	I 131 3.6	KR 85 1.3	KR 87 1.3
13.9 HR	XF 135 23.0	I 133 18.0	I 135 18.1	XE 133 14.7	KR 88 11.3	I 131 7.3	RB 88 3.8	I 132 1.7	KR 85 1.0	KR 87 1.1
1.0 DAYS	XF 135 27.6	I 133 20.6	I 135 17.3	XF 133 16.9	I 131 8.5	KR 88 8.2	RB 88 2.8	I 132 1.1	KR 85 0.9	KR 87 0.0
1.2 DAYS	XE 133 27.9	I 133 25.3	XE 135 20.5	I 131 14.0	I 135 10.2	KR 88 1.2	RB 88 0.4	KR 85 0.3	I 132 0.1	KR 85 0.0
2.3 DAYS	XF 133 31.5	I 133 25.6	XF 135 14.1	I 131 15.9	I 135 7.9	KR 88 0.5	KR 85 0.2	RB 88 0.2	I 132 0.0	KR 85 0.0
4.0 DAYS	XF 133 50.3	I 131 26.0	I 133 14.4	XE 135 4.5	I 135 0.9	KR 85 0.5	LA 140 0.0	KR 85 0.0	SR 91 0.0	BA 140 0.0
5.8 DAYS	XE 133 60.0	I 131 32.7	I 133 6.9	XE 135 0.3	KR 85 0.1	I 135 0.0	LA 140 0.0	BA 140 0.0	I 130 0.0	SR 91 0.0
10.0 DAYS	XE 133 61.8	I 131 35.9	I 133 2.1	KR 85 0.1	XE 135 0.0	LA 140 0.0	BA 140 0.0	I 135 0.0	I 130 0.0	CE 141 0.0
11.6 DAYS	XE 133 59.1	I 131 40.6	KR 85 0.1	I 133 0.1	LA 140 0.0	HA 140 0.0	CE 141 0.0	XE 135 0.0	Y 91 0.0	I 129 0.0
23.1 DAYS	XF 133 57.5	I 131 42.3	KR 85 0.2	I 133 0.0	LA 140 0.0	BA 140 0.0	CE 141 0.0	Y 91 0.0	I 129 0.0	XE 135 0.0
30.0 DAYS	I 131 54.6	XF 133 44.8	KR 85 0.5	LA 140 0.0	BA 140 0.0	CE 141 0.0	Y 91 0.0	I 133 0.0	I 129 0.0	ZR 95 0.0
57.9 DAYS	I 131 61.6	XE 133 37.2	KR 85 1.1	LA 140 0.1	BA 140 0.0	CE 141 0.0	Y 91 0.0	I 129 0.0	ZR 95 0.0	NH 95 0.0
60.0 DAYS	I 131 73.0	KR 85 14.1	XE 133 12.6	LA 140 0.2	BA 140 0.0	CE 141 0.0	Y 91 0.0	I 129 0.0	ZR 95 0.0	NH 95 0.0
115.7 DAYS	I 131 71.8	KR 85 16.7	XF 133 11.3	LA 140 0.2	BA 140 0.0	CE 141 0.0	Y 91 0.0	I 129 0.0	ZR 95 0.0	NH 95 0.0
150.0 DAYS	KR 85 96.4	I 131 3.4	LA 140 0.1	XF 133 0.0	BA 140 0.0	CE 141 0.0	Y 91 0.0	I 129 0.0	NH 95 0.0	ZR 95 0.0
231.5 DAYS	KR 85 99.8	I 131 2.4	LA 140 0.0	I 129 0.0	BA 140 0.0	Y 91 0.0	CE 141 0.0	XE 133 0.0	NH 95 0.0	ZR 95 0.0
1.0 YRS	KR 85 100.0	I 129 0.0	Y 91 0.0	I 131 0.0	LA 140 0.0	CE 141 0.0	NR 95 0.0	Y 90 0.0	ZR 95 0.0	BA 140 0.0
	KR 85 100.0	I 129 0.0	Y 91 0.0	Y 90 0.0	NR 95 0.0	CE 141 0.0	ZR 95 0.0	PR 144 0.0	CE 144 0.0	CS 135 0.0

Source 1 (Air), 5000 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	XE 137 15.7	XF 139 12.8	KR 91 12.6	KR 89 8.0	KH 90 7.8	XE 138 5.7	KR 92 5.1	KR 87 4.7	XE 140 4.5	XE 135 2.8
1.0 SEC.	XF 137 16.4	XF 139 13.2	KR 91 12.2	KR 89 8.4	KH 90 8.0	XE 138 6.0	KR 87 4.9	XE 140 4.5	KR 92 3.7	XE 135 3.0
2.0 SEC.	XF 137 17.0	XE 139 13.5	KR 91 11.7	KR 89 8.7	KH 90 8.1	XF 138 6.2	KR 87 5.1	XE 140 4.5	XE 135 3.1	KR 92 2.6
5.0 SEC.	XF 137 18.3	XE 139 13.9	KR 91 10.0	KR 89 9.3	KH 90 8.3	XE 138 6.7	KR 87 5.6	XE 140 4.2	XE 135 3.4	I 134 2.2
10.0 SEC.	XF 137 19.8	XF 139 14.0	KR 89 10.1	KR 90 8.2	KR 91 7.4	XE 138 7.3	KR 87 6.1	XF 135 3.7	XE 140 3.5	I 134 2.4
20.0 SEC.	XF 137 21.8	XF 139 13.3	KR 89 10.9	XF 138 8.2	KR 90 7.4	KH 87 6.9	XE 135 4.1	KR 91 3.7	I 134 2.7	XE 140 2.4
50.0 SEC.	XF 137 24.4	KR 89 12.0	XE 138 9.8	XE 139 9.7	KR 87 8.3	XF 135 5.1	KR 90 4.8	I 134 3.2	CS 140 2.4	I 136 2.2
60.0 SEC.	XF 137 24.8	KR 89 12.1	XE 138 10.1	KR 87 8.7	XF 139 8.5	XE 135 5.3	KR 90 4.0	I 134 3.4	CS 140 2.4	KR 88 2.3
100.0 SEC.	XF 137 25.4	KR 89 12.0	XF 138 11.5	KR 87 10.0	XF 135 6.1	XE 139 5.0	I 134 3.8	KR 88 2.6	RB 90 2.6	I 133 2.1
3.3 MIN.	XF 137 23.2	XF 138 12.8	KR 87 12.1	KR 89 10.3	XE 135 7.5	I 134 4.6	KH 88 3.3	KR 88 3.2	I 133 2.6	XE 133 2.5
8.3 MIN.	KR 87 15.1	XF 138 13.1	XE 137 12.3	RA 88 9.8	XE 135 9.8	I 134 5.7	CS 138 5.1	KR 89 4.5	KR 88 4.1	I 133 3.4
16.7 MIN.	RA 88 19.0	KR 87 16.1	XE 135 11.1	XE 138 10.0	CS 138 8.8	I 134 5.9	KR 88 4.6	I 133 3.9	XE 133 3.8	I 135 3.5
33.3 MIN.	RA 88 29.5	KR 87 14.7	XE 135 11.7	CS 138 10.7	I 134 5.0	XE 138 4.7	KR 88 4.6	I 133 4.1	XE 133 4.1	I 135 3.5
60.0 MIN.	RA 88 37.2	KR 87 17.7	XE 135 12.6	CS 138 8.9	KH 88 4.5	XE 133 4.5	I 133 4.4	I 134 3.9	I 135 3.6	I 132 2.7
1.4 HR.	RA 88 40.4	XE 135 13.6	KR 87 11.4	CS 138 7.7	XF 133 5.0	I 133 4.9	KR 88 4.6	I 132 3.9	I 134 3.2	I 132 2.6
2.9 HR.	RA 88 42.5	XE 135 17.7	KR 87 7.5	XF 133 6.9	I 133 6.5	I 135 4.7	KR 88 4.6	I 132 2.4	KH 85 2.0	CS 138 1.7
5.6 HR.	RA 88 35.2	XF 135 24.5	XE 133 11.3	I 133 9.8	I 135 5.8	KR 88 3.8	KR 87 2.7	I 131 2.1	KH 85 2.1	I 132 1.7
12.0 HR.	XF 135 32.7	XF 133 22.0	I 133 15.8	RA 88 14.3	I 135 5.9	I 131 4.2	KH 85 1.5	KR 88 1.5	KR 85 1.4	I 132 .5
13.9 HR.	XE 135 33.1	XE 133 25.0	I 133 17.0	RA 88 10.2	I 135 5.5	I 131 4.8	KH 85 1.6	KH 85 1.3	KR 88 1.1	I 132 .3
1.0 DAYS	XF 133 38.6	XF 135 26.9	I 133 19.5	I 131 7.4	I 135 3.1	KR 85 2.5	RB 88 1.3	KH 85 .4	KR 88 .1	I 132 .0
1.2 DAYS	XF 133 42.8	XF 135 23.4	I 133 19.4	I 131 8.2	KR 85 2.9	I 135 2.3	RB 88 .6	KH 85 .3	KR 88 .1	I 132 .0
2.3 DAYS	XF 133 63.9	I 133 13.0	I 131 12.6	XF 135 5.4	KH 85 4.8	I 135 .2	SR 89 .0	KH 85 .0	LA 140 .0	BA 140 .0
4.0 DAYS	XF 133 73.0	I 131 15.2	KR 85 6.7	I 133 4.7	XE 135 .4	SR 89 .0	XE 135 .0	LA 140 .0	BA 140 .0	Y 91 .0
5.8 DAYS	XE 133 73.8	I 131 16.3	KR 85 8.4	I 133 1.4	SR 89 .0	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0	Y 90 .0
10.0 DAYS	XF 133 68.6	I 131 18.0	KR 85 13.3	I 133 .1	SR 89 .0	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0	Y 90 .0
11.6 DAYS	XF 133 65.9	I 131 18.4	KR 85 15.6	SR 89 .0	I 133 .1	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0	Y 90 .0
23.1 DAYS	KR 85 42.1	XF 133 34.4	I 131 18.3	SR 89 .1	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0	Y 90 .0	CE 141 .0
30.0 DAYS	KR 85 61.5	I 131 14.8	XF 133 1.0	SR 89 .1	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0	Y 90 .0	CE 141 .0
57.9 DAYS	KR 85 96.2	I 131 2.1	XF 133 1.0	SR 89 .1	Y 91 .0	LA 140 .0	BA 140 .0	CS 137 .0	Y 90 .0	CE 141 .0
60.0 DAYS	KR 85 97.4	I 131 1.8	XF 133 .7	SR 89 .1	Y 91 .0	LA 140 .0	BA 140 .0	CS 137 .0	Y 90 .0	CE 141 .0
115.7 DAYS	KR 85 99.9	SR 89 .1	I 131 .0	Y 91 .0	CS 137 .0	XE 133 .0	Y 90 .0	SR 90 .0	LA 140 .0	SR 90 .0
150.0 DAYS	KR 85 100.0	SR 89 .0	Y 91 .0	I 131 .0	CS 137 .0	Y 90 .0	SR 90 .0	CF 141 .0	I 129 .0	CE 141 .0
231.5 DAYS	KR 85 100.0	SR 89 .0	CS 137 .0	Y 91 .0	Y 90 .0	SR 90 .0	I 129 .0	CS 135 .0	PH 144 .0	CE 141 .0
1.0 YRS.	KR 85 100.0	SR 89 .0	CS 137 .0	Y 90 .0	Y 91 .0	SR 90 .0	I 129 .0	CS 135 .0	PH 144 .0	CE 141 .0

Source 1 (Air), 5000 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0 SEC.	KR 89 12.9	KH 90 11.1	KR 88 10.6	XE 13A 10.0	XE 140 6.8	I 134 6.6	XE 139 6.4	XF 141 3.7	KR 91 3.4	I 132 3.2
1,0 SEC.	KR 89 13.4	KR 90 11.3	KR 88 11.1	XE 13A 10.4	I 134 6.9	XF 140 6.7	XF 139 6.6	I 132 3.3	KR 91 3.3	I 135 3.2
2,0 SEC.	KR 89 13.7	KR 88 11.4	KR 90 11.4	XE 13A 10.7	I 134 7.1	XE 139 6.6	XE 140 6.6	I 132 3.4	I 135 3.3	KR 91 3.1
5,0 SEC.	KR 89 14.4	KR 88 12.0	KR 90 11.3	XE 13A 11.3	I 134 7.5	XE 139 6.7	XE 140 5.9	I 132 3.6	I 135 3.5	KR 87 3.1
10,0 SEC.	KR 89 14.9	KR 88 12.7	XF 13A 11.8	KR 90 10.7	I 134 7.9	XE 139 6.5	XF 140 4.9	I 132 3.8	I 135 3.7	KR 87 3.2
20,0 SEC.	KR 89 15.4	KR 88 13.6	XF 13A 12.6	KR 90 9.2	I 134 8.4	XE 139 5.8	I 132 4.1	I 135 4.0	KR 87 3.4	XE 140 3.1
50,0 SEC.	KR 89 15.7	KR 88 15.5	XE 13A 14.0	I 134 9.6	KR 90 5.6	I 132 4.6	I 135 4.5	XE 139 4.0	KR 87 3.9	XE 135 3.4
60,0 SEC.	KR 89 16.0	KR 89 15.7	XE 13A 14.4	I 134 9.9	I 132 4.8	I 135 4.7	KR 90 4.6	KR 87 4.0	XE 135 3.5	XF 139 3.5
100,0 SEC.	KR 88 17.6	XF 13A 15.3	KR 89 14.9	I 134 10.8	I 132 5.2	I 135 5.1	KR 87 4.4	XE 135 3.8	KR 90 3.2	I 133 2.3
3.3 MIN.	KR 88 19.9	XE 13A 16.1	I 134 12.0	KR 89 11.8	I 132 5.9	I 135 5.8	KR 87 5.0	XE 135 4.4	KR 90 2.8	KR 89 2.7
8.3 MIN.	KR 88 22.8	XF 13A 14.7	I 134 13.2	I 132 6.7	I 135 6.7	CS 13A 5.8	KR 87 5.5	XE 135 5.1	KR 89 4.6	KR 89 4.4
16,7 MIN.	KR 88 24.4	I 134 13.1	XF 13A 10.9	CS 13B 9.7	I 135 7.4	I 132 7.2	KR 87 5.7	XE 135 5.6	KR 89 4.1	KR 88 3.7
33,3 MIN.	KR 88 26.0	CS 13A 12.6	I 134 12.0	I 135 8.2	I 132 7.5	XE 135 6.3	KR 88 6.1	KR 87 5.6	XF 13B 5.5	I 133 3.7
60,0 MIN.	KR 88 28.1	CS 13A 11.5	I 134 10.2	I 135 9.4	RB 8A 8.4	I 132 7.9	XF 135 7.4	KR 87 5.3	I 133 4.4	XE 133 2.5
1.4 HR.	KR 88 29.5	I 135 10.5	RR 8A 9.5	CS 13B 9.0	I 134 8.7	XE 135 8.4	I 132 8.2	I 133 5.1	KR 87 4.9	XE 133 2.9
2.8 HR.	KR 88 31.2	I 135 13.5	XE 135 11.5	RR 8A 10.6	I 132 8.0	I 133 7.2	I 134 4.3	XF 133 4.3	KR 87 3.4	CS 13B 2.5
5.6 HR.	KR 88 26.5	I 135 17.0	XE 135 16.4	I 133 11.1	RR 8A 9.0	XE 133 7.1	I 132 5.8	I 131 3.6	KR 85 1.3	KR 87 1.3
12,0 HR.	XE 135 23.0	I 133 18.9	I 135 18.1	XF 133 14.7	KR 8A 11.3	I 131 7.3	RR 8A 3.8	I 132 1.7	KR 85 1.0	KR 87 .1
13,9 HR.	XF 135 23.6	I 133 20.6	I 135 17.3	XE 133 16.9	I 131 8.5	KR 8A 8.2	RB 8B 2.8	I 132 1.1	KR 85 .9	KR 87 .0
1,0 DAYS	XF 133 27.9	I 133 25.3	XE 135 20.5	I 131 14.0	I 135 10.2	KR 8A 1.2	RR 8A .4	KR 85 .3	I 132 .1	SR 91 .0
1,2 DAYS	XF 133 31.5	I 133 25.6	XE 135 18.2	I 131 15.9	I 135 7.9	KR 8A .5	KR 85 .2	RB 8A .2	I 132 .0	SR 91 .0
2,3 DAYS	XF 133 50.3	I 131 26.0	I 133 18.4	XF 135 4.5	I 135 .8	LA 140 .0	KR 85 .0	KR 85 .0	SR 91 .0	BA 140 .0
4,0 DAYS	XE 133 60.0	I 131 32.7	I 133 6.9	XF 135 .3	I 135 .0	LA 140 .0	KR 85 .0	BA 140 .0	I 130 .0	SR 91 .0
5,8 DAYS	XE 133 61.9	I 131 35.9	I 133 2.1	XE 135 .0	LA 140 .0	KR 85 .0	BA 140 .0	BA 140 .0	I 130 .0	CE 141 .0
10,0 DAYS	XE 133 59.2	I 131 40.7	I 133 .1	LA 140 .0	KR 85 .0	BA 140 .0	CF 141 .0	XE 135 .0	Y 91 .0	ZR 95 .0
11,6 DAYS	XF 133 57.6	I 131 42.3	I 133 .0	LA 140 .0	KR 85 .0	BA 140 .0	CE 141 .0	Y 91 .0	XE 135 .0	ZR 95 .0
23,1 DAYS	I 131 54.9	XF 133 45.0	KR 85 .1	LA 140 .0	HA 140 .0	CE 141 .0	Y 91 .0	I 133 .0	ZR 95 .0	I 129 .0
30,0 DAYS	I 131 62.2	XF 133 37.5	KR 85 .2	LA 140 .1	BA 140 .1	CF 141 .0	Y 91 .0	I 129 .0	ZR 95 .0	NH 95 .0
57,9 DAYS	I 131 63.1	XF 133 14.4	KR 85 2.3	LA 140 .2	BA 140 .2	CF 141 .0	Y 91 .0	I 129 .0	ZR 95 .0	NH 95 .0
60,0 DAYS	I 131 63.8	XE 133 13.2	KR 85 2.8	LA 140 .2	BA 140 .2	CE 141 .0	Y 91 .0	I 129 .0	NH 95 .0	ZR 95 .0
115,7 DAYS	RR 85 79.7	I 131 19.7	LA 140 .3	XF 133 .3	BA 140 .0	CE 141 .0	Y 91 .0	I 129 .0	NH 95 .0	ZR 95 .0
150,0 DAYS	KR 85 98.6	I 131 1.3	LA 140 .0	BA 140 .0	Y 91 .0	CE 141 .0	XF 133 .0	I 129 .0	NH 95 .0	ZR 95 .0
231,5 DAYS	KR 85 100.0	Y 91 .0	I 131 .0	LA 140 .0	CE 141 .0	I 129 .0	NH 95 .0	Y 90 .0	ZR 95 .0	BA 140 .0
1.0 YRS.	KR 85 100.0	I 129 .0	Y 91 .0	Y 90 .0	NH 95 .0	CE 141 .0	ZR 95 .0	PR 144 .0	CE 144 .0	CS 135 .0

Source 1 (Air), 500 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCAL

	1	2	3	4	5	6	7	8	9	10
0 SEC.	XF 137 15.7	XE 139 12.8	KR 91 12.6	KR 89 8.0	KP 90 7.8	XE 138 5.7	KR 92 5.1	KR 87 4.7	XE 140 4.5	XE 135 2.8
1.0 SEC.	XF 137 16.5	XE 139 13.2	KR 91 12.2	KR 89 8.4	KR 90 8.0	XE 138 6.0	KR 87 4.9	XE 140 4.5	KR 92 3.7	XE 135 3.0
2.0 SEC.	XE 137 17.0	XE 139 13.5	KR 91 11.7	KR 89 8.7	KR 90 8.1	XE 138 6.2	KR 87 5.1	XE 140 4.5	XE 135 3.1	KR 92 2.6
5.0 SEC.	XF 137 18.3	XE 139 13.9	KR 91 10.0	KR 89 9.3	KR 90 8.3	XE 138 6.7	KR 87 5.6	XE 140 4.2	XE 135 3.4	I 134 2.2
10.0 SEC.	XF 137 19.9	XE 139 14.0	KR 89 10.1	KR 90 8.2	KR 91 7.4	XE 138 7.3	KR 87 6.1	XE 135 3.7	XF 140 3.5	I 134 2.4
20.0 SEC.	XF 137 21.8	XE 139 13.3	KR 89 11.0	XF 138 8.2	KR 90 7.4	KR 87 6.9	XE 135 4.2	KR 91 3.7	I 134 2.7	XE 140 2.4
50.0 SEC.	XF 137 24.4	KR 89 12.0	XE 138 9.8	XE 139 9.7	KR 87 8.3	XE 135 5.1	KP 90 4.8	I 134 3.2	CS 140 2.4	I 136 2.2
60.0 SEC.	XE 137 24.8	KR 89 12.1	XE 138 10.2	KR 87 8.7	XF 139 8.6	XE 135 5.3	KR 90 4.0	I 134 3.4	CS 140 2.4	KR 88 2.3
100.0 SEC.	XF 137 25.4	KR 89 12.9	XE 138 11.3	KR 87 10.0	XE 135 6.1	XE 139 5.0	I 134 3.9	KR 88 2.6	RB 90 2.6	I 133 2.1
3.3 MIN.	XF 137 23.2	XE 138 12.0	KR 87 12.1	KR 89 10.3	XE 135 7.5	I 134 4.6	RB 88 3.3	KR 88 3.2	I 133 2.6	XE 133 2.5
8.3 MIN.	KR 87 15.1	XE 138 13.2	XE 137 12.3	RB 88 9.8	XE 135 9.8	I 134 5.7	CS 136 5.1	KR 89 4.5	KR 88 4.2	I 133 3.4
16.7 MIN.	RB 88 19.1	KR 87 16.1	XE 135 11.1	XE 138 10.1	CS 138 8.8	I 134 5.9	KR 88 4.6	I 133 3.9	XE 133 3.8	I 135 3.3
33.3 MIN.	RB 88 29.6	KR 87 14.7	XE 135 11.7	CS 138 10.7	I 134 5.0	XE 138 4.8	KR 88 4.6	I 133 4.1	XE 133 4.1	I 135 3.5
60.0 MIN.	RB 88 37.3	KR 87 12.8	XE 135 12.6	CS 138 9.0	KR 88 4.5	XE 133 4.5	I 133 4.5	I 134 3.9	I 135 3.7	I 132 2.7
1.4 HR.	RB 88 40.5	XF 135 13.7	KR 87 11.5	CS 138 6.7	XF 133 5.0	I 133 4.9	KR 88 4.6	I 135 3.9	I 134 3.2	I 132 2.6
2.8 HR.	RB 88 42.7	XE 135 17.8	KR 87 7.6	XE 133 7.0	I 133 6.6	I 135 4.7	KR 88 4.6	I 132 2.4	KR 85 2.0	CS 138 1.7
5.6 HR.	RB 88 35.4	XF 135 24.7	XE 133 11.3	I 133 9.4	I 135 5.8	KR 88 3.8	KR 87 2.7	I 131 2.2	KR 85 2.1	I 132 1.7
12.0 HR.	XF 135 33.1	XF 133 22.3	I 133 16.0	RB 88 14.5	I 135 6.0	I 131 4.2	KR 85 1.6	KR 88 1.5	I 132 1.5	KR 85 1.2
13.9 HR.	XF 135 33.5	XF 133 25.4	I 133 17.2	RB 88 10.4	I 135 5.6	I 131 4.8	KR 85 1.3	KR 88 1.1	I 132 1.3	KR 85 1.0
1.0 DAYS	XE 133 39.5	XE 135 27.5	I 133 19.9	I 131 7.6	I 135 3.1	RB 88 1.4	KR 85 1.5	KR 85 1.4	KR 88 1.1	I 132 1.0
1.2 DAYS	XE 133 43.9	XF 135 24.0	I 133 19.9	I 131 4.4	I 135 2.4	RB 88 1.6	KR 85 1.4	KR 85 1.3	KR 88 1.1	I 132 1.0
2.3 DAYS	XF 133 66.7	I 133 13.6	I 131 13.1	XE 135 5.6	KR 85 1.7	I 135 1.4	SR 89 1.0	KR 85 1.0	LA 140 1.0	BA 140 1.0
4.0 DAYS	XF 133 77.5	I 131 16.1	I 133 5.0	KR 85 1.0	XF 135 1.4	SR 89 1.0	I 135 1.0	LA 140 1.0	BA 140 1.0	Y 91 1.0
5.8 DAYS	XF 133 79.5	I 131 17.6	I 133 1.5	KR 85 1.3	SR 89 1.0	XE 135 1.0	LA 140 1.0	BA 140 1.0	Y 91 1.0	I 135 1.0
10.0 DAYS	XF 133 77.4	I 131 20.3	KR 85 2.2	I 133 1.1	SR 89 1.0	LA 140 1.0	BA 140 1.0	Y 91 1.0	CS 137 1.0	Y 90 1.0
11.6 DAYS	XF 133 76.0	I 131 21.3	KR 85 2.6	SR 89 1.0	I 133 1.0	LA 140 1.0	BA 140 1.0	Y 91 1.0	CS 137 1.0	Y 90 1.0
23.1 DAYS	XE 133 61.7	I 131 28.7	KR 85 9.5	SR 89 1.0	LA 140 1.0	BA 140 1.0	Y 91 1.0	CS 137 1.0	Y 90 1.0	CE 141 1.0
30.0 DAYS	XF 133 49.7	I 131 31.3	KR 85 18.7	SR 89 1.0	LA 140 1.0	BA 140 1.0	Y 91 1.0	CS 137 1.0	Y 90 1.0	CE 141 1.0
57.9 DAYS	KR 85 81.2	I 131 12.4	XE 133 5.6	SR 89 1.0	Y 91 1.0	LA 140 1.0	BA 140 1.0	CS 137 1.0	Y 90 1.0	SR 90 1.0
60.0 DAYS	KR 85 84.1	I 131 10.7	XE 133 6.4	SR 89 1.0	Y 91 1.0	LA 140 1.0	BA 140 1.0	CS 137 1.0	Y 90 1.0	SR 90 1.0
115.7 DAYS	KR 85 99.4	SR 89 1.0	I 131 1.0	Y 91 1.0	CS 137 1.0	Y 90 1.0	LA 140 1.0	SR 90 1.0	BA 140 1.0	Y 90 1.0
150.0 DAYS	KR 85 99.7	SR 89 1.0	Y 91 1.0	I 131 1.0	CS 137 1.0	Y 90 1.0	SR 90 1.0	LA 140 1.0	CE 141 1.0	BA 140 1.0
231.5 DAYS	KR 85 99.9	SR 89 1.0	CS 137 1.0	Y 91 1.0	Y 90 1.0	SR 90 1.0	CE 141 1.0	I 129 1.0	I 131 1.0	CS 135 1.0
1.0 YRS.	KR 85 100.0	SR 89 1.0	CS 137 1.0	Y 90 1.0	Y 91 1.0	SR 90 1.0	I 129 1.0	CS 135 1.0	PR 144 1.0	CE 141 1.0

Source 1 (Air), 500 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	KR 89 12.9	KR 90 11.1	KR 88 10.6	XE 138 10.0	XE 140 6.4	I 134 6.6	XE 139 6.4	XE 141 3.7	KR 91 3.4	I 132 3.2
1.0 SEC.	KR 89 13.4	KR 90 11.3	KR 88 11.1	XF 138 10.4	I 134 6.9	XE 140 6.7	XF 139 6.6	I 132 3.3	KR 91 3.3	I 135 3.2
2.0 SEC.	KR 89 13.7	KR 88 11.4	KR 90 11.4	XE 138 10.7	I 134 7.1	XE 139 6.6	XE 140 6.6	I 132 3.4	I 155 3.3	KR 91 3.1
5.0 SEC.	KR 89 14.4	KR 88 12.0	KR 90 11.5	XF 138 11.3	I 134 7.5	XE 139 6.7	XF 140 5.9	I 132 3.6	I 135 3.5	KR 87 3.1
10.0 SEC.	KR 89 14.9	KR 88 12.7	XE 138 11.8	KR 90 10.7	I 134 7.9	XE 139 6.5	XF 140 4.9	I 132 3.8	I 135 3.7	KR 87 3.2
20.0 SEC.	KR 89 15.4	KR 88 13.6	XE 138 12.6	KR 90 9.2	I 134 8.4	XE 139 5.8	I 132 4.1	I 135 4.0	KR 87 3.4	XE 140 3.1
50.0 SEC.	KR 89 15.7	KR 88 15.5	XF 138 14.0	I 134 9.6	KR 90 5.6	I 132 4.6	I 135 4.5	XE 139 4.0	KR 87 3.9	XE 135 3.4
60.0 SEC.	KR 88 16.0	KR 89 15.7	XF 138 14.4	I 134 9.9	I 132 4.8	I 135 4.7	KR 90 4.6	KR 87 4.0	XE 135 3.5	XE 139 3.5
100.0 SEC.	KR 88 17.6	XF 138 15.3	KR 89 14.9	I 134 10.8	I 132 5.2	I 135 5.1	KR 87 4.4	XE 135 3.8	RB 90 3.2	I 133 2.3
3.3 MIN.	KR 88 19.9	XF 138 16.1	I 134 12.0	KR 89 11.8	I 132 5.9	I 135 5.8	KR 87 5.5	XE 135 5.1	KR 89 4.6	RB 89 4.4
8.3 MIN.	KR 88 22.8	XF 138 14.7	I 134 13.2	I 132 6.7	I 135 6.7	CS 138 7.4	I 132 7.2	KR 87 5.7	XE 135 5.6	RB 89 4.1
16.7 MIN.	KR 88 24.4	I 134 13.1	XE 138 10.9	CS 138 9.7	I 135 7.4	I 132 7.5	XE 135 6.3	RB 88 6.1	KR 87 5.6	XE 138 5.5
33.3 MIN.	KR 88 26.0	CS 138 12.6	I 134 12.0	I 135 8.2	I 132 7.5	XE 135 8.4	I 132 7.9	XE 135 7.4	KR 87 5.3	I 133 4.4
60.0 MIN.	KR 88 28.1	CS 138 11.5	I 134 10.2	I 135 9.4	RB 88 8.4	I 132 7.9	XE 135 7.4	KR 87 5.1	KR 87 4.9	XF 133 2.9
1.4 HR.	KR 88 29.5	I 135 10.5	RB 88 9.5	CS 138 9.0	I 134 8.7	XE 135 8.4	I 132 8.2	I 133 5.1	KR 87 3.4	CS 138 2.5
2.8 HR.	KR 88 31.2	I 135 13.5	XE 135 11.5	RB 88 10.6	I 132 8.0	I 133 7.2	I 134 4.3	XF 133 4.3	KR 87 3.4	CS 138 1.3
5.6 HR.	KR 88 26.5	I 135 17.0	XE 135 16.4	I 133 11.1	RB 88 9.0	XE 133 7.1	I 132 5.8	I 131 3.6	KR 85 1.3	KR 87 1.3
12.0 HR.	XF 135 23.0	I 133 18.9	I 135 18.1	XF 133 14.7	KR 88 11.3	I 131 7.3	RB 88 3.8	I 132 1.7	KR 85 1.0	KR 87 1.0
13.9 HR.	XE 135 23.6	I 133 20.6	I 135 17.3	XF 133 16.9	I 131 8.5	KR 88 8.2	RB 88 2.8	I 132 1.1	KR 85 0.9	KR 87 0.9
1.0 DAYS	XF 133 27.9	I 133 25.3	XF 135 20.5	I 131 14.0	I 135 10.2	KR 88 1.2	RB 88 0.4	KR 85 0.3	I 132 0.1	SR 91 0.0
1.2 DAYS	XF 133 31.5	I 133 25.6	XF 135 18.2	I 131 15.9	I 135 7.9	KR 88 0.5	KR 85 0.2	RR 88 0.2	KR 85 0.2	SR 91 0.0
2.3 DAYS	XE 133 50.3	I 131 26.0	I 133 18.4	XE 135 4.5	I 135 8.4	LA 140 0.0	KR 85 0.0	KR 85 0.0	SH 91 0.0	HA 140 0.0
4.0 DAYS	XF 133 60.0	I 131 32.7	I 133 6.9	XE 135 3.1	I 135 0.0	LA 140 0.0	KR 85 0.0	BA 140 0.0	I 130 0.0	SR 91 0.0
5.8 DAYS	XF 133 61.9	I 131 36.0	I 133 2.1	XE 135 0.0	LA 140 0.0	BA 140 0.0	KR 85 0.0	CF 141 0.0	Y 91 0.0	CE 141 0.0
10.0 DAYS	XE 133 59.2	I 131 40.7	I 133 0.1	LA 140 0.0	KR 85 0.0	BA 140 0.0	CF 141 0.0	Y 91 0.0	Y 91 0.0	ZR 95 0.0
11.6 DAYS	XE 133 57.6	I 131 42.3	I 133 0.0	LA 140 0.0	KR 85 0.0	BA 140 0.0	CF 141 0.0	Y 91 0.0	Y 91 0.0	ZR 95 0.0
23.1 DAYS	I 131 54.9	XE 133 45.0	LA 140 0.0	KR 85 0.0	RA 140 0.0	CE 141 0.0	Y 91 0.0	Y 91 0.0	Y 91 0.0	NR 95 0.0
30.0 DAYS	I 131 62.3	XF 133 37.6	LA 140 0.0	KR 85 0.0	BA 140 0.0	CF 141 0.0	Y 91 0.0	Y 91 0.0	Y 91 0.0	NR 95 0.0
57.0 DAYS	I 131 84.2	XE 133 14.6	KR 85 1.0	LA 140 0.0	BA 140 0.0	CF 141 0.0	Y 91 0.0	Y 91 0.0	Y 91 0.0	NR 95 0.0
60.0 DAYS	I 131 85.2	XE 133 13.4	KR 85 1.2	LA 140 0.0	BA 140 0.0	CF 141 0.0	Y 91 0.0	Y 91 0.0	Y 91 0.0	NR 95 0.0
115.7 DAYS	KR 85 61.7	I 131 37.1	LA 140 0.0	XE 133 0.6	BA 140 0.0	CE 141 0.0	Y 91 0.0	Y 91 0.0	Y 91 0.0	NR 95 0.0
150.0 DAYS	KR 85 96.7	I 131 3.1	LA 140 0.0	BA 140 0.0	Y 91 0.0	CE 141 0.0	Y 91 0.0	Y 91 0.0	Y 91 0.0	NR 95 0.0
231.5 DAYS	KR 85 100.0	Y 91 0.0	I 131 0.0	LA 140 0.0	CF 141 0.0	Y 129 0.0	NR 95 0.0	Y 90 0.0	ZR 95 0.0	BA 140 0.0
1.0 YRS.	KR 85 100.0	Y 91 0.0	I 129 0.0	Y 90 0.0	NR 95 0.0	CE 141 0.0	ZR 95 0.0	PR 144 0.0	CF 144 0.0	CS 135 0.0

Source 1 (Air), 200 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO HETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	XE 137 15.7	XF 139 12.8	KR 91 12.6	KR 89 8.0	KR 90 7.8	XE 138 5.7	KR 92 5.1	KR 87 4.7	XE 140 4.5	XE 135 2.8
1.0 SEC.	XF 137 16.5	XE 139 13.2	KR 91 12.2	KR 89 8.4	KR 90 8.0	XE 138 6.0	KR 87 4.9	XE 140 4.5	KR 92 3.7	XE 135 3.0
2.0 SEC.	XF 137 17.0	XF 139 13.5	KR 91 11.7	KR 89 8.7	KR 90 8.1	XE 138 6.2	KR 87 5.1	XE 140 4.5	XE 135 3.1	KR 92 2.6
5.0 SEC.	XE 137 18.3	XF 139 13.9	KR 91 10.0	KR 89 7.3	KR 90 8.3	XE 138 6.7	KR 87 5.6	XE 140 4.2	XE 135 3.4	I 134 2.2
10.0 SEC.	XE 137 19.9	XF 139 14.0	KR 89 10.1	KR 90 8.2	KR 91 7.4	XE 138 7.3	KR 87 6.1	XF 135 3.7	XE 140 3.5	I 134 2.4
20.0 SEC.	XE 137 21.8	XF 139 13.3	KR 89 11.0	XE 138 8.2	KR 90 7.4	KR 87 6.9	XE 135 4.2	KR 91 3.7	I 134 2.7	XE 140 2.4
50.0 SEC.	XE 137 24.4	KR 89 12.0	XE 138 9.8	XF 139 9.7	KR 87 8.3	XE 135 5.1	KR 90 4.8	I 134 3.2	CS 140 2.4	I 136 2.2
60.0 SEC.	XF 137 24.8	KR 89 12.1	XF 138 10.2	KR 87 8.7	XF 139 8.6	XE 135 5.3	KR 90 4.0	I 134 3.4	CS 140 2.4	KR 88 2.3
100.0 SEC.	XE 137 25.4	KR 89 12.0	XF 138 11.3	KR 87 10.0	XF 135 6.1	XE 139 5.0	I 134 3.9	KR 88 3.6	WB 90 2.6	I 133 2.1
3.3 MIN.	XF 137 23.2	XE 138 12.9	KR 87 12.1	KR 89 10.3	XF 135 7.5	I 134 4.6	RB 88 3.3	KR 88 3.2	I 133 2.6	XE 133 2.5
8.3 MIN.	KR 87 15.1	XF 138 13.2	XE 137 12.3	RB 88 9.8	XE 135 9.8	I 134 5.7	CS 138 5.1	KR 89 4.5	KR 88 4.2	I 133 3.4
16.7 MIN.	RB 88 19.1	KR 87 16.1	XE 135 11.1	XE 138 10.1	CS 138 8.8	I 134 5.9	KR 88 4.6	I 133 3.9	XE 133 3.8	I 135 3.3
33.3 MIN.	RB 88 29.6	KR 87 14.7	XE 135 11.7	CS 138 10.7	I 134 5.0	XE 138 4.8	KR 88 4.6	I 133 4.1	XE 133 4.1	I 135 3.5
60.0 MIN.	RB 88 37.3	KR 87 12.8	XE 135 12.6	CS 138 9.0	KR 88 4.5	XE 133 4.5	I 133 4.5	I 134 3.9	I 135 3.7	I 132 2.7
1.4 HR.	RB 88 40.5	XF 135 13.7	KR 87 11.5	CS 138 6.7	XF 133 5.0	I 133 4.9	KR 88 4.6	I 135 3.9	I 134 3.2	I 132 2.6
2.8 HR.	RB 88 42.7	XE 135 17.8	KR 87 7.6	XF 133 7.0	I 133 6.6	I 135 4.7	KR 88 4.6	I 132 2.4	KR 85 2.0	CS 138 1.7
5.6 HR.	RB 88 35.4	XE 135 24.7	XF 133 11.3	I 133 9.8	I 135 5.8	KR 88 3.8	KR 87 2.7	I 131 2.2	KR 85 2.1	I 132 1.7
12.0 HR.	XF 135 33.1	XF 133 22.3	I 133 16.0	RB 88 14.5	I 135 6.0	I 131 4.2	KR 85 1.6	KR 88 1.5	I 132 1.5	KR 87 1.2
13.9 HR.	XE 135 33.6	XF 133 25.4	I 133 17.2	RB 88 10.4	I 135 5.6	I 131 4.8	KR 85 1.3	KR 88 1.1	I 132 1.3	KR 85 1.1
1.0 DAYS	XE 133 39.5	XF 135 27.6	I 133 20.0	I 131 7.6	I 135 3.1	RB 88 1.4	KR 85 1.5	KR 85 1.2	KR 88 1.1	I 132 1.0
1.2 DAYS	XF 133 44.0	XF 135 24.0	I 133 19.9	I 131 8.5	I 135 2.4	RB 88 1.6	KR 85 1.3	KR 85 1.2	KR 88 1.1	I 132 1.0
2.3 DAYS	XF 133 67.0	I 133 13.6	I 131 13.2	XE 135 5.6	KR 85 3.1	I 135 2.2	SR 89 0.0	KR 85 0.0	LA 140 0.0	BA 140 0.0
4.0 DAYS	XF 133 78.0	I 131 16.2	I 133 5.0	KR 85 4.4	XF 135 3.4	SR 89 0.0	I 135 0.0	LA 140 0.0	BA 140 0.0	Y 91 0.0
5.8 DAYS	XF 133 80.1	I 131 17.7	I 133 1.5	KR 85 5.5	SR 89 0.0	XE 135 0.0	LA 140 0.0	BA 140 0.0	Y 91 0.0	I 135 0.0
10.0 DAYS	XF 133 78.4	I 131 20.5	KR 85 4.9	I 133 1.1	SR 89 0.0	LA 140 0.0	BA 140 0.0	Y 91 0.0	CS 137 0.0	Y 90 0.0
11.6 DAYS	XF 133 77.2	I 131 21.6	KR 85 4.1	SR 89 0.0	I 133 0.0	LA 140 0.0	BA 140 0.0	Y 91 0.0	CS 137 0.0	Y 90 0.0
23.1 DAYS	XF 133 65.3	I 131 30.4	KR 85 4.1	SR 89 0.0	I 134 140 0.0	HA 140 0.0	Y 91 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0
30.0 DAYS	XF 133 55.8	I 131 35.2	KR 85 8.6	SR 89 0.0	LA 140 0.0	Y 91 0.0	BA 140 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0
57.9 DAYS	KR 85 60.0	I 131 23.7	XE 133 10.8	SR 89 1.4	Y 91 0.0	LA 140 0.0	BA 140 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0
60.0 DAYS	KR 85 68.5	I 131 21.2	XE 133 8.7	SR 89 1.5	Y 91 0.0	LA 140 0.0	BA 140 0.0	CS 137 0.0	Y 90 0.0	SR 90 0.0
115.7 DAYS	KR 85 98.7	SR 89 1.0	I 131 4.3	Y 91 0.0	CS 137 0.0	XE 133 0.0	Y 90 0.0	LA 140 0.0	SR 90 0.0	BA 140 0.0
150.0 DAYS	KR 85 99.3	SR 89 0.6	Y 91 0.0	I 131 0.0	CS 137 0.0	Y 90 0.0	SR 90 0.0	LA 140 0.0	CF 141 0.0	BA 140 0.0
231.5 DAYS	KR 85 99.7	SR 89 0.2	CS 137 0.0	Y 91 0.0	Y 90 0.0	SR 90 0.0	CF 141 0.0	I 131 0.0	CS 135 0.0	I 129 0.0
1.0 YRS.	KR 85 99.9	SR 89 0.0	CS 137 0.0	Y 91 0.0	Y 91 0.0	SR 90 0.0	CS 135 0.0	I 129 0.0	PR 144 0.0	CE 141 0.0

Source 1 (Air), 200 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SFC	I 134 23,0	I 132 11,0	I 135 10,7	I 136 7,8	I 137 7,7	I 138 5,2	I 133 4,7	I *136 4,5	I 139 2,2	I 131 1,3
1,0 SFC	I 134 23,8	I 132 11,4	I 135 11,1	I 136 8,0	I 137 7,7	I 133 4,9	I 138 4,8	I *136 4,6	I 139 1,7	I 131 1,3
2,0 SEC	I 134 24,4	I 132 11,7	I 135 11,4	I 136 8,1	I 137 7,7	I 133 5,0	I *136 4,6	I 138 4,4	I 131 1,4	I 139 1,3
5,0 SEC	I 134 25,5	I 132 12,3	I 135 11,9	I 136 8,3	I 137 7,4	I 133 5,2	I *136 4,6	I 138 3,4	I 131 1,4	CS 138 ,8
10,0 SFC	I 134 26,8	I 132 12,9	I 135 12,6	I 136 8,4	I 137 6,8	I 133 5,5	I *136 4,5	I 138 2,1	I 131 1,5	CS 138 ,8
20,0 SEC	I 134 28,5	I 132 13,7	I 135 13,4	I 136 8,2	I 133 5,9	I 137 5,5	I *136 4,2	I 131 1,6	LA 142 ,9	CS 138 ,9
50,0 SFC	I 134 31,5	I 132 15,2	I 135 14,8	I 136 7,1	I 133 6,5	I *136 3,0	I 137 2,6	I 131 1,8	LA 142 1,0	CS 138 1,0
80,0 SFC	I 134 32,2	I 132 15,6	I 135 15,2	I 136 6,7	I 133 6,7	I *136 2,7	I 137 2,0	I 131 1,8	LA 142 1,0	CS 138 1,0
100,0 SFC	I 134 34,1	I 132 16,6	I 135 16,2	I 133 7,2	I 136 5,2	I 131 1,9	I *136 1,6	LA 142 1,1	CS 138 1,0	LA 140 1,0
3,3 MIN	I 134 36,4	I 132 17,9	I 135 17,6	I 133 7,8	I 136 2,4	I 131 2,1	LA 142 1,2	CS 138 1,1	LA 140 1,1	RB 89 ,7
8,3 MIN	I 134 37,3	I 132 19,1	I 135 19,1	I 133 8,5	I 131 2,3	LA 142 1,3	LA 140 1,2	CS 138 1,1	SR 92 ,6	RB 89 ,6
16,7 MIN	I 134 36,3	I 135 20,3	I 132 19,8	I 133 9,1	I 131 2,5	LA 142 1,3	LA 140 1,5	CS 138 1,0	SR 92 ,7	RB 89 ,5
33,3 MIN	I 134 33,2	I 135 22,3	I 132 20,7	I 133 10,2	I 131 2,8	LA 140 1,4	LA 142 1,3	CS 138 ,8	SR 92 ,7	NB 95 ,5
60,0 MIN	I 134 27,9	I 135 25,2	I 132 21,5	I 133 11,9	I 131 3,3	LA 140 1,7	LA 142 1,3	SR 92 ,7	NB 95 ,6	ZR 95 ,6
1,4 HR	I 135 27,4	I 134 23,5	I 132 21,8	I 133 13,3	I 131 3,8	LA 140 1,9	LA 142 1,3	SR 92 ,8	NB 95 ,7	ZR 95 ,7
2,9 HR	I 135 13,1	I 132 20,7	I 133 17,8	I 134 11,2	I 131 5,2	LA 140 2,7	XE 135 1,3	NB 95 1,0	LA 142 ,9	ZR 95 ,9
5,6 HR	I 135 36,3	I 133 23,8	I 132 14,5	I 131 7,6	LA 140 3,9	XE 135 3,0	I 134 1,9	NB 95 1,4	ZR 95 1,3	NB 97 1,0
12,0 HR	I 133 30,1	I 135 28,8	I 131 11,7	I 132 6,5	LA 140 6,1	XE 135 5,6	NB 95 2,2	ZR 95 2,1	NB 97 1,2	SR 91 ,8
13,9 HR	I 133 31,0	I 135 25,9	I 131 12,7	LA 140 6,7	XE 135 6,1	I 132 5,8	NB 95 2,4	ZR 95 2,3	NB 97 1,2	RU 103 ,7
1,0 DAYS	I 133 32,3	I 131 17,9	I 135 13,1	LA 140 9,8	XF 135 6,2	I 132 5,7	NB 95 3,5	ZR 95 3,3	NB 97 1,1	RU 103 1,1
1,2 DAYS	I 133 31,7	I 131 19,7	LA 140 10,8	I 135 9,8	I 132 6,0	XE 135 5,7	NB 95 3,9	ZR 95 3,7	RU 103 1,2	NB 97 1,1
2,3 DAYS	I 131 29,1	I 133 20,6	LA 140 17,2	I 132 7,7	NB 95 6,4	ZR 95 6,0	RU 103 1,9	XE 133 1,9	XE 135 1,7	BA 140 1,6
4,0 DAYS	I 131 34,6	LA 140 22,1	NB 95 8,7	ZR 95 8,1	I 132 7,4	I 133 7,3	RU 103 2,5	XE 133 2,5	BA 140 2,0	TE 132 ,9
5,8 DAYS	I 131 35,6	LA 140 24,5	NB 95 10,5	ZR 95 9,5	I 132 6,0	RU 103 2,9	XE 133 2,6	BA 140 2,1	I 133 2,1	CE 141 ,8
10,0 DAYS	I 131 32,9	LA 140 26,2	NB 95 13,8	ZR 95 12,1	RU 103 3,6	I 132 3,3	BA 140 2,2	XE 133 2,2	CF 141 1,0	PR 144 ,5
11,6 DAYS	I 131 31,3	LA 140 26,3	NB 95 15,0	ZR 95 13,0	RU 103 3,9	I 132 2,5	BA 140 2,3	XE 133 1,9	CE 141 1,0	PR 144 ,5
23,1 DAYS	NB 95 24,6	LA 140 23,7	I 131 19,5	ZR 95 19,3	RU 103 5,3	BA 140 2,0	CF 141 1,3	PR 144 ,8	CE 144 ,8	XE 133 ,7
30,0 DAYS	NB 95 3,1	ZR 95 22,6	LA 140 20,6	I 131 13,6	RU 103 5,9	BA 140 1,8	CE 141 1,5	PR 144 1,0	CE 144 1,0	RM 106 ,5
57,9 DAYS	NB 95 45,9	ZR 95 29,9	LA 140 8,1	RU 103 6,5	I 131 2,2	PR 144 1,7	CE 144 1,6	CE 141 1,4	RM 106 ,8	BA 140 ,7
60,0 DAYS	NB 95 46,7	ZR 95 30,1	LA 140 7,4	RU 103 6,4	I 131 1,9	PR 144 1,7	CE 144 1,6	CE 141 1,4	RM 106 ,8	BA 140 ,6
115,7 DAYS	NB 95 55,3	ZR 95 30,3	RU 103 4,4	PR 144 2,8	CE 144 2,3	RM 106 1,4	CE 141 ,8	LA 140 ,7	EU 152 ,3	SB 125 ,3
150,0 DAYS	NB 95 56,7	ZR 95 29,0	PR 144 3,5	RU 103 3,3	CF 144 3,1	RM 106 1,8	CE 141 ,5	EU 152 ,4	SB 125 ,4	SB*126 ,3
231,5 DAYS	NB 95 53,5	ZR 95 25,5	PR 144 6,0	CE 144 5,6	RM 106 3,1	RU 103 1,7	EU 152 ,8	SB 125 ,7	SB*126 ,7	ZR 93 ,6
1,0 YR	NB 95 38,9	ZR 95 17,7	PR 144 12,3	CE 144 11,5	RM 106 7,0	EU 152 2,3	SR*126 2,0	SB 125 1,9	ZR 93 1,7	I 129 1,6

Source 1 (plate out), Equilibrium, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
1.0 SEC.	I 136 10.2	I 134 9.8	I 137 9.2	I 136 7.2	I 138 6.5	I 133 5.3	I 135 4.6	I 132 4.1	I 139 2.5	RB 92 1.2
1.0 SEC.	I 136 10.7	I 134 10.4	I 137 9.5	I 136 7.5	I 138 6.2	I 133 5.6	I 135 4.9	I 132 4.4	I 139 2.0	Y 96 1.1
2.0 SEC.	I 136 11.1	I 134 10.8	I 137 9.6	I 136 7.7	I 133 5.8	I 138 5.8	I 135 5.1	I 132 4.6	I 139 1.5	Y 96 1.2
5.0 SEC.	I 136 11.6	I 134 11.6	I 137 9.5	I 136 7.9	I 133 6.3	I 135 5.5	I 132 4.9	I 138 4.5	Y 96 1.3	I 131 1.2
10.0 SEC.	I 134 12.6	I 136 12.1	I 137 9.0	I 136 8.0	I 133 6.8	I 135 6.0	I 132 5.3	I 138 2.9	Y 96 1.3	I 131 1.3
20.0 SEC.	I 134 14.0	I 136 12.4	I 136 7.7	I 133 7.6	I 137 7.5	I 135 6.7	I 132 5.9	Y 96 1.4	I 131 1.4	Y 95 1.2
50.0 SEC.	I 134 16.6	I 136 11.6	I 133 9.0	I 135 7.9	I 132 7.1	I 136 6.0	I 137 5.8	I 131 1.7	Y 96 1.5	XE 137 1.4
60.0 SEC.	I 134 17.2	I 136 11.1	I 133 9.4	I 135 8.3	I 132 7.3	I 136 5.4	I 137 3.0	I 131 1.7	XE 137 1.5	Y 96 1.4
100.0 SEC.	I 134 19.3	I 133 10.5	I 135 9.3	I 136 8.9	I 132 8.2	I 136 3.4	I 131 2.0	XE 137 1.8	Y 94 1.6	Y 95 1.6
3.3 MIN.	I 134 22.0	I 133 12.3	I 135 10.8	I 132 9.5	I 136 4.5	I 131 2.3	Y 94 1.8	XE 137 1.7	Y 95 1.6	CS 139 1.6
8.3 MIN.	I 134 24.2	I 133 14.3	I 135 12.5	I 132 10.9	I 131 2.7	Y 92 1.8	Y 94 1.8	Y 93 1.5	CS 138 1.4	PR 144 1.4
16.7 MIN.	I 134 24.1	I 133 15.8	I 135 13.6	I 132 11.6	I 131 3.0	Y 92 2.0	Y 93 1.7	PR 144 1.5	Y 94 1.4	CS 138 1.3
33.3 MIN.	I 134 22.2	I 133 17.8	I 135 15.1	I 132 12.1	I 131 3.4	Y 92 2.2	Y 93 1.9	PR 144 1.8	LA 141 1.4	Y 90 1.4
60.0 MIN.	I 133 20.3	I 134 18.2	I 135 16.6	I 132 12.3	I 131 3.9	Y 92 2.5	Y 93 2.1	PR 144 2.0	Y 90 1.6	LA 141 1.6
1.4 HR.	I 133 22.0	I 135 17.5	I 134 14.8	I 132 12.1	I 131 4.3	Y 92 2.7	Y 93 2.3	PR 144 2.2	Y 90 1.8	LA 141 1.6
2.8 HR.	I 133 26.2	I 135 18.9	I 132 10.2	I 134 6.3	I 131 5.3	XE 135 3.2	Y 92 3.1	PR 144 2.8	Y 93 2.6	Y 90 2.2
5.6 HR.	I 133 30.1	I 135 17.8	I 131 6.6	XF 135 6.4	I 132 6.2	PR 144 3.5	Y 92 2.9	Y 90 2.8	Y 93 2.7	Y 91 1.8
12.0 HR.	I 133 32.2	I 135 12.0	XE 135 10.3	I 131 8.5	PR 144 4.7	Y 90 3.7	Y 91 2.4	I 132 2.3	Y 93 2.5	LA 140 2.2
13.9 HR.	I 133 32.2	XF 135 10.7	I 135 10.5	I 131 9.0	PR 144 5.0	Y 90 4.0	Y 91 2.6	LA 140 2.4	Y 93 2.1	I 132 2.0
1.0 DAYS	I 133 30.6	I 131 11.6	XE 135 10.0	PR 144 6.0	Y 90 5.3	I 135 4.8	Y 91 3.4	LA 140 3.1	SR 89 2.7	PR 143 1.8
1.2 DAYS	I 133 29.5	I 131 12.5	XF 135 9.1	PR 144 7.2	Y 90 5.8	Y 91 3.7	I 135 3.5	LA 140 3.4	SR 89 2.9	PR 143 2.0
2.3 DAYS	I 133 18.0	I 131 17.4	PR 144 11.1	Y 90 8.9	Y 91 5.7	LA 140 5.1	SR 89 4.4	PR 143 3.0	XE 133 2.9	HA 140 2.5
4.0 DAYS	I 131 19.6	PR 144 14.4	Y 90 11.6	Y 91 7.3	LA 140 6.2	I 133 6.1	SR 89 5.6	XF 133 3.8	PR 143 3.6	HA 140 3.0
5.8 DAYS	I 131 19.2	PR 144 16.3	Y 90 13.2	Y 91 8.1	LA 140 6.5	SR 89 6.3	PR 143 3.8	XE 133 3.7	BA 140 3.1	SR 90 2.8
10.0 DAYS	PR 144 19.0	I 131 15.7	Y 90 15.6	Y 91 9.1	SR 89 7.0	LA 140 6.2	PR 143 3.7	SR 90 3.3	CS 137 3.1	BA 140 2.9
11.6 DAYS	PR 144 19.9	Y 90 16.3	I 131 14.4	Y 91 9.4	SR 89 7.2	LA 140 6.0	PR 143 3.5	SR 90 3.5	CS 137 3.2	HA 140 2.8
23.1 DAYS	PR 144 24.7	Y 90 20.9	Y 91 10.4	SR 89 7.9	I 131 6.8	SR 90 4.4	CS 137 4.1	LA 140 4.1	PR 143 2.5	ZR 95 2.2
30.0 DAYS	PR 144 26.7	Y 90 22.9	Y 91 10.6	SR 89 7.9	SR 90 4.9	CS 137 4.5	I 131 4.1	LA 140 3.1	ZR 95 2.3	RM 106 2.2
57.9 DAYS	PR 144 30.7	Y 90 28.2	Y 91 9.4	SR 89 6.7	SR 90 6.0	CS 137 5.6	RM 106 2.6	ZR 95 2.1	CE 144 2.0	CE 141 1.4
60.0 DAYS	PR 144 30.9	Y 90 28.4	Y 91 9.2	SR 89 6.6	SR 90 6.0	CS 137 5.6	RM 106 2.6	ZR 95 2.1	CE 144 2.0	CE 141 1.4
115.7 DAYS	Y 90 34.2	PR 144 32.5	SR 90 7.3	CS 137 6.8	Y 91 5.8	SR 89 3.8	RM 106 2.8	CE 144 2.1	ZR 95 1.4	NR 95 .9
150.0 DAYS	Y 90 36.9	PR 144 32.4	SR 90 7.8	CS 137 7.3	Y 91 4.1	RM 106 2.9	SR 89 2.6	CF 144 2.1	ZR 95 1.0	PM 147 .9
231.5 DAYS	Y 90 42.0	PR 144 30.3	SR 90 6.9	CS 137 8.3	RM 106 2.8	CE 144 2.0	Y 91 1.8	SR 89 1.0	PM 147 1.9	ZR 95 .5
1.0 YRS.	Y 90 47.9	PR 144 25.2	SR 90 10.2	CS 137 9.5	RM 106 2.5	CE 144 1.7	PM 147 1.0	Y 91 .4	CS 135 .4	SR 89 .2

Source 1 (plate out), Equilibrium, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
.0 SEC.	I 130 23.0	I 132 11.0	I 135 10.7	I 136 7.8	I 137 7.7	I 138 5.2	I 133 4.7	I *136 4.5	I 139 2.2	I 131 1.3
1.0 SEC.	I 130 23.8	I 132 11.4	I 135 11.1	I 136 8.0	I 137 7.7	I 133 4.9	I 138 4.8	I *136 4.6	I 139 1.7	I 131 1.3
2.0 SEC.	I 134 24.0	I 132 11.7	I 135 11.4	I 136 8.1	I 137 7.7	I 133 5.0	I *136 4.6	I 138 4.4	I 131 1.4	I 139 1.3
5.0 SEC.	I 134 25.5	I 132 12.3	I 135 11.9	I 136 8.3	I 137 7.4	I 133 5.2	I *136 4.6	I 138 3.4	I 131 1.4	CS 138 .8
10.0 SEC.	I 134 26.8	I 132 12.9	I 135 12.6	I 136 8.4	I 137 6.8	I 133 5.5	I *136 4.5	I 138 2.1	I 131 1.5	CS 138 .8
20.0 SEC.	I 134 28.5	I 132 13.7	I 135 13.4	I 136 8.2	I 133 5.9	I 137 5.5	I *136 4.2	I 131 1.6	LA 142 .9	CS 138 .9
50.0 SEC.	I 134 31.5	I 132 15.2	I 135 14.8	I 136 7.1	I 133 6.5	I *136 3.0	I 137 2.6	I 131 1.8	LA 142 1.0	CS 138 1.0
60.0 SEC.	I 134 32.2	I 132 15.4	I 135 15.2	I 136 6.7	I 133 6.7	I *136 2.7	I 137 2.0	I 131 1.8	LA 142 1.0	CS 138 1.0
100.0 SEC.	I 134 34.1	I 132 16.6	I 135 16.2	I 133 7.2	I 136 5.2	I 131 1.9	I *136 1.6	LA 142 1.1	CS 138 1.0	LA 140 1.0
3.3 MIN.	I 134 36.4	I 132 17.9	I 135 17.6	I 133 7.8	I 136 2.4	I 131 2.1	LA 142 1.2	CS 138 1.1	LA 140 1.1	RB 89 .7
8.3 MIN.	I 134 37.3	I 132 19.1	I 135 19.1	I 133 8.5	I 131 2.3	LA 142 1.3	LA 140 1.2	CS 138 1.1	SR 92 .6	RB 89 .6
16.7 MIN.	I 134 36.3	I 135 20.3	I 137 19.8	I 133 9.1	I 131 2.5	LA 142 1.3	LA 140 1.3	CS 138 1.0	SR 92 .7	RB 89 .5
33.3 MIN.	I 134 33.2	I 135 22.3	I 137 20.7	I 133 10.2	I 131 2.8	LA 140 1.4	LA 142 1.3	CS 138 .8	SR 92 .7	NR 95 .5
60.0 MIN.	I 134 27.9	I 135 25.2	I 137 21.5	I 133 11.9	I 131 3.3	LA 140 1.7	LA 142 1.3	SR 92 .7	NR 95 .6	ZR 95 .6
1.4 HR.	I 135 27.4	I 134 23.5	I 132 21.8	I 133 13.3	I 131 3.8	LA 140 1.9	LA 142 1.3	SR 92 .8	NR 95 .7	ZR 95 .7
2.8 HR.	I 135 33.1	I 132 20.7	I 133 17.8	I 134 11.2	I 131 5.2	LA 140 2.7	XE 135 1.3	NR 95 1.0	LA 142 .9	ZR 95 .9
5.6 HR.	I 135 36.3	I 133 23.8	I 132 14.5	I 131 7.6	LA 140 3.9	XE 135 3.0	I 134 1.9	NR 95 1.4	ZR 95 1.3	NR 97 1.0
12.0 HR.	I 133 30.1	I 135 28.8	I 131 11.7	I 132 6.5	LA 140 6.1	XE 135 5.6	NR 95 2.2	ZH 95 2.1	NR 97 1.2	SR 91 .8
13.9 HR.	I 133 31.0	I 135 26.0	I 131 12.7	LA 140 6.7	XE 135 6.1	I 132 5.8	NR 95 2.4	ZR 95 2.3	NR 97 1.2	RU 103 .7
1.0 DAYS	I 133 32.3	I 131 17.9	I 135 13.1	LA 140 9.8	XE 135 6.2	I 132 5.7	NR 95 3.5	ZR 95 3.3	NR 97 1.1	RU 103 1.1
1.2 DAYS	I 133 31.7	I 131 19.7	LA 140 10.8	I 135 9.8	I 132 6.0	XE 135 5.7	NR 95 3.9	ZR 95 3.7	RU 103 1.2	NR 97 1.1
2.3 DAYS	I 131 29.1	I 130 20.6	LA 140 17.2	I 132 7.7	NR 95 6.2	ZR 95 6.0	RU 103 1.9	XF 133 1.9	XE 135 1.7	BA 140 1.6
4.0 DAYS	I 131 34.6	LA 140 22.1	NR 95 8.7	ZR 95 8.1	I 132 7.4	I 133 7.3	RU 103 2.5	XF 133 2.5	BA 140 2.0	YE 132 .9
5.8 DAYS	I 131 35.6	LA 140 24.5	NR 95 10.5	ZR 95 9.5	I 132 6.0	RU 103 3.0	XE 133 2.6	BA 140 2.1	I 133 2.1	CF 141 .8
10.0 DAYS	I 131 32.9	LA 140 26.2	NR 95 13.8	ZR 95 12.1	RU 103 3.6	I 132 3.3	BA 140 2.2	XE 133 2.2	CE 141 1.0	PR 144 .5
11.6 DAYS	I 131 31.4	LA 140 24.3	NR 95 15.1	ZR 95 13.0	RU 103 3.9	I 132 2.5	HA 140 2.3	XE 133 1.9	CE 141 1.0	PR 144 .5
23.1 DAYS	NR 95 24.6	LA 140 23.8	I 131 19.6	ZR 95 19.4	RU 103 5.3	HA 140 2.0	CF 141 1.3	PR 144 .8	CF 144 .8	XE 133 .7
30.0 DAYS	NR 95 30.2	ZR 95 22.7	LA 140 20.7	I 131 15.6	RU 103 6.0	BA 140 1.8	CE 141 1.5	PR 144 1.0	CE 144 1.0	RH 106 .5
57.9 DAYS	NR 95 46.2	ZR 95 30.1	LA 140 8.1	RU 103 6.5	I 131 2.2	PR 144 1.7	CE 144 1.6	CE 141 1.4	RH 106 .8	BA 140 .7
60.0 DAYS	NR 95 47.0	ZR 95 30.3	LA 140 7.5	RU 103 6.5	I 131 1.9	PR 144 1.8	CE 144 1.6	CF 141 1.4	RH 106 .8	BA 140 .6
115.7 DAYS	NR 95 56.0	ZR 95 30.7	RU 103 4.4	PR 144 2.8	CE 144 2.6	RH 106 1.4	CE 141 .8	LA 140 .7	SB 125 .3	Y 91 .1
150.0 DAYS	NR 95 57.1	ZR 95 29.5	PR 144 3.6	RU 103 3.4	CF 144 3.3	RH 106 1.8	CE 141 .5	SB 125 .4	LA 140 .1	PR*144 .1
231.5 DAYS	NR 95 55.3	ZR 95 26.4	PR 144 6.2	CF 144 5.7	RH 106 3.2	RU 103 1.7	SH 125 .7	CE 141 .2	EU 155 .1	PR*144 .1
1.0 YRS.	NR 95 42.9	ZR 95 19.5	PR 144 13.6	CF 144 12.7	RH 106 7.7	SB 125 2.0	RU 103 .5	EU 155 .4	PR*144 .3	SN 123 .1

Source 1 (plate out), 5000 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	I 136 10.2	I 134 9.8	I 137 9.2	I 136 7.2	I 138 6.5	I 133 5.3	I 135 4.7	I 132 4.2	I 139 2.5	RB 92 1.2
1.0 SEC.	I 136 10.8	I 134 10.4	I 137 9.5	I 136 7.5	I 138 6.2	I 133 5.6	I 135 5.0	I 132 4.4	I 139 2.0	Y 96 1.1
2.0 SEC.	I 136 11.1	I 134 10.6	I 137 9.6	I 136 7.7	I 135 5.8	I 138 5.8	I 135 5.1	I 132 4.6	I 139 1.5	Y 96 1.2
5.0 SEC.	I 136 11.7	I 134 11.7	I 137 9.5	I 136 8.0	I 133 6.3	I 135 5.6	I 132 4.9	I 138 4.5	Y 96 1.3	I 131 1.2
10.0 SEC.	I 134 12.7	I 136 12.2	I 137 9.0	I 136 8.1	I 133 6.8	I 135 6.0	I 132 5.4	I 138 2.9	Y 96 1.4	I 131 1.3
20.0 SEC.	I 134 14.1	I 136 12.5	I 136 7.8	I 133 7.8	I 137 7.6	I 135 6.7	I 132 6.0	Y 96 1.4	I 131 1.4	Y 95 1.2
50.0 SEC.	I 134 16.7	I 136 11.6	I 133 9.1	I 135 8.0	I 132 7.1	I 136 6.0	I 137 3.9	I 131 1.7	Y 96 1.5	XE 137 1.4
60.0 SEC.	I 134 17.4	I 136 11.2	I 133 9.4	I 135 8.3	I 137 7.4	I 136 5.4	I 137 3.0	I 131 1.8	XE 137 1.6	Y 96 1.5
100.0 SEC.	I 134 19.4	I 133 10.6	I 135 9.4	I 136 9.0	I 132 8.3	I 136 3.4	I 131 2.0	XE 137 1.8	Y 94 1.6	Y 95 1.6
3.3 MIN.	I 134 22.2	I 133 12.4	I 135 10.9	I 137 9.6	I 136 4.6	I 131 2.3	Y 94 1.8	XE 137 1.7	Y 95 1.6	CS 139 1.6
8.3 MIN.	I 134 24.4	I 133 14.5	I 135 12.7	I 137 11.0	I 131 2.7	Y 92 1.8	Y 94 1.8	Y 93 1.5	CS 138 1.4	PR 144 1.4
16.7 MIN.	I 134 24.4	I 133 16.0	I 135 13.8	I 137 11.7	I 131 3.0	Y 92 2.0	Y 93 1.7	PR 144 1.6	Y 94 1.5	CS 138 1.5
33.3 MIN.	I 134 27.5	I 133 18.1	I 135 15.3	I 137 12.3	I 131 3.4	Y 92 2.3	Y 93 1.9	PR 144 1.8	LA 141 1.5	BA 139 1.3
60.0 MIN.	I 133 20.6	I 134 16.5	I 135 16.9	I 137 12.5	I 131 3.7	Y 92 2.6	Y 93 2.1	PR 144 2.1	LA 141 1.6	ZR 97 1.2
1.4 HR.	I 133 22.4	I 135 17.9	I 134 15.1	I 132 12.4	I 131 4.3	Y 92 2.8	Y 93 2.3	PR 144 2.3	LA 141 1.8	XE 135 1.5
2.8 HR.	I 133 26.8	I 135 19.4	I 132 10.5	I 134 6.5	I 131 5.4	XE 135 3.3	Y 92 3.2	PR 144 2.9	Y 93 2.6	LA 141 1.6
5.6 HR.	I 133 31.0	I 135 18.3	I 131 6.8	XF 135 6.5	I 132 6.4	PR 144 3.6	Y 92 3.0	Y 93 2.8	Y 91 1.9	ZR 97 1.8
12.0 HR.	I 133 33.5	I 135 12.4	XF 135 10.7	I 131 8.9	PR 144 4.8	Y 91 2.5	I 132 2.4	Y 93 2.4	LA 140 2.1	SR 89 2.0
13.9 HR.	I 133 33.6	XF 135 11.2	I 135 10.9	I 131 9.4	PR 144 5.1	Y 91 2.7	LA 140 2.5	Y 93 2.2	I 132 2.1	SR 89 2.1
1.0 DAYS	I 133 32.4	I 131 12.3	XF 135 10.6	PR 144 7.0	I 135 5.1	Y 91 3.6	LA 140 3.3	SR 89 2.8	PR 143 1.9	I 132 1.9
1.2 DAYS	I 133 31.3	I 131 13.3	XF 135 9.6	PR 144 7.7	Y 91 4.0	I 135 3.7	LA 140 3.6	SR 89 3.1	PR 143 2.1	I 132 2.0
2.3 DAYS	I 133 19.8	I 131 19.2	HM 144 12.2	Y 91 6.5	LA 140 5.6	SR 89 4.9	PR 143 3.3	XF 133 3.2	Y 90 2.8	BA 140 2.8
4.0 DAYS	I 131 22.3	I 144 16.3	Y 91 8.2	LA 140 7.0	I 133 6.9	SR 89 6.4	XE 133 4.3	PR 143 4.1	Y 90 3.8	BA 140 3.4
5.8 DAYS	I 131 22.2	I 144 18.8	Y 91 9.4	LA 140 7.5	SR 89 7.2	PR 143 4.4	Y 90 4.4	XE 133 4.3	BA 140 3.6	CF 141 2.3
10.0 DAYS	PR 144 22.7	I 131 18.8	Y 91 10.8	SR 89 8.3	LA 140 7.4	Y 90 5.3	PR 143 4.4	BA 140 3.5	XE 133 3.2	CE 141 2.6
11.6 DAYS	PR 144 23.9	I 131 17.3	Y 91 11.2	SR 89 8.6	LA 140 7.2	Y 90 5.6	PR 143 4.5	BA 140 3.4	XE 133 2.8	CE 141 2.6
23.1 DAYS	PR 144 31.5	Y 91 13.3	SR 89 10.0	I 131 8.7	Y 90 7.6	LA 140 5.2	PR 143 3.2	ZR 95 2.8	CE 141 2.6	RH 106 2.6
30.0 DAYS	PR 144 34.9	Y 91 13.8	SR 89 10.3	Y 90 8.6	I 131 5.4	LA 140 4.0	ZR 95 3.0	PH 106 2.9	CE 141 2.7	PR 143 2.5
57.9 DAYS	PR 144 43.3	Y 91 13.2	Y 90 11.4	SR 89 9.4	RH 106 3.7	ZR 95 2.9	CE 144 2.8	SR 90 2.4	CS 137 2.1	CE 141 2.0
60.0 DAYS	PR 144 41.7	Y 91 13.0	Y 90 11.5	SR 89 9.3	RH 106 3.7	ZR 95 2.9	CE 144 2.9	SR 90 2.5	CS 137 2.2	CE 141 1.9
115.7 DAYS	PR 144 50.2	Y 90 15.1	Y 91 8.9	SR 89 5.8	RH 106 4.4	CE 144 3.3	SR 90 3.2	CS 137 2.8	ZR 95 2.1	NH 95 1.4
150.0 DAYS	PR 144 52.2	Y 90 17.0	Y 91 6.7	RH 106 4.7	SR 89 4.2	SR 90 3.6	CF 144 3.4	CS 137 3.2	ZR 95 1.7	PH 147 1.4
231.5 DAYS	PR 144 53.4	Y 90 21.2	HM 106 5.0	SR 90 4.5	CS 137 4.0	CE 144 3.5	Y 91 3.2	SR 89 1.8	PM 147 1.6	ZR 95 1.9
1.0 YRS.	PR 144 49.9	Y 90 27.2	SR 90 5.8	CS 137 5.1	RH 106 5.0	CE 144 3.3	PM 147 1.9	Y 91 1.8	SR 89 1.4	ZR 95 1.3

Source 1 (plate out), 5000 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SFC.	I 134 23.0	I 132 11.0	I 135 10.7	I 136 7.8	I 137 7.7	I 138 5.2	I 133 4.7	I *136 4.5	I 139 2.2	I 151 1.3
1.0 SFC.	I 134 23.8	I 132 11.4	I 135 11.1	I 136 8.0	I 137 7.7	I 138 4.9	I 138 4.8	I *136 4.6	I 139 1.7	I 151 1.3
2.0 SFC.	I 134 24.4	I 132 11.7	I 135 11.4	I 136 8.1	I 137 7.7	I 138 5.0	I *136 4.6	I 138 4.4	I 131 1.4	I 139 1.3
5.0 SEC.	I 134 25.5	I 132 12.3	I 135 11.9	I 136 8.3	I 137 7.4	I 138 5.3	I *136 4.6	I 138 3.4	I 131 1.4	CS 138 .8
10.0 SFC.	I 134 26.8	I 132 12.9	I 135 12.6	I 136 8.4	I 137 6.8	I 138 5.5	I *136 4.5	I 138 2.1	I 131 1.5	CS 138 .8
20.0 SEC.	I 134 28.5	I 132 13.7	I 135 13.4	I 136 8.2	I 138 5.9	I 137 5.5	I *136 4.2	I 131 1.6	LA 142 .9	CS 138 .9
50.0 SFC.	I 134 31.5	I 132 15.2	I 135 14.8	I 136 7.2	I 138 6.5	I *136 3.0	I 137 2.6	I 131 1.8	LA 142 1.0	CS 138 1.0
100.0 SEC.	I 134 32.2	I 132 15.6	I 135 15.2	I 136 6.7	I 138 6.7	I *136 2.7	I 137 2.0	I 131 1.8	LA 142 1.0	CS 138 1.0
100.0 SFC.	I 134 34.1	I 132 16.6	I 135 16.2	I 138 7.2	I 136 5.2	I 131 1.9	I *136 1.6	LA 142 1.1	CS 138 1.0	LA 1.0 1.0
3.3 MIN.	I 134 36.4	I 132 17.9	I 135 17.6	I 137 7.8	I 136 2.4	I 131 2.1	LA 142 1.2	CS 138 1.1	LA 140 1.1	RB 89 .7
8.3 MIN.	I 134 37.3	I 132 19.1	I 135 19.1	I 138 8.5	I 131 2.3	LA 142 1.3	LA 140 1.2	CS 138 1.1	SR 92 .6	RB 89 .6
16.7 MIN.	I 134 38.3	I 135 20.3	I 132 19.8	I 137 9.1	I 131 2.5	LA 142 1.3	LA 140 1.3	CS 138 1.0	SR 92 .7	RB 89 .5
33.3 MIN.	I 134 39.2	I 135 22.3	I 132 20.7	I 138 10.2	I 131 2.8	LA 140 1.4	LA 142 1.3	CS 138 .8	SR 92 .7	NR 95 .5
60.0 MIN.	I 134 40.9	I 135 25.2	I 132 21.5	I 138 11.9	I 131 3.3	LA 140 1.7	LA 142 1.3	SR 92 .7	NR 95 .6	ZH 95 .6
1.4 HR.	I 135 42.4	I 134 23.5	I 132 21.8	I 138 13.3	I 131 3.8	LA 140 1.9	LA 142 1.3	SR 92 .8	NR 95 .7	ZR 95 .6
2.8 HR.	I 135 43.1	I 132 20.7	I 137 17.8	I 134 11.2	I 131 5.3	LA 140 2.7	XE 135 1.3	LA 142 .9	NR 95 .9	ZR 95 .9
5.6 HR.	I 135 46.3	I 133 23.8	I 132 14.5	I 131 7.6	LA 140 3.9	XE 135 3.0	I 134 1.9	NR 95 1.0	ZR 95 1.3	NR 97 1.0
12.0 HR.	I 133 30.1	I 135 28.9	I 131 11.7	I 132 6.5	LA 140 6.1	XE 135 5.7	NR 95 2.2	ZR 95 2.1	NR 97 1.2	SR 91 .8
13.9 HR.	I 133 31.1	I 135 26.0	I 131 12.7	LA 140 6.7	XE 135 6.1	I 132 5.8	NR 95 2.4	ZR 95 2.5	NR 97 1.2	RU 103 .7
1.0 DAYS	I 133 32.4	I 131 17.9	I 135 13.1	LA 140 9.8	XE 135 6.2	I 132 5.7	NR 95 3.5	ZR 95 3.3	NR 97 1.1	RU 103 1.1
1.2 DAYS	I 133 31.8	I 131 19.7	LA 140 10.9	I 135 9.8	I 132 6.1	XE 135 5.8	NR 95 3.9	ZR 95 3.7	RU 103 1.2	NR 97 1.1
2.3 DAYS	I 131 29.2	I 133 20.6	LA 140 17.2	I 132 7.7	NR 95 6.3	ZR 95 6.0	RU 103 1.9	XE 133 1.9	XE 135 1.7	HA 140 1.6
4.0 DAYS	I 131 34.8	LA 140 22.2	NR 95 8.7	ZR 95 8.1	I 132 7.4	I 133 7.4	RU 103 2.5	XE 133 2.5	BA 140 2.0	TF 132 .9
5.8 DAYS	I 131 35.8	LA 140 24.6	NR 95 10.4	ZR 95 9.5	I 132 8.1	RU 103 3.0	XE 133 2.6	HA 140 2.1	I 133 2.1	CF 141 .8
10.0 DAYS	I 131 33.1	LA 140 26.4	NR 95 13.8	ZR 95 12.1	RU 103 3.7	I 132 3.3	BA 140 2.3	XF 133 2.2	CE 141 1.0	ND 147 .4
11.8 DAYS	I 131 31.6	LA 140 26.5	NR 95 15.0	ZR 95 13.0	RU 103 3.9	I 132 2.6	BA 140 2.3	XF 133 2.0	CE 141 1.0	ND 147 .4
23.1 DAYS	NR 95 24.7	LA 140 24.1	I 131 19.8	ZR 95 19.5	RU 103 5.4	HA 140 2.1	CE 141 1.4	XE 133 .8	PR 144 .6	CE 144 .6
30.0 DAYS	NR 95 30.3	ZR 95 22.9	LA 140 20.9	I 131 13.8	RU 103 6.0	BA 140 1.8	CF 141 1.5	PR 144 1.5	PR 144 .7	CF 144 .7
57.0 DAYS	NR 95 46.8	ZR 95 30.5	LA 140 8.3	RU 103 6.6	I 131 2.2	CE 141 1.5	PR 144 1.2	CE 144 1.1	BA 140 .7	RM 106 .5
60.0 DAYS	NR 95 47.6	ZR 95 30.8	LA 140 7.6	RU 103 6.6	I 131 1.9	CE 141 1.5	PR 144 1.3	CE 144 1.2	BA 140 .7	RM 106 .5
115.7 DAYS	NR 95 57.3	ZR 95 31.4	RU 103 4.6	PR 144 2.0	CE 144 1.9	RM 106 1.1	CF 141 .5	LA 140 .7	Y 91 .1	SB 125 .1
150.0 DAYS	NR 95 58.9	ZR 95 30.4	RU 103 3.5	PR 144 2.6	CE 144 2.4	RM 106 1.1	CF 141 .5	LA 140 .1	SR 125 .1	Y 91 .1
231.5 DAYS	NR 95 54.5	ZR 95 27.9	PR 144 4.6	CE 144 4.3	RM 106 2.1	RU 103 1.8	SR 125 .2	CE 141 .2	PR*144 .1	SN 123 .1
1.0 YRS.	NR 95 49.1	ZR 95 22.3	PR 144 11.0	CF 144 10.2	RM 106 5.0	SR 125 .7	RU 103 .6	PR*144 .3	SN 123 .1	EU 155 .1

Source 1 (plate out), 500 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LNCA

	1	2	3	4	5	6	7	8	9	10
0 SEC.	I 136 10.3	I 134 9.9	I 137 9.2	I *136 7.2	I 138 6.5	I 133 5.3	I 135 4.7	I 132 4.2	I 139 2.5	RB 92 1.2
1.0 SEC.	I 136 10.8	I 134 10.5	I 137 9.6	I *136 7.6	I 138 6.2	I 133 5.6	I 135 5.0	I 132 4.4	I 139 2.0	Y 96 1.2
2.0 SEC.	I 136 11.2	I 134 10.9	I 137 9.6	I *136 7.8	I 133 5.8	I 138 5.8	I 135 5.2	I 132 4.6	I 139 1.5	Y 96 1.2
5.0 SEC.	I 136 11.8	I 134 11.7	I 137 9.6	I *136 8.0	I 133 6.3	I 135 5.6	I 132 5.0	I 138 4.6	Y 96 1.3	I 131 1.2
10.0 SEC.	I 134 12.8	I 136 12.3	I 137 9.0	I *136 8.1	I 133 6.9	I 135 6.1	I 132 5.4	I 138 2.9	Y 96 1.4	I 131 1.3
20.0 SEC.	I 134 14.2	I 136 12.6	I *136 7.4	I 133 7.6	I 137 7.6	I 135 6.7	I 132 6.0	Y 96 1.4	I 131 1.4	Y 95 1.2
50.0 SEC.	I 134 16.8	I 136 11.7	I 133 9.1	I 135 8.0	I 132 7.1	I *136 6.0	I 137 3.9	I 131 1.7	Y 96 1.5	XE 137 1.4
60.0 SEC.	I 134 17.5	I 136 11.2	I 133 9.5	I 135 8.4	I 132 7.4	I *136 5.5	I 137 3.1	I 131 1.8	XE 137 1.6	Y 96 1.5
100.0 SEC.	I 134 19.5	I 133 10.7	I 135 9.4	I 136 9.1	I 132 8.4	I *136 3.5	I 131 2.0	XE 137 1.8	Y 94 1.6	Y 95 1.6
3.3 MIN.	I 134 22.4	I 133 12.5	I 135 11.0	I 132 9.7	I 136 4.6	I 131 2.3	Y 94 1.8	XE 137 1.7	Y 95 1.7	CS 139 1.6
8.3 MIN.	I 134 24.7	I 133 14.6	I 135 12.8	I 132 11.1	I 131 2.7	Y 92 1.8	Y 94 1.8	Y 93 1.6	CS 138 1.4	Y 95 1.4
16.7 MIN.	I 134 24.6	I 133 16.1	I 135 14.0	I 132 11.8	I 131 3.0	Y 92 2.0	Y 93 1.7	Y 94 1.5	CS 138 1.4	LA 141 1.3
33.3 MIN.	I 134 22.8	I 133 18.3	I 135 15.5	I 132 12.5	I 131 3.5	Y 92 2.3	Y 93 1.9	LA 141 1.5	BA 139 1.3	LA 142 1.3
60.0 MIN.	I 133 20.9	I 134 18.8	I 135 17.1	I 132 12.7	I 131 4.0	Y 92 2.6	Y 93 2.2	LA 141 1.6	PR 144 1.5	ZR 97 1.2
1.4 HR.	I 133 22.7	I 135 19.1	I 134 15.3	I 132 12.5	I 131 4.4	Y 92 2.8	Y 93 2.3	LA 141 1.7	PR 144 1.6	XE 135 1.5
2.8 HR.	I 133 27.3	I 135 19.7	I 132 10.7	I 134 6.6	I 131 5.5	XE 135 3.3	Y 92 3.2	Y 93 2.7	PR 144 2.1	LA 141 1.6
5.6 HR.	I 133 31.7	I 135 18.7	I 131 6.9	XE 135 6.7	I 132 6.5	Y 92 3.0	Y 93 2.8	PR 144 2.6	Y 91 1.9	ZR 97 1.8
12.0 HR.	I 133 34.5	I 135 12.8	YF 135 11.0	I 131 9.2	PR 144 3.5	Y 91 2.6	I 132 2.5	Y 93 2.5	LA 140 2.4	SR 89 2.0
13.9 HR.	I 133 34.8	YF 135 11.8	I 135 11.3	I 131 9.8	PR 144 3.8	Y 91 2.8	LA 140 2.5	Y 93 2.3	I 132 2.2	SR 89 2.2
1.0 DAYS	I 133 33.0	I 131 12.8	YF 135 11.1	I 135 5.3	PR 144 5.2	Y 91 3.8	LA 140 3.4	SR 89 3.0	PR 143 2.0	I 132 2.0
1.2 DAYS	I 133 33.0	I 131 14.0	YF 135 10.1	PR 144 5.7	Y 91 4.2	I 135 3.9	LA 140 3.8	SR 89 3.3	PR 143 2.2	I 132 2.1
2.3 DAYS	I 133 21.5	I 131 20.8	PR 144 9.3	Y 91 5.8	LA 140 6.0	SR 89 5.3	PR 143 3.6	YF 135 3.5	BA 140 3.0	XE 135 2.9
4.0 DAYS	I 131 25.0	PR 144 12.9	Y 91 9.2	LA 140 7.9	I 133 7.7	SR 89 7.2	XE 133 4.8	PR 143 4.6	BA 140 3.8	I 132 2.6
5.8 DAYS	I 131 25.3	PR 144 15.1	Y 91 10.6	LA 140 8.5	SR 89 8.2	PR 143 5.0	XE 133 4.9	HA 140 4.1	CF 141 2.6	ZR 95 2.2
10.0 DAYS	I 131 22.0	PR 144 18.8	Y 91 12.7	SR 89 9.8	LA 140 8.6	PR 143 5.1	BA 140 4.1	XE 133 3.8	CE 141 3.0	ZK 95 2.7
11.6 DAYS	I 131 20.6	PR 144 20.0	Y 91 13.3	SR 89 10.2	LA 140 8.5	PR 143 5.0	BA 140 4.0	XE 133 3.3	CF 141 3.1	ZR 95 2.8
23.1 DAYS	PR 144 28.1	Y 91 16.8	SR 89 12.7	I 131 11.0	LA 140 6.6	PR 143 4.0	ZR 95 3.6	CF 141 3.5	BA 140 3.1	RM 106 2.0
30.0 DAYS	PR 144 32.1	Y 91 18.0	SR 89 13.4	I 131 7.1	LA 140 5.3	ZR 95 3.9	CF 141 3.5	PR 143 3.3	HA 140 2.5	RM 106 2.3
57.9 DAYS	PR 144 43.5	Y 91 18.7	SR 89 13.4	ZR 95 4.2	HM 106 3.2	CE 144 2.9	CE 141 2.8	NB 95 2.3	Y 90 1.9	LA 140 1.7
60.0 DAYS	PR 144 44.1	Y 91 18.6	SR 89 13.3	ZR 95 4.2	HM 106 3.2	CE 144 2.9	CF 141 2.8	NB 95 2.3	Y 90 1.9	LA 140 1.5
115.7 DAYS	PR 144 56.3	Y 91 14.1	SR 89 9.3	RM 106 4.3	CF 144 3.7	ZR 95 3.4	Y 90 2.8	NB 95 2.2	CE 141 1.2	PM 147 1.6
150.0 DAYS	PR 144 61.7	Y 91 11.2	SR 89 7.0	RM 106 4.3	CF 144 4.1	Y 90 3.3	ZR 95 2.8	NB 95 2.0	PM 147 1.7	CE 141 1.7
231.5 DAYS	PR 144 79.0	Y 91 5.9	RM 106 5.7	CF 144 4.6	Y 90 4.6	SR 89 3.3	ZR 95 1.6	NB 95 1.2	SH 90 1.0	PM 147 1.9
1.0 YRS.	PR 144 74.3	Y 90 6.7	RM 106 6.5	CF 144 4.9	Y 91 1.8	SR 90 1.4	PM 147 1.3	CS 137 1.2	SR 89 1.8	ZK 95 1.6

Source 1 (plate out), 500 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 134 23.0	I 132 11.1	I 135 10.7	I 136 7.8	I 137 7.7	I 138 5.2	I 133 4.7	I *136 4.5	I 139 2.2	I 131 1.5
1.0 SEC.	I 134 23.8	I 132 11.5	I 135 11.1	I 136 8.0	I 137 7.8	I 133 4.9	I 138 4.8	I *136 4.6	I 139 1.7	I 131 1.5
2.0 SEC.	I 134 24.4	I 132 11.7	I 135 11.4	I 136 8.1	I 137 7.7	I 133 5.0	I *136 4.6	I 138 4.4	I 131 1.4	I 139 1.3
5.0 SEC.	I 134 25.6	I 132 12.3	I 135 12.0	I 136 8.3	I 137 7.4	I 133 5.3	I *136 4.6	I 138 4.6	I 131 1.4	I 139 1.3
10.0 SEC.	I 134 26.8	I 132 12.9	I 135 12.6	I 136 8.4	I 137 6.8	I 133 5.5	I *136 4.5	I 138 2.1	I 131 1.5	CS 138 .8
20.0 SEC.	I 134 28.6	I 132 13.8	I 135 13.4	I 136 8.3	I 133 5.9	I 137 5.5	I *136 4.2	I 131 1.6	LA 142 .9	CS 138 .8
50.0 SEC.	I 134 31.5	I 132 15.2	I 135 14.9	I 136 7.2	I 133 6.5	I *136 3.0	I 137 2.6	I 131 1.8	LA 142 1.0	CS 138 1.0
60.0 SEC.	I 134 32.2	I 132 15.6	I 135 15.2	I 136 6.7	I 133 6.7	I *136 2.7	I 137 2.0	I 131 1.8	LA 142 1.0	CS 138 1.0
100.0 SEC.	I 134 34.2	I 132 16.6	I 135 16.3	I 133 7.2	I 136 5.2	I 131 1.9	I *136 1.6	LA 142 1.1	CS 138 1.0	LA 140 1.0
3.3 MIN.	I 134 36.4	I 132 17.9	I 135 17.6	I 133 7.8	I 136 2.4	I 131 2.1	LA 142 1.2	CS 138 1.1	LA 140 1.1	RH 89 .7
8.3 MIN.	I 134 36.3	I 135 20.3	I 132 19.8	I 133 8.5	I 131 2.3	LA 142 1.3	LA 140 1.2	CS 138 1.1	SR 92 .6	RB 89 .6
16.7 MIN.	I 134 33.3	I 135 22.3	I 132 20.7	I 133 10.2	I 131 2.8	LA 140 1.4	LA 142 1.3	CS 138 1.0	SR 92 .7	RB 89 .5
33.3 MIN.	I 134 28.0	I 135 25.2	I 132 21.6	I 133 11.9	I 131 3.3	LA 140 1.7	LA 142 1.3	CS 138 .8	SR 92 .7	ZR 95 .4
60.0 MIN.	I 135 27.5	I 134 23.5	I 132 21.9	I 133 13.4	I 131 3.8	LA 140 1.9	LA 142 1.3	SR 92 .7	CS 138 .5	ZR 95 .5
2.8 HR.	I 135 33.3	I 132 20.8	I 133 17.9	I 134 11.3	I 131 5.3	LA 140 2.7	XF 135 1.3	LA 142 1.3	SR 92 .8	ZR 95 .6
5.6 HR.	I 135 36.5	I 133 24.0	I 132 14.6	I 131 7.7	LA 140 4.0	XE 135 3.0	I 134 1.9	ZR 95 1.2	NR 95 1.1	NB 97 .5
12.0 HR.	I 133 30.4	I 135 29.1	I 131 11.8	I 132 6.6	LA 140 6.2	XE 135 5.7	ZR 95 1.9	NR 95 1.7	NB 97 1.2	SR 91 .8
13.9 HR.	I 133 31.3	I 135 26.2	I 131 12.9	I 135 13.3	LA 140 9.9	XE 135 6.3	I 132 5.9	ZR 95 2.0	NR 95 1.9	NB 97 1.2
1.0 DAYS	I 133 32.3	I 131 18.2	I 135 13.3	I 134 10.0	I 132 9.9	I 132 6.1	XF 135 5.8	ZR 95 3.0	NR 95 2.7	NB 97 1.2
2.3 DAYS	I 131 29.9	I 133 21.1	LA 140 11.0	I 135 9.9	I 132 7.9	ZR 95 5.4	NB 95 7.0	XE 133 3.3	NR 95 3.0	RU 103 1.2
4.0 DAYS	I 131 35.9	LA 140 23.0	I 132 7.6	I 133 7.6	ZR 95 6.3	RU 103 6.3	RU 103 3.0	XE 133 1.9	RU 103 1.9	XE 135 1.7
5.8 DAYS	I 131 37.2	LA 140 25.6	ZR 95 8.7	NR 95 8.5	I 132 6.3	RU 103 3.7	I 132 3.4	BA 140 2.4	XF 133 2.2	CE 141 2.2
10.0 DAYS	I 131 36.0	LA 140 27.7	NR 95 11.4	ZR 95 11.2	RU 103 4.0	I 132 2.7	BA 140 2.4	XF 133 2.1	CE 141 2.1	CE 141 2.0
11.6 DAYS	I 131 36.0	LA 140 27.7	NR 95 11.4	ZR 95 11.2	RU 103 4.0	I 132 2.7	BA 140 2.4	XF 133 2.1	CE 141 2.1	CE 141 2.0
23.1 DAYS	LA 140 .5	21.6	I 131 21.4	ZR 95 18.7	RU 103 5.7	BA 140 2.2	CE 141 1.5	XE 133 2.1	CE 141 1.5	XE 133 2.1
30.0 DAYS	NR 95 .5	23.1	ZR 95 22.3	I 131 15.2	RU 103 6.4	HA 140 2.0	CF 141 1.6	PR 144 1.6	PR 144 .8	PR 144 .8
57.9 DAYS	NR 95 .5	30.9	LA 140 9.5	RU 103 7.4	I 131 2.6	CE 141 1.7	BA 140 .8	PR 144 .8	PR 144 .8	PR 144 .8
60.0 DAYS	NR 95 .5	31.2	LA 140 8.7	RU 103 7.3	I 131 2.2	CE 141 1.6	BA 140 .8	PR 144 .8	PR 144 .8	PR 144 .8
115.7 DAYS	NR 95 .5	32.3	RU 103 5.2	PR 144 1.3	CE 144 1.2	CE 141 .9	LA 140 .8	RH 106 .5	Y 91 .1	HA 140 .1
150.0 DAYS	NR 95 .5	31.4	RU 103 4.0	PR 144 1.7	CF 144 1.5	RH 106 .9	CE 141 .6	LA 140 .2	Y 91 .1	SR 125 .1
231.5 DAYS	NR 95 .5	29.3	PR 144 3.0	CE 144 2.8	RU 103 2.1	RH 106 1.3	CE 141 .2	SR 125 .1	Y 91 .1	PR 144 .1
1.0 YRS.	NR 95 .5	25.1	PR 144 7.7	CE 144 7.1	RH 106 3.5	RU 103 .7	SR 125 .4	PR 144 .2	SN 123 .1	Y 91 .1

Source 1 (plate out), 200 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 136 10.3	I 134 9.9	I 137 9.3	I *136 7.3	I 138 6.5	I 133 5.3	I 135 4.7	I 132 4.2	I 139 2.5	FB 92 1.3
0.0 SEC.	I 136 10.9	I 134 10.5	I 137 9.6	I *136 7.6	I 138 6.2	I 133 5.6	I 135 5.0	I 132 4.4	I 139 2.0	Y 96 1.2
2.0 SEC.	I 136 11.2	I 134 10.9	I 137 9.7	I *136 7.8	I 133 5.9	I 134 5.8	I 135 5.2	I 132 4.6	I 139 1.5	Y 96 1.2
5.0 SEC.	I 136 11.8	I 134 11.8	I 137 9.6	I *136 8.0	I 133 6.3	I 135 5.6	I 132 5.0	I 138 4.6	Y 96 1.3	I 131 1.2
10.0 SEC.	I 134 12.8	I 136 12.3	I 137 9.1	I *136 8.1	I 133 6.9	I 135 6.1	I 132 5.4	I 138 2.9	Y 96 1.4	I 131 1.3
20.0 SEC.	I 134 14.2	I 136 12.6	I *136 7.8	I 133 7.7	I 137 7.6	I 135 6.8	I 132 6.0	Y 96 1.4	I 131 1.4	Y 95 1.2
50.0 SEC.	I 134 16.9	I 136 11.8	I 133 9.2	I 135 8.1	I 132 7.2	I *136 6.1	I 137 3.9	I 131 1.7	Y 96 1.5	XE 137 1.4
60.0 SEC.	I 134 17.6	I 136 11.3	I 133 9.5	I 135 8.4	I 132 7.5	I *136 5.5	I 137 3.1	I 131 1.8	XE 137 1.6	Y 96 1.5
100.0 SEC.	I 134 19.6	I 133 10.8	I 135 9.5	I 136 9.1	I 132 8.4	I *136 3.5	I 131 2.0	XE 137 1.9	Y 94 1.6	Y 95 1.6
3.3 MIN.	I 134 22.6	I 133 12.6	I 135 11.1	I 132 9.8	I 136 4.6	I 131 2.3	Y 94 1.8	XE 137 1.7	Y 95 1.7	CS 139 1.6
8.3 MIN.	I 134 24.8	I 133 14.7	I 135 12.9	I 132 11.2	I 131 2.7	Y 92 1.8	Y 94 1.8	Y 93 1.6	CS 138 1.5	Y 95 1.4
16.7 MIN.	I 134 24.8	I 133 16.3	I 135 14.1	I 132 11.9	I 131 3.0	Y 92 2.0	Y 93 1.7	Y 94 1.5	CS 138 1.4	LA 141 1.3
33.3 MIN.	I 134 23.0	I 133 18.4	I 135 15.6	I 132 12.6	I 131 3.5	Y 92 2.3	Y 93 2.0	LA 141 1.5	BA 139 1.3	LA 142 1.3
60.0 MIN.	I 133 21.1	I 134 19.0	I 135 17.3	I 132 12.9	I 131 4.0	Y 92 2.6	Y 93 2.2	LA 141 1.6	ZR 97 1.2	LA 142 1.2
1.4 HR.	I 133 23.0	I 135 18.3	I 134 15.5	I 132 12.7	I 131 4.4	Y 92 2.8	Y 93 2.4	LA 141 1.7	XE 135 1.5	ZR 97 1.3
2.8 HR.	I 133 27.7	I 135 20.0	I 132 10.8	I 134 6.7	I 131 5.6	XE 135 3.4	Y 92 3.3	Y 93 2.7	LA 141 1.7	ZR 97 1.6
5.6 HR.	I 133 32.3	I 135 19.1	I 131 7.1	XE 135 6.8	I 132 6.6	Y 92 3.1	Y 93 2.9	ZR 97 1.8	LA 140 1.8	Y 91 1.8
12.0 HR.	I 133 35.4	I 135 13.2	XF 135 11.3	I 131 9.4	I 132 2.6	Y 93 2.5	LA 140 2.4	Y 91 2.4	PR 144 2.0	SR 89 1.9
13.9 HR.	I 133 35.7	XF 135 11.9	I 135 11.6	I 131 10.0	LA 140 2.6	Y 91 2.6	Y 93 2.4	I 132 2.3	PR 144 2.1	SR 89 2.1
1.0 DAYS	I 133 35.2	I 131 13.3	XE 135 11.5	I 135 5.5	LA 140 3.6	Y 91 3.6	PR 144 2.9	SR 89 2.9	PR 143 2.1	I 132 2.1
1.2 DAYS	I 133 34.3	I 131 14.6	XF 135 10.6	I 135 4.1	LA 140 3.9	Y 91 3.9	PR 144 3.2	SR 89 3.2	PR 143 2.3	I 132 2.2
2.3 DAYS	I 133 23.0	I 131 22.3	Y 91 6.6	LA 140 6.5	PR 144 5.5	SR 89 5.3	PR 143 3.8	XE 133 3.7	BA 140 3.2	XE 135 3.1
4.0 DAYS	I 131 27.4	Y 91 9.2	LA 140 8.6	I 133 8.5	PR 144 7.7	SR 89 7.3	XE 133 5.2	PR 143 5.1	BA 140 4.2	I 132 2.9
5.8 DAYS	I 131 28.2	Y 91 10.8	LA 140 9.5	PR 144 9.2	SR 89 8.6	PR 144 5.6	XE 133 5.4	BA 140 4.6	CE 141 2.9	I 133 2.4
10.0 DAYS	I 131 25.3	Y 91 13.2	PR 144 11.8	SR 89 10.4	LA 140 9.9	PR 144 5.9	BA 140 4.7	XE 133 4.3	CE 141 3.4	ZH 95 2.7
11.6 DAYS	I 131 23.8	Y 91 14.0	PR 144 11.7	SR 89 11.0	LA 140 9.8	PR 143 5.8	BA 140 4.6	XE 133 3.9	CE 141 3.6	ZR 95 2.9
23.1 DAYS	PR 144 18.9	Y 91 18.8	SR 89 14.5	I 131 13.5	LA 140 8.1	PR 143 5.0	CE 141 4.3	ZR 95 3.9	BA 140 3.8	NH 95 1.6
30.0 DAYS	PR 144 22.4	Y 91 20.8	SR 89 15.9	I 131 9.0	LA 140 6.7	CE 141 4.4	ZR 95 4.4	PR 143 4.2	BA 140 3.2	NB 95 1.9
57.9 DAYS	PR 144 33.0	Y 91 23.6	SR 89 17.4	ZR 95 5.1	CE 141 3.9	NB 95 2.7	LA 140 2.3	KH 106 2.3	CF 144 2.2	PR 143 1.6
71.0 DAYS	PR 144 33.7	Y 91 23.6	SR 89 17.3	ZR 95 5.1	CF 141 3.8	NB 95 2.7	RH 106 2.3	CE 144 2.2	LA 140 2.1	PR 143 1.5
7.0 DAYS	PR 144 47.2	Y 91 19.6	SR 89 13.2	ZR 95 4.6	RH 106 3.4	CE 144 3.1	NB 95 2.9	CF 141 1.9	Y 90 1.7	RU 103 .6
1.0 DAYS	PR 144 53.0	Y 91 16.2	SR 89 10.4	ZR 95 4.0	RH 106 3.9	CF 144 3.5	NB 95 2.7	Y 90 2.1	CE 141 1.1	PM 147 .5
231.5 DAYS	PR 144 66.0	Y 91 9.2	SR 89 5.2	KH 106 5.0	CE 144 4.3	Y 90 3.2	ZR 95 2.5	NB 95 1.9	PM 147 .7	SR 90 .7
1.0 YRS.	PR 144 74.8	RH 106 6.1	Y 90 4.9	CF 144 4.9	Y 91 3.0	SR 89 1.4	SR 90 1.1	PM 147 1.0	ZR 95 .9	CS 137 .9

Source 1 (plate out), 200 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	I 134 19.8	I 132 9.5	I 135 9.2	I 136 6.7	I 137 6.6	BR 84 4.7	I 138 4.4	I 133 4.1	BR 89 3.8	I 136 3.6
1.0 SEC.	I 134 20.8	I 132 10.0	I 135 9.7	I 136 7.0	I 137 6.8	BR 84 4.8	I 133 4.3	I 138 4.2	I 136 4.0	BR 87 3.9
2.0 SEC.	I 134 21.6	I 132 10.4	I 135 10.1	I 136 7.2	I 137 6.8	BR 84 4.7	I 133 4.4	I 136 4.1	BR 87 4.0	I 138 3.9
5.0 SEC.	I 134 23.2	I 132 11.2	I 135 10.8	I 136 7.6	I 137 6.7	I 133 4.8	BR 84 4.5	I 136 4.2	BR 87 4.2	BR 86 3.5
10.0 SEC.	I 134 24.9	I 132 12.0	I 135 11.7	I 136 7.8	I 137 6.3	I 133 5.1	BR 87 4.2	I 136 4.2	BR 88 3.9	BR 86 3.5
20.0 SEC.	I 134 27.2	I 132 13.1	I 135 12.8	I 136 7.8	I 133 5.6	I 137 5.2	BR 87 4.1	I 136 4.0	BR 86 3.4	BR 88 2.7
50.0 SEC.	I 134 31.1	I 132 15.0	I 135 14.6	I 136 7.0	I 133 6.4	BR 87 3.2	I 136 3.0	BR 86 2.7	BR 84 2.6	I 137 2.6
60.0 SEC.	I 134 32.0	I 132 15.5	I 135 15.1	I 136 6.7	I 133 6.6	BR 87 2.9	BR 84 2.7	I 136 2.6	BR 86 2.4	I 137 2.0
100.0 SEC.	I 134 34.6	I 132 16.8	I 135 16.4	I 133 7.2	I 136 5.2	BR 84 2.9	I 131 2.0	BR 87 2.0	I 136 1.6	BR 86 1.6
3.3 MIN.	I 134 37.5	I 132 18.5	I 135 18.2	I 133 8.0	BR 84 3.1	I 136 2.5	I 131 2.2	BR 87 1.6	LA 142 1.6	CS 138 1.6
8.3 MIN.	I 134 38.7	I 132 19.8	I 135 19.8	I 133 8.8	BR 84 3.1	I 131 2.4	LA 142 1.7	LA 140 1.6	CS 138 1.6	BR 89 1.6
16.7 MIN.	I 134 37.4	I 135 21.0	I 132 20.4	I 133 9.4	BR 84 2.8	I 131 2.6	LA 142 1.7	LA 140 1.7	CS 138 1.5	SR 92 1.3
33.3 MIN.	I 134 34.1	I 135 23.1	I 132 21.3	I 133 10.6	I 131 2.9	BR 84 2.2	LA 140 1.7	LA 142 1.7	CS 138 1.4	SR 92 1.4
60.0 MIN.	I 134 28.7	I 135 26.2	I 132 22.2	I 133 12.4	I 131 3.5	BR 84 1.4	LA 140 1.4	LA 142 1.7	SR 92 1.4	XE 135 1.3
1.4 HR.	I 135 28.6	I 134 24.2	I 132 22.6	I 133 13.9	I 131 3.9	LA 140 1.0	BR 84 1.0	LA 142 1.7	XE 135 1.5	SR 92 1.4
2.8 HR.	I 135 35.2	I 132 21.4	I 133 18.9	I 134 11.6	I 131 5.6	LA 140 1.4	XE 135 1.4	NR 95 1.5	LA 142 1.5	ZR 95 1.5
5.6 HR.	I 135 39.2	I 133 25.7	I 132 14.6	I 131 8.2	XE 135 3.2	LA 140 2.1	I 134 2.0	NR 95 1.8	ZR 95 1.7	NR 97 1.5
12.0 HR.	I 133 33.6	I 135 32.2	I 131 13.0	XE 135 6.3	I 132 5.2	LA 140 3.4	NR 95 1.2	NR 97 1.2	NR 97 1.7	SR 91 1.4
13.9 HR.	I 133 34.9	I 135 29.2	I 131 14.3	XF 135 6.8	I 132 4.2	LA 140 3.8	NR 95 1.3	ZR 95 1.3	NR 97 1.7	RU 103 1.4
1.0 DAYS	I 131 37.9	I 131 21.0	I 135 15.3	XE 135 7.3	LA 140 5.7	I 132 3.4	NR 95 2.1	ZR 95 2.0	XE 133 1.8	NR 97 1.7
1.2 DAYS	I 133 37.8	I 131 23.4	I 135 11.6	XE 135 6.8	LA 140 6.5	I 132 3.6	NR 95 2.3	ZR 95 2.2	XE 133 1.0	RU 103 1.7
2.3 DAYS	I 131 37.8	I 133 26.7	LA 140 11.2	I 132 5.0	NR 95 4.1	ZR 95 3.9	XE 133 2.4	XF 135 2.1	RU 103 1.2	I 135 1.1
4.0 DAYS	I 131 47.8	LA 140 15.3	I 133 10.1	NR 95 6.0	ZR 95 5.6	I 132 5.1	XE 133 3.5	RU 103 1.8	BA 140 1.3	TE 132 1.6
5.8 DAYS	I 131 50.7	LA 140 17.4	NR 95 7.5	ZR 95 6.8	I 132 4.3	XE 133 3.7	I 133 3.0	RU 103 2.1	BA 140 1.5	CE 141 1.6
10.0 DAYS	I 131 48.6	LA 140 19.4	NR 95 10.2	ZR 95 8.9	XF 133 3.2	RU 103 2.7	I 132 2.4	BA 140 1.7	CE 141 1.7	PR 144 1.3
11.6 DAYS	I 131 47.0	LA 140 19.7	NR 95 11.3	ZR 95 9.7	XF 133 2.9	RU 103 2.9	I 132 1.9	HA 140 1.7	CE 141 1.6	PR 144 1.4
23.1 DAYS	I 131 32.4	NR 95 20.4	LA 140 19.7	ZR 95 16.1	RU 103 4.6	BA 140 1.7	XE 133 1.2	CE 141 1.1	PR 144 1.7	CF 144 1.6
30.0 DAYS	NR 95 26.4	I 131 23.8	ZR 95 19.8	LA 140 18.1	RU 103 5.2	BA 140 1.5	CE 141 1.5	PR 144 1.9	CE 144 1.8	XF 133 1.7
57.9 DAYS	NR 95 44.9	ZR 95 29.2	LA 140 7.9	RU 103 6.3	I 131 4.3	PR 144 1.7	CE 144 1.6	CE 141 1.4	RM 106 1.8	BA 140 1.7
60.0 DAYS	NR 95 45.8	ZR 95 29.6	LA 140 7.3	RU 103 6.3	I 131 3.7	PR 144 1.7	CE 144 1.6	CE 141 1.4	RM 106 1.8	BA 140 1.6
115.7 DAYS	NR 95 55.2	WP 95 30.2	RU 103 4.4	PR 144 2.8	CE 144 2.6	RM 106 1.4	CE 141 1.8	LA 140 1.7	I 129 1.4	EU 152 1.3
150.0 DAYS	NR 95 56.1	ZR 95 28.9	RI 103 3.3	CF 144 3.2	RM 106 1.7	I 129 1.5	CE 141 1.5	EU 152 1.5	SH 125 1.4	SB 125 1.7
231.5 DAYS	NR 95 53.2	ZR 95 25.3	PR 144 5.9	CE 144 5.5	RM 106 3.1	RU 103 1.6	I 129 1.1	FU 152 1.8	SH 125 1.7	SB 126 1.7
1.0 YRS.	NR 95 38.3	ZR 95 17.4	PR 144 12.1	CF 144 11.3	RM 106 6.9	I 129 3.2	EU 152 2.2	SR 126 1.9	SH 125 1.8	ZR 93 1.7

Source 1 (water). Equilibrium, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO RETA DECAY POWER (PERCENT OF TOTAL)

A-19

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	BR 8A 10.4	I 136 7.4	BR 89 7.3	I 134 7.1	I 137 6.6	BR 87 6.3	BR 90 6.1	I *136 5.2	I 138 4.7	BR 86 4.0
1.0 SFC.	BR 8A 10.8	I 136 8.0	I 134 7.7	I 137 7.0	BR 89 6.9	HR 87 6.8	I *136 5.6	I 138 4.6	BR 90 4.3	I 133 4.1
2.0 SFC.	BR 8A 11.0	I 136 8.4	I 134 8.2	I 137 7.3	BR 87 7.1	HR 89 6.3	I *136 5.8	I 133 4.4	I 136 4.4	I 135 3.9
5.0 SEC.	BR 8A 11.0	I 134 9.3	I 136 9.3	BR 87 7.8	I 137 7.6	I *136 6.4	I 133 5.0	BR 89 4.5	I 135 4.4	I 132 3.4
10.0 SFC.	I 134 10.6	I 136 10.2	BR 8A 10.1	BR 87 6.3	I 137 7.5	I *136 6.7	I 133 5.7	I 135 5.0	I 132 4.5	BR 86 3.0
20.0 SEC.	I 134 12.4	I 136 11.0	BR 87 8.7	BR 88 7.7	I *136 6.8	I 133 6.7	I 137 6.7	I 135 5.9	I 132 5.3	BR 86 3.1
50.0 SEC.	I 134 15.4	I 136 11.0	I 133 8.6	BR 87 7.7	I 135 7.6	I 132 6.8	I *136 5.7	I 137 3.7	BR 84 3.6	HR 85 1.2
40.0 SEC.	I 134 16.8	I 136 10.8	I 133 9.1	I 135 8.0	HR 87 7.2	I 132 7.1	I *136 5.2	HR 84 3.8	BR 85 3.3	I 137 2.9
100.0 SEC.	I 134 19.6	I 133 10.7	I 135 9.5	I 136 9.1	I 132 8.4	BR 87 5.1	BR 84 4.5	I *136 3.5	BR 85 3.3	I 131 2.0
3.3 MIN.	I 134 23.7	I 133 13.2	I 135 11.6	I 132 10.3	BR 84 5.3	I 136 4.9	BR 85 2.7	I 131 2.5	BR 87 1.8	XE 157 1.8
8.3 MIN.	I 134 26.7	I 133 15.9	I 135 13.9	I 132 12.0	BR 84 5.7	I 131 3.0	Y 92 1.0	Y 94 1.0	BR 85 1.0	HR 83 .9
16.7 MIN.	I 134 26.6	I 133 17.5	I 135 15.1	I 132 12.8	BR 84 5.3	I 131 3.3	Y 92 1.1	BR 83 1.0	Y 93 .9	PR 144 .9
33.3 MIN.	I 134 24.4	I 133 19.7	I 135 16.7	I 132 13.4	BR 84 4.2	I 131 3.7	Y 92 1.2	Y 93 1.0	BR 83 1.0	PR 144 1.0
60.0 MIN.	I 133 22.6	I 134 20.1	I 135 18.6	I 132 13.7	I 131 4.3	HR 84 2.7	Y 92 1.4	Y 93 1.2	PR 144 1.1	XF 135 1.1
1.4 HR.	I 133 24.8	I 135 19.8	I 134 16.5	I 132 13.6	I 131 4.8	BR 84 1.8	XF 135 1.6	Y 92 1.5	Y 93 1.3	PR 144 1.3
2.8 HR.	I 133 30.5	I 135 22.0	I 132 11.6	I 134 7.2	I 131 6.1	XF 135 3.7	Y 92 1.8	PR 144 1.6	Y 93 1.5	Y 90 1.3
5.6 HR.	I 133 35.7	I 135 21.1	I 131 7.8	XF 135 7.6	I 132 6.8	PR 144 2.1	Y 92 1.7	Y 90 1.7	Y 93 1.6	Y 91 1.1
12.0 HR.	I 133 39.1	I 135 14.5	XE 135 12.5	I 131 10.4	PR 144 2.8	Y 90 2.3	I 132 2.0	Y 91 1.5	Y 93 1.4	LA 140 1.3
13.9 HR.	I 133 39.3	XF 135 13.1	I 135 12.8	I 131 11.0	PR 144 3.0	Y 90 2.4	I 132 1.6	Y 91 1.6	LA 140 1.4	Y 93 1.3
1.0 DAYS	I 133 38.6	I 131 14.7	XF 135 12.7	I 135 6.1	PR 144 4.2	Y 90 3.3	Y 91 2.2	LA 140 2.0	SR 89 1.7	XF 133 1.6
1.2 DAYS	I 133 37.7	I 131 16.0	XF 135 11.6	PR 144 4.6	I 135 4.5	Y 90 3.7	Y 91 2.4	LA 140 2.2	XE 133 1.9	SR 89 1.9
2.3 DAYS	I 133 25.5	I 131 24.7	PR 144 7.8	Y 90 6.3	XE 133 4.1	Y 91 4.0	LA 140 3.6	XE 135 3.5	SR 89 3.1	PR 143 2.1
4.0 DAYS	I 131 30.3	PR 144 11.1	I 133 9.4	Y 90 8.9	XF 133 5.8	Y 91 5.6	LA 140 4.8	SR 89 4.3	PR 143 2.8	BA 140 2.3
5.8 DAYS	I 131 30.7	PR 144 13.1	Y 90 10.6	Y 91 6.5	XF 133 5.9	LA 140 5.2	SR 89 5.0	PR 143 3.1	I 133 2.7	BA 140 2.5
10.0 DAYS	I 131 26.5	PR 144 16.1	Y 90 13.1	Y 91 7.7	SR 89 5.9	LA 140 5.2	XF 133 4.6	PR 143 3.1	SR 90 2.8	CS 137 2.6
11.6 DAYS	I 131 24.7	PR 144 17.0	Y 90 14.0	Y 91 8.0	SR 89 6.1	LA 140 5.1	XE 133 4.0	PR 143 3.0	SR 90 3.0	CS 137 2.8
23.1 DAYS	PR 144 23.0	Y 90 19.4	I 131 12.0	Y 91 9.7	SR 89 7.3	SR 90 4.1	CS 137 3.9	LA 140 3.8	PR 143 2.3	ZR 95 2.1
30.0 DAYS	PR 144 25.5	Y 90 21.9	Y 91 10.1	I 131 7.9	SR 89 7.5	SR 90 4.7	CS 137 4.4	LA 140 3.0	ZR 95 2.2	RM 106 2.1
57.9 DAYS	PR 144 30.5	Y 90 28.0	Y 91 9.3	SR 89 6.7	SR 90 6.0	CS 137 5.6	RM 106 2.6	ZR 95 2.1	CE 144 2.0	CE 141 1.4
60.0 DAYS	PR 144 30.7	Y 90 28.3	Y 91 9.2	SR 89 6.5	SR 90 6.0	CS 137 5.6	RM 106 2.6	ZR 95 2.1	CE 144 2.0	CE 141 1.4
115.7 DAYS	Y 90 34.2	PR 144 12.5	SR 90 7.3	CS 137 6.8	Y 91 5.7	SR 89 3.8	RM 106 2.8	CF 144 2.1	ZR 95 1.4	NB 95 .9
150.0 DAYS	Y 90 36.9	PR 144 32.3	SR 90 7.8	CS 137 7.3	Y 91 4.1	RM 106 2.9	SR 89 2.6	CE 144 2.1	ZR 95 1.0	PM 147 .9
231.5 DAYS	Y 90 41.9	PR 144 30.3	SR 90 8.9	CS 137 8.3	PM 106 2.8	CE 144 2.0	Y 91 1.8	SR 89 1.0	PM 147 .9	ZR 95 .5
1.0 YRS.	Y 90 47.9	PR 144 25.2	SR 90 10.2	CS 137 9.5	RM 106 2.5	CE 144 1.7	PM 147 1.0	Y 91 .4	CS 135 .4	I 129 .3

Source 1 (water), Equilibrium, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0 SEC.	I 134 19.8	I 132 9.5	I 135 9.2	I 136 8.7	I 137 6.6	BR 88 4.7	I 134 4.4	I 133 4.1	BR 89 3.8	I 136 3.8
1.0 SEC.	I 134 20.8	I 132 10.0	I 135 9.7	I 136 7.0	I 137 6.8	HR 88 4.8	I 133 4.3	I 138 4.2	I 136 4.0	HR 87 3.9
2.0 SEC.	I 134 21.6	I 132 10.4	I 135 10.1	I 136 7.2	I 137 6.8	BR 88 4.7	I 133 4.4	I 136 4.1	HR 87 4.0	I 138 3.9
5.0 SEC.	I 134 25.2	I 132 11.2	I 135 10.8	I 136 7.6	I 137 6.7	I 133 4.8	BR 88 4.5	I 136 4.2	BR 87 4.2	BR 86 3.5
10.0 SEC.	I 134 24.9	I 132 12.0	I 135 11.7	I 136 7.8	I 137 6.3	I 133 5.1	HR 87 4.2	I 136 4.2	HR 88 3.9	BR 86 3.5
20.0 SEC.	I 134 27.2	I 132 13.1	I 135 12.8	I 136 7.8	I 133 5.6	I 137 5.2	BR 87 4.1	I 136 4.0	BR 86 3.4	BR 88 2.7
50.0 SEC.	I 134 31.1	I 132 15.0	I 135 14.6	I 136 7.0	I 133 6.4	BR 87 3.2	I 136 3.0	HR 86 2.7	HR 84 2.6	I 137 2.6
60.0 SEC.	I 134 32.0	I 132 15.5	I 135 15.1	I 136 6.7	I 133 6.6	BR 87 2.9	HR 84 2.7	I 136 2.6	HR 86 2.4	I 137 2.0
100.0 SEC.	I 134 34.6	I 132 16.8	I 135 16.4	I 133 7.2	I 136 5.2	BR 84 2.9	I 131 2.0	HR 87 2.0	I 136 1.8	BR 86 1.8
3.3 MIN.	I 134 37.5	I 132 18.5	I 135 18.2	I 133 8.0	HR 84 3.1	I 136 2.5	I 131 2.2	HR 87 2.0	LA 142 1.6	CS 138 1.6
8.3 MIN.	I 134 38.7	I 132 19.8	I 135 19.8	I 133 8.8	HR 84 3.1	I 131 2.4	LA 142 1.7	LA 140 1.6	CS 138 1.6	HR 89 1.4
16.7 MIN.	I 134 37.4	I 135 21.0	I 132 20.4	I 133 9.4	BR 84 2.8	I 131 2.6	LA 142 1.7	LA 140 1.7	CS 138 1.5	SR 92 1.3
33.3 MIN.	I 134 34.1	I 135 23.1	I 132 21.3	I 133 10.6	I 131 2.9	BR 84 2.2	LA 140 1.7	LA 142 1.7	CS 138 1.4	SR 92 1.4
60.0 MIN.	I 134 28.7	I 135 26.2	I 132 22.2	I 133 12.4	I 131 3.5	BR 84 1.4	LA 140 1.9	LA 142 1.7	SR 92 1.4	XE 135 1.3
1.4 HR.	I 135 28.6	I 134 24.2	I 132 22.6	I 133 13.9	I 131 3.9	LA 140 1.0	BR 84 1.0	LA 142 1.7	XE 135 1.5	SR 92 1.4
2.8 HR.	I 135 35.2	I 132 21.4	I 133 18.9	I 134 11.6	I 131 5.6	LA 140 1.4	XE 135 1.4	HR 95 1.4	LA 142 1.5	ZR 95 1.5
5.6 HR.	I 135 39.2	I 133 25.7	I 132 14.6	I 131 8.2	XE 135 3.2	LA 140 2.1	I 134 2.0	HR 95 1.8	ZR 95 1.7	NB 97 1.5
12.0 HR.	I 133 33.6	I 135 32.2	I 131 13.0	XE 135 6.3	I 132 5.2	LA 140 3.4	NB 95 1.2	ZR 95 1.2	NB 97 1.7	SR 91 1.4
13.9 HR.	I 133 34.9	I 135 29.2	I 131 14.3	XE 135 6.8	I 132 4.2	LA 140 3.8	NB 95 1.3	ZR 95 1.3	NB 97 1.7	RU 103 1.4
1.0 DAYS	I 133 37.9	I 131 21.0	I 135 15.3	XE 135 7.3	LA 140 5.7	I 132 3.4	NB 95 2.1	ZR 95 2.0	XE 133 1.8	NB 97 1.7
1.2 DAYS	I 133 37.8	I 131 23.4	I 135 11.7	XE 135 6.8	LA 140 6.5	I 132 3.6	NB 95 2.3	ZR 95 2.2	XE 133 1.0	RU 103 1.7
2.3 DAYS	I 131 37.8	I 133 26.7	LA 140 11.2	I 132 5.0	NB 95 4.1	ZR 95 3.9	XE 133 2.4	XE 135 2.2	RU 103 1.2	I 135 1.1
4.0 DAYS	I 131 47.9	LA 140 15.3	I 133 10.2	NB 95 6.0	ZR 95 5.6	I 132 5.1	XE 133 3.5	RU 103 1.8	BA 140 1.4	TE 132 1.6
5.8 DAYS	I 131 50.8	LA 140 17.5	NB 95 7.5	ZR 95 6.8	I 132 4.3	XE 133 3.7	I 133 3.0	RU 103 2.1	BA 140 1.5	CE 141 1.6
10.0 DAYS	I 131 48.7	LA 140 19.4	NB 95 10.2	ZR 95 8.9	XE 133 3.2	RU 103 2.7	I 132 2.4	BA 140 1.7	CE 141 1.7	PR 144 1.3
11.6 DAYS	I 131 47.1	LA 140 19.8	NB 95 11.3	ZR 95 9.7	XE 133 2.9	RU 103 2.9	I 132 1.9	HA 140 1.7	CE 141 1.8	PR 144 1.4
23.1 DAYS	I 131 32.5	NB 95 20.5	LA 140 19.4	ZR 95 16.1	RU 103 4.4	BA 140 1.7	XE 133 1.2	CE 141 1.1	PH 144 1.7	CE 144 1.6
30.0 DAYS	NR 95 26.5	I 131 23.9	ZR 95 19.9	LA 140 18.1	RU 103 5.2	HA 140 1.5	CE 141 1.1	PR 144 1.9	CF 144 1.8	XE 133 1.7
57.9 DAYS	NR 95 45.2	ZR 95 29.5	LA 140 8.0	RU 103 6.4	I 131 4.3	PR 144 1.7	CE 144 1.6	CE 141 1.4	RM 106 1.8	BA 140 1.7
60.0 DAYS	NR 95 46.1	ZR 95 29.8	LA 140 7.3	RU 103 6.4	I 131 3.7	PR 144 1.7	CE 144 1.6	CE 141 1.4	RM 106 1.8	BA 140 1.6
115.7 DAYS	NR 95 56.0	ZR 95 30.6	RU 103 4.4	PR 144 2.8	CE 144 2.6	RM 106 1.4	CE 141 1.8	LA 140 1.7	SR 125 1.5	Y 91 1.1
150.0 DAYS	NR 95 57.1	ZR 95 29.5	PR 144 3.6	RU 103 3.4	CE 144 3.3	RM 106 1.8	CE 141 1.5	SH 125 1.4	LA 140 1.7	PR 144 1.1
231.5 DAYS	NR 95 55.3	ZR 95 26.4	PR 144 6.2	CF 144 5.7	RM 106 3.2	RU 103 1.7	SB 125 1.7	CF 141 1.2	RU 155 1.1	PH 144 1.1
1.0 YRS.	NR 95 42.9	ZR 95 19.5	PR 144 13.6	CF 144 12.7	RM 106 7.7	SB 125 2.0	RU 103 1.5	FU 155 1.4	PR 144 1.3	SN 123 1.1

Source 1 (water), 5000 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO RETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	RR 8A 10.4	I 136 7.4	RR 89 7.4	I 134 7.1	I 137 6.6	RR 87 6.3	HR 90 6.1	I *136 5.2	I 138 4.7	BR* 86 4.0
1.0 SEC.	RR 8A 10.9	I 136 8.0	I 134 7.7	I 137 7.0	RR 89 6.9	RR 87 6.8	I *136 5.6	I 138 4.6	RR 90 4.3	I 133 4.2
2.0 SEC.	RR 8A 11.1	I 136 8.4	I 134 8.2	I 137 7.3	RR 87 7.1	RR 89 6.3	I *136 5.9	I 133 4.4	I 138 4.4	I 135 3.9
5.0 SFC.	RR 8A 11.0	I 134 9.3	I 136 9.3	RR 87 7.8	I 137 7.6	I *136 6.4	I 133 5.0	HR 89 4.5	I 135 4.4	I 132 3.9
10.0 SFC.	I 134 10.6	I 136 10.2	RR 8A 10.1	RR 87 8.4	I 137 7.5	I *136 6.8	I 133 5.7	I 135 5.0	I 132 4.5	BR 86 3.0
20.0 SFC.	I 134 12.5	I 136 11.0	RR 87 8.7	RR 88 7.7	I *136 6.9	I 133 6.7	I 137 6.7	I 135 5.9	I 132 5.3	BR 86 3.1
50.0 SEC.	I 134 16.0	I 136 11.1	I 133 8.7	RR 87 7.7	I 135 7.6	I 132 6.8	I *136 5.7	I 137 3.7	BR 84 3.7	BR 85 3.2
60.0 SFC.	I 134 16.9	I 136 10.8	I 133 9.2	I 135 8.1	RR 87 7.2	I 132 7.2	I *136 5.3	HR 84 3.9	BR 85 3.3	I 137 3.0
100.0 SEC.	I 134 19.7	I 133 10.8	I 135 9.5	I 136 9.1	I 132 8.4	HR 87 5.2	BR 84 4.5	I *136 3.5	BR 85 3.3	I 131 2.0
3.3 MIN.	I 134 23.8	I 133 13.3	I 135 11.7	I 132 10.3	RR 84 5.3	I 136 4.9	BR 85 2.7	I 131 2.5	BR 87 1.8	XE 137 1.8
8.3 MIN.	I 134 26.9	I 133 16.0	I 135 14.0	I 132 12.1	RR 84 5.8	I 131 3.0	Y 92 1.0	Y 94 1.0	BR 85 1.0	BR 83 .9
16.7 MIN.	I 134 26.8	I 133 17.6	I 135 15.2	I 132 12.9	RR 84 5.3	I 131 3.3	Y 92 1.1	BR 83 1.0	Y 93 .9	PR 144 .9
33.3 MIN.	I 134 24.6	I 133 19.9	I 135 16.9	I 132 13.5	RR 84 4.2	I 131 3.8	Y 92 1.2	Y 93 1.1	BR 83 1.0	PR 144 1.0
60.0 MIN.	I 133 27.9	I 134 20.3	I 135 18.8	I 132 13.8	I 131 4.4	BR 84 2.8	Y 92 1.4	Y 93 1.2	PR 144 1.1	XE 135 1.1
1.4 HR.	I 133 25.1	I 135 20.0	I 134 16.7	I 132 13.7	I 131 4.9	BR 84 1.8	XE 135 1.6	Y 92 1.6	Y 93 1.3	PR 144 1.3
2.8 HR.	I 133 30.9	I 135 22.3	I 132 11.8	I 134 7.3	I 131 6.2	XE 135 3.8	Y 92 1.8	PR 144 1.6	Y 93 1.5	BR 83 .9
5.6 HR.	I 133 36.4	I 135 21.5	I 131 8.0	XF 135 7.7	I 132 6.9	PR 144 2.1	Y 92 1.7	Y 93 1.6	Y 91 1.1	I 134 1.1
12.0 HR.	I 133 40.0	I 135 14.9	XF 135 12.8	I 131 10.6	PR 144 2.9	I 132 2.1	Y 91 1.5	Y 93 1.4	LA 140 1.4	SR 89 1.2
13.9 HR.	I 133 40.3	XE 135 13.4	I 135 13.1	I 131 11.3	PR 144 3.1	I 132 1.6	Y 91 1.6	LA 140 1.5	Y 93 1.3	SR 89 1.3
1.0 DAYS	I 133 40.6	I 131 15.2	XE 135 13.1	I 135 6.3	PR 144 4.3	Y 91 2.2	LA 140 2.0	SR 89 1.8	XE 133 1.6	I 132 1.2
1.2 DAYS	I 133 39.2	I 131 16.6	XE 135 12.1	PR 144 4.8	I 135 4.7	Y 91 2.5	LA 140 2.3	XE 133 1.9	SR 89 1.9	PR 143 1.3
2.3 DAYS	I 133 27.3	I 131 26.4	PR 144 8.4	XF 133 4.4	Y 91 3.3	LA 140 3.8	XE 135 3.7	PR 143 3.4	Y 90 2.8	BA 140 2.6
4.0 DAYS	I 131 33.4	PR 144 12.2	I 133 10.3	XE 133 6.4	Y 91 6.2	LA 140 5.3	SR 89 4.8	PR 143 3.4	Y 90 3.4	I 133 3.0
5.8 DAYS	I 131 34.5	PR 144 14.7	Y 91 7.3	XF 133 6.8	LA 140 5.8	SR 89 5.6	PR 143 3.4	Y 90 3.4	I 133 3.0	BA 140 2.8
10.0 DAYS	I 131 30.7	PR 144 18.6	Y 91 8.9	SR 89 6.8	LA 140 6.0	XE 133 5.3	Y 90 4.4	PR 143 3.6	BA 140 2.8	CE 141 2.1
11.6 DAYS	I 131 28.8	PR 144 19.9	Y 91 9.4	SR 89 7.2	LA 140 6.0	XE 133 4.7	Y 90 4.7	PR 143 3.5	BA 140 2.8	CE 141 2.2
23.1 DAYS	PR 144 28.8	I 131 15.8	Y 91 12.1	SR 89 9.2	Y 90 7.0	LA 140 4.7	PR 143 2.9	ZR 95 2.6	CE 141 2.5	RH 106 2.4
30.0 DAYS	PR 144 33.0	Y 91 13.1	I 131 10.2	SR 89 9.7	Y 90 8.1	LA 140 3.8	ZR 95 2.8	RH 106 2.8	CE 141 2.6	PR 143 2.4
57.9 DAYS	PR 144 43.0	Y 91 13.1	Y 90 11.3	SR 89 9.9	RH 106 3.6	ZR 95 2.9	CE 144 2.8	SR 90 2.4	CS 137 2.1	CE 141 2.0
60.0 DAYS	PR 144 43.4	Y 91 13.0	Y 90 11.5	SR 89 9.2	RH 106 3.7	ZR 95 2.9	CF 144 2.9	SR 90 2.4	CS 137 2.1	CE 141 1.9
115.7 DAYS	PR 144 50.2	Y 90 15.1	Y 91 8.9	SR 89 5.8	RH 106 4.4	CE 144 3.3	SR 90 3.2	CS 137 2.6	ZR 95 2.1	NH 95 1.4
150.0 DAYS	PR 144 52.2	Y 90 17.0	Y 91 6.7	RH 106 4.7	SR 89 4.2	SR 90 3.6	CE 144 3.4	CS 137 3.2	ZR 95 1.7	PM 147 1.4
231.5 DAYS	PR 144 53.4	Y 90 21.2	RH 106 5.0	SR 90 4.5	CS 137 4.0	CE 144 3.5	Y 91 3.2	SR 89 1.8	PM 147 1.6	ZR 95 .9
1.0 YRS.	PR 144 49.9	Y 90 27.2	SR 90 5.8	CS 137 5.1	RH 106 5.0	CE 144 3.3	PM 147 1.9	Y 91 .8	SR 89 .4	ZR 95 .3

Source 1 (water), 5000 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10	
0.0 SEC.	I 134 19.8	I 132 9.5	I 135 9.2	I 136 6.7	I 137 6.6	BR 88	4.7	I 138 4.4	I 133 4.1	BR 89 3.8	I *136 3.8
1.0 SEC.	I 130 20.8	I 132 10.0	I 135 9.7	I 136 7.0	I 137 6.8	BR 88	4.8	I 133 4.3	I 138 4.2	I *136 4.0	BR 87 3.9
2.0 SEC.	I 134 21.6	I 132 10.4	I 135 10.1	I 136 7.2	I 137 6.8	BR 88	4.7	I 133 4.4	I *136 4.1	BR 87 4.0	I 138 3.9
5.0 SEC.	I 134 23.2	I 132 11.2	I 135 10.8	I 136 7.6	I 137 6.7	I 133 4.8	BR 88	4.5	I *136 4.2	BR 87 4.2	BR 86 3.5
10.0 SEC.	I 134 24.9	I 132 12.0	I 135 11.7	I 136 7.8	I 137 6.3	I 133 5.1	BR 87	4.2	I *136 4.0	BR 88 3.9	BR 86 3.5
20.0 SEC.	I 134 27.2	I 132 13.1	I 135 12.8	I 136 7.8	I 133 5.6	I 137 5.2	BR 87	4.1	I *136 4.0	BR 86 3.4	BR 88 2.7
50.0 SEC.	I 134 31.1	I 132 15.0	I 135 14.6	I 136 7.0	I 133 6.4	BR 87	3.2	I *136 3.0	BR 86 2.7	BR 84 2.6	I 137 2.6
60.0 SEC.	I 134 32.0	I 132 15.5	I 135 15.1	I 136 6.7	I 133 6.6	BR 87	2.9	BR 84 2.7	I *136 2.6	BR 86 2.4	I 137 2.0
100.0 SEC.	I 134 34.6	I 132 16.8	I 135 16.4	I 133 7.2	I 136 5.2	HR 84	2.9	I 131 2.0	BR 87 2.0	I *136 1.6	BR 86 1.6
3.3 MIN.	I 134 37.5	I 132 18.5	I 135 18.2	I 133 8.0	RR 84	3.1	I 136 2.5	I 131 2.2	BR 87 .6	LA 142 .6	CS 138 .6
8.3 MIN.	I 134 38.7	I 132 19.8	I 135 19.8	I 133 8.8	BR 84	3.1	I 131 2.4	LA 142 .7	LA 140 .6	CS 138 .6	RB 89 .4
16.7 MIN.	I 134 37.4	I 135 21.0	I 132 20.4	I 133 9.4	BR 84	2.8	I 131 2.6	LA 142 .7	LA 140 .7	CS 138 .4	SR 92 .4
33.3 MIN.	I 134 34.1	I 135 23.1	I 132 21.3	I 133 10.6	I 131 2.9	BR 84	2.2	LA 140 .9	LA 142 .7	CS 138 .4	SR 92 .4
60.0 MIN.	I 134 28.7	I 135 26.2	I 132 22.2	I 133 12.4	I 131 3.5	BR 84	1.4	LA 140 .9	LA 142 .7	SR 92 .4	XE 135 .3
1.4 HR.	I 135 28.7	I 134 24.4	I 132 22.6	I 133 13.9	I 131 3.9	LA 140	1.0	BR 84 1.0	LA 142 .7	XE 135 .5	SR 92 .4
2.8 HR.	I 135 35.2	I 132 21.4	I 133 18.9	I 133 11.6	I 131 5.6	LA 140	1.4	XE 135 1.4	LA 142 .5	NR 95 .5	ZR 95 .5
5.6 HR.	I 135 19.3	I 133 25.8	I 132 14.6	I 131 11.6	XE 135 3.2	LA 140	2.1	I 134 2.0	NR 95 .7	ZR 95 .7	NR 97 .5
12.0 HR.	I 133 33.6	I 135 32.2	I 131 13.0	XF 135 6.2	I 132 4.2	LA 140	3.8	NR 95 1.3	NR 95 1.3	NR 97 .7	RU 103 .4
13.9 HR.	I 133 34.9	I 135 29.2	I 131 14.3	XF 135 6.8	I 132 4.2	LA 140	5.7	I 132 3.4	NR 95 2.0	ZR 95 1.9	XF 133 .9
1.0 DAYS	I 133 38.0	I 131 21.0	I 135 15.4	XF 135 7.3	LA 140 5.7	I 132 3.4	NR 95 2.0	ZR 95 1.9	XF 133 .9	NR 97 .7	RU 103 .4
1.2 DAYS	I 133 37.9	I 131 23.5	I 135 11.7	XF 135 6.6	LA 140 6.5	I 132 3.6	NR 95 2.3	ZR 95 2.2	XE 133 1.0	RU 103 .7	I 135 1.1
2.3 DAYS	I 131 37.9	I 133 26.7	LA 140 11.2	I 132 5.0	NR 95 4.1	ZR 95 3.9	XE 133 2.4	XE 135 2.2	RU 103 1.2	I 135 1.1	I 135 1.1
4.0 DAYS	I 131 48.0	LA 160 15.4	I 133 10.2	NR 95 6.0	ZR 95 5.6	I 132 5.1	XE 133 3.5	RU 103 1.8	BA 140 1.4	TE 132 .6	CF 141 .6
5.8 DAYS	I 131 50.9	LA 160 17.5	NR 95 7.4	ZR 95 6.8	I 132 4.3	XE 133 3.7	I 133 3.0	RU 103 2.1	HA 140 1.5	CF 141 .6	CF 141 .6
10.0 DAYS	I 131 48.9	LA 160 19.5	NR 95 10.2	ZR 95 8.9	XF 133 3.2	RU 103 2.7	I 132 2.4	BA 140 1.7	CE 141 .7	ND 147 .3	ND 147 .3
11.6 DAYS	I 131 47.3	LA 160 19.4	NR 95 11.2	ZR 95 9.7	XE 133 2.9	RU 103 2.9	I 132 1.9	HA 140 1.7	CE 141 .8	ND 147 .3	ND 147 .3
23.1 DAYS	I 131 32.8	NR 95 20.5	LA 140 20.0	ZR 95 16.2	RU 103 4.5	BA 140 1.7	XE 133 1.2	CE 141 1.1	PH 144 .6	CE 144 .5	CE 144 .5
30.0 DAYS	NR 95 26.5	I 131 24.2	ZR 95 20.0	LA 140 18.3	RU 103 5.3	BA 140 1.6	CE 141 1.3	XE 133 .7	PR 144 .6	CE 144 .6	CE 144 .6
57.9 DAYS	NR 95 45.8	ZR 95 29.9	LA 140 8.1	RU 103 6.5	I 131 4.8	CE 141 1.4	PR 144 1.2	CF 141 1.4	HA 140 .7	RM 106 .5	RM 106 .5
60.0 DAYS	NR 95 46.7	ZR 95 30.2	LA 140 7.5	RU 103 6.5	I 131 3.8	CF 141 1.4	PR 144 1.2	CE 144 1.2	HA 140 .7	RM 106 .5	RM 106 .5
115.7 DAYS	NR 95 57.3	ZR 95 31.4	RU 103 4.6	PR 144 2.0	CE 144 1.9	RM 106 .9	CE 141 .8	LA 140 .7	Y 91 .1	SH 125 .1	SH 125 .1
150.0 DAYS	NR 95 58.9	ZR 95 36.4	RU 103 3.5	PR 144 2.6	CF 144 2.0	RM 106 1.1	CE 141 .5	LA 140 .1	SH 125 .1	Y 91 .1	Y 91 .1
231.5 DAYS	NR 95 58.5	ZR 95 27.9	PR 144 4.6	CF 144 4.3	RM 106 2.1	RU 103 1.8	SR 125 .2	CE 141 .2	PR*144 .1	SN 123 .1	SN 123 .1
1.0 YRS.	NR 95 49.1	ZR 95 22.3	PR 144 11.0	CE 144 10.2	RM 106 5.0	SH 125 .7	RU 103 .6	PR*144 .3	SA 123 .1	EU 155 .1	EU 155 .1

Source 1 (water), 500 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

A-23

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	RR 84 10.4	I 136 7.4	RR 89 7.4	I 134 7.1	I 137 6.6	BR 87 6.3	BR 90 6.1	I *136 5.2	I 138 4.7	BR 86 4.0
1.0 SEC.	BR 84 10.4	I 136 8.0	I 134 7.7	I 137 7.1	RR 89 6.9	BR 87 6.8	I *136 5.6	I 138 4.6	HR 90 4.3	I 133 4.2
2.0 SEC.	BR 88 11.1	I 136 8.4	I 134 8.2	I 137 7.3	BR 87 7.1	HR 89 6.3	I *136 5.9	I 133 4.4	I 138 4.4	I 135 3.9
5.0 SEC.	BR 84 11.0	I 134 9.3	I 136 9.3	BR 87 7.8	I 137 7.6	I *136 6.4	I 133 5.0	RR 89 4.5	I 135 4.4	I 132 4.0
10.0 SEC.	I 134 10.7	I 136 10.2	HR 88 10.1	RR 87 8.4	I 137 7.5	I *136 6.8	I 133 5.7	I 135 5.1	I 132 4.5	BR 86 3.0
20.0 SEC.	I 134 12.5	I 136 11.1	RR 87 8.7	BR 88 7.7	I *136 6.9	I 133 6.7	I 137 6.7	I 135 5.9	I 132 5.3	BR 86 3.1
50.0 SEC.	I 134 16.0	I 136 11.1	I 133 8.7	BR 87 7.7	I 135 7.7	I 132 6.8	I *136 5.8	I 137 3.7	BR 84 3.7	HR 85 3.2
60.0 SEC.	I 134 16.9	I 136 10.8	I 133 9.2	I 135 8.1	BR 87 7.2	I 132 7.2	I *136 5.3	HR 84 3.9	BR 85 3.3	I 137 3.0
100.0 SEC.	I 134 19.8	I 133 10.8	I 135 9.5	I 136 9.1	I 132 8.5	BR 87 5.2	BR 84 4.5	I *136 3.5	BR 85 3.3	I 131 2.0
3.3 MIN.	I 134 23.9	I 133 13.4	I 135 11.7	I 132 10.4	HR 84 5.3	I 134 4.9	BR 85 2.7	I 131 2.5	HR 87 1.8	HR 87 1.8
8.3 MIN.	I 134 27.0	I 133 16.1	I 135 14.0	I 132 12.2	BR 84 5.8	I 131 3.0	Y 92 1.0	Y 94 1.0	RR 85 1.0	BR 83 0.9
16.7 MIN.	I 134 26.9	I 133 17.7	I 135 15.3	I 132 13.0	RR 84 5.4	I 131 3.3	Y 92 1.1	RR 83 1.0	Y 93 0.9	Y 94 0.8
33.3 MIN.	I 134 24.7	I 133 20.0	I 135 17.0	I 132 13.6	BR 84 4.2	I 131 3.8	Y 92 1.2	Y 93 1.1	BR 83 1.1	LA 141 0.8
60.0 MIN.	I 133 23.0	I 134 20.4	I 135 18.9	I 132 13.9	I 131 4.4	BR 84 2.8	Y 92 1.4	Y 93 1.2	HR 83 1.1	BR 83 1.1
1.4 HR.	I 133 25.3	I 135 20.2	I 134 16.8	I 132 13.8	I 131 4.9	HR 84 1.9	HR 84 1.9	Y 92 1.6	Y 93 1.3	HR 83 1.1
2.8 HR.	I 133 31.2	I 135 22.6	I 132 11.9	I 134 7.3	I 131 6.3	HR 84 1.9	Y 92 1.8	Y 93 1.5	PR 144 1.2	HR 83 0.9
5.6 HR.	I 133 36.9	I 135 21.8	I 131 8.1	HR 84 7.8	I 132 7.0	Y 92 1.8	Y 93 1.6	PR 144 1.5	Y 91 1.1	I 134 1.1
12.0 HR.	I 133 40.8	I 135 15.2	HR 84 13.0	I 131 10.8	I 132 2.1	PR 144 2.1	Y 91 1.5	Y 93 1.5	LA 140 1.4	SR 89 1.2
13.9 HR.	I 133 41.2	HR 84 13.7	I 135 13.4	I 131 11.6	PR 144 2.2	I 132 1.7	Y 91 1.6	LA 140 1.5	Y 93 1.4	SR 89 1.3
1.0 DAYS	I 133 41.2	I 131 15.6	HR 84 13.5	I 135 6.5	PR 144 3.1	Y 91 2.3	LA 140 2.1	SR 89 1.8	HR 89 1.7	I 132 1.2
1.2 DAYS	I 133 40.5	I 131 17.2	HR 84 12.5	I 135 4.8	PR 144 3.5	Y 91 2.6	LA 140 2.3	HR 89 2.0	PR 143 2.0	PR 143 1.4
2.3 DAYS	I 133 24.8	I 131 27.9	PR 144 6.3	HR 84 7.7	Y 91 4.5	LA 140 4.1	HR 89 4.0	SR 89 3.5	PR 143 2.4	BA 140 2.0
4.0 DAYS	I 131 36.3	I 133 11.2	PR 144 9.3	HR 84 6.9	Y 91 6.7	LA 140 5.7	SR 89 5.2	PR 143 3.4	BA 140 2.6	I 132 1.9
5.8 DAYS	I 131 38.2	PR 144 11.4	Y 91 8.0	HR 84 7.4	LA 140 6.5	SR 89 6.2	PR 143 3.8	I 133 3.3	BA 140 3.1	CE 141 2.0
10.0 DAYS	I 131 35.0	PR 144 14.9	Y 91 10.1	SR 89 7.8	LA 140 6.9	HR 89 6.0	PR 143 4.1	BA 140 3.2	CE 141 2.4	ZR 95 2.1
11.6 DAYS	I 131 33.2	PR 144 16.1	Y 91 10.7	SR 89 8.3	LA 140 6.8	HR 89 5.4	PR 143 4.1	BA 140 3.2	CE 141 2.5	ZR 95 2.3
23.1 DAYS	PR 144 25.1	I 131 19.5	Y 91 15.0	SR 89 11.3	LA 140 5.9	PR 143 3.6	ZR 95 3.2	CE 141 3.1	BA 140 2.8	HR 85 2.0
30.0 DAYS	PR 144 29.8	Y 91 16.7	I 131 13.1	SR 89 12.5	LA 140 4.9	ZR 95 3.6	CE 141 3.3	PR 143 3.1	BA 140 2.3	HR 85 2.2
57.9 DAYS	PR 144 43.1	Y 91 18.6	SR 89 13.3	ZR 95 4.1	HR 106 3.2	CE 144 2.8	CF 141 2.8	NR 95 2.3	Y 90 1.9	I 131 1.8
60.0 DAYS	PR 144 43.8	Y 91 18.5	SR 89 13.2	ZR 95 4.1	HR 106 3.2	CE 144 2.9	CE 141 2.7	NR 95 2.3	Y 90 1.9	I 131 1.6
115.7 DAYS	PR 144 56.3	Y 91 14.1	SR 89 9.3	HR 106 4.3	CF 144 3.7	ZR 95 3.4	Y 90 2.8	NR 95 2.2	CE 141 1.2	PM 147 0.6
150.0 DAYS	PR 144 61.7	Y 91 11.7	SR 89 7.0	HR 106 4.8	CE 144 4.1	Y 90 3.3	ZR 95 2.8	NR 95 2.0	PM 147 1.7	CF 141 0.7
231.5 DAYS	PR 144 70.0	Y 91 5.9	HR 106 5.7	CE 144 4.6	Y 90 4.6	SR 89 3.3	ZR 95 1.6	NR 95 1.2	SR 90 1.0	PM 147 0.9
1.0 YRS.	PR 144 74.3	Y 90 6.7	HR 106 6.5	CE 144 4.9	Y 91 1.8	SR 90 1.4	PM 147 1.3	CS 137 1.2	SR 89 0.8	ZR 95 0.6

Source 1 (water), 500 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 134 19.8	I 132 9.5	I 135 9.2	I 134 6.7	I 137 6.6	BR 88	4.7	I 133 4.4	BR 89	3.9
1.0 SEC.	I 134 20.8	I 132 10.0	I 135 9.7	I 136 7.0	I 137 6.8	BR 88	4.8	I 133 4.3	I *136 4.0	BR 87
2.0 SEC.	I 134 21.6	I 132 10.4	I 135 10.1	I 136 7.2	I 137 6.8	BR 88	4.7	I 133 4.4	BR 87	4.0
5.0 SEC.	I 134 25.2	I 132 11.2	I 135 10.9	I 136 7.6	I 137 6.8	I 133 5.1	BR 88	4.5	I *136 4.2	BR 87
10.0 SEC.	I 134 25.0	I 132 12.0	I 135 11.7	I 136 7.8	I 137 6.3	I 133 5.1	BR 87	4.2	I *136 4.2	BR 88
20.0 SEC.	I 134 27.2	I 132 13.1	I 135 12.8	I 136 7.9	I 133 5.6	I 137 5.2	BR 87	4.1	I *136 4.0	BR 86
50.0 SEC.	I 134 31.1	I 132 15.0	I 135 14.7	I 136 7.0	I 133 6.5	BR 87	3.2	I *136 3.0	BR 86	2.7
60.0 SEC.	I 134 32.0	I 132 15.5	I 135 15.1	I 136 6.7	I 133 6.7	HR 87	2.9	BR 84	2.7	I *136 2.6
100.0 SEC.	I 134 34.6	I 132 16.8	I 135 16.5	I 133 7.2	I 136 5.2	BR 84	2.9	I 131 2.0	BR 87	2.0
3.3 MIN.	I 134 37.6	I 132 18.5	I 135 18.2	I 133 8.0	RR 84	3.1	I 136 2.5	I 131 2.2	BR 87	.6
6.3 MIN.	I 134 38.7	I 132 19.8	I 135 19.8	I 133 8.8	BR 84	3.1	I 131 2.4	LA 142	.7	LA 140
16.7 MIN.	I 134 37.4	I 135 21.0	I 132 20.5	I 133 9.4	HR 84	2.8	I 131 2.6	LA 142	.7	LA 140
33.3 MIN.	I 134 34.2	I 135 23.1	I 132 21.4	I 133 10.6	I 131 2.9	BR 84	2.2	LA 140	.7	LA 142
60.0 MIN.	I 134 28.8	I 135 26.2	I 132 22.3	I 133 12.4	I 131 3.5	BR 84	1.5	LA 140	.9	LA 142
1.4 HR.	I 135 28.7	I 134 24.2	I 132 22.6	I 133 13.9	I 131 3.9	LA 140	1.0	BR 84	1.0	LA 142
2.8 HR.	I 135 35.3	I 132 21.5	I 133 18.9	I 134 11.6	I 131 5.6	LA 140	1.4	XF 135	1.4	LA 142
5.6 HR.	I 135 39.4	I 133 25.8	I 132 14.6	I 131 8.3	XF 135	3.2	LA 140	2.1	I 134 2.0	ZR 95
12.0 HR.	I 133 33.7	I 135 32.3	I 131 13.1	XF 135 6.3	I 132 5.2	LA 140	3.4	ZR 95	1.0	NH 95
13.9 HR.	I 133 35.1	I 135 29.4	I 131 14.0	XF 135 6.9	I 132 4.3	LA 140	3.8	ZR 95	1.1	NR 95
1.0 DAYS	I 133 38.3	I 131 21.2	I 135 15.5	XF 135 7.4	LA 140	5.8	I 132 3.4	ZR 95	1.7	NH 95
1.2 DAYS	I 133 38.2	I 131 23.7	I 135 11.8	XF 135 6.4	LA 140	6.5	I 132 3.7	ZR 95	2.0	NH 95
2.3 DAYS	I 131 38.5	I 133 27.2	LA 140 11.4	I 132 5.1	ZR 95	3.5	NH 95	3.2	XF 133	2.4
4.0 DAYS	I 131 49.1	LA 140 15.7	I 133 10.4	I 132 5.2	ZR 95	5.0	NH 95	4.8	XF 133	3.6
5.8 DAYS	I 131 52.3	LA 140 18.0	ZR 95 6.1	NR 95 6.0	I 132 4.4	XF 133	3.8	I 133 3.1	RU 103	2.1
10.0 DAYS	I 131 50.7	LA 140 20.2	NR 95 8.3	ZR 95 8.2	XF 133	3.3	RU 103	2.7	I 132 2.5	HA 140
11.6 DAYS	I 131 49.2	LA 140 20.7	NR 95 9.3	ZR 95 8.9	XF 133	3.0	RU 103	2.9	I 132 2.0	HA 140
23.1 DAYS	I 131 35.0	LA 140 21.3	NR 95 17.7	ZR 95 15.3	RU 103	4.6	BA 140	1.8	XF 133	1.3
30.0 DAYS	I 131 26.3	NR 95 25.6	LA 140 19.9	ZR 95 19.3	RU 103	5.6	BA 140	1.7	CE 141	1.4
57.9 DAYS	NR 95 43.8	ZR 95 30.1	LA 140 9.3	RU 103 7.2	I 131 5.0	CE 141	1.6	HA 140	.8	PR 144
60.0 DAYS	NR 95 44.9	ZR 95 30.5	LA 140 8.5	RU 103 7.2	I 131 4.3	CE 141	1.6	PR 144	.8	HA 140
115.7 DAYS	NR 95 57.4	ZR 95 32.3	RU 103 5.2	PR 144 1.3	CE 144	1.2	CE 141	.9	LA 140	.8
150.0 DAYS	NR 95 59.7	ZR 95 31.4	RU 103 4.0	PR 144 1.7	CE 144	1.5	RM 106	.7	CF 141	.6
231.5 DAYS	NR 95 60.9	ZR 95 29.3	PR 144 3.0	CF 144 2.8	RU 103 2.1	RM 106	1.3	CF 141	.6	SR 125
1.0 YRS.	NR 95 55.0	ZR 95 25.1	PR 144 7.7	CE 144 7.1	RM 106 3.5	RU 103 .7	SR 125 .4	PR 144 .2	SA 123 .1	Y 91 .1

Source 1 (water), 200 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO REPTA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	RR RA 10.4	I 136 7.4	RR RA 7.4	I 134 7.1	I 137 6.7	RR RA 6.3	RR 90 6.1	I *136 5.2	I 138 4.7	RR RA 4.0
1.0 SEC.	RR RA 10.9	I 136 8.0	I 134 7.7	I 137 7.1	RR RA 6.9	RR RA 6.8	I *136 5.6	I 138 4.6	RR 90 4.3	I 131 4.2
2.0 SEC.	RR RA 11.1	I 136 8.4	I 134 8.2	I 137 7.3	RR RA 7.2	RR RA 6.3	I *136 5.9	I 133 4.4	I 138 4.4	I 135 3.9
5.0 SEC.	RR RA 11.0	I 134 9.4	I 136 9.4	RR RA 7.8	I 137 7.6	I *136 6.4	I 133 5.0	RR RA 4.5	I 135 4.4	I 132 4.0
10.0 SEC.	I 134 10.7	I 136 10.2	RR RA 10.1	RR RA 8.4	I 137 7.6	I *136 6.8	I 133 5.7	I 135 5.1	I 132 4.5	RR RA 3.0
20.0 SEC.	I 134 12.5	I 136 11.1	RR RA 8.7	RR RA 8.8	7.7	I *136 6.9	I 133 6.7	I 137 6.7	I 135 5.9	I 132 5.3
50.0 SEC.	I 134 16.0	I 136 11.1	I 133 8.7	RR RA 7.7	I 135 7.7	I 132 6.8	I *136 5.8	I 137 3.7	RR RA 3.7	RR RA 3.2
60.0 SEC.	I 134 16.9	I 136 10.9	I 133 9.2	I 135 8.1	RR RA 7.2	I 132 7.2	I *136 5.3	RR RA 3.9	RR RA 3.3	I 131 3.0
100.0 SEC.	I 134 19.8	I 133 10.9	I 135 9.6	I 136 9.2	I 132 8.5	RR RA 5.2	RR RA 4.5	I *136 3.5	RR RA 3.3	I 131 2.0
3.3 MIN.	I 134 20.0	I 133 13.4	I 135 11.8	I 132 10.4	RR RA 5.4	I 136 4.9	RR RA 2.7	I 131 2.5	RR RA 1.9	RR RA 1.9
8.3 MIN.	I 134 27.2	I 133 16.1	I 135 14.1	I 132 12.2	RR RA 5.8	I 131 3.0	Y 92 1.0	Y 94 1.0	RR RA 1.0	RR RA .9
16.7 MIN.	I 134 27.0	I 133 17.8	I 135 15.4	I 132 13.0	RR RA 5.4	I 131 3.3	Y 92 1.1	RR RA 1.0	Y 93 .9	Y 94 .8
33.3 MIN.	I 134 29.4	I 133 20.1	I 135 17.0	I 132 13.7	RR RA 4.3	I 131 3.8	Y 92 1.3	Y 93 1.1	RR RA .8	LA 141 .8
60.0 MIN.	I 133 23.2	I 134 20.6	I 135 19.0	I 132 14.0	I 131 4.4	RR RA 2.8	Y 92 1.4	Y 93 1.2	RR RA 1.1	RR RA 1.1
1.4 HR.	I 133 25.5	I 135 20.3	I 134 16.9	I 132 13.9	I 131 4.9	RR RA 1.9	RR RA 1.7	Y 92 1.6	Y 93 1.3	RR RA 1.1
2.8 HR.	I 133 31.5	I 135 22.7	I 132 12.0	I 134 7.4	I 131 6.3	RR RA 3.9	Y 92 1.9	Y 93 1.5	RR RA .9	LA 141 .9
5.6 HR.	I 133 37.3	I 135 22.1	I 131 8.2	RR RA 7.1	I 132 7.1	Y 92 1.8	Y 93 1.7	I 134 1.1	RR RA 1.1	LA 140 1.0
12.0 HR.	I 133 41.4	I 135 15.4	RR RA 13.2	I 131 11.0	I 132 2.1	Y 93 1.5	LA 140 1.4	Y 91 1.4	RR RA 1.2	RR RA 1.1
13.9 HR.	I 133 41.4	RR RA 13.9	I 135 13.6	I 131 11.7	I 132 1.7	LA 140 1.5	Y 91 1.5	Y 93 1.4	RR RA 1.2	RR RA 1.2
1.0 DAYS	I 133 42.1	I 131 16.0	RR RA 13.8	I 135 6.6	LA 140 2.1	Y 91 2.1	RR RA 1.8	RR RA 1.7	RR RA 1.7	I 132 1.3
1.2 DAYS	I 133 41.5	I 131 17.6	RR RA 12.8	I 135 5.5	LA 140 2.4	Y 91 2.4	RR RA 2.1	RR RA 2.0	RR RA 1.9	RR RA 1.4
2.3 DAYS	I 133 30.1	I 131 29.2	RR RA 4.9	Y 91 4.3	LA 140 4.2	RR RA 4.1	RR RA 3.6	RR RA 3.4	RR RA 2.5	RR RA 2.1
4.0 DAYS	I 131 38.8	I 133 12.0	RR RA 7.4	Y 91 6.5	LA 140 6.1	RR RA 5.5	RR RA 5.2	RR RA 3.6	RR RA 3.0	I 132 2.0
5.8 DAYS	I 131 41.4	RR RA 13.3	Y 91 7.9	LA 140 7.0	RR RA 6.8	RR RA 6.3	RR RA 4.1	I 133 3.6	RR RA 3.4	RR RA 2.1
10.0 DAYS	I 131 38.9	Y 91 10.2	RR RA 9.1	RR RA 8.1	LA 140 7.6	RR RA 6.7	RR RA 4.5	RR RA 2.6	RR RA 2.6	RR RA 2.1
11.6 DAYS	I 131 37.3	Y 91 11.0	RR RA 9.9	RR RA 8.6	LA 140 7.7	RR RA 6.1	RR RA 4.6	RR RA 3.6	RR RA 2.8	RR RA 2.2
23.1 DAYS	I 131 23.5	RR RA 16.5	Y 91 16.3	RR RA 12.7	LA 140 7.0	RR RA 4.3	RR RA 3.7	RR RA 3.4	RR RA 3.3	RR RA 2.4
30.0 DAYS	RR RA 20.4	Y 91 18.9	I 131 16.4	RR RA 14.5	LA 140 6.1	RR RA 4.1	RR RA 4.0	RR RA 3.8	RR RA 3.4	RR RA 1.8
57.9 DAYS	RR RA 32.6	Y 91 23.3	RR RA 17.1	RR RA 17.1	RR RA 5.1	RR RA 3.8	RR RA 2.6	I 131 2.5	RR RA 2.3	RR RA 2.1
60.0 DAYS	RR RA 33.3	Y 91 23.3	RR RA 17.1	RR RA 17.1	RR RA 5.1	RR RA 3.8	RR RA 2.6	I 131 2.5	RR RA 2.3	RR RA 2.1
115.7 DAYS	RR RA 47.2	Y 91 19.6	RR RA 13.2	RR RA 13.2	RR RA 5.1	RR RA 3.4	RR RA 2.9	RR RA 2.9	RR RA 2.9	RR RA 2.1
150.0 DAYS	RR RA 53.9	Y 91 16.2	RR RA 10.4	RR RA 10.4	RR RA 5.0	RR RA 3.9	RR RA 3.5	RR RA 2.7	RR RA 2.1	RR RA 2.1
231.5 DAYS	RR RA 66.0	Y 91 9.2	RR RA 5.2	RR RA 10.6	RR RA 4.3	RR RA 3.2	RR RA 2.5	RR RA 1.9	RR RA 1.7	RR RA .7
1.0 YRS.	RR RA 74.8	RR RA 10.6	RR RA 6.1	RR RA 4.9	RR RA 4.9	RR RA 3.0	RR RA 1.4	RR RA 1.1	RR RA .9	RR RA .9

Source 1 (water), 200 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LCCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	I 134 10.7	KR A9 10.5	KR 90 9.0	KR 88 8.6	XE 138 8.1	XE 140 5.5	XE 139 5.2	I 132 5.2	I 135 5.0	I 136 3.6
1.0 SFC.	I 134 11.1	KR A9 10.8	KR 90 9.1	KR 88 9.0	XE 138 8.0	XE 140 5.4	I 132 5.4	XE 139 5.3	I 135 5.2	I 136 3.7
2.0 SFC.	I 134 11.4	KR A9 11.1	KR 88 9.2	KR 90 9.2	XE 138 8.6	I 132 5.5	XE 139 5.4	I 135 5.3	XE 140 5.3	I 136 3.6
5.0 SEC.	I 134 12.0	KR A9 11.5	KR 88 9.7	KR 90 9.1	XE 138 9.1	I 132 5.8	I 135 5.6	XE 139 5.4	XE 140 4.8	I 136 3.9
10.0 SFC.	I 134 12.6	KR A9 11.9	KR 88 10.2	XF 138 9.5	KR 90 8.6	I 132 6.1	I 135 5.9	XE 139 5.2	I 136 4.0	XE 140 3.9
20.0 SEC.	I 134 13.5	KR A9 12.3	KR 88 10.9	XF 138 10.1	KR 90 7.4	I 132 6.5	I 135 6.3	XE 139 4.7	I 136 3.9	I 133 2.8
50.0 SFC.	I 134 15.2	KR A9 12.5	KR 88 12.3	XF 138 11.1	I 132 7.3	I 135 7.2	KR 90 4.4	I 136 3.4	XE 139 3.2	I 133 3.2
60.0 SFC.	I 134 15.6	KR A9 12.7	KR A9 12.4	XF 138 11.4	I 132 7.6	I 135 7.4	KR 90 3.7	I 136 3.2	I 133 3.2	KR 87 3.2
100.0 SFC.	I 134 16.9	KR A9 13.8	XF 138 12.0	KR 89 11.7	I 132 8.2	I 135 8.0	I 133 3.5	KR 87 3.5	XE 135 3.0	I 136 2.5
3.3 MIN.	I 134 18.6	KR A9 15.4	XE 138 12.5	I 132 9.2	KR 89 9.1	I 135 9.0	I 133 4.0	KR 87 3.8	XE 135 3.4	RB 90 2.1
8.3 MIN.	I 134 20.0	KR A9 17.2	XE 138 11.2	I 132 10.2	I 135 10.2	I 133 4.5	CS 138 4.4	KR 87 4.2	XE 135 3.9	KR 89 3.5
16.7 MIN.	I 134 19.7	KR 88 18.3	I 135 11.1	I 132 10.8	XF 138 8.2	CS 138 7.2	I 133 5.0	KR 87 4.3	XE 135 4.2	WB 89 3.1
33.3 MIN.	KR 88 19.4	I 134 17.9	I 135 12.2	I 132 11.2	CS 138 9.4	I 133 5.6	XE 135 4.7	RB 88 4.5	KR 87 4.2	XF 138 4.1
60.0 MIN.	KR 88 20.8	I 134 15.1	I 135 13.9	I 132 11.7	CS 138 8.5	I 133 6.6	RB 88 6.2	XE 135 5.6	KR 87 3.9	KR 85 2.1
1.4 HR.	KR 88 21.7	I 135 15.4	I 134 12.7	I 132 12.0	I 133 7.5	RB 88 7.0	CS 138 6.6	XE 135 6.3	KR 87 3.6	KR 85 2.2
2.8 HR.	KR 88 22.6	I 135 19.5	I 132 11.6	I 133 10.5	XF 135 8.7	RB 88 7.7	I 134 6.2	XE 133 3.1	I 131 3.1	KR 85 2.7
5.6 HR.	I 135 23.8	KR 88 18.6	I 133 15.6	XF 135 12.0	I 133 8.1	RB 88 6.3	XF 133 5.0	I 131 5.0	KR 85 2.8	I 134 1.1
12.0 HR.	I 133 24.9	I 135 23.9	XE 135 17.0	XF 133 9.8	I 131 9.6	KR 88 7.4	RB 88 2.5	I 132 2.3	KR 85 2.1	KR 87 .1
13.9 HR.	I 133 26.8	I 135 22.5	XF 135 18.0	XE 133 11.2	I 131 11.0	KR 88 5.4	RB 88 1.8	KR 85 1.8	I 132 1.5	KR 85 .0
1.0 DAYS	I 133 32.5	XE 133 18.3	I 131 18.0	XF 135 16.3	I 135 13.1	KR 88 .7	KR 85 .6	RB 88 .3	I 132 .1	KR 85 .1
1.2 DAYS	I 133 33.0	XF 133 20.7	I 131 20.5	XE 135 14.7	I 135 10.2	KR 85 .4	KR 88 .3	RB 88 .1	KR 85 .1	I 132 .0
2.3 DAYS	I 131 35.0	XE 133 35.0	I 133 24.7	XF 135 4.0	I 135 1.0	KR 85 .1	I 129 .0	KR 85 .0	LA 140 .0	I 140 .0
4.0 DAYS	I 131 45.9	XF 133 43.8	I 133 9.7	XF 135 .3	KR 85 .2	I 135 .0	I 129 .0	LA 140 .0	HA 140 .0	I 130 .0
5.8 DAYS	I 131 50.9	XF 133 45.7	I 133 3.0	KR 85 .3	I 129 .0	XE 135 .0	LA 140 .0	BA 140 .0	I 135 .0	I 130 .0
10.0 DAYS	I 131 56.4	XF 133 42.9	KR 85 .5	I 133 .2	I 129 .0	LA 140 .0	BA 140 .0	CE 141 .0	CF 141 .0	Y 91 .0
11.6 DAYS	I 131 58.0	XF 133 41.3	KR 85 .5	I 133 .1	I 129 .0	LA 140 .0	BA 140 .0	CE 141 .0	CF 141 .0	Y 91 .0
21.1 DAYS	I 131 68.7	XF 133 29.4	KR 85 1.7	I 129 .2	LA 140 .0	BA 140 .0	CE 141 .0	I 133 .0	Y 91 .0	ZR 95 .0
30.0 DAYS	I 131 73.2	XF 133 23.1	KR 85 3.3	I 129 .3	LA 140 .0	BA 140 .0	CE 141 .0	Y 91 .0	ZR 95 .0	NH 95 .0
57.9 DAYS	I 131 61.2	KR 85 30.2	XF 133 5.5	I 129 2.9	LA 140 .1	BA 140 .0	CE 141 .0	Y 91 .0	ZR 95 .0	NH 95 .0
60.0 DAYS	I 131 57.7	KR 85 34.2	XF 133 4.7	I 129 3.3	LA 140 .1	BA 140 .0	CE 141 .0	Y 91 .0	ZR 95 .0	NH 95 .0
115.7 DAYS	KR 85 89.9	I 129 8.8	I 131 1.3	LA 140 .0	XF 133 .0	BA 140 .0	CE 141 .0	Y 91 .0	NH 95 .0	ZR 95 .0
150.0 DAYS	KR 85 90.9	I 129 9.0	I 131 .1	LA 140 .0	FA 140 .0	Y 91 .0	CE 141 .0	XE 133 .0	NH 95 .0	ZR 95 .0
231.5 DAYS	KR 85 90.9	I 129 9.1	I 131 .0	Y 91 .0	LA 140 .0	CE 141 .0	NH 95 .0	Y 90 .0	ZH 95 .0	HA 140 .0
1.0 YRS.	KR 85 90.7	I 129 9.3	Y 91 .0	Y 90 .0	NH 95 .0	CE 141 .0	ZR 95 .0	PR 144 .0	CE 144 .0	CS 135 .0

Source 2 (air), Equilibrium, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	XF 137 14.0	XE 139 11.4	KR 91 11.2	KR 89 7.1	KR 90 6.9	XE 138 5.1	KR 92 4.6	KR 87 4.2	XE 140 4.0	I 136 3.4
1.0 SEC.	XE 137 14.6	XE 139 11.7	KR 91 10.8	KR 89 7.5	KR 90 7.1	XE 138 5.3	KR 87 4.4	XE 140 4.0	I 136 3.5	I 134 3.4
2.0 SEC.	XF 137 15.1	XF 139 11.9	KR 91 10.4	KR 89 7.7	KR 90 7.2	XF 138 5.5	KR 87 4.5	XE 140 4.0	I 136 3.6	I 134 3.5
5.0 SEC.	XF 137 16.2	XE 139 12.3	KR 91 8.8	KR 89 8.3	KR 90 7.3	XE 138 5.9	KR 87 4.9	I 134 3.8	I 136 3.8	XE 140 3.7
10.0 SEC.	XF 137 17.5	XF 139 12.4	KR 89 8.9	KR 90 7.2	KR 91 6.5	XF 138 6.5	KR 87 5.4	I 134 4.2	I 136 4.0	XE 135 3.2
20.0 SEC.	XF 137 19.2	XE 139 11.7	KR 89 9.6	XF 138 7.2	KR 90 6.5	KR 87 6.0	I 134 4.7	I 136 4.1	XE 135 3.6	KR 91 3.3
50.0 SEC.	XE 137 21.5	KR 89 10.4	XE 138 8.5	XE 139 8.5	KR 87 7.3	I 134 5.6	XE 135 4.4	KR 90 4.2	I 136 3.9	I 133 3.1
60.0 SEC.	XF 137 21.9	KR 89 10.5	XE 138 8.8	KR 87 7.6	XE 139 7.5	I 134 5.9	XE 135 4.6	I 136 3.8	KR 90 3.5	I 133 3.2
100.0 SEC.	XF 137 22.3	KR 89 10.4	XF 138 9.8	KR 87 8.7	I 134 6.7	XE 135 5.3	XF 139 4.3	I 133 3.7	I 135 3.2	I 136 3.1
3.3 MIN.	XE 137 20.2	XF 138 11.0	KR 87 10.4	KR 89 8.8	I 134 8.8	XE 135 6.4	I 133 4.5	I 135 3.9	I 132 3.5	RB 88 2.9
8.3 MIN.	KR 87 12.7	XF 138 11.0	XE 137 10.5	I 134 9.5	RB 88 8.2	XE 135 8.2	I 133 5.7	I 135 5.0	I 132 4.3	CS 138 4.3
16.7 MIN.	RR 88 15.8	KR 87 13.3	I 134 9.7	XE 135 9.2	XF 138 8.3	CS 138 7.3	I 133 6.4	I 135 5.5	I 132 4.7	KR 85 3.9
33.3 MIN.	RR 88 24.5	KR 87 12.2	XE 135 9.8	CS 138 8.9	I 134 8.3	I 133 6.8	I 135 5.7	I 132 4.6	KR 85 4.0	XE 138 3.9
60.0 MIN.	RR 88 31.0	XE 135 10.6	KR 87 10.6	CS 138 7.5	I 133 7.4	I 134 6.5	I 135 6.1	I 132 4.4	KR 85 4.1	KR 88 3.8
1.4 HR.	RR 88 33.5	XE 135 11.6	KR 87 9.5	I 133 8.1	I 135 6.4	CS 138 5.6	I 134 5.3	I 132 4.4	KR 85 4.3	XE 133 4.1
2.8 HR.	RR 88 34.6	XE 135 15.0	I 133 10.6	I 135 7.7	KR 87 6.1	XE 133 5.7	KR 85 4.8	I 132 4.0	KR 88 3.7	I 134 2.4
5.6 HR.	RR 88 27.3	XF 135 20.6	I 133 15.2	I 135 9.0	XE 133 8.8	KR 85 4.9	I 131 3.3	KR 88 2.9	KR 85 2.7	I 132 2.7
12.0 HR.	XF 135 26.9	I 133 22.5	XF 133 15.9	RB 88 10.2	I 135 8.4	I 131 6.0	KR 85 5.0	KR 85 3.3	KR 88 1.1	I 132 7
13.9 HR.	XF 135 27.1	I 133 23.8	XE 133 17.8	I 135 7.7	RR 88 7.2	I 131 6.7	KR 85 5.6	KR 85 2.8	KR 88 1.8	I 132 4
1.0 DAYS	XF 133 26.5	I 133 26.3	XF 135 22.5	I 131 10.0	KR 85 8.7	I 135 4.1	RR 88 4.9	KR 85 4.9	KR 88 1.1	I 132 0
1.2 DAYS	XE 133 29.4	I 133 26.0	XF 135 19.7	I 131 11.0	KR 85 9.3	I 135 3.1	KR 85 4.9	RR 88 4.9	KR 88 0.1	I 129 0
2.3 DAYS	XF 133 44.2	I 133 17.4	I 131 16.9	KR 85 16.5	XF 135 4.8	I 135 3.1	I 129 0.0	KR 85 0.0	SR 89 0.0	LA 140 0
4.0 DAYS	XF 133 50.5	KR 85 22.8	I 131 20.1	I 133 6.2	XE 135 3.1	I 129 0.0	SR 89 0.0	LA 140 0.0	HA 140 0.0	Y 91 0
5.8 DAYS	XF 133 49.4	KR 85 27.7	I 131 21.0	I 133 1.8	I 129 0.0	XE 135 0.0	SR 89 0.0	LA 140 0.0	HA 140 0.0	Y 91 0
10.0 DAYS	XF 133 40.7	KR 85 38.7	I 131 20.4	I 133 1.1	I 129 0.0	SR 89 0.0	LA 140 0.0	HA 140 0.0	Y 91 0	LS 137 0
11.6 DAYS	KR 85 43.0	XF 133 37.0	I 131 19.8	I 129 1.1	I 133 0.0	SR 89 0.0	LA 140 0.0	HA 140 0.0	Y 91 0	CS 137 0
23.1 DAYS	KR 85 73.3	XF 133 14.1	I 131 12.5	I 129 1.1	SP 89 0.0	LA 140 0.0	BA 140 0.0	Y 91 0.0	CS 137 0.0	Y 90 0
30.0 DAYS	KR 85 85.1	I 131 8.0	XF 133 6.7	I 129 1.1	SR 89 0.0	LA 140 0.0	Y 91 0.0	HA 140 0.0	CS 137 0.0	Y 90 0
57.9 DAYS	KR 85 98.8	I 131 8.8	XE 133 2.1	I 129 1.1	SR 89 0.0	Y 91 0.0	LA 140 0.0	HA 140 0.0	CS 137 0.0	Y 90 0
60.0 DAYS	KR 85 99.0	I 131 7.7	XE 133 2.1	I 129 1.1	SR 89 0.0	Y 91 0.0	LA 140 0.0	HA 140 0.0	CS 137 0.0	Y 90 0
115.7 DAYS	KR 85 99.8	I 129 1.1	SR 89 0.0	I 131 0.0	Y 91 0.0	CS 137 0.0	XE 133 0.0	Y 90 0.0	LA 140 0.0	SR 90 0
150.0 DAYS	KR 85 99.9	I 129 1.1	SR 89 0.0	I 131 0.0	Y 91 0.0	CS 137 0.0	Y 90 0.0	SR 90 0.0	LA 140 0.0	CE 141 0
231.5 DAYS	KR 85 99.9	I 129 1.1	SP 89 0.0	CS 137 0.0	Y 91 0.0	Y 90 0.0	CF 141 0.0	I 131 0.0	CS 135 0.0	CE 135 0
1.0 YRS.	KR 85 99.9	I 129 1.1	SR 89 0.0	CS 137 0.0	Y 90 0.0	Y 91 0.0	SR 90 0.0	CS 135 0.0	PR 144 0.0	CE 141 0

Source 2 (air), Equilibrium, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC	I 134 10.7	KR 89 10.5	KR 90 9.0	KR 88 8.6	XE 138 8.1	XE 140 5.5	XF 139 5.2	I 132 5.2	I 135 5.0	I 136 3.6
1.0 SEC	I 134 11.1	KR 89 10.8	KR 90 9.1	KR 88 8.6	XE 138 8.1	XE 140 5.4	I 132 5.4	XE 139 5.3	I 135 5.2	I 136 3.7
2.0 SEC	I 134 11.4	KR 89 11.1	KR 88 9.2	KR 90 9.2	XF 138 8.6	I 132 5.5	XE 139 5.4	I 135 5.3	XE 140 5.3	I 136 3.8
5.0 SEC	I 134 12.0	KR 89 11.5	KR 88 9.7	KR 90 9.1	XE 138 9.1	I 132 5.8	I 135 5.6	XF 139 5.4	XE 140 4.8	I 136 3.9
10.0 SEC	I 134 12.6	KR 89 11.9	KR 88 10.2	XF 138 9.5	KR 90 8.6	I 132 6.1	I 135 5.9	XE 139 5.2	I 136 4.0	XE 140 3.9
20.0 SEC	I 134 13.5	KR 89 12.3	KR 88 10.9	XE 138 10.1	KR 90 7.4	I 132 6.5	I 135 6.3	XE 139 4.7	I 136 3.9	I 133 2.8
50.0 SEC	I 134 15.2	KR 89 12.5	KR 88 12.3	XF 138 11.1	I 132 7.3	I 135 7.2	KR 90 4.4	I 136 3.4	XE 139 3.2	I 133 3.2
60.0 SEC	I 134 15.6	KR 89 12.7	KR 88 12.4	XE 138 11.4	I 132 7.6	I 135 7.4	KR 90 3.7	I 136 3.2	I 133 3.2	KR 87 3.2
100.0 SEC	I 134 16.9	KR 88 13.4	XF 138 12.0	KR 89 11.7	I 132 8.2	I 135 8.1	I 133 3.5	KR 87 3.5	XF 135 3.0	I 136 2.5
3.3 MIN	I 134 18.6	KR 88 15.4	XF 138 12.5	I 132 9.2	KR 89 9.1	I 135 9.0	I 133 4.0	KR 87 3.8	XE 135 3.4	KR 90 2.1
8.3 MIN	I 134 20.0	KR 88 17.2	XF 138 11.7	I 132 10.2	I 135 10.2	I 133 4.5	CS 138 4.4	KR 87 4.2	XE 135 3.9	KR 89 3.5
16.7 MIN	I 134 19.7	KR 88 18.3	I 135 11.1	I 132 10.8	XE 138 8.2	CS 138 7.2	I 133 5.0	KR 87 4.3	XF 135 4.2	KR 89 3.1
33.3 MIN	KR 88 19.4	I 134 17.9	I 135 12.2	I 132 11.2	CS 138 9.4	I 133 5.6	XE 135 4.7	KR 88 4.5	KR 87 4.2	XE 138 4.1
60.0 MIN	KR 88 20.8	I 134 15.1	I 135 13.9	I 132 11.7	CS 138 8.5	I 133 6.6	KR 88 6.2	XE 135 5.6	KR 87 3.9	KR 85 2.1
1.4 HR	KR 88 21.7	I 135 15.4	I 134 12.7	I 132 12.0	I 133 7.5	KR 88 7.0	CS 138 6.6	XE 135 6.3	KR 87 3.6	KR 85 2.2
2.8 HR	KR 88 22.6	I 135 19.5	I 132 11.6	I 133 10.5	XE 135 8.7	KR 88 7.7	I 134 6.3	XE 133 3.1	I 131 3.1	KR 85 2.7
5.6 HR	I 135 23.8	KR 88 18.6	I 133 15.6	XF 135 12.4	I 132 8.2	KR 88 6.3	XE 133 5.0	I 131 5.0	KR 85 2.8	I 134 1.1
12.0 HR	I 133 24.9	I 135 23.9	XF 135 17.5	XF 133 9.4	I 131 9.7	KR 88 7.4	KR 88 2.5	I 132 2.3	KR 85 2.1	KR 87 .1
13.9 HR	I 133 26.9	I 135 22.5	XE 135 16.0	XF 133 11.2	I 131 11.0	KR 88 5.4	KR 88 1.8	KR 85 1.8	I 132 1.5	KR 85 .0
1.0 DAYS	I 133 32.5	XE 133 18.3	I 131 18.0	XE 135 16.3	I 135 13.1	KR 88 .7	KR 85 .6	KR 88 .3	I 132 .1	KR 85 .0
1.2 DAYS	I 133 33.0	XF 133 20.7	I 131 20.5	XE 135 14.7	I 135 10.2	KR 85 .4	KR 88 .3	KR 88 .1	KR 85 .0	I 132 .0
2.3 DAYS	I 131 35.1	XF 133 35.0	I 133 24.8	XE 135 4.0	I 135 1.0	KR 85 .1	KR 85 .0	LA 140 .0	I 130 .0	SR 91 .0
4.0 DAYS	I 131 45.9	XF 133 43.8	I 133 9.7	XE 135 .3	KR 85 .1	I 135 .0	LA 140 .0	HA 140 .0	I 130 .0	SR 91 .0
5.8 DAYS	I 131 51.0	XE 133 45.8	I 133 3.0	KR 85 .2	XF 135 .0	LA 140 .0	HA 140 .0	I 135 .0	I 130 .0	CE 141 .0
10.0 DAYS	I 131 56.6	XE 133 43.0	KR 85 .3	I 133 .1	LA 140 .0	HA 140 .0	XE 135 .0	CE 141 .0	Y 91 .0	I 129 .0
11.4 DAYS	I 131 58.2	XE 133 41.4	KR 85 .3	I 133 .1	LA 140 .0	HA 140 .0	CE 141 .0	I 133 .0	Y 91 .0	I 129 .0
23.1 DAYS	I 131 69.3	XF 133 24.7	KR 85 1.0	LA 140 .0	HA 140 .0	CE 141 .0	Y 91 .0	I 129 .0	ZR 95 .0	NR 95 .0
30.0 DAYS	I 131 74.5	XF 133 23.5	KR 85 2.0	LA 140 .0	HA 140 .0	CE 141 .0	Y 91 .0	I 129 .0	ZR 95 .0	NR 95 .0
47.9 DAYS	I 131 72.4	KR 85 21.0	XF 133 6.6	LA 140 .0	HA 140 .0	CE 141 .0	Y 91 .0	I 129 .0	ZR 95 .0	NR 95 .0
60.0 DAYS	I 131 69.8	KR 85 24.3	XE 133 5.7	LA 140 .0	HA 140 .0	CE 141 .0	Y 91 .0	I 129 .0	ZR 95 .0	NR 95 .0
115.7 DAYS	KR 85 97.6	I 131 2.3	LA 140 .0	XF 133 .0	HA 140 .0	I 129 .0	CE 141 .0	Y 91 .0	NR 95 .0	ZR 95 .0
150.0 DAYS	KR 85 99.9	I 131 .1	LA 140 .0	I 129 .0	BA 140 .0	Y 91 .0	CE 141 .0	XE 133 .0	NR 95 .0	ZR 95 .0
231.5 DAYS	KR 85100.0	I 129 .0	I 131 .0	Y 91 .0	LA 140 .0	CE 141 .0	NR 95 .0	Y 90 .0	ZR 95 .0	BA 140 .0
1.0 YRS.	KR 85100.0	I 129 .0	Y 91 .0	Y 90 .0	NR 95 .0	CE 141 .0	ZR 95 .0	PH 144 .0	CE 144 .0	CS 135 .0

Source 2 (air), 5000 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO RETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	XF 137 14.0	XE 139 11.4	KR 91 11.2	KR 89 7.2	KR 90 6.9	XE 138 5.1	KR 92 4.6	KR 87 4.2	XE 140 4.0	I 136 3.4
1.0 SEC.	XF 137 14.6	XF 139 11.7	KR 91 10.8	KR 89 7.5	KR 90 7.1	XF 138 5.3	KR 87 4.4	XE 140 4.0	I 136 3.5	I 134 3.4
2.0 SEC.	XF 137 15.1	XF 139 12.0	KR 91 10.4	KR 89 7.7	KR 90 7.2	XE 138 5.5	KR 87 4.5	XE 140 4.0	I 136 3.6	I 134 3.5
5.0 SEC.	XE 137 16.3	XE 139 12.3	KR 91 8.8	KR 89 8.3	KR 90 7.3	XE 138 5.9	KR 87 4.9	I 134 3.8	I 136 3.8	XE 140 3.7
10.0 SEC.	XE 137 17.6	XF 139 12.4	KR 89 8.9	KR 90 7.2	KR 91 6.5	XE 138 6.5	KR 87 5.4	I 134 4.2	I 136 4.0	XF 135 3.2
20.0 SEC.	XE 137 19.3	XF 139 11.7	KR 89 9.6	XE 138 7.2	KR 90 6.5	KR 87 6.0	I 134 4.7	I 136 4.1	XE 135 3.6	KR 91 3.3
50.0 SEC.	XE 137 21.6	KR 89 10.5	XE 138 8.5	XE 139 8.5	KR 87 7.3	I 134 5.6	XE 135 4.4	KR 90 4.2	I 136 3.9	I 133 3.1
60.0 SEC.	XE 137 21.9	KR 89 10.5	XE 138 8.9	KR 87 7.6	XF 139 7.5	I 134 5.9	XF 135 4.6	I 136 3.8	KR 90 3.5	I 133 3.2
100.0 SEC.	XE 137 22.4	KR 89 10.4	XE 138 9.8	KR 87 8.7	I 134 6.7	XE 135 5.3	XE 139 4.3	I 133 3.7	I 135 3.2	I 136 3.1
3.3 MIN.	XE 137 20.3	XF 138 11.1	KR 87 10.4	KR 89 8.8	I 134 8.0	XE 135 6.5	I 133 4.5	I 135 3.9	I 132 3.5	RR 88 2.9
8.3 MIN.	KR 87 12.7	XF 138 11.1	XE 137 10.5	I 134 9.6	RR 88 8.3	XE 135 8.2	I 133 5.7	I 135 5.0	I 132 4.3	CS 138 4.5
16.7 MIN.	RR 88 15.8	KR 87 13.4	I 134 9.7	XE 135 9.3	XE 138 8.4	CS 138 7.3	I 133 6.4	I 135 5.6	I 132 4.7	KR 85 3.9
33.3 MIN.	RR 88 20.6	KR 87 12.3	XE 135 9.8	CS 138 8.9	I 134 8.4	I 133 6.8	I 135 5.8	I 132 4.6	KR 85 4.0	XE 138 4.0
60.0 MIN.	RR 88 31.1	XE 135 10.7	KR 87 10.7	CS 138 7.5	I 133 7.4	I 134 6.5	I 135 6.1	I 132 4.5	KR 85 4.1	KR 88 3.8
1.4 HR.	RR 88 33.7	XE 135 11.6	KR 87 9.5	I 133 8.1	I 135 6.5	CS 138 5.6	I 134 5.3	I 132 4.4	KR 85 4.3	XE 133 4.1
2.8 HR.	RR 88 34.8	XF 135 15.2	I 133 10.7	I 135 7.7	KR 87 6.2	XF 133 5.7	KR 85 4.8	I 132 4.0	KR 88 3.7	I 134 2.4
5.6 HR.	RR 88 27.6	XF 135 20.9	I 133 15.4	I 135 9.1	XF 133 8.0	KR 85 4.9	I 131 3.4	KR 88 2.9	I 132 2.7	KR 87 2.1
12.0 HR.	XF 135 27.4	I 133 23.0	XE 133 16.2	RR 88 10.4	I 135 8.6	I 131 6.1	KR 85 3.4	KR 85 3.0	KR 88 1.1	I 132 .7
13.9 HR.	XF 135 27.8	I 133 24.4	XE 133 18.2	I 135 7.9	RR 88 7.4	I 131 6.8	KR 85 3.4	KR 85 2.8	KR 88 .8	I 132 .5
1.0 DAYS	XF 133 27.5	I 133 27.3	XE 135 23.3	I 131 10.3	KR 85 5.3	I 135 4.3	RR 88 .9	KR 85 .9	KR 88 .1	I 132 .0
1.2 DAYS	XF 133 30.6	I 133 27.1	XF 135 20.5	I 131 11.5	KR 85 5.0	I 135 3.2	KR 85 .6	RR 88 .4	KR 88 .0	I 132 .0
2.3 DAYS	XF 133 47.4	I 133 18.7	I 131 18.1	KR 85 10.4	XE 135 5.1	I 135 .3	KR 85 .0	RR 88 .0	SR 89 .0	LA 140 .0
4.0 DAYS	XF 133 55.7	I 131 22.2	KR 85 14.8	I 133 6.9	XF 135 .0	SR 89 .0	LA 140 .0	BA 140 .0	Y 91 .0	.0
5.8 DAYS	XF 133 55.9	I 131 23.7	KR 85 18.3	I 133 2.1	XE 135 .0	SR 89 .0	LA 140 .0	BA 140 .0	Y 91 .0	.0
10.0 DAYS	XE 133 48.5	KR 85 27.0	I 131 24.3	I 133 .0	SR 89 .0	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0	Y 90 .0
11.6 DAYS	XF 133 45.1	XE 135 30.7	I 131 24.1	I 133 .0	SR 89 .0	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0	Y 90 .0
21.6 DAYS	KR 85 61.8	XE 133 20.2	I 131 17.9	SR 89 .0	LA 140 .0	HA 140 .0	Y 91 .0	CS 137 .0	Y 90 .0	CE 141 .0
30.0 DAYS	KR 85 77.2	I 131 12.4	XF 133 10.3	SR 89 .0	LA 140 .0	Y 91 .0	BA 140 .0	CS 137 .0	Y 90 .0	CE 141 .0
57.9 DAYS	KR 85 98.2	I 131 1.4	XE 133 .3	SR 89 .0	Y 91 .0	LA 140 .0	BA 140 .0	CS 137 .0	Y 90 .0	SR 90 .0
60.0 DAYS	KR 85 98.5	I 131 1.2	XE 133 .3	SR 89 .0	Y 91 .0	LA 140 .0	BA 140 .0	CS 137 .0	Y 90 .0	SR 90 .0
115.7 DAYS	KR 85 100.0	SR 89 .0	I 131 .0	Y 91 .0	CS 137 .0	XE 133 .0	Y 90 .0	LA 140 .0	SR 90 .0	HA 140 .0
150.0 DAYS	KR 85 100.0	SR 89 .0	I 131 .0	Y 91 .0	CS 137 .0	Y 90 .0	SR 90 .0	I 129 .0	LA 140 .0	CE 141 .0
231.5 DAYS	KR 85 100.0	SR 89 .0	CS 137 .0	Y 91 .0	Y 90 .0	SR 90 .0	I 129 .0	CE 141 .0	I 131 .0	CS 135 .0
1.0 YRS.	KR 85 100.0	SR 89 .0	CS 137 .0	Y 90 .0	Y 91 .0	SR 90 .0	I 129 .0	CS 135 .0	PR 144 .0	CE 141 .0

Source 2 (air), 5000 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC	I 134 10.7	KR 89 10.5	KR 90 9.0	R 8A 8.6	XE 13A 8.1	XE 140 5.5	XF 139 5.2	I 132 5.2	I 135 5.0	I 136 3.6
1.0 SEC	I 134 11.1	KR 89 10.8	KR 90 9.1	KR 8A 9.0	XE 138 8.4	XE 140 5.4	I 132 5.4	XE 139 5.3	I 135 5.2	I 136 3.7
2.0 SEC	I 134 11.4	KR 89 11.1	KR 8A 9.2	KR 90 9.2	XE 138 8.6	I 132 5.5	XE 139 5.4	I 135 5.3	XE 140 5.3	I 136 3.8
5.0 SFC	I 134 12.0	KR 89 11.5	KR 8A 9.7	KR 90 9.1	XF 13A 9.1	I 132 5.8	I 135 5.6	XE 139 5.4	XE 140 4.8	I 136 3.9
10.0 SFC	I 134 12.6	KR 89 11.9	KR 8A 10.2	XE 13A 9.5	KR 90 8.6	I 132 6.1	I 135 5.9	XE 139 5.2	I 136 4.0	XE 140 3.9
20.0 SFC	I 134 13.5	KR 89 12.3	KR 8A 10.9	XE 13A 10.1	KR 90 7.4	I 132 6.5	I 135 6.3	XF 139 4.7	I 136 3.9	I 133 2.8
40.0 SEC	I 134 15.2	KR 89 12.5	KR 8A 12.3	XF 138 11.1	I 132 7.3	I 135 7.2	KR 90 4.4	I 136 3.4	XE 139 3.2	I 133 3.2
60.0 SEC	I 134 15.6	KR 8A 12.7	KR 89 12.4	XE 13A 11.4	I 132 7.6	I 135 7.4	KR 90 3.7	I 136 3.2	I 133 3.2	KR 87 3.2
100.0 SEC	I 134 16.9	KR 8A 13.8	XE 13A 12.0	KR 89 11.7	I 132 8.2	I 135 8.1	I 133 5	KR 87 3.5	XF 135 3.0	I 136 2.5
3.3 MIN	I 134 18.6	KR 8A 15.4	XE 13A 12.5	I 132 9.2	KR 89 9.1	I 135 9.0	I 133 4.0	KR 87 3.8	XE 135 3.4	RB 90 2.1
8.3 MIN	I 134 20.0	KR 8A 17.2	XE 13A 11.2	I 132 10.2	I 135 10.2	I 133 4.5	CS 13A 4.4	KR 87 4.2	XE 135 3.9	KR 89 3.5
16.7 MIN	I 134 19.7	KR 8A 18.3	I 135 11.1	I 132 10.8	XF 13A 8.2	CS 138 7.2	I 133 5.0	KR 87 4.3	XE 135 4.2	RB 89 3.1
33.3 MIN	KR 8A 19.2	I 134 17.9	I 135 12.2	I 132 11.2	CS 13A 9.4	I 133 5.6	XE 135 4.7	RB 8A 4.5	KR 87 4.2	XE 138 4.1
60.0 MIN	KR 8A 20.8	I 134 15.1	I 135 13.9	I 132 11.7	CS 138 8.5	I 133 6.6	RB 88 6.2	XF 135 5.6	KR 87 3.9	KR 85 2.1
1.4 HR	KR 8A 21.7	I 135 15.4	I 134 12.7	I 132 12.0	I 133 7.5	RB 88 7.0	CS 138 6.6	XF 135 6.3	KR 87 3.6	KR 85 2.2
2.8 HR	KR 8A 22.6	I 135 19.5	I 132 11.6	I 133 10.5	XE 135 8.7	RB 88 7.7	I 134 6.3	XE 133 3.1	I 131 3.1	KR 85 2.7
5.6 HR	I 135 23.8	KR 8A 18.6	I 133 15.6	XE 135 12.5	I 132 8.2	RB 88 6.3	XE 133 5.0	I 131 5.0	KR 85 2.8	I 134 1.1
12.0 HR	I 133 24.9	I 135 23.9	XF 135 17.5	XE 133 9.8	I 131 9.7	KR 88 7.4	RB 88 2.5	I 132 2.3	KR 85 2.1	KR 87 1.1
13.9 HR	I 133 26.9	I 135 22.5	XE 135 18.0	XF 133 11.2	I 131 11.0	KR 88 5.4	RB 88 1.8	KR 85 1.8	I 132 1.5	KR 87 1.0
1.0 DAYS	I 133 32.5	XE 133 18.3	I 131 18.0	XF 135 16.3	I 135 13.1	KR 88 7.4	RB 88 1.8	RB 88 1.3	I 132 1.1	KR 85 1.0
1.2 DAYS	I 133 33.0	XE 133 20.0	I 131 20.5	XF 135 14.7	I 135 10.2	KR 85 7.4	KR 88 1.3	RB 88 1.1	I 132 1.0	KR 85 1.0
2.3 DAYS	I 131 35.1	XF 133 35.8	I 133 24.8	XF 135 4.0	I 135 1.0	KR 85 0.0	KR 85 0.0	LA 140 0.0	I 130 0.0	SR 91 0.0
4.0 D-Y	I 131 46.0	XE 133 45.9	I 133 30.8	XF 135 3.1	I 135 0.0	KR 85 0.0	KR 85 0.0	LA 140 0.0	I 130 0.0	SR 91 0.0
5.8 DAYS	I 131 51.1	XF 133 45.8	I 133 30.8	XF 135 3.1	I 135 0.0	KR 85 0.0	KR 85 0.0	LA 140 0.0	I 130 0.0	SR 91 0.0
10.0 DAYS	I 131 56.7	XF 133 43.1	I 133 30.8	XF 135 3.1	I 135 0.0	KR 85 0.0	KR 85 0.0	LA 140 0.0	I 130 0.0	SR 91 0.0
11.6 DAYS	I 131 58.4	XF 133 41.5	I 133 30.8	XF 135 3.1	I 135 0.0	KR 85 0.0	KR 85 0.0	LA 140 0.0	I 130 0.0	SR 91 0.0
23.1 DAYS	I 131 69.9	XF 133 30.0	KR 85 3.1	LA 140 0.0	BA 140 0.0	CE 141 0.0	Y 91 0.0	I 129 0.0	ZR 95 0.0	NH 95 0.0
30.0 DAYS	I 131 75.7	XF 133 23.9	KR 85 3.1	LA 140 0.0	BA 140 0.0	CE 141 0.0	Y 91 0.0	I 129 0.0	ZR 95 0.0	NH 95 0.0
57.9 DAYS	I 131 88.2	XF 133 8.0	KR 85 3.7	LA 140 0.0	BA 140 0.0	CE 141 0.0	Y 91 0.0	I 129 0.0	ZR 95 0.0	NH 95 0.0
60.0 DAYS	I 131 88.2	XF 133 7.3	KR 85 4.4	LA 140 0.0	BA 140 0.0	CE 141 0.0	Y 91 0.0	I 129 0.0	ZR 95 0.0	NH 95 0.0
115.7 DAYS	KR 85 85.6	I 131 14.1	LA 140 0.0	BA 140 0.0	CE 141 0.0	Y 91 0.0	I 129 0.0	ZR 95 0.0	NH 95 0.0	NH 95 0.0
150.0 DAYS	KR 85 99.1	I 131 9.9	LA 140 0.0	BA 140 0.0	CE 141 0.0	Y 91 0.0	I 129 0.0	ZR 95 0.0	NH 95 0.0	NH 95 0.0
231.5 DAYS	KR 85 100.0	I 129 0.0	Y 91 0.0	I 129 0.0	LA 140 0.0	CE 141 0.0	NH 95 0.0	Y 90 0.0	ZR 95 0.0	BA 140 0.0
1.0 YRS.	KR 85 100.0	I 129 0.0	Y 91 0.0	Y 90 0.0	NH 95 0.0	CE 141 0.0	ZR 95 0.0	PH 144 0.0	CE 144 0.0	CS 135 0.0

Source 2 (air), 500 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO RETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCAL	1	2	3	4	5	6	7	8	9	10
0 SEC	XF 137 14,0	XE 139 11,4	KR 91 11,2	KR 89 7,2	KR 90 6,9	XE 138 5,1	KR 92 4,6	KR 87 4,2	XE 140 4,0	I 136 3,4
1,0 SEC	XE 137 14,6	XE 139 11,7	KR 91 10,8	KR 89 7,5	KR 90 7,1	XE 138 5,3	KR 87 4,4	XF 140 4,0	I 136 3,5	I 134 3,4
2,0 SEC	XE 137 15,1	XF 139 12,0	KR 91 10,4	KR 89 7,7	KR 90 7,2	XE 138 5,5	KR 87 4,5	XE 140 4,0	I 136 3,6	I 134 3,5
5,0 SEC	XE 137 16,3	XE 139 12,3	KR 91 8,9	KR 89 8,3	KR 90 7,3	XE 138 5,9	KR 87 4,9	I 134 3,8	I 136 3,8	XE 140 3,7
10,0 SEC	XE 137 17,6	XE 139 12,4	KR 89 8,9	KR 90 7,2	KR 91 6,5	XE 138 6,5	KR 87 5,4	I 134 4,2	I 136 4,0	XE 135 3,3
20,0 SEC	XE 137 19,3	XF 139 11,7	KR 89 9,6	XE 138 7,2	KR 90 6,5	KR 87 6,0	I 134 4,7	I 136 4,1	XE 135 3,7	KR 91 3,3
50,0 SEC	XE 137 21,6	KR 89 10,5	XE 138 8,6	XE 139 8,5	KR 87 7,3	I 134 5,7	XE 135 4,4	KR 90 4,2	I 136 3,9	I 133 3,1
60,0 SEC	XF 137 22,0	KR 89 10,6	XE 138 8,9	KR 87 7,5	XE 139 7,5	I 134 5,9	XE 135 4,6	I 136 3,8	KR 90 3,5	I 133 3,2
100,0 SEC	XE 137 22,5	KR 89 10,5	XE 138 9,9	KR 87 8,7	I 134 6,7	XE 135 5,3	XE 139 4,3	I 133 3,7	I 135 3,2	I 136 3,1
3,3 MIN	XE 137 20,3	XE 138 11,1	KR 87 10,5	KR 89 8,9	I 134 8,0	XE 135 4,5	I 133 4,5	I 135 3,9	I 132 3,5	RB 88 2,9
8,3 MIN	KR 87 12,8	XE 138 11,1	XE 137 10,6	I 134 9,6	RB 88 8,3	XF 135 8,3	I 133 5,7	I 135 5,0	I 132 4,3	CS 138 4,3
16,7 MIN	RB 88 15,9	KR 87 13,4	I 134 9,8	XE 135 9,3	XE 138 8,4	CS 138 7,3	I 133 6,5	I 135 5,6	I 132 4,7	KR 85 3,9
33,3 MIN	RB 88 24,7	KR 87 12,3	XE 135 9,9	CS 138 8,9	I 134 8,0	I 133 6,8	I 135 5,8	I 132 4,6	KR 85 4,0	XE 138 4,0
60,0 MIN	RB 88 31,3	XE 135 10,8	KR 87 10,7	CS 138 7,5	I 133 7,5	I 134 6,6	I 135 6,1	I 132 4,5	KR 85 4,2	KR 88 3,8
1,4 HR	RB 88 33,9	XE 135 11,7	KR 87 9,6	I 133 7,2	I 135 6,5	CS 138 5,6	I 134 5,3	I 132 4,4	KR 85 4,3	XE 133 4,2
2,8 HR	RB 88 35,1	XE 135 15,3	I 133 10,8	I 135 8,8	KR 87 6,2	XE 133 5,8	KR 85 4,8	I 132 4,0	KR 88 3,6	I 134 2,5
5,6 HR	RB 88 28,0	XE 135 21,2	I 133 15,6	I 135 9,2	XE 133 9,0	KR 85 5,0	I 131 3,4	KR 88 3,0	I 132 2,7	KR 87 2,1
12,0 HR	XE 135 28,2	I 133 23,6	XF 133 16,6	RB 88 10,7	I 135 8,8	I 131 6,3	KR 85 3,5	KR 88 1,1	I 132 1,7	KR 85 1,4
13,9 HR	XE 135 28,6	I 133 25,1	XE 133 18,7	I 135 8,2	RB 88 7,6	I 131 7,0	KR 85 2,9	KR 88 1,0	KR 85 1,8	I 132 1,5
1,0 DAYS	XE 133 28,8	I 133 28,5	XE 135 24,4	I 131 10,8	I 135 4,5	RB 88 1,0	KR 85 1,0	KR 85 1,0	KR 88 1,1	I 132 1,0
1,2 DAYS	XE 133 32,3	I 133 28,6	XE 135 21,6	I 131 12,1	I 135 3,4	KR 85 1,6	KR 85 1,3	KR 85 1,0	SR 89 1,0	LA 140 1,0
2,3 DAYS	XE 133 52,0	I 133 20,5	I 131 19,8	XE 135 5,7	KR 85 1,6	I 135 1,3	KR 85 1,0	SR 89 1,0	LA 140 1,0	BA 140 1,0
4,0 DAYS	XF 133 63,8	I 131 25,5	I 133 7,9	KR 85 2,4	XE 135 1,6	SR 89 1,0	I 135 1,0	LA 140 1,0	BA 140 1,0	Y 91 1,0
5,8 DAYS	XE 133 66,3	I 131 28,1	KR 85 3,1	I 133 2,4	XF 135 1,0	SR 89 1,0	LA 140 1,0	BA 140 1,0	Y 91 1,0	I 135 1,0
10,0 DAYS	XF 133 63,1	I 131 31,6	KR 85 5,1	I 133 1,1	SR 89 1,0	LA 140 1,0	BA 140 1,0	Y 91 1,0	CS 137 1,0	Y 90 1,0
11,6 DAYS	XF 133 61,2	I 131 32,7	KR 85 6,0	I 133 1,1	SR 89 1,0	LA 140 1,0	BA 140 1,0	Y 91 1,0	CS 137 1,0	Y 90 1,0
23,1 DAYS	XE 133 42,9	I 131 38,1	KR 85 18,9	SR 89 1,1	LA 140 1,0	BA 140 1,0	Y 91 1,0	CS 137 1,0	Y 90 1,0	CF 141 1,0
30,0 DAYS	I 131 36,6	KR 85 32,8	XF 133 30,4	SR 89 1,1	LA 140 1,0	BA 140 1,0	Y 91 1,0	CS 137 1,0	Y 90 1,0	CE 141 1,0
57,9 DAYS	KR 85 8,6	I 131 9,0	XE 133 2,1	SR 89 1,3	Y 91 1,0	LA 140 1,0	BA 140 1,0	CS 137 1,0	Y 90 1,0	CE 141 1,0
60,0 DAYS	KR 85 90,4	I 131 7,6	XF 133 1,7	SR 89 1,7	Y 91 1,0	LA 140 1,0	BA 140 1,0	CS 137 1,0	Y 90 1,0	SR 90 1,0
115,7 DAYS	KR 85 99,8	SR 89 1,1	I 131 1,1	Y 91 1,0	CS 137 1,0	Y 91 1,0	LA 140 1,0	SR 90 1,0	BA 140 1,0	Y 90 1,0
150,0 DAYS	KR 85 99,9	SR 89 1,1	I 131 1,0	Y 91 1,0	CS 137 1,0	Y 91 1,0	LA 140 1,0	CE 141 1,0	I 131 1,0	CS 135 1,0
231,5 DAYS	KR 85 100,0	SR 89 1,0	CS 137 1,0	Y 91 1,0	Y 91 1,0	SR 90 1,0	I 129 1,0	CE 141 1,0	I 131 1,0	CS 135 1,0
1,0 YRS	KR 85 100,0	SR 89 1,0	CS 137 1,0	Y 91 1,0	Y 91 1,0	SR 90 1,0	I 129 1,0	CS 135 1,0	PR 144 1,0	CE 141 1,0

Source 2 (air), 500 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC	I 134 10.7	KR A9 10.5	KR 90 9.0	KR 88 8.6	XE 138 8.1	XE 140 5.5	XE 139 5.2	I 132 5.2	I 135 5.0	I 136 3.6
1.0 SEC	I 134 11.1	KR A9 10.8	KR 90 9.1	KR 88 8.4	XE 138 8.4	XE 140 5.4	I 132 5.4	XE 139 5.3	I 135 5.2	I 136 3.7
2.0 SEC	I 134 11.4	KR A9 11.1	KR 88 9.2	KR 90 9.2	XE 138 8.6	I 132 5.5	XE 139 5.4	I 135 5.3	XE 140 5.3	I 136 3.8
5.0 SEC	I 134 12.0	KR A9 11.5	KR 88 9.7	KR 90 9.1	XE 138 9.1	I 132 5.8	I 135 5.6	XE 139 5.4	XE 140 4.8	I 136 3.9
10.0 SEC	I 134 12.6	KR A9 11.9	KR 88 10.2	XE 138 9.5	KR 90 8.6	I 132 6.1	I 135 5.9	XE 139 5.2	I 136 4.0	XE 140 3.9
20.0 SEC	I 134 13.5	KR A9 12.3	KR 88 10.9	XE 138 10.1	KR 90 7.4	I 132 6.5	I 135 6.3	XE 139 4.7	I 136 3.9	I 133 2.8
50.0 SEC	I 134 15.2	KR A9 12.5	KR 88 12.3	XE 138 11.1	I 132 7.3	I 135 7.2	KR 90 4.4	I 136 3.4	XE 139 3.2	I 133 3.2
100.0 SEC	I 134 15.6	KR A9 12.7	KR 88 12.4	XE 138 11.4	I 132 7.6	I 135 7.4	KR 90 3.7	I 136 3.2	I 133 3.2	KR 87 3.2
3.3 MIN	I 134 16.9	KR A9 13.8	XE 138 12.5	I 132 9.2	KR A9 9.1	I 135 8.1	I 133 3.5	KR 87 3.5	XE 135 3.0	I 136 2.5
8.3 MIN	I 134 18.6	KR A9 15.4	XE 138 12.5	I 132 10.2	I 133 4.5	CS 138 7.2	I 133 4.0	KR 87 3.8	XE 135 3.4	RB 90 2.1
16.7 MIN	I 134 20.0	KR A9 17.2	XE 138 11.2	I 132 10.8	XE 138 8.2	CS 138 7.2	I 133 5.0	KR 87 4.3	XE 135 4.2	RB 89 3.1
33.3 MIN	KR A9 19.4	I 134 17.9	I 135 12.2	I 132 11.2	CS 138 9.4	I 133 5.6	XE 135 4.7	RR 88 4.5	KR 87 4.2	XE 138 4.1
60.0 MIN	KR A9 20.8	I 134 15.1	I 135 13.9	I 132 11.7	CS 138 8.5	I 133 6.6	RB 88 6.2	XE 135 5.6	KR 87 3.9	KR 85 2.1
1.4 HR	KR A9 21.7	I 135 15.0	I 134 12.7	I 132 12.0	I 133 7.5	RB 88 7.0	CS 138 6.6	XE 135 6.3	KR 87 3.6	KR 85 2.2
2.8 HR	KR A9 22.6	I 135 19.4	I 132 11.6	I 133 10.5	XE 135 8.7	RB 88 7.7	I 134 6.3	XE 133 3.1	I 131 3.1	KR 85 2.7
5.6 HR	I 135 23.8	KR A9 18.6	I 133 15.6	XE 135 12.5	I 132 8.2	RB 88 6.3	XE 133 5.0	I 131 5.0	KR 85 2.8	I 134 1.1
12.0 HR	I 133 20.4	I 135 23.9	XE 135 17.5	XE 133 9.8	I 131 9.7	RR 88 7.4	RR 88 2.5	I 132 2.3	KR 85 2.1	KR 87 1.1
13.9 HR	I 133 26.9	I 135 22.5	XE 135 18.0	XE 133 11.2	I 131 11.0	KR 88 5.4	RR 88 1.8	KR 85 1.8	I 132 1.5	KR 87 0.0
1.0 DAYS	I 133 32.5	XE 133 18.3	I 131 18.0	XE 135 16.3	I 135 13.1	KR 88 7.7	KR 85 5.4	RR 88 3.1	I 132 0.1	SR 91 0.0
1.2 DAYS	I 133 33.0	XE 133 20.8	I 131 20.5	XE 135 14.7	I 135 10.2	KR 85 4.4	KR 85 4.4	RR 88 3.3	RR 88 0.1	I 132 0.0
2.3 DAYS	I 131 35.1	XE 133 35.0	I 133 24.8	XE 135 4.0	I 135 1.0	KR 85 0.0	KR 85 0.0	HA 140 0.0	I 130 0.0	SR 91 0.0
4.0 DAYS	I 131 46.0	XE 133 43.9	I 133 3.0	XE 135 0.0	LA 140 0.0	KR 85 0.0	HA 140 0.0	CE 141 0.0	I 130 0.0	SR 91 0.0
5.8 DAYS	I 131 51.1	XE 133 45.8	I 133 2.2	LA 140 0.0	KR 85 0.0	HA 140 0.0	CE 141 0.0	CE 141 0.0	Y 91 0.0	CE 141 0.0
10.0 DAYS	I 131 56.7	XE 133 43.1	I 133 0.0	LA 140 0.0	KR 85 0.0	HA 140 0.0	CE 141 0.0	CE 141 0.0	Y 91 0.0	CE 141 0.0
11.6 DAYS	I 131 58.4	XE 133 41.5	I 133 0.0	LA 140 0.0	KR 85 0.0	HA 140 0.0	CE 141 0.0	CE 141 0.0	Y 91 0.0	CE 141 0.0
23.1 DAYS	I 131 69.0	XE 133 30.0	KR 85 0.0	LA 140 0.0	HA 140 0.0	CE 141 0.0	CE 141 0.0	CE 141 0.0	Y 91 0.0	CE 141 0.0
30.0 DAYS	I 131 75.9	XE 133 24.0	KR 85 0.0	LA 140 0.0	HA 140 0.0	CE 141 0.0	CE 141 0.0	CE 141 0.0	Y 91 0.0	CE 141 0.0
57.9 DAYS	I 131 90.2	XE 133 8.2	KR 85 1.5	LA 140 0.0	HA 140 0.0	CE 141 0.0	CE 141 0.0	CE 141 0.0	Y 91 0.0	CE 141 0.0
60.0 DAYS	I 131 90.5	XE 133 7.5	KR 85 1.9	LA 140 0.0	HA 140 0.0	CE 141 0.0	CE 141 0.0	CE 141 0.0	Y 91 0.0	CE 141 0.0
115.7 DAYS	KR A5 71.0	I 131 28.5	LA 140 0.0	CE 141 0.0	HA 140 0.0	CE 141 0.0	CE 141 0.0	CE 141 0.0	Y 91 0.0	CE 141 0.0
150.0 DAYS	KR A5 97.9	I 131 2.1	LA 140 0.0	HA 140 0.0	CE 141 0.0	CE 141 0.0	CE 141 0.0	CE 141 0.0	Y 91 0.0	CE 141 0.0
231.5 DAYS	KR A5 100.0	I 131 0.0	Y 91 0.0	LA 140 0.0	CE 141 0.0	CE 141 0.0	CE 141 0.0	CE 141 0.0	Y 91 0.0	CE 141 0.0
1.0 YRS	KR A5 100.0	I 120 0.0	Y 91 0.0	Y 90 0.0	NH 95 0.0	CE 141 0.0	CE 141 0.0	CE 141 0.0	CE 141 0.0	CE 141 0.0

Source 2 (air), 200 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTIONS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SFC.	XF 137 14.0	XF 139 11.4	KR 91 11.2	KR 89 7.2	KR 90 6.9	XF 13A 5.1	KW 92 4.6	KR 87 4.2	XE 140 4.0	I 136 3.4
1.0 SEC.	XF 137 14.6	XF 139 11.7	KR 91 10.4	KR 89 7.5	KR 90 7.1	XF 13A 5.3	KR 87 4.4	XE 140 4.0	I 136 3.5	I 134 3.4
2.0 SEC.	XF 137 15.1	XF 139 12.0	KR 91 10.4	KR 89 7.7	KR 90 7.2	XF 13A 5.5	KR 87 4.6	XE 140 4.0	I 136 3.6	I 134 3.5
5.0 SFC.	XF 137 15.3	XF 139 12.3	KR 91 8.9	KR 89 8.3	KR 90 7.3	XF 13A 6.0	KR 87 4.9	I 134 3.8	I 136 3.8	XE 140 3.7
10.0 SFC.	XF 137 15.8	XF 139 12.4	KR 89 8.9	KR 90 7.2	KR 91 6.5	XF 13A 6.5	KR 87 5.4	I 134 4.2	I 136 4.0	XE 135 3.3
20.0 SFC.	XF 137 16.3	XF 139 11.7	KR 89 9.6	XF 138 7.2	KR 90 6.5	KW 87 6.0	I 134 4.7	I 136 4.1	XF 135 3.7	KR 91 3.3
50.0 SFC.	XF 137 21.6	KR 89 10.5	XE 13A 8.6	XE 139 8.5	KR 87 7.3	I 134 5.7	XE 135 4.6	KR 90 4.2	I 136 3.9	I 133 3.1
60.0 SFC.	XF 137 22.0	KW 89 10.6	XE 13A 8.9	KR 87 7.6	XE 139 7.5	I 134 5.9	XE 135 4.6	I 136 3.8	KR 90 3.5	I 133 3.2
100.0 SFC.	XF 137 22.5	KR 89 10.5	XF 13A 9.9	KR 87 8.7	I 134 6.7	XE 135 5.3	XE 139 4.3	I 133 3.7	I 135 3.2	I 136 3.1
3.3 MIN.	XE 137 20.4	XE 138 11.1	KR 87 10.5	KR 89 8.9	I 134 8.0	XE 135 6.5	I 133 4.5	I 135 3.9	I 132 3.5	WB 88 2.9
8.3 MIN.	KR 87 12.8	XF 138 11.1	XE 137 10.6	I 134 9.6	RR 8A 8.3	XF 135 6.3	I 133 5.7	I 135 5.0	I 132 4.3	CS 138 4.3
16.7 MIN.	RR 8A 15.9	KR 87 13.4	I 134 9.8	XE 135 9.3	XE 13A 8.4	CS 13A 7.3	I 133 6.5	I 135 5.6	I 132 4.7	KR 85 3.9
33.3 MIN.	RR 8A 24.7	KR 87 12.3	XF 135 9.9	CS 138 8.9	I 134 8.4	I 133 6.8	I 135 5.8	I 132 4.6	KR 85 4.0	XE 138 4.0
60.0 MIN.	RR 8A 31.3	XF 135 10.8	KR 87 10.7	CS 13A 7.5	I 133 7.5	I 134 6.6	I 135 6.1	I 132 4.5	KR 85 4.2	KR 88 3.8
1.4 HR.	RR 8A 33.9	XF 135 11.7	KR 87 9.6	I 133 8.2	I 135 6.5	CS 13A 5.6	I 134 5.3	I 132 4.4	KR 85 4.3	XE 133 4.2
2.8 HR.	RR 8A 35.2	XF 135 15.3	I 133 10.8	I 135 7.8	KR 87 6.2	XE 133 5.8	KR 85 4.9	I 132 4.0	KR 88 3.8	I 134 2.5
5.6 HR.	RR 8A 28.0	XE 135 21.2	I 133 15.6	I 135 9.2	XE 133 9.0	KR 85 5.0	I 131 3.4	KR 8A 3.0	I 132 2.7	KR 87 2.2
12.0 HR.	XF 135 28.2	I 133 23.7	XF 133 16.7	RR 8A 10.7	I 135 8.8	I 131 6.3	KR 85 3.5	KR 8A 1.1	I 132 .7	KR 85 .2
13.9 HR.	XF 135 28.7	I 133 25.2	XE 133 18.8	I 135 8.2	RR 8A 7.6	I 131 7.1	KR 85 2.9	KR 8A .8	I 132 .5	KR 85 .2
1.0 DAYS	XE 133 29.0	I 133 28.7	XF 135 24.5	I 131 10.9	I 135 4.5	WB 8A 1.0	KR 85 1.0	KR 85 .3	KR 88 .1	I 132 .0
1.2 DAYS	XF 133 32.4	I 133 28.7	XF 135 21.7	I 131 12.2	I 135 3.4	KR 85 .6	RR 8A .4	KR 85 .4	KR 88 .0	I 132 .0
2.3 DAYS	XF 133 52.5	I 133 20.7	I 131 20.0	XE 135 5.0	KR 85 1.3	XF 135 .4	SR 89 .0	I 135 .0	LA 140 .0	BA 140 .0
4.0 DAYS	XF 133 64.7	I 131 25.8	I 133 8.0	KR 85 1.7	XE 135 .0	SR 89 .0	LA 140 .0	HA 140 .0	Y 91 .0	I 135 .0
5.8 DAYS	XF 133 67.5	I 131 28.7	I 133 2.5	KR 85 1.3	XF 135 .0	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0	Y 90 .0
10.0 DAYS	XF 133 65.1	I 131 32.6	KR 85 2.1	I 133 .1	SR 89 .0	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0	Y 90 .0
11.6 DAYS	XF 133 65.4	I 131 33.9	KR 85 2.6	I 133 .1	SR 89 .0	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0	Y 90 .0
23.1 DAYS	XE 133 48.3	I 131 42.9	KR 85 8.7	SR 89 .1	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0	Y 90 .0	CE 141 .0
30.0 DAYS	I 131 45.4	XF 133 37.7	KR 85 16.7	SR 89 .2	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0	Y 90 .0	CF 141 .0
57.9 DAYS	KR 85 76.1	I 131 18.8	XF 133 4.5	SR 89 .6	Y 91 .0	LA 140 .0	BA 140 .0	CS 137 .0	Y 90 .0	CF 141 .0
60.0 DAYS	KR 85 79.5	I 131 16.4	XE 133 3.5	SR 89 .6	Y 91 .0	LA 140 .0	BA 140 .0	CS 137 .0	Y 90 .0	CF 141 .0
115.7 DAYS	KR 85 90.5	SR 89 .3	I 131 .2	Y 91 .0	CS 137 .0	XF 133 .0	Y 90 .0	SR 90 .0	HA 140 .0	Y 90 .0
150.0 DAYS	KR 85 90.8	SR 89 .2	I 131 .0	Y 91 .0	CS 137 .0	Y 90 .0	SR 90 .0	LA 140 .0	CE 141 .0	HA 140 .0
231.5 DAYS	KR 85 90.9	SR 89 .1	CS 137 .0	Y 91 .0	Y 90 .0	SR 90 .0	CF 141 .0	I 131 .0	I 129 .0	CS 135 .0
1.0 YRS.	KR 85 100.0	SR 89 .0	CS 137 .0	Y 90 .0	Y 91 .0	SR 90 .0	I 129 .0	CS 135 .0	PR 144 .0	CF 141 .0

Source 2 (air), 200 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 134 29.1	I 132 14.0	I 135 13.6	I 136 9.9	I 137 9.7	I 138 6.5	I 133 6.0	I 136 5.6	I 139 2.7	I 131 1.6
1.0 SEC.	I 134 29.8	I 132 14.3	I 135 13.9	I 136 10.0	I 137 9.7	I 133 6.1	I 138 6.0	I 136 5.7	I 139 2.1	I 131 1.7
2.0 SEC.	I 134 30.4	I 132 14.6	I 135 14.2	I 136 10.1	I 137 9.6	I 133 6.2	I 138 5.7	I 136 5.5	I 131 1.7	I 139 1.6
5.0 SEC.	I 134 31.6	I 132 15.2	I 135 14.8	I 136 10.3	I 137 9.2	I 133 6.5	I 138 5.7	I 136 4.2	I 131 1.8	I 139 1.7
10.0 SEC.	I 134 33.0	I 132 15.9	I 135 15.4	I 136 10.3	I 137 8.3	I 133 6.8	I 138 5.6	I 136 2.6	I 131 1.8	I 139 2.2
20.0 SEC.	I 134 34.4	I 132 16.8	I 135 16.3	I 136 10.0	I 133 7.2	I 137 6.7	I 136 5.1	I 131 2.0	I 133 1.9	I 139 2.1
50.0 SEC.	I 134 38.1	I 132 18.4	I 135 17.9	I 136 8.6	I 133 7.9	I 136 3.6	I 137 3.1	I 131 2.1	XE 137 1.1	I 138 1.0
60.0 SEC.	I 134 38.8	I 132 18.8	I 135 18.3	I 136 8.1	I 133 8.1	I 136 3.2	I 137 2.4	I 131 2.2	XE 137 1.1	XE 139 0.0
100.0 SEC.	I 134 40.8	I 132 19.9	I 135 19.4	I 133 8.6	I 136 6.1	I 131 2.3	I 136 1.9	I 137 1.0	XE 137 1.1	XE 138 0.0
3.3 MIN.	I 134 42.9	I 132 21.1	I 135 20.9	I 133 9.2	I 136 2.9	I 131 2.5	I 136 1.5	XE 137 1.1	I 137 1.1	XE 138 0.0
8.3 MIN.	I 134 43.0	I 132 22.1	I 135 22.1	I 133 9.4	I 131 2.7	I 136 1.2	XE 137 1.0	XE 136 1.0	XE 138 0.0	CS 138 0.0
16.7 MIN.	I 134 41.1	I 135 23.1	I 135 22.5	I 133 10.4	I 131 2.8	XE 135 1.1	XE 138 0.0	CS 138 0.0	XE 137 0.0	I 136 0.0
33.3 MIN.	I 134 36.9	I 135 25.1	I 132 23.1	I 133 11.5	I 131 3.2	XE 135 1.2	CS 138 0.0	XE 138 0.0	XE 133 0.0	I 130 0.0
60.0 MIN.	I 134 30.5	I 135 28.2	I 132 23.8	I 133 13.3	I 131 5.7	XE 135 1.4	CS 138 0.0	XE 133 0.0	I 130 0.0	XE 138 0.0
1.4 HR.	I 135 30.7	I 134 25.5	I 132 24.0	I 133 14.9	I 131 4.2	XE 135 1.6	XE 133 0.0	CS 138 0.0	I 130 0.0	XE 138 0.0
2.9 HR.	I 135 37.8	I 132 22.4	I 133 20.3	I 134 12.1	I 131 6.0	XE 135 1.5	XE 133 0.0	I 130 0.0	CS 138 0.0	I 129 0.0
5.6 HR.	I 135 42.7	I 133 28.0	I 132 14.6	I 131 9.0	XE 135 3.5	I 134 2.0	XE 133 1.1	I 130 0.0	I 129 0.0	CS 138 0.0
12.0 HR.	I 133 37.9	I 135 36.4	I 131 14.7	XE 135 7.1	I 132 3.5	XE 133 1.3	I 134 0.0	I 130 0.0	I 129 0.0	LA 140 0.0
13.9 HR.	I 133 39.8	I 135 33.4	I 131 16.4	XE 135 7.8	I 132 2.2	XE 133 1.0	I 130 0.0	I 129 0.0	I 134 0.0	LA 140 0.0
1.0 DAYS	I 133 45.9	I 131 25.5	I 135 18.6	XE 135 8.8	XE 133 1.0	I 132 2.2	I 129 0.0	I 130 0.0	LA 140 0.0	I 134 0.0
1.2 DAYS	I 133 46.8	I 131 20.0	I 135 14.4	XE 135 8.5	XE 133 1.3	I 132 1.1	I 129 0.0	I 130 0.0	LA 140 0.0	HA 140 0.0
2.3 DAYS	I 131 53.9	I 133 38.0	XE 133 3.4	XE 135 3.1	I 135 1.6	I 129 0.0	I 130 0.0	I 132 0.0	LA 140 0.0	BA 140 0.0
4.0 DAYS	I 131 77.6	I 133 16.4	XE 133 5.6	XE 135 0.3	I 135 0.0	I 129 0.0	I 130 0.0	I 132 0.0	LA 140 0.0	HA 140 0.0
5.8 DAYS	I 131 88.2	XE 133 6.5	I 133 5.2	I 129 0.0	XE 135 0.0	I 135 0.0	I 130 0.0	LA 140 0.0	HA 140 0.0	CE 141 0.0
10.0 DAYS	I 131 93.5	XE 133 6.1	I 133 3.1	I 129 0.1	LA 140 0.0	XE 135 0.0	BA 140 0.0	CE 141 0.0	I 130 0.0	CE 141 0.0
11.6 DAYS	I 131 94.0	XE 133 5.8	I 133 2.1	I 129 0.1	LA 140 0.0	HA 140 0.0	CE 135 0.0	CE 141 0.0	I 130 0.0	I 135 0.0
23.1 DAYS	I 131 96.1	XE 133 3.7	I 129 0.2	LA 140 0.0	I 133 0.0	HA 140 0.0	CF 141 0.0	CS 135 0.0	CE 141 0.0	PR 144 0.0
30.0 DAYS	I 131 96.9	XE 133 2.7	I 129 0.4	LA 140 0.0	HA 140 0.0	CE 141 0.0	I 133 0.0	CS 135 0.0	PR 144 0.0	CE 144 0.0
57.9 DAYS	I 131 97.7	I 129 4.6	XE 133 0.8	LA 140 0.0	HA 140 0.0	CE 141 0.0	CS 135 0.0	PR 144 0.0	CE 144 0.0	ER 167 0.0
60.0 DAYS	I 131 97.9	I 129 5.4	XE 133 0.7	LA 140 0.0	HA 140 0.0	CE 141 0.0	CS 135 0.0	PR 144 0.0	CE 144 0.0	ER 167 0.0
115.7 DAYS	I 129 97.6	I 131 12.4	XE 133 0.0	LA 140 0.0	CF 141 0.0	BA 140 0.0	CE 135 0.0	PR 144 0.0	CE 144 0.0	ER 167 0.0
150.0 DAYS	I 129 98.3	I 131 7.7	XE 133 0.0	LA 140 0.0	CF 141 0.0	BA 140 0.0	CE 135 0.0	PR 144 0.0	CE 144 0.0	ER 167 0.0
231.5 DAYS	I 129 100.0	I 131 0.0	CE 141 0.0	LA 140 0.0	CS 135 0.0	BA 140 0.0	CE 131 0.0	PR 144 0.0	CE 144 0.0	ER 167 0.0
1.0 YRS.	I 129 100.0	CS 135 0.0	CE 141 0.0	I 131 0.0	LA 140 0.0	PR 144 0.0	CF 144 0.0	EA 140 0.0	ER 167 0.0	EA 167 0.0

Source 2 (plate out), Equilibrium, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0 SFC.	I 136 16.0	I 134 16.0	I 137 15.2	I *136 11.7	I 138 10.6	I 133 8.6	I 135 7.6	I 132 6.8	I 139 4.0	I 131 1.6
1.0 SFC.	I 136 17.1	I 134 16.6	I 137 15.1	I *136 12.0	I 138 9.8	I 133 8.9	I 135 7.9	I 132 7.0	I 139 5.1	I 131 1.7
2.0 SEC.	I 136 17.5	I 134 17.0	I 137 15.1	I *136 12.1	I 133 9.2	I 138 9.1	I 135 8.1	I 132 7.2	I 139 2.4	I 131 1.7
5.0 SEC.	I 134 18.1	I 136 18.1	I 137 14.8	I *136 12.4	I 133 9.8	I 135 8.6	I 132 7.7	I 138 7.0	I 131 1.8	I 139 1.1
10.0 SEC.	I 134 19.5	I 136 18.7	I 137 13.8	I *136 12.4	I 133 10.5	I 135 9.3	I 132 8.3	I 138 4.4	I 131 1.9	I 139 1.1
20.0 SFC.	I 134 21.5	I 136 19.0	I *136 11.8	I 133 11.6	I 137 11.5	I 135 10.2	I 132 9.1	I 131 2.2	I 138 1.7	I 137 1.1
50.0 SFC.	I 134 25.4	I 136 17.9	I 133 13.8	I 135 12.2	I 132 10.8	I *136 9.2	I 137 5.9	I 131 2.6	XE 137 2.2	XE 139 2.2
100.0 SFC.	I 134 26.5	I 136 16.9	I 133 14.4	I 135 12.7	I 132 11.3	I *136 8.3	I 137 4.6	I 131 2.7	XE 137 2.4	XE 139 2.2
3.3 MIN.	I 134 29.8	I 133 19.3	I 135 14.4	I 136 13.7	I 132 12.8	I *136 5.3	I 131 3.0	XE 137 2.8	I 137 1.7	XE 139 2.2
8.3 MIN.	I 134 30.2	I 133 19.1	I 135 16.8	I 132 14.8	I 136 7.0	I 131 3.6	XE 137 2.6	I *136 1.5	I 137 1.1	XE 135 0.0
16.7 MIN.	I 134 30.8	I 133 21.7	I 135 19.0	I 132 16.5	I 131 4.1	XE 137 1.2	I 136 0.7	XE 135 0.1	XE 138 0.0	CS 139 0.0
33.3 MIN.	I 134 35.0	I 133 23.1	I 135 20.0	I 132 16.9	I 131 4.3	XE 135 0.3	XE 137 0.3	XE 138 0.0	CS 138 0.0	CS 139 0.0
100.0 MIN.	I 133 28.2	I 134 24.4	I 135 23.2	I 132 17.0	I 131 4.8	XE 135 0.7	CS 138 0.0	XE 133 0.0	XE 137 0.0	XF 138 0.0
1.4 HR.	I 131 10.7	I 135 24.5	I 136 20.1	I 132 16.0	I 131 5.4	XE 135 1.3	XE 133 0.0	CS 138 0.0	I 129 0.0	XE 138 0.0
2.8 HR.	I 131 17.7	I 135 27.3	I 132 14.0	I 134 8.6	I 131 5.4	XE 135 2.0	XE 133 0.0	CS 138 0.0	I 129 0.0	BA 139 0.0
5.6 HR.	I 131 44.4	I 135 26.5	I 131 9.2	XE 135 9.5	I 132 7.9	I 134 1.2	XE 133 0.3	I 129 0.0	CS 138 0.0	I 130 0.0
12.0 HR.	I 131 49.6	I 135 18.6	XE 135 15.9	I 131 13.2	I 132 1.5	XE 133 0.8	I 129 0.0	I 134 0.0	I 130 0.0	BA 139 0.0
13.0 HR.	I 131 50.8	I 135 16.4	I 135 16.4	I 131 14.2	XE 133 1.0	I 132 0.9	I 129 0.0	I 134 0.0	I 130 0.0	BA 139 0.0
1.0 DAYS	I 133 52.5	I 131 19.4	XE 135 17.2	I 135 8.2	XE 133 2.0	I 132 0.1	I 129 0.0	I 130 0.0	BA 140 0.0	I 134 0.0
1.2 DAYS	I 133 52.6	I 131 22.3	XE 135 16.2	I 135 6.3	XE 133 2.0	I 129 0.0	I 132 0.0	I 130 0.0	BA 140 0.0	I 134 0.0
2.3 DAYS	I 133 43.8	I 131 42.4	XE 133 7.1	XE 135 0.0	I 135 0.7	I 129 0.1	I 130 0.0	I 132 0.0	BA 140 0.0	I 134 0.0
4.0 DAYS	I 131 66.1	I 131 20.5	XE 133 12.6	XE 135 0.0	I 129 0.1	I 135 0.0	I 130 0.0	I 132 0.0	BA 140 0.0	I 134 0.0
5.8 DAYS	I 131 78.0	XE 133 15.0	I 133 6.2	I 129 0.0	XE 135 0.0	I 135 0.0	I 130 0.0	I 132 0.0	BA 140 0.0	I 134 0.0
10.0 DAYS	I 131 84.4	XE 133 14.6	I 133 0.0	I 129 0.0	XE 135 0.0	I 135 0.0	LA 140 0.0	I 130 0.0	BA 140 0.0	I 134 0.0
11.6 DAYS	I 131 85.7	XE 133 13.0	I 133 0.0	I 129 0.0	XE 135 0.0	LA 140 0.0	BA 140 0.0	CS 137 0.0	CF 141 0.0	I 130 0.0
23.1 DAYS	I 131 90.3	XE 133 9.0	I 129 0.0	I 133 0.0	LA 140 0.0	I 133 0.0	CS 137 0.0	BA 140 0.0	CF 141 0.0	CS 135 0.0
30.0 DAYS	I 131 91.9	XE 133 6.0	I 129 0.0	I 133 0.0	LA 140 0.0	I 133 0.0	CS 137 0.0	BA 140 0.0	CF 141 0.0	CS 135 0.0
47.0 DAYS	I 131 84.8	I 129 17.4	XE 133 1.8	CS 137 0.0	LA 140 0.0	BA 140 0.0	CF 141 0.0	CS 135 0.0	I 133 0.0	PR 143 0.0
60.0 DAYS	I 131 82.8	I 129 15.7	XE 133 1.6	CS 137 0.0	LA 140 0.0	BA 140 0.0	CF 141 0.0	CS 135 0.0	PR 143 0.0	PR 144 0.0
115.7 DAYS	I 129 65.4	I 131 4.2	XE 133 0.0	CS 137 0.0	LA 140 0.0	BA 140 0.0	CF 141 0.0	CS 135 0.0	PR 143 0.0	PR 144 0.0
150.0 DAYS	I 129 69.8	I 131 0.0	I 131 0.0	CS 135 0.0	CE 141 0.0	LA 140 0.0	BA 140 0.0	PR 144 0.0	CF 143 0.0	CF 144 0.0
231.5 DAYS	I 129 100.0	CS 137 0.0	CS 135 0.0	CF 141 0.0	I 131 0.0	PR 144 0.0	CE 144 0.0	LA 140 0.0	BA 140 0.0	PR 143 0.0
1.0 YRS.	I 129 100.0	CS 137 0.0	CS 135 0.0	CF 141 0.0	I 131 0.0	PR 144 0.0	CE 144 0.0	LA 140 0.0	BA 140 0.0	PR 143 0.0

Source 2 (plate out). Equilibrium. Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	I 134 29.1	I 132 14.0	I 135 13.6	I 136 9.9	I 137 9.7	I 138 6.5	I 133 6.0	I *136 5.6	I 139 2.7	I 131 1.6
1.0 SEC.	I 134 29.8	I 132 14.3	I 135 13.9	I 136 10.0	I 137 9.7	I 133 6.1	I 138 6.0	I *136 5.7	I 139 2.1	I 131 1.7
2.0 SEC.	I 134 30.4	I 132 14.6	I 135 14.2	I 136 10.1	I 137 9.6	I 133 6.2	I *136 5.7	I 138 5.5	I 131 1.7	I 139 1.6
5.0 SEC.	I 134 31.6	I 132 15.2	I 135 14.8	I 136 10.3	I 137 9.2	I 133 6.5	I *136 5.7	I 138 4.2	I 131 1.8	I 139 .7
10.0 SEC.	I 134 33.0	I 132 15.9	I 135 15.4	I 136 10.3	I 137 8.3	I 133 6.8	I *136 5.6	I 138 2.6	I 131 1.8	I 139 .2
20.0 SEC.	I 134 34.8	I 132 16.8	I 135 16.3	I 136 10.0	I 133 7.2	I 137 6.7	I *136 5.1	I 131 2.0	I 138 .9	XE 139 .1
50.0 SEC.	I 134 38.1	I 132 18.4	I 135 17.9	I 136 8.6	I 133 7.9	I *136 3.6	I 137 3.1	I 131 2.1	XE 137 .1	I 138 .0
60.0 SEC.	I 134 38.8	I 132 18.8	I 135 18.3	I 136 8.1	I 133 8.1	I *136 3.2	I 137 2.4	I 131 2.2	XE 137 .1	XE 139 .0
100.0 SEC.	I 134 40.8	I 132 19.9	I 135 19.4	I 133 8.6	I 136 6.1	I 131 2.3	I *136 1.9	I 137 .8	XE 137 .1	XE 138 .0
3.3 MIN.	I 134 42.0	I 132 21.1	I 135 20.8	I 133 9.2	I 136 2.9	I 131 2.5	I *136 .5	XF 137 .1	I 137 .1	XE 138 .0
8.3 MIN.	I 134 43.0	I 132 22.1	I 135 22.1	I 133 9.8	I 131 2.7	I 136 .2	XF 137 .0	XF 135 .0	XE 138 .0	CS 138 .0
16.7 MIN.	I 134 41.1	I 135 23.1	I 132 22.5	I 133 10.4	I 131 2.8	XE 135 .1	XE 138 .0	CS 138 .0	XE 137 .0	I 136 .0
33.3 MIN.	I 134 36.9	I 135 25.1	I 132 23.1	I 133 11.5	I 131 3.2	XF 135 .2	CS 138 .0	XE 138 .0	XE 133 .0	I 130 .0
60.0 MIN.	I 134 30.5	I 135 28.2	I 132 23.8	I 133 13.3	I 131 3.7	XE 135 .4	CS 138 .0	XE 133 .0	XE 138 .0	I 130 .0
1.4 HR.	I 135 10.7	I 134 25.5	I 132 24.0	I 133 14.9	I 131 4.2	XE 135 .6	XE 133 .0	CS 138 .0	I 130 .0	XE 138 .0
2.8 HR.	I 135 37.8	I 132 22.4	I 133 20.3	I 134 12.1	I 131 6.0	XE 135 1.5	XF 133 .0	CS 138 .0	I 130 .0	BA 139 .0
5.6 HR.	I 135 42.7	I 133 28.0	I 132 14.6	I 131 9.0	XE 135 3.5	I 134 2.0	XF 133 .1	I 130 .0	CS 138 .0	BA 139 .0
12.0 HR.	I 133 37.9	I 135 36.4	I 131 14.7	XF 135 7.1	I 132 3.5	XE 133 .3	I 134 .0	I 130 .0	LA 140 .0	BA 139 .0
13.9 HR.	I 133 39.8	I 135 33.4	I 131 16.4	XE 135 7.8	I 132 2.2	XE 133 .4	I 134 .0	I 130 .0	LA 140 .0	BA 140 .0
1.0 DAYS	I 133 45.9	I 131 25.5	I 135 18.6	XF 135 8.8	XE 133 1.0	I 132 .2	I 130 .0	LA 140 .0	I 134 .0	BA 140 .0
1.2 DAYS	I 133 46.8	I 131 29.0	I 135 14.4	XE 135 9.5	XF 133 1.3	I 132 .1	I 130 .0	LA 140 .0	BA 140 .0	I 129 .0
2.3 DAYS	I 131 53.9	I 133 38.0	XF 133 3.4	XE 135 3.1	I 135 1.6	I 130 .0	I 132 .0	LA 140 .0	BA 140 .0	I 129 .0
4.0 DAYS	I 131 77.6	I 133 16.5	XF 133 5.6	XE 135 .3	I 135 .0	I 130 .0	LA 140 .0	BA 140 .0	I 129 .0	CF 141 .0
5.8 DAYS	I 131 88.3	XE 133 6.5	I 133 5.2	XF 135 .0	I 135 .0	LA 140 .0	I 130 .0	BA 140 .0	I 129 .0	CE 141 .0
10.0 DAYS	I 131 93.6	XE 133 6.1	I 133 .3	LA 140 .0	XE 135 .0	BA 140 .0	I 129 .0	I 130 .0	CE 141 .0	I 135 .0
11.6 DAYS	I 131 94.1	XE 133 5.8	I 133 .1	LA 140 .0	HA 140 .0	I 129 .0	XE 135 .0	CE 141 .0	I 130 .0	I 135 .0
23.1 DAYS	I 131 96.3	XF 133 3.7	LA 140 .0	I 133 .0	I 129 .0	HA 140 .0	CE 141 .0	CS 135 .0	CE 143 .0	PR 144 .0
30.0 DAYS	I 131 97.3	XF 133 2.7	LA 140 .0	I 129 .0	HA 140 .0	CE 141 .0	I 133 .0	CS 135 .0	PR 144 .0	CE 144 .0
57.9 DAYS	I 131 99.2	XF 133 .8	LA 140 .0	I 129 .0	RA 140 .0	CE 141 .0	CS 135 .0	PR 144 .0	CE 144 .0	ER 167 .0
60.0 DAYS	I 131 99.3	XF 133 .1	LA 140 .0	I 129 .0	RA 140 .0	CF 141 .0	CS 135 .0	PR 144 .0	CF 144 .0	ER 167 .0
115.7 DAYS	I 131 99.9	XF 133 .1	I 129 .0	LA 140 .0	RA 140 .0	CF 141 .0	CS 135 .0	PR 144 .0	CE 144 .0	ER 167 .0
150.0 DAYS	I 131 99.4	I 129 .6	XE 133 .0	LA 140 .0	CF 141 .0	HA 140 .0	CS 135 .0	PR 144 .0	CE 144 .0	ER 167 .0
231.5 DAYS	I 129 96.8	I 131 13.2	CE 141 .0	LA 140 .0	CS 135 .0	BA 140 .0	XF 133 .0	PR 144 .0	CE 144 .0	ER 167 .0
1.0 YRS.	I 129 100.0	CS 135 .0	CF 141 .0	I 131 .0	LA 140 .0	PR 144 .0	CF 144 .0	BA 140 .0	ER 167 .0	ER*167 .0

A-36

Source 2 (plate out), 5000 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SFC.	1 134 16.6	1 134 16.0	1 137 15.0	1 136 11.7	1 134 10.6	1 133 8.6	1 135 7.6	1 132 6.8	1 139 4.0	1 131 1.6
1.0 SFC.	1 134 17.1	1 134 16.6	1 137 15.1	1 136 12.0	1 134 9.8	1 133 8.9	1 135 7.9	1 132 7.0	1 139 4.1	1 131 1.7
2.0 SFC.	1 134 17.5	1 134 17.0	1 137 15.1	1 136 12.1	1 133 9.2	1 134 9.1	1 135 8.1	1 132 7.2	1 139 2.4	1 131 1.7
5.0 SFC.	1 134 18.1	1 134 18.1	1 137 14.8	1 136 12.4	1 133 9.8	1 135 8.6	1 132 7.7	1 134 7.0	1 131 1.8	1 139 1.1
10.0 SFC.	1 134 19.5	1 134 18.7	1 137 13.8	1 136 12.4	1 133 10.5	1 135 9.5	1 132 8.3	1 134 4.4	1 131 1.9	1 137 0.6
20.0 SFC.	1 134 21.5	1 134 19.0	1 136 11.8	1 133 11.6	1 137 11.5	1 135 10.2	1 132 9.1	1 131 2.2	1 134 1.7	1 137 1.1
50.0 SFC.	1 134 25.4	1 134 17.6	1 133 13.8	1 135 12.2	1 132 10.8	1 134 9.2	1 137 5.9	1 131 2.6	1 137 2.2	1 139 0.2
60.0 SFC.	1 134 26.5	1 136 16.9	1 133 14.4	1 135 12.7	1 132 11.3	1 134 8.3	1 137 4.6	1 131 2.7	1 137 2.4	1 139 0.2
100.0 SFC.	1 134 29.8	1 133 16.3	1 135 14.4	1 136 13.7	1 132 12.8	1 136 5.3	1 131 3.0	1 137 2.8	1 137 1.7	1 139 0.1
3.3 MIN.	1 134 34.2	1 133 19.1	1 135 16.8	1 132 14.8	1 136 7.0	1 131 3.6	1 137 2.6	1 134 1.5	1 137 0.1	1 135 0.0
8.3 MIN.	1 134 36.6	1 133 21.7	1 135 19.0	1 132 16.5	1 131 4.1	1 137 1.2	1 136 0.7	1 135 0.1	1 134 0.0	1 139 0.0
16.7 MIN.	1 134 35.0	1 133 23.1	1 135 20.0	1 132 16.9	1 131 4.3	1 135 0.5	1 137 0.3	1 138 0.0	1 134 0.0	1 139 0.0
33.3 MIN.	1 134 30.9	1 133 25.2	1 135 21.4	1 132 17.1	1 131 4.8	1 135 0.7	1 137 0.0	1 138 0.0	1 134 0.0	1 139 0.0
60.0 MIN.	1 133 28.2	1 134 24.8	1 135 23.2	1 132 17.0	1 131 5.4	1 135 1.3	1 137 0.0	1 138 0.0	1 134 0.0	1 139 0.0
1.4 HR.	1 133 30.7	1 135 24.5	1 134 20.1	1 132 16.6	1 131 6.0	1 135 2.0	1 137 0.0	1 138 0.0	1 134 0.0	1 139 0.0
2.8 HR.	1 133 37.7	1 135 27.3	1 132 14.0	1 130 8.6	1 131 7.6	1 135 4.6	1 137 0.0	1 138 0.0	1 134 0.0	1 139 0.0
5.6 HR.	1 133 44.8	1 135 26.5	1 131 9.8	1 135 9.5	1 132 7.9	1 134 1.2	1 137 0.3	1 130 0.0	1 134 0.0	1 139 0.0
12.0 HR.	1 133 49.9	1 135 18.6	1 135 15.9	1 131 13.2	1 132 1.5	1 134 0.9	1 137 0.0	1 130 0.0	1 134 0.0	1 139 0.0
13.9 HR.	1 133 50.6	1 135 16.8	1 135 16.4	1 131 14.2	1 132 1.5	1 134 0.9	1 137 0.0	1 130 0.0	1 134 0.0	1 139 0.0
1.0 DAYS	1 133 52.5	1 131 19.9	1 135 17.2	1 135 8.2	1 133 2.1	1 132 0.1	1 134 0.0	1 130 0.0	1 134 0.0	1 139 0.0
1.2 DAYS	1 133 52.4	1 131 22.3	1 135 16.2	1 135 6.3	1 133 2.6	1 132 0.1	1 134 0.0	1 130 0.0	1 134 0.0	1 139 0.0
2.3 DAYS	1 133 43.8	1 131 42.4	1 135 7.1	1 135 6.0	1 133 0.7	1 130 0.0	1 132 0.0	1 134 0.0	1 134 0.0	1 139 0.0
4.0 DAYS	1 131 46.2	1 133 20.5	1 133 12.7	1 135 0.6	1 135 0.0	1 130 0.0	1 134 0.0	1 130 0.0	1 129 0.0	1 137 0.0
5.8 DAYS	1 131 78.2	1 133 15.0	1 133 6.8	1 135 0.0	1 135 0.0	1 130 0.0	1 134 0.0	1 130 0.0	1 129 0.0	1 137 0.0
10.0 DAYS	1 131 85.0	1 133 14.6	1 133 4.4	1 135 0.0	1 135 0.0	1 130 0.0	1 134 0.0	1 130 0.0	1 129 0.0	1 137 0.0
11.6 DAYS	1 131 85.9	1 133 14.0	1 133 0.1	1 135 0.0	1 135 0.0	1 130 0.0	1 134 0.0	1 130 0.0	1 129 0.0	1 137 0.0
23.1 DAYS	1 131 90.9	1 133 9.1	1 134 14.0	1 133 0.0	1 133 0.0	1 129 0.0	1 137 0.0	1 135 0.0	1 135 0.0	1 135 0.0
30.0 DAYS	1 131 93.1	1 133 6.9	1 129 0.0	1 134 14.0	1 133 0.0	1 137 0.0	1 135 0.0	1 135 0.0	1 135 0.0	1 135 0.0
57.9 DAYS	1 131 97.9	1 133 2.1	1 129 0.0	1 134 14.0	1 133 0.0	1 137 0.0	1 135 0.0	1 135 0.0	1 135 0.0	1 135 0.0
60.0 DAYS	1 131 98.1	1 133 1.9	1 129 0.0	1 134 14.0	1 133 0.0	1 137 0.0	1 135 0.0	1 135 0.0	1 135 0.0	1 135 0.0
115.7 DAYS	1 131 97.0	1 133 0.2	1 129 0.0	1 134 14.0	1 133 0.0	1 137 0.0	1 135 0.0	1 135 0.0	1 135 0.0	1 135 0.0
150.0 DAYS	1 131 97.0	1 129 1.9	1 133 1.1	1 134 14.0	1 133 0.0	1 137 0.0	1 135 0.0	1 135 0.0	1 135 0.0	1 135 0.0
231.5 DAYS	1 129 60.8	1 137 36.0	1 131 2.8	1 134 14.0	1 133 0.0	1 137 0.0	1 135 0.0	1 135 0.0	1 135 0.0	1 135 0.0
1.0 YRS.	1 129 62.7	1 137 36.9	1 131 2.8	1 134 14.0	1 133 0.0	1 137 0.0	1 135 0.0	1 135 0.0	1 135 0.0	1 135 0.0

Source 2 (plate out), 5000 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SFC.	I 134 29.1	I 132 14.0	I 135 13.6	I 136 9.9	I 137 9.7	I 138 6.5	I 133 6.0	I *136 5.6	I 139 2.7	I 131 1.6
1.0 SFC.	I 134 29.8	I 132 14.3	I 135 13.9	I 136 10.0	I 137 9.7	I 133 6.1	I 138 6.0	I *136 5.7	I 139 2.1	I 131 1.7
2.0 SFC.	I 134 30.4	I 132 14.6	I 135 14.2	I 136 10.1	I 137 9.6	I 133 6.2	I *146 5.7	I 138 5.5	I 131 1.7	I 139 1.6
5.0 SFC.	I 134 31.6	I 132 15.2	I 135 14.8	I 136 10.3	I 137 9.2	I 133 6.5	I *136 5.7	I 138 4.2	I 131 1.8	I 139 1.8
10.0 SFC.	I 134 33.0	I 132 15.9	I 135 15.4	I 136 10.3	I 137 8.3	I 133 6.8	I *136 5.6	I 138 2.6	I 131 1.8	I 139 2.2
20.0 SFC.	I 134 34.8	I 132 16.8	I 135 16.3	I 136 10.0	I 133 7.2	I 137 6.7	I *136 5.1	I 131 2.0	I 138 0.9	XF 139 0.1
50.0 SFC.	I 134 38.1	I 132 18.4	I 135 17.9	I 136 8.6	I 133 7.9	I *136 3.6	I 137 3.1	I 131 2.1	XE 137 0.1	I 138 0.0
100.0 SFC.	I 134 38.8	I 132 18.8	I 135 18.3	I 136 8.1	I 133 8.1	I *136 3.2	I 137 2.4	I 131 2.2	XE 137 0.1	XF 139 0.0
3.3 MIN.	I 134 40.8	I 132 19.9	I 135 19.4	I 133 8.6	I 136 6.1	I 131 2.3	I *136 1.9	I 137 0.8	XE 137 0.1	XF 138 0.0
8.3 MIN.	I 134 42.9	I 132 21.1	I 135 22.1	I 133 9.8	I 131 2.7	I 136 0.2	XF 137 0.5	XE 137 0.1	XE 138 0.0	CS 138 0.0
16.7 MIN.	I 134 43.0	I 132 22.1	I 135 22.5	I 133 10.4	I 131 2.8	XE 135 0.1	XE 138 0.0	CS 138 0.0	XE 137 0.0	I 136 0.0
33.3 MIN.	I 134 41.1	I 135 23.1	I 132 23.8	I 133 11.5	I 131 3.2	XE 135 0.2	CS 138 0.0	XE 138 0.0	XE 133 0.0	I 130 0.0
60.0 MIN.	I 134 36.9	I 135 25.1	I 132 25.1	I 133 11.5	I 131 3.7	XE 135 0.4	CS 138 0.0	XE 133 0.0	XE 138 0.0	I 130 0.0
1.4 HR.	I 135 30.7	I 134 25.5	I 132 24.0	I 133 14.9	I 131 4.2	XE 135 0.6	XE 133 0.0	CS 138 0.0	I 130 0.0	XE 138 0.0
2.8 HR.	I 135 37.8	I 132 22.4	I 133 20.3	I 134 12.1	I 131 6.0	XE 135 1.5	XF 133 0.0	CS 138 0.0	I 130 0.0	HA 139 0.0
5.6 HR.	I 135 42.7	I 133 28.0	I 132 14.6	I 131 9.0	XF 135 3.5	I 134 2.0	XE 133 0.1	I 130 0.0	CS 138 0.0	HA 139 0.0
12.0 HR.	I 133 37.9	I 135 36.4	I 131 14.7	XE 135 7.1	I 132 3.5	XE 133 0.3	I 134 0.0	I 130 0.0	LA 140 0.0	BA 139 0.0
13.9 HR.	I 133 39.8	I 135 33.4	I 131 16.4	XF 135 7.8	I 132 2.2	XF 133 0.4	I 134 0.0	I 130 0.0	LA 140 0.0	BA 140 0.0
1.0 DAYS	I 133 45.9	I 131 25.5	I 135 18.6	XE 135 8.8	XE 133 1.0	I 132 0.2	I 130 0.0	LA 140 0.0	HA 140 0.0	I 134 0.0
1.2 DAYS	I 133 46.8	I 131 29.0	I 135 14.4	XE 135 8.5	XE 133 1.3	I 132 0.1	I 130 0.0	LA 140 0.0	HA 140 0.0	I 129 0.0
2.3 DAYS	I 131 53.9	I 133 38.0	XF 133 3.4	XF 135 3.1	I 135 1.6	I 130 0.0	I 132 0.0	LA 140 0.0	HA 140 0.0	I 129 0.0
4.0 DAYS	I 131 77.6	I 133 16.5	XF 133 5.6	XF 135 0.3	I 135 0.0	I 130 0.0	LA 140 0.0	HA 140 0.0	I 129 0.0	CE 141 0.0
5.8 DAYS	I 131 88.3	XF 133 6.5	I 133 5.2	XF 135 0.3	I 135 0.0	LA 140 0.0	I 130 0.0	HA 140 0.0	I 129 0.0	CE 141 0.0
10.0 DAYS	I 131 93.6	XF 133 6.1	I 133 0.3	LA 140 0.0	XE 135 0.0	HA 140 0.0	I 129 0.0	CE 141 0.0	CS 135 0.0	PR 144 0.0
11.6 DAYS	I 131 94.1	XF 133 5.8	I 133 0.1	LA 140 0.0	HA 140 0.0	CE 135 0.0	I 129 0.0	CE 141 0.0	CE 143 0.0	PR 144 0.0
23.1 DAYS	I 131 96.3	XF 133 3.7	LA 140 0.0	I 133 0.0	HA 140 0.0	I 129 0.0	CE 141 0.0	CS 135 0.0	PR 144 0.0	CE 144 0.0
30.0 DAYS	I 131 97.3	XF 133 2.7	LA 140 0.0	HA 140 0.0	I 129 0.0	CE 141 0.0	I 133 0.0	CS 135 0.0	PR 144 0.0	ER 167 0.0
57.9 DAYS	I 131 99.2	XF 133 0.8	LA 140 0.0	HA 140 0.0	I 129 0.0	CE 141 0.0	CS 135 0.0	PR 144 0.0	CE 144 0.0	ER 167 0.0
60.0 DAYS	I 131 99.3	XF 133 0.7	LA 140 0.0	I 129 0.0	HA 140 0.0	CE 141 0.0	CS 135 0.0	PR 144 0.0	CE 144 0.0	ER 167 0.0
115.7 DAYS	I 131 99.9	XF 133 0.1	I 129 0.0	LA 140 0.0	HA 140 0.0	CE 141 0.0	CS 135 0.0	PR 144 0.0	CE 144 0.0	ER 167 0.0
150.0 DAYS	I 131 99.9	I 129 0.1	XF 133 0.1	LA 140 0.0	CE 141 0.0	HA 140 0.0	CS 135 0.0	PR 144 0.0	CE 144 0.0	ER 167 0.0
231.5 DAYS	I 131 60.7	I 129 39.1	CF 141 0.1	LA 140 0.0	CE 135 0.0	BA 140 0.0	XF 133 0.0	PR 144 0.0	CE 144 0.0	ER 167 0.0
1.0 YRS.	I 129 100.0	CS 135 0.0	CE 141 0.0	I 131 0.0	LA 140 0.0	PR 144 0.0	CE 144 0.0	BA 140 0.0	ER 167 0.0	ER*167 0.0

Source 2 (plate out), 500 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 136 16.6	I 134 16.0	I 137 15.0	I 136 11.7	I 138 10.6	I 133 8.6	I 135 7.6	I 132 6.8	I 139 4.0	I 131 1.6
1.0 SEC.	I 136 17.1	I 134 16.6	I 137 15.1	I 136 12.0	I 138 9.8	I 133 8.9	I 135 7.9	I 132 7.0	I 139 3.1	I 131 1.7
2.0 SEC.	I 136 17.5	I 134 17.0	I 137 15.1	I 136 12.1	I 133 9.2	I 138 9.1	I 135 8.1	I 132 7.2	I 139 2.4	I 131 1.7
5.0 SEC.	I 134 18.1	I 136 18.1	I 137 14.8	I 136 12.4	I 133 9.8	I 135 8.6	I 132 7.7	I 138 7.0	I 131 1.8	I 139 1.1
10.0 SEC.	I 134 19.5	I 136 18.7	I 137 13.8	I 136 12.4	I 133 10.5	I 135 9.3	I 132 8.3	I 134 4.4	I 131 1.9	XE 137 1.6
20.0 SEC.	I 134 21.5	I 136 19.0	I 136 11.8	I 133 11.6	I 137 11.5	I 135 10.2	I 132 9.1	I 131 2.2	I 138 1.7	XE 137 1.1
50.0 SEC.	I 134 25.4	I 136 17.6	I 133 13.8	I 135 12.2	I 132 10.8	I 136 9.2	I 137 5.9	I 131 2.6	XE 137 2.2	XE 139 2.2
100.0 SEC.	I 134 26.5	I 136 16.9	I 133 14.4	I 135 12.7	I 132 11.3	I 136 8.3	I 137 4.6	I 131 2.7	XE 137 2.4	XE 139 2.2
180.0 SEC.	I 134 29.8	I 133 16.3	I 135 14.4	I 136 13.7	I 132 12.6	I 136 5.3	I 131 3.0	XE 137 2.8	I 137 1.7	XE 139 2.1
3.3 MIN.	I 134 34.2	I 133 19.1	I 135 16.8	I 132 14.8	I 136 7.0	I 131 3.6	XE 137 2.6	I 136 1.5	I 137 1.1	XE 135 0.0
8.3 MIN.	I 134 36.6	I 133 21.7	I 135 19.0	I 132 16.5	I 131 4.1	XE 137 1.2	I 136 0.7	XE 135 0.1	XE 138 0.0	CS 139 0.0
16.7 MIN.	I 134 35.0	I 133 23.1	I 135 20.0	I 132 16.9	I 131 4.3	XE 135 0.3	XE 137 0.3	XE 138 0.0	CS 138 0.0	CS 139 0.0
33.3 MIN.	I 134 30.9	I 133 25.2	I 135 21.4	I 132 17.1	I 131 4.8	XE 135 0.7	CS 138 0.0	XE 137 0.0	XE 138 0.0	XE 138 0.0
100.0 MIN.	I 133 28.2	I 134 24.8	I 135 23.2	I 132 17.0	I 131 5.4	XE 135 1.3	XE 133 0.0	CS 139 0.0	XE 138 0.0	BA 139 0.0
1.4 HR.	I 133 30.7	I 135 24.5	I 134 20.1	I 132 16.6	I 131 6.0	XE 135 2.0	XE 133 0.0	CS 138 0.0	HA 139 0.0	XE 138 0.0
2.8 HR.	I 133 37.7	I 135 27.3	I 132 14.0	I 134 8.6	I 131 7.6	XE 135 4.6	XE 133 0.1	CS 138 0.0	BA 139 0.0	I 130 0.0
5.6 HR.	I 133 44.8	I 135 26.5	I 131 9.8	XF 135 9.5	I 132 7.9	I 134 1.2	XE 133 0.3	I 130 0.0	BA 139 0.0	CS 138 0.0
12.0 HR.	I 133 49.9	I 135 18.6	XE 135 15.9	I 131 13.2	I 132 1.5	XE 133 0.8	I 134 0.0	I 130 0.0	BA 139 0.0	LA 141 0.0
13.0 HR.	I 133 50.6	XE 135 16.8	I 135 16.4	I 131 14.2	XF 133 1.0	I 132 0.9	I 134 0.0	I 130 0.0	BA 139 0.0	LA 141 0.0
1.0 DAYS	I 133 52.5	I 131 19.9	XE 135 17.2	I 135 8.2	XF 133 2.1	I 132 0.1	I 130 0.0	HA 140 0.0	I 134 0.0	LA 140 0.0
1.2 DAYS	I 133 52.6	I 131 22.3	XE 135 16.2	I 135 6.3	XF 133 2.6	I 132 0.1	I 130 0.0	HA 140 0.0	LA 140 0.0	CS 137 0.0
2.3 DAYS	I 133 43.8	I 131 42.4	XE 133 7.1	XE 135 6.0	I 135 0.7	I 130 0.0	I 132 0.0	LA 140 0.0	BA 140 0.0	CS 137 0.0
4.0 DAYS	I 131 66.2	I 133 20.5	XF 133 12.7	XE 135 6.1	I 135 0.1	I 130 0.0	LA 140 0.0	BA 140 0.0	CS 137 0.0	I 129 0.0
5.8 DAYS	I 131 78.2	XF 133 15.0	I 133 6.8	XF 135 0.1	I 135 0.0	LA 140 0.0	BA 140 0.0	I 130 0.0	CS 137 0.0	I 129 0.0
10.0 DAYS	I 131 85.0	XF 133 14.6	I 133 4.4	XF 135 0.0	LA 140 0.0	BA 140 0.0	I 130 0.0	CS 137 0.0	CE 141 0.0	CS 135 0.0
11.6 DAYS	I 131 85.9	XF 133 14.0	I 133 4.1	LA 140 0.0	BA 140 0.0	CS 137 0.0	HA 140 0.0	I 129 0.0	CE 141 0.0	CS 135 0.0
23.1 DAYS	I 131 90.9	XF 133 9.1	LA 140 0.0	I 133 0.0	CS 137 0.0	HA 140 0.0	I 129 0.0	CF 141 0.0	CS 135 0.0	PR 143 0.0
30.0 DAYS	I 131 93.1	XE 133 6.9	LA 140 0.0	CS 137 0.0	HA 140 0.0	I 129 0.0	BA 140 0.0	CF 141 0.0	CS 135 0.0	PR 143 0.0
57.0 DAYS	I 131 97.9	XE 133 2.1	CS 137 0.0	LA 140 0.0	I 129 0.0	BA 140 0.0	CF 141 0.0	CS 135 0.0	I 133 0.0	PR 143 0.0
100.0 DAYS	I 131 98.1	XF 133 1.9	CS 137 0.0	LA 140 0.0	I 129 0.0	BA 140 0.0	CF 141 0.0	CS 135 0.0	PR 143 0.0	PR 144 0.0
115.7 DAYS	I 131 99.8	XF 133 1.2	CS 137 0.0	I 129 0.0	LA 140 0.0	CS 135 0.0	HA 140 0.0	CE 141 0.0	PR 143 0.0	PR 144 0.0
150.0 DAYS	I 131 98.6	CS 137 1.1	I 129 0.0	XE 133 0.0	CS 135 0.0	LA 140 0.0	CF 141 0.0	HA 140 0.0	PR 144 0.0	PR 143 0.0
231.5 DAYS	CS 137 79.8	I 129 13.2	I 131 6.2	CS 135 0.0	CE 141 0.0	LA 140 0.0	HA 140 0.0	PR 144 0.0	XE 133 0.0	CE 144 0.0
1.0 YRS.	CS 137 85.0	I 129 14.1	CS 135 0.0	CE 141 0.0	I 131 0.0	PR 144 0.0	CE 144 0.0	LA 140 0.0	HA 140 0.0	PR 143 0.0

Source 2 (plate out) 500 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0.0 SFC.	I 134 29.1	I 132 14.0	I 135 13.6	I 136 9.9	I 137 9.7	I 138 6.5	I 133 6.0	I *136 5.6	I 139 2.7	I 131 1.6
1.0 SEC.	I 134 29.8	I 132 14.3	I 135 13.9	I 136 10.0	I 137 9.7	I 133 6.1	I 138 6.0	I *136 5.7	I 139 2.1	I 131 1.7
2.0 SFC.	I 134 30.0	I 132 14.6	I 135 14.2	I 136 10.1	I 137 9.6	I 133 6.2	I *136 5.7	I 138 5.5	I 131 1.7	I 139 1.6
5.0 SFC.	I 134 31.6	I 132 15.2	I 135 14.8	I 136 10.3	I 137 9.2	I 133 6.5	I *136 5.7	I 138 4.2	I 131 1.8	I 139 1.7
10.0 SFC.	I 134 33.0	I 132 15.9	I 135 15.4	I 136 10.3	I 137 8.3	I 133 6.8	I *136 5.6	I 138 2.6	I 131 1.8	I 139 2.2
20.0 SFC.	I 134 34.8	I 132 16.8	I 135 16.3	I 136 10.0	I 137 7.2	I 137 6.7	I *136 5.1	I 131 2.0	I 138 .9	XE 139 .1
40.0 SEC.	I 134 38.1	I 132 18.4	I 135 17.9	I 136 8.6	I 133 7.9	I *136 3.6	I 137 3.1	I 131 2.1	XE 137 .1	I 138 .0
60.0 SFC.	I 134 38.8	I 132 18.8	I 135 18.3	I 136 8.1	I 133 8.1	I *136 3.2	I 137 2.4	I 131 2.2	XE 137 .1	XE 138 .0
100.0 SEC.	I 134 40.8	I 132 19.9	I 135 19.4	I 133 8.6	I 136 6.1	I 131 2.3	I *136 1.9	I 137 .8	XE 137 .1	XE 138 .0
3.3 MIN.	I 134 42.9	I 132 21.1	I 135 20.8	I 133 9.2	I 136 2.9	I 131 2.5	I *136 .5	XE 137 .1	I 137 .1	XE 138 .0
8.3 MIN.	I 134 43.0	I 132 22.1	I 135 22.1	I 133 9.8	I 131 2.7	I 136 .2	XE 137 .0	XE 135 .0	XE 138 .0	CS 138 .0
16.7 MIN.	I 134 41.1	I 135 23.1	I 132 22.5	I 133 10.4	I 131 2.8	XE 135 .1	XE 138 .0	CS 138 .0	XE 137 .0	I 136 .0
33.3 MIN.	I 134 36.9	I 135 25.1	I 132 23.1	I 133 11.5	I 131 3.2	XE 135 .2	CS 138 .0	XE 138 .0	XE 133 .0	I 130 .0
60.0 MIN.	I 134 30.5	I 135 28.2	I 132 23.8	I 133 13.3	I 131 3.7	XE 135 .4	CS 138 .0	XE 135 .0	XE 138 .0	I 130 .0
1.4 HR.	I 135 30.7	I 134 25.6	I 132 24.0	I 133 14.9	I 131 4.2	XE 135 .6	XE 133 .0	CS 138 .0	I 130 .0	XE 138 .0
2.8 HR.	I 135 37.8	I 132 22.4	I 133 20.3	I 134 12.1	I 131 6.0	XE 135 1.5	XE 133 .0	CS 138 .0	I 130 .0	BA 139 .0
5.6 HR.	I 135 42.7	I 133 28.0	I 132 14.6	I 131 9.0	XE 135 3.5	I 134 2.0	XE 133 .1	I 130 .0	CS 138 .0	BA 139 .0
12.0 HR.	I 133 37.9	I 135 36.0	I 131 14.7	XE 135 7.1	I 132 3.5	XE 133 .3	I 134 .0	I 130 .0	LA 140 .0	BA 139 .0
13.9 HR.	I 133 39.8	I 135 33.4	I 131 16.4	XE 135 7.8	I 132 2.2	XE 133 .4	I 134 .0	I 130 .0	LA 140 .0	BA 140 .0
1.0 DAYS	I 133 45.9	I 131 25.5	I 135 18.6	XE 135 8.8	XE 133 1.0	I 132 .2	I 130 .0	LA 140 .0	BA 140 .0	BA 140 .0
1.2 DAYS	I 133 46.8	I 131 29.0	I 135 14.4	XE 135 8.5	XE 133 1.3	I 132 .1	I 130 .0	LA 140 .0	BA 140 .0	I 134 .0
2.3 DAYS	I 131 53.9	I 133 38.0	XF 133 3.4	XE 135 3.1	I 135 1.6	I 130 .0	I 132 .0	LA 140 .0	BA 140 .0	I 129 .0
4.0 DAYS	I 131 77.6	I 133 16.5	XF 133 5.6	XE 135 .3	I 135 .0	I 130 .0	LA 140 .0	BA 140 .0	I 129 .0	CE 141 .0
5.8 DAYS	I 131 88.3	XF 133 6.5	I 133 5.2	XF 135 .0	I 135 .0	LA 140 .0	I 130 .0	BA 140 .0	I 129 .0	CE 141 .0
10.0 DAYS	I 131 93.6	XE 133 6.1	I 133 .3	LA 140 .0	XE 135 .0	RA 140 .0	I 130 .0	I 129 .0	CE 141 .0	I 135 .0
11.6 DAYS	I 131 94.1	XF 133 5.8	I 137 .1	LA 140 .0	RA 140 .0	XE 135 .0	I 129 .0	CE 141 .0	I 130 .0	I 135 .0
23.1 DAYS	I 131 96.3	XF 133 1.7	LA 141 .0	I 133 .0	RA 140 .0	CE 141 .0	I 133 .0	CS 135 .0	PR 144 .0	ER 167 .0
30.0 DAYS	I 131 97.3	XE 133 2.7	LA 140 .0	BA 140 .0	I 129 .0	CE 141 .0	I 133 .0	CS 135 .0	PR 144 .0	ER 167 .0
57.9 DAYS	I 131 99.2	XF 133 .8	LA 140 .0	BA 140 .0	I 129 .0	CE 141 .0	I 133 .0	CS 135 .0	PR 144 .0	ER 167 .0
60.0 DAYS	I 131 99.3	XE 133 .7	LA 140 .0	BA 140 .0	I 129 .0	CE 141 .0	I 133 .0	CS 135 .0	PR 144 .0	ER 167 .0
115.7 DAYS	I 131 99.9	XF 133 .1	LA 140 .0	I 129 .0	RA 140 .0	CE 141 .0	I 133 .0	CS 135 .0	PR 144 .0	ER 167 .0
150.0 DAYS	I 131 100.0	I 129 .0	XF 133 .0	LA 140 .0	CE 141 .0	RA 140 .0	I 133 .0	CS 135 .0	PR 144 .0	ER 167 .0
231.5 DAYS	I 131 80.0	I 129 19.9	CE 141 .1	LA 140 .1	CS 135 .0	BA 140 .0	XE 133 .0	PR 144 .0	CE 144 .0	ER 167 .0
1.0 YRS.	I 129 99.9	CS 135 .0	CE 141 .0	I 131 .0	LA 140 .0	PR 144 .0	CF 144 .0	BA 140 .0	ER 167 .0	ER 167 .0

Source 2 (plate out), 200 d, Power = 1 watt. Pure U-235

GREATEST CONTRIBUTORS TO RETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA		1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I	134 16.6	I 134 16.0	I 137 15.0	I 134 11.7	I 138 10.6	I 133 8.0	I 135 7.6	I 132 6.8	I 139 4.0	I 131 1.6
1.0 SEC.	I	134 17.1	I 134 16.6	I 137 15.1	I 136 12.0	I 138 9.8	I 133 8.9	I 135 7.9	I 132 7.0	I 139 3.1	I 131 1.7
2.0 SEC.	I	136 17.5	I 134 17.0	I 137 15.1	I 136 12.1	I 133 9.2	I 138 9.1	I 135 8.1	I 132 7.2	I 139 2.4	I 131 1.7
5.0 SEC.	I	134 18.1	I 136 18.1	I 137 14.8	I 134 12.4	I 133 9.8	I 135 8.6	I 132 7.7	I 138 7.0	I 131 1.8	I 139 1.1
10.0 SEC.	I	134 19.5	I 136 18.7	I 137 13.8	I 136 12.4	I 133 10.5	I 135 9.3	I 132 8.3	I 138 4.4	I 131 1.9	XE 137 0.6
20.0 SEC.	I	134 21.5	I 136 19.0	I 136 11.8	I 133 11.6	I 137 11.5	I 135 10.2	I 132 9.1	I 131 2.2	I 138 1.7	XE 137 1.1
50.0 SEC.	I	134 25.4	I 136 17.6	I 133 13.8	I 135 12.2	I 132 10.8	I 136 9.2	I 137 5.9	I 131 2.6	XE 137 2.2	XE 139 0.2
60.0 SEC.	I	134 26.5	I 136 16.9	I 133 14.4	I 135 12.7	I 132 11.3	I 136 8.3	I 137 4.6	I 131 2.7	XE 137 2.4	XE 139 0.2
100.0 SEC.	I	134 29.8	I 133 16.3	I 135 14.4	I 136 13.7	I 132 12.8	I 136 5.3	I 131 3.0	XE 137 2.8	I 137 1.7	XE 139 0.1
3.3 MIN.	I	134 30.2	I 133 19.1	I 135 16.8	I 132 14.8	I 136 7.0	I 131 3.6	XE 137 2.6	I 136 1.5	I 137 0.1	XE 135 0.0
8.3 MIN.	I	134 36.6	I 133 21.7	I 135 19.0	I 132 16.5	I 131 4.1	XF 137 1.2	I 136 0.7	XE 135 0.1	XE 138 0.0	CS 139 0.0
16.7 MIN.	I	134 35.0	I 133 23.1	I 135 20.0	I 132 16.9	I 131 4.3	XF 135 0.3	XE 137 0.3	XE 138 0.0	CS 138 0.0	CS 139 0.0
33.3 MIN.	I	134 30.9	I 133 25.2	I 135 21.4	I 132 17.1	I 131 4.8	XE 135 0.7	CS 138 0.0	XE 137 0.0	XE 138 0.0	XE 138 0.0
60.0 MIN.	I	133 28.2	I 134 24.8	I 135 23.2	I 132 17.0	I 131 5.4	XE 135 1.3	XE 133 0.0	CS 138 0.0	XE 138 0.0	BA 139 0.0
1.4 HR.	I	133 30.7	I 135 24.5	I 134 20.1	I 132 16.6	I 131 6.0	XE 135 2.0	XE 133 0.0	CS 138 0.0	BA 139 0.0	XE 138 0.0
2.8 HR.	I	133 37.7	I 135 27.3	I 132 14.0	I 134 8.6	I 131 7.6	XE 135 4.6	XE 133 0.1	CS 138 0.0	BA 139 0.0	I 130 0.0
5.6 HR.	I	133 44.8	I 135 26.5	I 131 9.8	XE 135 9.5	I 132 7.9	I 134 1.2	XE 133 0.3	I 130 0.0	BA 139 0.0	CS 138 0.0
12.0 HR.	I	133 49.9	I 135 18.6	XE 135 15.9	I 131 13.2	I 132 1.5	XE 133 0.8	I 134 0.0	I 130 0.0	BA 139 0.0	LA 141 0.0
13.9 HR.	I	133 50.6	XF 135 16.8	I 135 16.4	I 131 14.2	XF 133 1.0	I 132 0.9	I 134 0.0	I 130 0.0	HA 139 0.0	LA 141 0.0
1.0 DAYS	I	133 52.5	I 131 19.9	XF 135 17.2	I 135 8.2	XF 133 2.1	I 132 0.1	I 130 0.0	HA 140 0.0	I 134 0.0	LA 140 0.0
1.2 DAYS	I	133 52.6	I 131 22.3	XE 135 16.2	I 135 6.3	XE 133 2.6	I 132 0.0	I 130 0.0	HA 140 0.0	LA 140 0.0	CS 137 0.0
2.3 DAYS	I	133 43.8	I 131 42.4	XE 133 7.1	XE 135 6.0	I 135 0.7	I 130 0.0	I 132 0.0	LA 140 0.0	HA 140 0.0	CS 137 0.0
4.0 DAYS	I	131 66.2	I 133 20.5	XE 133 12.7	XE 135 0.6	I 135 0.0	I 130 0.0	LA 140 0.0	HA 140 0.0	CS 137 0.0	I 129 0.0
5.8 DAYS	I	131 78.2	XF 133 15.0	I 133 6.8	XF 135 0.0	I 135 0.0	LA 140 0.0	BA 140 0.0	I 130 0.0	CS 137 0.0	I 129 0.0
10.0 DAYS	I	131 85.0	XF 133 14.6	I 133 0.4	XF 135 0.0	LA 140 0.0	HA 140 0.0	CS 137 0.0	I 129 0.0	CE 141 0.0	CS 135 0.0
11.6 DAYS	I	131 85.9	XF 133 14.0	I 133 0.0	LA 140 0.0	BA 140 0.0	CS 137 0.0	XF 135 0.0	I 129 0.0	CF 141 0.0	CS 135 0.0
23.1 DAYS	I	131 90.9	XF 133 9.1	LA 140 0.0	I 133 0.0	CS 137 0.0	BA 140 0.0	I 129 0.0	CE 141 0.0	CS 135 0.0	PR 143 0.0
30.0 DAYS	I	131 93.1	XF 133 6.9	LA 140 0.0	CS 137 0.0	BA 140 0.0	I 129 0.0	CE 141 0.0	CS 135 0.0	I 133 0.0	PR 143 0.0
57.9 DAYS	I	131 97.9	XF 133 2.1	CS 137 0.0	LA 140 0.0	BA 140 0.0	I 129 0.0	CF 141 0.0	CS 135 0.0	PR 143 0.0	PR 144 0.0
60.0 DAYS	I	131 98.1	XE 133 1.9	CS 137 0.0	LA 140 0.0	BA 140 0.0	I 129 0.0	CF 141 0.0	CS 135 0.0	PR 143 0.0	PR 144 0.0
115.7 DAYS	I	131 99.8	XF 133 0.2	CS 137 0.1	I 129 0.0	LA 140 0.0	CS 135 0.0	BA 140 0.0	CE 141 0.0	PR 143 0.0	PR 144 0.0
150.0 DAYS	I	131 98.7	CS 137 1.1	I 129 0.1	XF 133 0.0	CS 135 0.0	LA 140 0.0	CF 141 0.0	BA 140 0.0	PR 144 0.0	PR 143 0.0
231.5 DAYS	CS	137 86.8	I 131 6.8	I 129 5.5	CS 135 0.9	CE 141 0.0	LA 140 0.0	BA 140 0.0	PR 144 0.0	XF 133 0.0	CE 144 0.0
1.0 YRS.	CS	137 93.1	I 129 6.0	CS 135 0.9	CE 141 0.0	I 131 0.0	PP 144 0.0	CF 144 0.0	LA 140 0.0	BA 140 0.0	PR 143 0.0

Source 2 (plate out), 200 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SFC.	I 130 21.7	I 132 10.4	I 135 10.1	I 136 7.0	I 137 7.3	HR 88 5.2	I 138 4.9	I 133 4.5	BR 89 4.2	I *136 4.2
1.0 SFC.	I 130 22.8	I 132 11.0	I 135 10.7	I 136 7.7	I 137 7.4	HR 88 5.2	I 133 4.7	I 138 4.6	I *136 4.4	BR 87 4.3
2.0 SEC.	I 130 23.4	I 132 11.4	I 135 11.1	I 136 7.9	I 137 7.5	HR 88 5.2	I 133 4.9	I *136 4.5	BR 87 4.4	I 138 4.3
5.0 SEC.	I 130 25.4	I 132 12.2	I 135 11.9	I 136 8.3	I 137 7.4	I 133 5.2	HR 88 4.9	I *136 4.6	BR 87 4.6	BR 86 3.8
10.0 SFC.	I 130 27.3	I 132 13.1	I 135 12.8	I 136 8.5	I 137 6.9	I 133 5.6	HR 87 4.6	I *136 4.6	BR 86 4.2	BR 86 3.8
20.0 SFC.	I 130 29.8	I 132 14.3	I 135 14.0	I 136 8.6	I 133 6.1	I 137 5.7	BR 87 4.5	I *136 4.3	BR 86 3.7	BR 88 3.0
50.0 SFC.	I 130 34.0	I 132 16.4	I 135 16.0	I 136 7.7	I 133 7.0	HR 87 3.5	I *136 3.2	HR 86 2.9	BR 84 2.9	I 137 2.8
60.0 SFC.	I 130 34.9	I 132 16.9	I 135 16.5	I 136 7.3	I 133 7.3	HR 87 3.2	BR 84 3.0	I *136 2.9	BR 86 2.6	I 137 2.2
100.0 SFC.	I 130 37.7	I 132 18.3	I 135 17.9	I 133 7.9	I 136 5.7	HR 84 3.2	I 131 2.1	HR 87 2.1	I *136 1.8	BR 86 1.7
3.3 MIN.	I 130 40.7	I 132 20.1	I 135 19.7	I 133 8.7	HR 84 3.4	I 136 2.7	I 131 2.4	BR 87 .7	HR 86 .5	I *136 .5
8.3 MIN.	I 130 41.5	I 132 21.3	I 135 21.3	I 133 9.4	HR 84 3.3	I 131 2.6	I 136 .2	BR 84 .0	KR 87 .0	HR 87 .0
16.7 MIN.	I 130 39.8	I 135 22.4	I 132 21.8	I 133 10.0	BR 84 2.9	I 131 2.8	HR 85 .1	KR 87 .0	HR 89 .0	KR 88 .0
33.3 MIN.	I 130 36.0	I 135 24.5	I 132 22.6	I 133 11.2	I 131 3.1	HR 84 2.3	HR 85 .2	KR 87 .0	KR 88 .0	CS 138 .0
60.0 MIN.	I 130 30.0	I 135 27.7	I 132 23.4	I 133 13.1	I 131 3.7	HR 84 1.5	HR 85 .4	KR 87 .0	KR 88 .0	CS 138 .0
1.4 HR.	I 135 30.4	I 138 25.2	I 132 23.7	I 133 14.8	I 131 4.2	HR 84 1.1	HR 85 .6	KR 87 .0	KR 88 .0	HR 88 .0
2.8 HR.	I 135 37.6	I 132 22.3	I 133 20.2	I 130 12.0	I 131 6.0	HR 85 1.5	BR 84 .2	HR 87 .0	KR 87 .0	KR 88 .0
5.6 HR.	I 135 42.7	I 133 28.0	I 132 14.8	I 131 9.0	HR 85 3.5	I 134 2.0	HR 85 .1	KR 88 .0	BR 84 .0	KR 85 .0
12.0 HR.	I 133 37.9	I 135 36.4	I 131 14.7	HR 85 7.1	I 132 3.5	HR 85 .3	I 134 .0	KR 88 .0	I 130 .0	KR 85 .0
13.9 HR.	I 133 39.8	I 135 33.4	I 131 16.4	HR 85 7.8	I 132 2.2	HR 85 .4	I 130 .0	I 129 .0	I 134 .0	KR 85 .0
1.0 DAYS	I 133 45.9	I 131 25.5	I 135 18.6	HR 85 8.8	HR 85 1.0	I 132 .2	I 129 .0	I 130 .0	BR 82 .0	KR 85 .0
1.2 DAYS	I 133 46.7	I 131 29.0	I 135 14.4	HR 85 8.5	HR 85 1.3	I 132 .1	I 129 .0	BR 82 .0	I 130 .0	KR 85 .0
2.3 DAYS	I 131 51.9	I 133 38.0	HR 85 3.4	HR 85 3.1	I 135 1.6	I 129 .0	BR 82 .0	I 150 .0	KR 85 .0	I 132 .0
4.0 DAYS	I 131 77.5	I 131 56.4	HR 85 5.6	HR 85 .3	I 135 .0	I 129 .0	BR 82 .0	I 150 .0	LA 140 .0	HA 140 .0
5.8 DAYS	I 131 88.2	HR 85 6.5	I 133 5.2	I 129 .0	HR 85 .0	BR 82 .0	I 135 .0	I 150 .0	LA 140 .0	HA 140 .0
10.0 DAYS	I 131 93.5	HR 85 6.1	I 133 .1	I 129 .0	HR 82 .0	LA 140 .0	HR 85 .0	HR 85 .0	I 130 .0	KR 85 .0
11.6 DAYS	I 131 94.0	HR 85 3.7	I 129 .2	LA 140 .0	I 133 .0	HA 140 .0	HR 82 .0	KR 85 .0	CE 141 .0	Y 91 .0
23.1 DAYS	I 131 96.1	HR 85 3.3	I 129 .2	LA 140 .0	HA 140 .0	KR 85 .0	HR 82 .0	CE 141 .0	I 133 .0	Y 91 .0
30.0 DAYS	I 131 96.9	HR 85 2.7	I 129 .2	LA 140 .0	HA 140 .0	KR 85 .0	CE 141 .0	Y 91 .0	Y 90 .0	CS 135 .0
57.9 DAYS	I 131 94.7	I 129 4.6	HR 85 3.8	LA 140 .0	HA 140 .0	KR 85 .0	CE 141 .0	Y 91 .0	Y 90 .0	CS 135 .0
60.0 DAYS	I 131 93.9	I 129 5.4	HR 85 3.7	LA 140 .0	HA 140 .0	KR 85 .0	CE 141 .0	Y 91 .0	Y 90 .0	CS 135 .0
115.7 DAYS	I 129 87.6	I 131 12.4	HR 85 .0	LA 140 .0	KR 85 .0	HA 140 .0	Y 91 .0	CE 141 .0	Y 90 .0	CS 135 .0
150.0 DAYS	I 129 99.3	I 131 .7	HR 85 .0	KR 85 .0	LA 140 .0	Y 91 .0	CE 141 .0	HA 140 .0	Y 90 .0	CS 135 .0
231.5 DAYS	I 129 100.0	I 131 .0	KR 85 .0	Y 91 .0	CE 141 .0	LA 140 .0	Y 90 .0	CS 135 .0	HA 140 .0	NR 95 .0
1.0 YRS.	I 129 100.0	HR 85 .0	Y 91 .0	Y 90 .0	CS 135 .0	CE 141 .0	I 131 .0	NR 95 .0	ZR 95 .0	LA 140 .0

Source 2 (water), Equilibrium, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	RR RR 12.1	I 136 8.6	RR RR 8.5	I 134 8.2	I 137 7.7	RR RR 7.3	RR RR 7.1	I *136 6.0	I 138 5.4	RR RR 4.6
1.0 SEC.	RR RR 12.6	I 136 9.2	I 134 9.0	I 137 8.2	RR RR 7.9	I *136 6.5	I 138 5.3	RR RR 5.0	I 133 4.8	RR RR 4.6
2.0 SEC.	RR RR 12.8	I 136 9.8	I 134 9.5	I 137 8.5	RR RR 7.3	I *136 6.8	I 133 5.1	I 138 5.1	I 135 4.5	RR RR 4.5
5.0 SEC.	RR RR 12.8	I 134 10.9	I 136 10.4	RR RR 9.1	I 137 8.9	I *136 7.4	I 133 5.8	RR RR 5.2	I 135 5.2	I 132 4.6
10.0 SEC.	I 134 12.4	I 136 11.9	RR RR 11.8	RR RR 9.8	I 137 8.8	I *136 7.9	I 133 6.7	I 135 5.9	I 132 5.3	RR RR 3.5
20.0 SEC.	I 134 14.7	I 136 13.0	RR RR 10.2	RR RR 9.0	I *136 8.1	I 133 7.9	I 137 7.9	I 135 7.0	I 132 6.2	RR RR 3.6
50.0 SEC.	I 134 19.1	I 136 15.2	I 133 10.3	RR RR 9.2	I 135 9.1	I 132 8.1	I *136 6.9	I 137 4.4	RR RR 4.4	RR RR 3.9
60.0 SEC.	I 134 20.2	I 136 12.9	I 133 11.0	I 135 9.7	RR RR 8.6	I 132 8.6	I *136 6.1	RR RR 4.6	RR RR 4.6	RR RR 3.5
100.0 SEC.	I 134 23.9	I 133 13.1	I 135 11.5	I 136 11.0	I 132 10.2	RR RR 6.3	RR RR 5.4	I *136 4.0	RR RR 4.0	I 131 2.4
3.3 MIN.	I 134 29.3	I 133 16.4	I 135 14.4	I 132 12.7	RR RR 6.6	I 136 6.0	RR RR 3.3	I 131 3.0	RR RR 2.3	RR RR 2.3
8.3 MIN.	I 134 32.9	I 133 19.6	I 135 17.1	I 132 14.8	RR RR 7.0	I 131 3.7	RR RR 1.2	RR RR 1.1	RR RR 1.1	RR RR 1.1
16.7 MIN.	I 134 32.2	I 133 21.2	I 135 18.4	I 132 15.5	RR RR 6.4	I 131 4.0	RR RR 1.2	RR RR 1.3	RR RR 1.3	RR RR 1.3
33.3 MIN.	I 134 28.9	I 133 23.5	I 135 20.0	I 132 15.9	RR RR 5.0	I 131 4.4	RR RR 1.2	RR RR 1.3	RR RR 1.3	RR RR 1.3
40.0 MIN.	I 133 28.9	I 134 23.6	I 135 22.1	I 132 16.2	I 131 5.1	RR RR 3.2	RR RR 1.3	RR RR 1.3	RR RR 1.3	RR RR 1.3
1.4 HR.	I 133 29.6	I 135 23.6	I 134 19.3	I 132 16.0	I 131 5.7	RR RR 2.2	RR RR 1.0	RR RR 1.0	RR RR 1.0	RR RR 1.0
2.8 HR.	I 133 37.0	I 135 26.8	I 132 13.8	I 134 8.5	I 131 7.5	RR RR 4.5	RR RR 1.1	RR RR 1.1	RR RR 1.1	RR RR 1.1
5.6 HR.	I 133 44.4	I 135 26.3	I 131 9.7	RR RR 9.4	I 132 7.8	I 134 1.2	RR RR 0.7	RR RR 0.7	RR RR 0.7	RR RR 0.7
12.0 HR.	I 133 49.8	I 135 18.5	RR RR 15.9	I 131 13.2	I 132 1.5	RR RR 0.8	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1
13.9 HR.	I 133 50.5	RR RR 16.8	I 135 16.4	I 131 14.2	RR RR 1.0	RR RR 0.9	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1
1.0 DAYS	I 133 52.5	I 131 19.9	RR RR 17.2	I 135 16.2	RR RR 2.1	I 132 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1
2.2 DAYS	I 133 52.6	I 131 22.3	RR RR 16.2	I 135 16.2	RR RR 2.1	I 132 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1
4.0 DAYS	I 133 41.7	I 131 42.4	RR RR 7.1	RR RR 6.0	I 135 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1
5.8 DAYS	I 131 78.0	RR RR 15.0	I 133 6.8	I 129 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1
11.0 DAYS	I 131 84.8	RR RR 14.6	I 133 6.4	I 129 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1
11.6 DAYS	I 131 85.7	RR RR 13.9	I 129 0.1	I 129 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1
23.1 DAYS	I 131 91.9	RR RR 9.0	I 129 0.1	I 129 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1
30.0 DAYS	I 131 91.9	RR RR 6.8	I 129 0.1	I 129 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1
57.9 DAYS	I 131 92.7	I 129 13.4	RR RR 1.3	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1
60.0 DAYS	I 131 92.7	I 129 15.6	RR RR 1.3	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1
115.7 DAYS	I 129 95.8	I 131 4.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1
150.0 DAYS	I 129 99.7	I 131 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1
231.5 DAYS	I 129 100.0	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1
1.0 YRS.	I 129 100.0	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1	RR RR 0.1

Source 2 (water), Equilibrium, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LCCA

	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 134 21.7	I 132 10.4	I 135 10.1	I 136 7.4	I 137 7.3	BR 88 5.2	I 138 4.9	I 133 4.5	BR 89 4.2	I *136 4.2
1.0 SEC.	I 134 22.8	I 132 11.0	I 135 10.7	I 136 7.7	I 137 7.4	BR 88 5.2	I 133 4.7	I 138 4.6	I *136 4.4	BR 87 4.3
2.0 SFC.	I 134 23.7	I 132 11.4	I 135 11.1	I 136 7.9	I 137 7.5	HR 88 5.2	I 133 4.9	I *136 4.5	BR 87 4.4	I 138 4.3
5.0 SFC.	I 134 25.4	I 132 12.2	I 135 11.9	I 136 8.3	I 137 7.4	I 133 5.2	BR 88 4.9	I *136 4.6	BR 87 4.6	BR 86 3.8
10.0 SEC.	I 134 27.3	I 132 13.1	I 135 12.8	I 136 8.5	I 137 6.9	I 133 5.6	BR 87 4.6	I *136 4.6	BR 88 4.2	BR 86 3.8
20.0 SFC.	I 134 29.8	I 132 14.3	I 135 14.0	I 136 8.6	I 133 6.1	I 137 5.7	BR 87 4.5	I *136 4.3	BR 86 3.7	HR 88 3.0
50.0 SFC.	I 134 34.0	I 132 16.4	I 135 16.0	I 136 7.7	I 133 7.0	BR 87 4.5	I *136 3.2	HR 86 2.9	BR 84 2.9	I 137 2.8
60.0 SFC.	I 134 34.9	I 132 16.9	I 135 16.5	I 136 7.3	I 133 7.3	BR 87 3.2	BR 84 3.2	I *136 2.9	BR 86 2.6	I 137 2.2
100.0 SFC.	I 134 37.7	I 132 18.3	I 135 17.9	I 133 7.9	I 136 5.7	BR 84 3.2	I 131 2.1	BR 87 2.1	I *136 1.6	BR 86 1.7
3.3 MIN.	I 134 40.7	I 132 20.1	I 135 19.7	I 133 8.7	HR 84 3.4	I 136 2.7	I 131 2.4	BR 87 2.7	BR 86 2.5	I *136 1.5
8.3 MIN.	I 134 41.5	I 132 21.3	I 135 21.3	I 133 9.4	HR 84 3.3	I 131 2.6	I 136 2.2	BR 84 2.0	KR 87 2.0	HR 86 1.0
16.7 MIN.	I 134 39.8	I 132 22.4	I 135 21.8	I 133 10.0	HR 84 2.9	I 131 2.8	XF 135 1.1	KR 87 0.0	RR 89 0.0	KR 88 0.0
33.3 MIN.	I 134 36.0	I 135 24.5	I 132 22.6	I 133 11.2	I 131 3.1	BR 84 2.3	HR 84 2.3	KR 87 0.0	KR 88 0.0	CS 138 0.0
40.0 MIN.	I 134 30.0	I 135 27.7	I 132 23.4	I 133 13.1	I 131 3.7	BR 84 1.5	XF 135 0.4	KR 87 0.0	KR 88 0.0	CS 138 0.0
1.4 HR.	I 135 30.4	I 134 25.2	I 132 23.7	I 133 14.8	I 131 4.2	BR 84 1.1	HR 84 1.1	KR 87 0.0	KR 88 0.0	XF 133 0.0
2.8 HR.	I 135 37.6	I 132 22.3	I 133 20.2	I 134 12.1	I 131 6.0	HR 84 1.5	HR 84 1.5	KR 87 0.0	KR 88 0.0	KR 88 0.0
5.6 HR.	I 135 42.7	I 133 28.0	I 132 14.6	I 131 9.0	HR 84 3.5	I 134 2.0	HR 84 2.0	KR 87 0.0	BR 84 0.0	KR 85 0.0
12.0 HR.	I 133 37.9	I 135 36.4	I 131 14.7	HR 84 7.1	I 132 3.5	HR 84 3.1	I 134 0.0	KR 87 0.0	KR 88 0.0	BR 82 0.0
13.9 HR.	I 133 39.8	I 135 33.4	I 131 16.4	HR 84 7.8	I 132 2.2	HR 84 3.4	I 134 0.0	KR 87 0.0	KR 88 0.0	BR 82 0.0
1.0 DAYS	I 133 45.9	I 131 25.5	I 135 18.6	HR 84 8.4	HR 84 1.0	I 132 2.2	BR 82 0.0	I 130 0.0	KR 85 0.0	KR 88 0.0
1.2 DAYS	I 133 46.8	I 131 29.0	I 135 14.4	HR 84 9.5	HR 84 1.3	I 132 1.1	BR 82 0.0	I 130 0.0	KR 85 0.0	KR 88 0.0
2.1 DAYS	I 131 53.9	I 133 38.0	HR 84 3.4	HR 84 3.1	I 135 1.6	HR 82 0.0	I 130 0.0	KR 85 0.0	I 132 0.0	LA 140 0.0
4.0 DAYS	I 131 77.6	I 133 16.5	HR 84 3.4	HR 84 3.1	I 135 1.6	HR 82 0.0	I 130 0.0	KR 85 0.0	I 132 0.0	LA 140 0.0
5.8 DAYS	I 131 88.3	HR 84 3.4	I 133 5.2	HR 82 0.0	HR 82 0.0	I 135 0.0	LA 140 0.0	BA 140 0.0	I 129 0.0	0.0
10.0 DAYS	I 131 95.6	HR 84 3.4	I 133 6.1	HR 82 0.0	LA 140 0.0	HR 82 0.0	BA 140 0.0	HA 140 0.0	I 129 0.0	0.0
11.6 DAYS	I 131 94.1	HR 84 3.4	I 133 5.4	HR 82 0.0	LA 140 0.0	HR 82 0.0	BA 140 0.0	HA 140 0.0	I 129 0.0	0.0
23.1 DAYS	I 131 96.3	HR 84 3.4	I 133 3.7	LA 140 0.0	I 129 0.0	BA 140 0.0	HA 140 0.0	HR 82 0.0	KR 85 0.0	CE 141 0.0
30.0 DAYS	I 131 97.3	HR 84 3.4	I 133 2.7	LA 140 0.0	I 129 0.0	BA 140 0.0	HA 140 0.0	HR 82 0.0	KR 85 0.0	CE 141 0.0
57.9 DAYS	I 131 99.2	HR 84 3.4	I 133 1.8	LA 140 0.0	I 129 0.0	BA 140 0.0	HA 140 0.0	HR 82 0.0	KR 85 0.0	CE 141 0.0
60.0 DAYS	I 131 99.3	HR 84 3.4	I 133 1.6	LA 140 0.0	I 129 0.0	BA 140 0.0	HA 140 0.0	HR 82 0.0	KR 85 0.0	CE 141 0.0
115.7 DAYS	I 131 99.4	HR 84 3.4	I 133 1.1	I 129 0.0	LA 140 0.0	HR 85 0.0	BA 140 0.0	HA 140 0.0	KR 85 0.0	CE 141 0.0
150.0 DAYS	I 131 99.4	I 129 0.0	HR 85 1.0	Y 91 0.0	CF 141 0.0	LA 140 0.0	Y 91 0.0	CE 141 0.0	HA 140 0.0	CS 135 0.0
231.5 DAYS	I 129 95.3	I 131 13.0	KR 85 1.0	Y 91 0.0	CF 141 0.0	LA 140 0.0	Y 91 0.0	CE 141 0.0	HA 140 0.0	NH 95 0.0
1.0 YRS.	I 129 98.2	KR 85 1.8	Y 91 0.0	Y 91 0.0	CS 135 0.0	CF 141 0.0	I 131 0.0	NP 95 0.0	ZR 95 0.0	LA 140 0.0

Source 2 (water), 5000 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO RFIA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LNCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	RR 8A 12.1	I 136 8.6	HR 8A 8.5	I 134 8.2	I 137 7.7	BR 8A 7.3	BR 9A 7.1	I *136 6.0	I 138 5.4	BR 86 4.6
1.0 SEC.	RR 8A 12.6	I 136 9.2	I 134 9.0	I 137 8.2	RR 8A 8.0	BR 8A 7.9	I *136 6.5	I 138 5.3	BR 90 5.0	I 133 4.8
2.0 SEC.	RR 8A 12.8	I 136 9.4	I 134 9.5	I 137 8.5	RR 8A 8.3	HR 8A 7.3	I *136 6.8	I 133 5.1	I 138 5.1	I 135 4.5
5.0 SEC.	BR 8A 12.8	I 134 10.9	I 136 10.9	BR 87 9.1	I 137 8.9	I *136 7.4	I 133 5.8	RR 8A 5.2	I 135 5.2	I 132 4.6
10.0 SEC.	I 134 12.4	I 136 11.9	RR 8A 11.8	BR 87 9.8	I 137 8.8	I *136 7.9	I 133 6.7	I 135 5.9	I 132 5.3	BR 86 3.5
20.0 SEC.	I 134 14.7	I 136 13.2	RR 8A 10.2	RR 8A 9.0	I *136 8.1	I 133 7.9	I 137 7.9	I 135 7.0	I 132 6.2	BR 86 3.6
50.0 SEC.	I 134 19.1	I 136 13.2	I 133 10.4	RR 87 9.2	I 135 9.1	I 132 8.1	I *136 6.9	I 137 4.4	HR 84 4.4	BR 85 3.9
60.0 SEC.	I 134 20.2	I 136 12.9	I 133 11.0	I 135 9.7	RR 87 8.6	I 132 8.6	I *136 6.3	BR 84 4.6	BR 85 3.9	I 137 3.5
100.0 SEC.	I 134 23.9	I 133 13.1	I 135 11.5	I 136 11.0	I 132 10.2	BR 87 6.3	BR 84 5.4	I *136 4.2	BR 85 4.0	I 131 2.4
3.3 MIN.	I 134 29.3	I 133 16.4	I 135 14.4	I 137 12.7	RR 84 6.6	I 136 6.0	BR 85 3.5	I 131 3.0	BR 87 2.3	HR 87 2.5
8.3 MIN.	I 134 32.9	I 133 19.6	I 135 17.1	I 132 14.9	HR 84 7.0	I 131 3.7	BR 85 1.2	BR 83 1.1	HR 87 1.1	I 136 0.6
16.7 MIN.	I 134 32.2	I 133 21.2	I 135 18.4	I 132 15.5	HR 84 6.4	I 131 4.0	BR 83 1.2	HR 83 1.3	HR 87 1.3	HR 88 0.2
33.3 MIN.	I 134 28.9	I 133 23.5	I 135 20.0	I 132 15.9	BR 84 5.0	I 131 4.4	BR 83 1.2	HR 83 1.3	HR 87 1.3	HR 88 0.1
60.0 MIN.	I 133 26.9	I 134 23.6	I 135 22.1	I 137 16.2	I 131 5.1	BR 84 3.2	HR 83 1.3	BR 83 1.3	HR 87 1.3	HR 88 0.1
1.4 HR.	I 133 29.6	I 135 23.6	I 134 19.3	I 132 16.0	I 131 5.7	BR 84 2.2	HR 83 1.3	BR 83 1.3	HR 87 1.3	HR 88 0.1
2.8 HR.	I 133 37.1	I 135 26.8	I 132 13.8	I 130 8.5	I 131 7.5	HR 84 2.2	HR 83 1.3	HR 83 1.3	HR 87 1.3	HR 88 0.1
5.6 HR.	I 133 44.4	I 135 24.3	I 131 9.7	HR 84 2.2	I 132 7.8	I 134 1.2	BR 83 1.3	HR 83 1.3	HR 87 1.3	HR 88 0.1
12.0 HR.	I 133 49.8	I 135 18.5	HR 84 2.2	I 131 13.2	I 132 1.5	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 87 1.3	HR 88 0.1
13.9 HR.	I 133 50.5	HR 84 2.2	I 131 13.2	I 132 1.5	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 87 1.3	HR 88 0.1
1.0 DAYS	I 133 52.5	I 131 19.9	HR 84 2.2	I 131 14.2	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 87 1.3	HR 88 0.1
1.2 DAYS	I 133 52.6	I 131 22.3	HR 84 2.2	I 131 13.5	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 87 1.3	HR 88 0.1
2.3 DAYS	I 133 43.8	I 131 42.0	HR 84 2.2	I 131 13.5	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 87 1.3	HR 88 0.1
4.0 DAYS	I 131 46.2	I 131 20.5	HR 84 2.2	I 131 13.5	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 87 1.3	HR 88 0.1
5.8 DAYS	I 131 78.2	HR 84 2.2	I 131 13.5	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 87 1.3	HR 88 0.1
10.0 DAYS	I 131 85.0	HR 84 2.2	I 131 13.5	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 87 1.3	HR 88 0.1
11.6 DAYS	I 131 85.9	HR 84 2.2	I 131 13.5	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 87 1.3	HR 88 0.1
23.1 DAYS	I 131 90.9	HR 84 2.2	I 131 13.5	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 87 1.3	HR 88 0.1
30.0 DAYS	I 131 93.1	HR 84 2.2	I 131 13.5	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 87 1.3	HR 88 0.1
57.0 DAYS	I 131 97.0	HR 84 2.2	I 131 13.5	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 87 1.3	HR 88 0.1
60.0 DAYS	I 131 98.1	HR 84 2.2	I 131 13.5	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 87 1.3	HR 88 0.1
115.7 DAYS	I 131 98.5	HR 84 2.2	I 131 13.5	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 87 1.3	HR 88 0.1
150.0 DAYS	I 131 94.8	HR 84 2.2	I 131 13.5	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 83 1.3	HR 87 1.3	HR 88 0.1
231.5 DAYS	SR 8A 39.7	HR 85 25.8	I 129 18.8	CS 137 11.1	Y 90 1.5	Y 91 1.5	I 131 1.5	CS 135 1.5	CE 141 1.5	I 131 0.0
1.0 YRS.	HR 85 30.2	I 129 29.3	CS 137 17.2	SR 8A 10.4	Y 90 2.6	SR 90 0.6	Y 91 0.5	CS 135 0.2	CE 141 0.0	I 131 0.0

Source 2 (water), 5000 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 134 21.7	I 132 10.4	I 135 10.1	I 136 7.4	I 137 7.3	BR 8A 5.2	I 13A 4.9	I 133 4.5	HR 89 4.2	I *136 4.2
1.0 SEC.	I 134 22.8	I 132 11.0	I 135 10.7	I 136 7.7	I 137 7.4	BR 8A 5.2	I 133 4.7	I 13A 4.6	I *136 4.4	I BR 87 4.3
2.0 SEC.	I 134 23.7	I 132 11.4	I 135 11.1	I 136 7.9	I 137 7.5	BR 8A 5.2	I 133 4.9	I *136 4.5	BR 87 4.4	I 138 4.3
5.0 SEC.	I 134 25.4	I 132 12.2	I 135 11.9	I 136 8.3	I 147 7.4	I 133 5.2	HR 8A 4.9	I *136 4.6	BR 87 4.6	BR 86 3.8
10.0 SEC.	I 134 27.3	I 132 13.1	I 135 12.8	I 136 8.5	I 137 6.9	I 133 5.6	BR 87 4.6	I *136 4.6	BR 8A 4.2	BR 86 3.8
20.0 SEC.	I 134 29.8	I 132 14.3	I 135 14.0	I 136 8.6	I 133 6.1	I 137 5.7	BR 87 4.5	I *136 4.3	BR 86 3.7	BR 88 3.0
50.0 SEC.	I 134 34.0	I 132 16.4	I 135 16.0	I 136 7.7	I 133 7.0	BR 87 3.5	I *136 3.2	BR 86 2.9	HR 84 2.9	I 137 2.8
40.0 SEC.	I 134 34.9	I 132 16.9	I 135 16.5	I 136 7.3	I 133 7.3	BR 87 3.2	BR 84 3.0	I *136 2.9	BR 86 2.6	I 137 2.2
100.0 SEC.	I 134 37.7	I 132 18.3	I 135 17.9	I 133 7.9	I 136 5.7	BR 84 3.2	I 131 2.1	HR 87 2.1	I *136 1.8	BR 86 1.7
3.3 MIN.	I 134 40.7	I 132 20.1	I 135 19.7	I 133 8.7	HR 84 3.4	I 136 2.7	I 131 2.4	BR 87 2.7	BR 86 2.5	I *136 1.5
6.3 MIN.	I 134 41.5	I 132 21.3	I 135 21.3	I 133 9.4	BR 84 3.3	I 131 2.6	I 136 2.8	BR 87 2.8	BR 86 2.7	I *136 1.5
16.7 MIN.	I 134 39.8	I 135 22.4	I 132 21.8	I 133 10.0	BR 84 2.9	I 131 2.8	XE 135 2.1	KR 87 2.0	HR 89 2.0	KR 88 2.0
33.3 MIN.	I 134 36.0	I 135 24.5	I 132 22.6	I 133 11.2	I 131 3.1	BR 84 2.3	XE 135 2.2	KR 87 2.0	KR 88 2.0	CS 138 2.0
60.0 MIN.	I 134 30.0	I 135 27.7	I 132 23.4	I 133 13.1	I 131 3.7	BR 84 1.5	XF 135 2.4	KR 87 2.0	KR 88 2.0	CS 138 2.0
1.4 HR.	I 135 30.4	I 134 25.2	I 132 23.7	I 133 14.8	I 131 4.2	BR 84 1.1	XF 135 2.6	KR 87 2.0	KR 88 2.0	XE 133 2.0
2.8 HR.	I 135 37.6	I 132 22.3	I 133 20.2	I 134 12.1	I 131 6.0	XE 135 1.5	BR 84 2.2	XE 133 2.0	KR 87 2.0	KR 88 2.0
5.6 HR.	I 135 42.7	I 133 28.0	I 132 14.6	I 131 9.0	XE 135 3.5	I 134 2.0	XE 133 2.1	KR 84 2.0	HR 84 2.0	KR 85 2.0
12.0 HR.	I 133 37.9	I 135 34.4	I 131 14.7	XE 135 7.1	I 132 3.5	XF 133 2.3	I 134 2.0	KR 88 2.0	KR 85 2.0	BR 82 2.0
13.9 HR.	I 133 39.8	I 135 33.4	I 131 16.4	XE 135 7.8	I 132 2.2	XE 133 2.4	I 134 2.0	KR 85 2.0	KR 88 2.0	BR 82 2.0
1.0 DAYS	I 133 45.9	I 131 25.6	I 135 18.6	XF 135 8.8	XF 133 1.0	I 132 2.2	BR 82 2.0	I 130 2.0	KR 85 2.0	KR 88 2.0
1.2 DAYS	I 131 46.8	I 131 29.0	I 135 14.4	XE 135 8.5	XF 133 1.3	I 132 2.1	HR 82 2.0	I 130 2.0	KR 85 2.0	KR 88 2.0
2.3 DAYS	I 131 53.9	I 133 38.0	XE 133 3.4	XE 135 3.1	I 135 1.6	BR 82 2.0	I 130 2.0	KR 85 2.0	I 132 2.0	LA 140 2.0
4.0 DAYS	I 131 77.6	I 133 16.5	XF 133 5.6	XE 135 3.3	I 135 1.6	BR 82 2.0	I 130 2.0	LA 140 2.0	BA 140 2.0	SR 91 2.0
5.8 DAYS	I 131 88.3	XF 133 6.5	I 133 5.2	XE 135 3.0	RR 82 2.0	I 135 1.6	LA 140 2.0	I 130 2.0	HA 140 2.0	I 129 2.0
10.0 DAYS	I 131 93.6	XF 133 6.1	I 133 3.3	RR 82 2.0	LA 140 2.0	XE 135 2.0	BA 140 2.0	I 129 2.0	I 130 2.0	KR 85 2.0
11.6 DAYS	I 131 94.1	XF 133 5.8	I 133 3.1	BR 82 2.0	LA 140 2.0	XE 135 2.0	I 129 2.0	KR 85 2.0	CE 141 2.0	Y 91 2.0
23.1 DAYS	I 131 96.3	XF 133 3.7	LA 140 2.0	I 133 2.0	RA 140 2.0	BR 82 2.0	I 129 2.0	KR 85 2.0	CE 141 2.0	Y 91 2.0
30.0 DAYS	I 131 97.3	XE 133 2.7	LA 140 2.0	HA 140 2.0	I 129 2.0	BR 85 2.0	BR 82 2.0	CF 141 2.0	I 133 2.0	Y 91 2.0
47.9 DAYS	I 131 99.2	XF 133 2.7	LA 140 2.0	BA 140 2.0	I 129 2.0	KR 85 2.0	CE 141 2.0	Y 91 2.0	Y 90 2.0	CS 135 2.0
60.0 DAYS	I 131 99.3	XF 133 2.7	LA 140 2.0	BA 140 2.0	I 129 2.0	KR 85 2.0	CE 141 2.0	Y 91 2.0	Y 90 2.0	CS 135 2.0
115.7 DAYS	I 131 99.9	XF 133 2.1	I 129 2.0	LA 140 2.0	KR 85 2.0	RA 140 2.0	Y 91 2.0	CF 141 2.0	HA 140 2.0	CS 135 2.0
150.0 DAYS	I 131 99.9	I 129 2.1	XF 133 2.0	KR 85 2.0	LA 140 2.0	Y 91 2.0	CF 141 2.0	HA 140 2.0	Y 90 2.0	CS 135 2.0
231.5 DAYS	I 131 96.3	I 129 36.3	KR 85 7.1	Y 91 2.0	CE 141 2.0	LA 140 2.0	Y 90 2.0	CS 135 2.0	BA 140 2.0	NR 95 2.0
1.0 YRS.	I 129 83.9	KR 85 16.0	Y 91 2.1	Y 90 2.0	CS 135 2.0	CE 141 2.0	I 131 2.0	NR 95 2.0	ZR 95 2.0	LA 140 2.0

Source 2 (water), 500 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1		2		3		4		5		6		7		8		9		10																	
1.0 SEC.	BR	AR	AR	12.1	I	136	AR	BR	AR	5.5	I	134	8.2	I	137	7.7	BR	AR	7.1	I	*136	6.0	I	138	5.4	HR	AR	86	4.6							
1.0 SEC.	HR	AR	AR	12.6	I	136	9.2	I	134	9.0	I	137	8.2	BR	AR	8.0	HR	AR	7.9	I	*136	6.5	I	138	5.0	I	133	4.8								
2.0 SEC.	BR	AR	AR	12.8	I	136	9.8	I	134	9.5	I	137	8.5	AR	AR	8.3	HR	AR	7.3	I	*136	6.8	I	133	5.1	I	138	4.5								
5.0 SEC.	BR	AR	AR	12.8	I	134	10.9	I	136	10.9	BR	AR	8.7	9.1	I	137	8.9	I	*136	7.4	I	133	5.8	BR	AR	89	5.2	I	132	4.6						
10.0 SEC.	I	134	12.4	I	136	11.9	AR	AR	AR	11.8	AR	AR	8.7	9.8	I	137	8.8	I	*136	7.9	I	133	6.7	I	135	5.9	I	132	3.5							
20.0 SEC.	I	134	14.7	I	136	13.0	AR	AR	AR	10.2	BR	AR	8.8	9.0	I	*136	8.1	I	133	7.9	I	137	7.9	I	135	7.0	I	132	6.3							
50.0 SEC.	I	134	19.1	I	136	13.2	I	133	10.4	AR	AR	8.7	9.2	I	135	9.1	I	132	8.1	I	*136	6.9	I	137	4.4	HR	AR	84	3.9							
60.0 SEC.	I	134	20.2	I	136	12.9	I	133	11.0	I	135	9.7	AR	AR	8.7	8.6	I	132	8.6	I	*136	6.3	HR	AR	84	4.4	HR	AR	85	3.9						
100.0 SEC.	I	134	23.9	I	133	13.1	I	135	11.5	I	136	11.0	I	137	10.2	BR	AR	6.3	BR	AR	5.4	I	*136	4.2	HR	AR	85	3.9	I	131	3.5					
3.3 MIN.	I	134	29.3	I	133	16.4	I	135	14.4	I	132	12.7	HR	AR	8.4	6.6	I	136	6.0	HR	AR	85	3.3	I	131	3.0	AR	AR	87	2.4						
8.3 MIN.	I	134	32.9	I	133	19.6	I	135	17.1	I	132	14.9	BR	AR	8.4	7.0	I	131	3.7	BR	AR	85	1.2	BR	AR	83	1.1	HR	AR	87	2.3					
16.7 MIN.	I	134	32.2	I	133	21.2	I	135	18.4	I	132	15.5	BR	AR	8.4	6.4	I	131	4.0	BR	AR	83	1.2	HR	AR	85	1.2	HR	AR	87	2.3					
33.3 MIN.	I	134	28.9	I	133	23.5	I	135	20.0	I	132	15.9	AR	AR	8.4	5.0	I	131	4.4	HR	AR	83	1.2	HR	AR	85	1.2	HR	AR	87	2.3					
60.0 MIN.	I	133	26.9	I	134	23.6	I	135	22.1	I	132	16.2	I	131	5.1	HR	AR	8.4	3.2	HR	AR	83	1.3	HR	AR	85	1.3	HR	AR	87	2.3					
1.4 HR.	I	133	29.6	I	135	23.6	I	134	19.3	I	132	16.0	I	131	5.7	HR	AR	8.4	2.2	HR	AR	83	1.3	HR	AR	85	1.3	HR	AR	87	2.3					
2.8 HR.	I	133	37.1	I	135	26.8	I	132	13.8	I	134	8.5	I	131	7.5	HR	AR	8.4	2.2	HR	AR	83	1.3	HR	AR	85	1.3	HR	AR	87	2.3					
5.6 HR.	I	133	44.4	I	135	26.3	I	131	9.7	HR	AR	8.4	I	132	7.8	I	134	1.2	HR	AR	83	1.7	HR	AR	85	1.7	HR	AR	87	2.3						
12.0 HR.	I	133	49.8	I	135	18.5	HR	AR	8.4	I	131	13.2	I	132	1.5	HR	AR	8.4	1.2	HR	AR	83	1.7	HR	AR	85	1.7	HR	AR	87	2.3					
13.0 HR.	I	133	50.5	HR	AR	16.8	I	135	16.4	I	131	14.2	HR	AR	8.4	1.0	I	132	1.2	HR	AR	83	1.7	HR	AR	85	1.7	HR	AR	87	2.3					
1.0 DAYS	I	133	52.6	I	131	19.9	HR	AR	8.4	I	135	8.2	HR	AR	8.4	2.1	I	132	1.2	HR	AR	83	1.7	HR	AR	85	1.7	HR	AR	87	2.3					
1.2 DAYS	I	133	52.6	I	131	22.3	HR	AR	8.4	I	135	6.3	HR	AR	8.4	2.6	I	132	1.2	HR	AR	83	1.7	HR	AR	85	1.7	HR	AR	87	2.3					
2.3 DAYS	I	133	47.8	I	131	42.4	HR	AR	8.4	I	135	6.0	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7			
4.0 DAYS	I	131	66.2	I	133	20.5	HR	AR	8.4	I	135	6.0	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7			
5.8 DAYS	I	131	78.2	HR	AR	15.0	I	133	6.8	HR	AR	8.4	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7			
10.0 DAYS	I	131	85.0	HR	AR	14.6	I	133	4.4	HR	AR	8.4	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7			
11.6 DAYS	I	131	85.0	HR	AR	14.0	I	133	4.4	HR	AR	8.4	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7			
23.1 DAYS	I	131	90.9	HR	AR	9.1	HR	AR	8.4	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7
30.0 DAYS	I	131	93.1	HR	AR	6.9	HR	AR	8.4	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7
57.9 DAYS	I	131	97.9	HR	AR	2.1	HR	AR	8.4	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7
60.0 DAYS	I	131	98.1	HR	AR	1.9	HR	AR	8.4	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7
115.7 DAYS	I	131	98.6	HR	AR	1.0	HR	AR	8.4	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7
150.0 DAYS	I	131	98.7	HR	AR	10.3	HR	AR	8.4	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7
231.5 DAYS	SP	AR	47.8	HR	AR	31.0	HR	AR	8.4	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7
1.0 YRS.	HR	AR	53.3	HR	AR	23.4	HR	AR	8.4	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7	BR	AR	8.0	I	135	7.7

Source 2 (water), 500 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10	
0 SEC.	I 134 21,7	I 132 10,4	I 135 10,1	I 136 7,4	I 137 7,3	BR 88	5,2 I 138	4,9 I 133	4,5 BR 89	4,2 I 136	4,2
1,0 SEC.	I 134 22,8	I 132 11,0	I 135 10,7	I 136 7,7	I 137 7,4	BR 88	5,2 I 133	4,7 I 138	4,6 I 136	4,4 BR 87	4,3
2,0 SEC.	I 134 23,7	I 132 11,4	I 135 11,1	I 136 7,9	I 137 7,5	BR 88	5,2 I 133	4,9 I 136	4,5 BR 87	4,4 I 138	4,3
5,0 SEC.	I 134 25,4	I 132 12,2	I 135 11,9	I 136 8,3	I 137 7,9	I 133	5,2 BR 88	4,9 I 136	4,6 BR 87	4,6 BR 86	3,6
10,0 SEC.	I 134 27,3	I 132 13,1	I 135 12,8	I 136 8,5	I 137 8,9	I 133	5,6 BR 87	4,6 I 136	4,6 BR 88	4,2 BR 86	3,8
20,0 SFC.	I 134 29,8	I 132 14,3	I 135 14,0	I 136 8,6	I 133	6,1 I 137	5,7 BR 87	4,5 I 136	4,3 BR 86	3,7 BR 88	3,0
50,0 SFC.	I 134 34,0	I 132 16,4	I 135 16,0	I 136 7,7	I 133	7,0 BR 87	3,5 I 136	3,2 BR 86	2,9 BR 88	2,9 I 137	2,8
60,0 SEC.	I 134 34,9	I 132 16,9	I 135 16,5	I 136 7,3	I 133	7,3 BR 87	3,2 BR 84	3,0 I 136	2,9 BR 86	2,6 I 137	2,2
100,0 SEC.	I 134 37,7	I 132 18,3	I 135 17,9	I 133 7,9	I 136	5,7 BR 84	3,2 I 131	2,1 BR 87	2,1 I 136	1,8 BR 86	1,7
3,3 MIN.	I 134 40,7	I 132 20,1	I 135 19,7	I 133 8,7	RR 84	3,4 I 136	2,7 I 131	2,4 BR 87	1,7 BR 86	1,5 I 136	1,5
8,3 MIN.	I 134 41,5	I 132 21,3	I 135 21,3	I 133 9,4	RR 84	3,3 I 131	2,6 I 136	2,2 BR 84	1,0 KR 87	0,0 XE 137	0,0
16,7 MIN.	I 134 39,8	I 135 22,4	I 132 21,8	I 133 10,0	RR 84	2,9 I 131	2,8 XE 135	1,1 KR 81	0,0 RR 89	0,0 KR 88	0,0
33,3 MIN.	I 134 36,0	I 135 24,5	I 132 22,6	I 133 11,2	I 131	3,1 BR 84	2,3 XE 135	1,2 KR 87	0,0 KR 88	0,0 CS 138	0,0
60,0 MIN.	I 134 30,0	I 135 27,7	I 132 23,4	I 133 13,1	I 131	3,7 BR 84	1,5 XE 135	1,4 KR 87	0,0 KR 88	0,0 CS 138	0,0
1,4 HR.	I 135 30,4	I 134 25,2	I 132 23,7	I 133 14,8	I 131	4,2 BR 84	1,1 XF 135	1,6 KR 87	0,0 KR 88	0,0 XE 133	0,0
2,8 HR.	I 135 37,6	I 132 22,3	I 133 20,2	I 134 12,1	I 131	6,0 XF 135	1,5 BR 84	1,2 XE 133	0,0 KR 87	0,0 KR 88	0,0
5,6 HR.	I 135 42,7	I 133 28,0	I 132 14,6	I 131 9,0	XE 135	3,5 I 134	2,0 XE 133	1,1 KR 88	0,0 BR 84	0,0 KR 85	0,0
12,0 HR.	I 133 37,9	I 135 36,4	I 131 14,7	XF 135	7,1 I 132	3,5 XE 133	3 I 134	0,0 KR 88	0,0 KR 85	0,0 BR 82	0,0
13,9 HR.	I 133 39,8	I 135 33,6	I 131 16,4	XE 135	7,8 I 132	2,2 XE 133	4 I 134	0,0 KR 85	0,0 KR 88	0,0 BR 82	0,0
1,0 DAYS.	I 133 45,9	I 131 25,5	I 135 18,6	XF 135	8,8 XF 133	1,0 I 132	2,2 BR 82	0,0 I 130	0,0 KR 85	0,0 KR 88	0,0
1,2 DAYS.	I 133 46,8	I 131 29,0	I 135 14,4	XF 135	8,5 XE 133	1,3 I 132	1,1 BR 82	0,0 I 130	0,0 KR 85	0,0 KR 88	0,0
2,3 DAYS.	I 131 53,4	I 133 38,0	XE 135	3,4 XE 135	3,1 I 135	1,6 BR 82	0,0 I 130	0,0 KR 85	0,0 I 132	0,0 LA 140	0,0
4,0 DAYS.	I 131 77,6	I 133 16,5	XE 135	5,6 XE 135	3 I 135	0,0 BR 82	0,0 I 130	0,0 LA 140	0,0 BA 140	0,0 SR 91	0,0
5,8 DAYS.	I 131 88,3	XF 133	6,5 I 133	5,2 XF 135	0,0 BR 82	0,0 I 135	0,0 LA 140	0,0 I 130	0,0 BA 140	0,0 I 129	0,0
10,0 DAYS.	I 131 93,6	XF 133	6,1 I 133	3 RR 82	0,0 LA 140	0,0 XE 135	0,0 BA 140	0,0 I 130	0,0 I 129	0,0 KR 85	0,0
11,6 DAYS.	I 131 94,1	XE 133	5,8 I 133	1 RR 82	0,0 LA 140	0,0 BA 140	0,0 XE 135	0,0 I 129	0,0 KR 85	0,0 CE 141	0,0
23,1 DAYS.	I 131 96,3	XF 133	3,7 LA 140	0,0 I 133	0,0 BA 140	0,0 BR 82	0,0 I 129	0,0 KR 85	0,0 CE 141	0,0 Y 91	0,0
30,0 DAYS.	I 131 97,3	XF 133	2,7 LA 140	0,0 BA 140	0,0 I 129	0,0 KR 85	0,0 BR 82	0,0 CE 141	0,0 I 133	0,0 Y 91	0,0
37,9 DAYS.	I 131 99,2	XF 133	1,8 LA 140	0,0 BA 140	0,0 I 129	0,0 KR 85	0,0 CE 141	0,0 Y 91	0,0 Y 90	0,0 CS 135	0,0
40,0 DAYS.	I 131 99,3	XF 133	1,7 LA 140	0,0 BA 140	0,0 I 129	0,0 KR 85	0,0 CE 141	0,0 Y 91	0,0 Y 90	0,0 CS 135	0,0
115,7 DAYS.	I 131 99,9	XF 133	1 LA 140	0,0 I 129	0,0 KR 85	0,0 BA 140	0,0 Y 91	0,0 CE 141	0,0 BA 140	0,0 Y 90	0,0
150,0 DAYS.	I 131 99,9	I 129	0 XE 133	0,0 KR 85	0,0 LA 140	0,0 Y 91	0,0 CE 141	0,0 BA 140	0,0 Y 90	0,0 CS 135	0,0
231,5 DAYS.	I 131 72,5	I 129 18,0	KR 85	9,1 Y 91	3 CE 141	1 LA 140	0,0 Y 90	0,0 CS 135	0,0 BA 140	0,0 NB 95	0,0
1,0 YRS.	I 129 66,7	KR 85	33,0 Y 91	2 Y 90	1 CS 135	0 CE 141	0 I 131	0 NB 95	0 ZR 95	0 LA 140	0,0

Source 2 (water), 200 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO RETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SFC	RR 88 12.1	I 136 8.6	RR 89 8.5	I 134 8.2	I 137 7.7	BR 87 7.3	BR 90 7.1	I *136 6.0	I 138 5.4	BR* 86 4.6
1.0 SFC	RR 88 12.6	I 136 9.2	I 134 9.0	I 137 8.2	BR 89 8.0	BR 87 7.9	I *136 6.5	I 138 5.3	BR 90 5.0	I 133 4.8
2.0 SFC	BR 88 12.8	I 136 9.8	I 134 9.5	I 137 8.5	RR 87 8.3	HR 89 7.3	I *136 6.8	I 133 5.1	I 138 5.1	I 135 4.5
3.0 SFC	BR 88 12.8	I 134 10.9	I 136 10.9	RR 87 9.1	I 137 8.9	I *136 7.4	I 133 5.8	BR 89 5.2	I 135 5.2	I 132 4.6
10.0 SFC	I 134 12.4	I 136 11.9	RR 88 11.8	RR 87 9.8	I 137 8.8	I *136 7.9	I 133 6.7	I 135 5.9	I 132 5.3	BR 86 3.5
20.0 SEC	I 134 14.7	I 136 13.0	RR 87 10.2	BR 88 9.0	I *136 8.1	I 133 7.9	I 137 7.9	I 135 7.0	I 132 6.2	BR 86 3.6
50.0 SEC	I 134 19.1	I 136 13.2	I 133 10.4	RR 87 9.2	I 135 9.1	I 132 8.1	I *136 6.9	I 137 4.4	BR 84 4.4	BR 85 3.9
60.0 SFC	I 134 20.2	I 136 12.9	I 133 11.0	I 135 9.7	HR 87 8.6	I 132 8.6	I *136 6.3	BR 84 4.6	BR 85 3.9	I 137 3.5
100.0 SEC	I 134 23.9	I 133 13.1	I 135 11.5	I 136 11.0	I 132 10.2	BR 87 6.3	BR 84 5.4	I *136 4.2	BR 85 4.0	I 131 2.4
3.3 MIN	I 134 29.3	I 133 16.4	I 135 14.4	I 132 12.7	BR 84 6.6	I 136 6.0	BR 85 3.3	I 131 3.0	BR 87 2.3	XE 137 2.3
6.3 MIN	I 134 32.9	I 133 19.6	I 135 17.1	I 132 14.9	RR 84 7.0	I 131 3.7	BR 85 1.2	RR 83 1.1	XE 137 1.1	I 136 .6
16.7 MIN	I 134 32.2	I 133 21.2	I 135 18.4	I 132 15.5	RR 84 6.4	I 131 4.0	BR 83 1.2	XE 135 .3	XE 137 .3	KR 87 .2
33.3 MIN	I 134 28.9	I 133 23.5	I 135 20.0	I 132 15.9	RR 84 5.0	I 131 4.4	HR 83 1.2	XE 135 .6	KR 87 .2	RB 88 .0
60.0 MIN	I 133 26.9	I 134 23.6	I 135 22.1	I 132 16.2	I 131 5.1	BR 84 3.2	XE 135 1.3	HR 83 1.3	KR 87 .2	RB 88 .1
1.4 HR	I 133 29.6	I 135 23.6	I 134 19.3	I 132 16.0	I 131 5.7	BR 84 2.2	XE 135 1.9	BR 83 1.3	KR 87 .2	RR 88 .1
2.8 HR	I 133 37.1	I 135 26.8	I 132 13.8	I 134 6.5	I 131 7.5	XE 135 4.5	BR 83 1.1	HR 84 .5	XE 135 .1	KR 87 .1
5.6 HR	I 133 44.4	I 135 26.3	I 131 9.7	XE 135 9.4	I 132 7.8	I 134 1.2	BR 83 .7	XE 133 .3	RB 88 .0	KR 87 .0
12.0 HR	I 133 49.4	I 135 18.5	XE 135 15.9	I 131 13.2	I 132 1.5	XE 133 .9	BR 83 .1	KR* 85 .0	RB 88 .0	I 134 .0
13.3 HR	I 133 50.5	XE 135 16.8	I 135 16.4	I 131 14.2	XE 133 1.0	I 132 .9	BR 83 .1	KR* 85 .0	RB 88 .0	I 134 .0
1.0 DAYS	I 133 52.5	I 131 19.9	XE 135 17.2	I 135 8.2	XE 133 2.1	I 132 .1	BR 83 .0	KR* 85 .0	RB 88 .0	I 130 .0
1.2 DAYS	I 133 52.6	I 131 22.3	XE 135 16.2	I 135 6.3	XE 133 2.6	I 132 .0	BR 83 .0	KR* 85 .0	I 130 .0	HR 82 .0
2.3 DAYS	I 133 43.4	I 131 42.4	XE 133 7.1	XE 135 6.0	I 135 .7	BR 82 .0	I 130 .0	SR 89 .0	KR* 85 .0	I 132 .0
4.0 DAYS	I 131 66.2	I 133 20.5	XE 133 12.7	XE 135 .6	I 135 .0	HR 82 .0	SR 89 .0	I 130 .0	LA 140 .0	BA 140 .0
5.8 DAYS	I 131 78.2	XE 133 15.0	I 133 6.8	XE 135 .0	HR 82 .0	I 135 .0	SR 89 .0	LA 140 .0	HA 140 .0	KR 85 .0
10.0 DAYS	I 131 85.0	XE 133 14.6	I 133 .4	SR 89 .0	HR 82 .0	XE 135 .0	LA 140 .0	KR 85 .0	BA 140 .0	Y 91 .0
11.6 DAYS	I 131 85.9	XE 133 14.0	I 133 .1	SR 89 .0	BR 82 .0	LA 140 .0	KR 85 .0	Y 91 .0	BA 140 .0	CS 137 .0
23.1 DAYS	I 131 90.9	XE 133 .9	SR 89 .0	KR 85 .0	LA 140 .0	I 133 .0	Y 91 .0	CS 137 .0	BA 140 .0	Y 90 .0
30.0 DAYS	I 131 93.1	XE 133 6.9	SR 89 .0	KR 85 .0	Y 91 .0	LA 140 .0	CS 137 .0	BA 140 .0	Y 90 .0	I 129 .0
57.9 DAYS	I 131 97.9	XE 133 2.1	SR 89 .0	KR 85 .0	Y 91 .0	CS 137 .0	LA 140 .0	Y 90 .0	HA 140 .0	I 129 .0
60.0 DAYS	I 131 98.1	XE 133 1.9	SR 89 .0	KR 85 .0	Y 91 .0	CS 137 .0	LA 140 .0	Y 90 .0	HA 140 .0	I 129 .0
115.7 DAYS	I 131 98.6	SR 89 1.0	XE 133 .2	KR 85 .1	CS 137 .1	Y 91 .0	Y 90 .0	I 129 .0	SR 90 .0	LA 140 .0
150.0 DAYS	I 131 85.4	SR 89 10.3	HR 85 2.3	CS 137 1.0	Y 91 .4	Y 90 .2	I 129 .1	SR 90 .0	XE 133 .0	CS 135 .0
231.5 DAYS	SR 89 48.5	KR 85 31.4	CS 137 13.6	Y 90 2.1	Y 91 1.9	I 131 1.1	I 129 .7	SR 90 .4	CS 135 .1	CF 141 .0
1.0 YRS.	KR 85 54.6	CS 137 24.0	SR 89 14.5	Y 90 3.7	I 129 1.5	SR 90 .8	Y 91 .7	CS 135 .2	CF 141 .0	I 131 .0

Source 2 (water), 200 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LNCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	I 134 21.7	I 132 10.4	I 135 10.1	I 136 7.4	I 137 7.3	HR 8A 5.2	I 138 4.9	I 133 4.5	BR 89 4.2	I *136 4.2
1.0 SEC.	I 134 22.8	I 132 11.0	I 135 10.7	I 136 7.7	I 137 7.4	BR 8A 5.2	I 133 4.7	I 138 4.6	I *136 4.4	BR 87 4.3
2.0 SEC.	I 134 23.7	I 132 11.4	I 135 11.1	I 136 7.9	I 137 7.5	BR 8A 5.2	I 133 4.9	I *136 4.5	BR 87 4.4	I 138 4.3
5.0 SEC.	I 134 25.4	I 132 12.2	I 135 11.9	I 136 8.3	I 137 7.4	I 133 5.2	BR 8A 4.9	I *136 4.6	BR 87 4.6	BR 86 3.8
10.0 SEC.	I 134 27.3	I 132 13.1	I 135 12.8	I 136 8.5	I 137 6.9	I 133 5.6	BR 87 4.6	I *136 4.6	BR 8A 4.2	BR 86 3.8
20.0 SEC.	I 134 29.8	I 132 14.3	I 135 14.0	I 136 8.6	I 133 6.1	I 137 5.7	BR 87 4.5	I *136 4.3	BR 86 3.7	BR 88 3.0
50.0 SEC.	I 134 34.0	I 132 16.4	I 135 16.0	I 136 7.7	I 133 7.0	RR 87 3.5	I *136 3.2	BR 86 2.9	BR 84 2.9	I 137 2.8
100.0 SEC.	I 134 34.9	I 132 16.9	I 135 16.5	I 136 7.3	I 133 7.3	BR 87 3.2	HR 84 3.0	I *136 2.9	HR 86 2.6	I 137 2.2
3.3 MIN.	I 134 37.7	I 132 18.3	I 135 17.9	I 133 7.9	I 136 5.7	RR 84 3.2	I 131 2.1	RR 87 2.1	I *136 1.8	BR 86 1.7
8.3 MIN.	I 134 40.7	I 132 20.1	I 135 19.7	I 133 8.7	HR 84 3.4	I 136 2.7	I 131 2.4	HR 87 2.7	HR 86 2.5	I *136 1.5
16.7 MIN.	I 134 41.5	I 132 21.3	I 135 21.3	I 133 9.4	BR 84 3.3	I 131 2.6	I 136 2.2	BR 84 2.0	KR 87 2.0	XE 137 2.0
33.3 MIN.	I 134 39.8	I 135 22.4	I 132 21.8	I 133 10.0	BR 84 2.9	I 131 2.8	XE 135 2.1	KR 87 2.1	RR 89 2.0	KR 88 2.0
60.0 MIN.	I 134 36.0	I 135 24.5	I 132 22.6	I 133 11.2	I 131 3.1	BR 84 2.3	XE 135 2.2	KR 87 2.2	KR 88 2.0	CS 138 2.0
1.4 HR.	I 134 30.0	I 135 27.7	I 132 23.4	I 133 13.1	I 131 3.7	BR 84 1.5	XE 135 2.4	KR 87 2.4	KR 88 2.0	CS 138 2.0
2.8 HR.	I 135 30.4	I 134 25.2	I 132 23.7	I 133 14.8	I 131 4.2	BR 84 1.1	XE 135 2.6	KR 87 2.6	KR 88 2.0	XE 133 2.0
5.6 HR.	I 135 37.6	I 132 22.3	I 133 20.2	I 134 12.0	I 131 6.0	XE 135 1.5	BR 84 2.0	XE 133 2.1	KR 87 2.0	BR 84 2.0
12.0 HR.	I 135 42.7	I 133 28.0	I 132 14.6	I 131 9.0	XF 135 3.5	I 134 2.0	XE 133 2.0	KR 88 2.0	BR 84 2.0	KR 85 2.0
13.9 HR.	I 133 39.8	I 135 36.4	I 131 14.7	XE 135 7.1	I 132 3.5	XE 133 3.1	I 134 2.0	KR 88 2.0	I 130 2.0	KR 85 2.0
1.0 DAYS	I 133 45.9	I 131 25.5	I 135 18.6	XE 135 8.8	XE 133 1.0	I 132 2.2	XE 133 2.1	I 129 2.0	BR 82 2.0	KR 85 2.0
1.2 DAYS	I 133 46.7	I 131 29.0	I 135 14.4	XF 135 8.5	XE 133 1.3	I 132 2.1	I 129 2.0	HR 82 2.0	I 130 2.0	KR 85 2.0
2.3 DAYS	I 131 53.9	I 133 38.0	XE 133 3.4	XE 135 3.1	I 135 1.6	I 129 2.0	BR 82 2.0	I 130 2.0	KR 85 2.0	I 132 2.0
4.0 DAYS	I 131 77.5	I 133 16.4	XE 133 5.6	XE 135 3.3	I 135 0.3	I 129 2.0	BR 82 2.0	I 130 2.0	LA 140 2.0	BA 140 2.0
5.8 DAYS	I 131 88.2	XE 133 6.5	I 133 5.2	I 129 2.0	XE 135 0.3	BR 82 2.0	I 130 2.0	I 130 2.0	LA 140 2.0	BA 140 2.0
10.0 DAYS	I 131 93.5	XF 133 6.1	I 133 3.3	I 129 2.0	HR 82 2.0	LA 140 2.0	XE 135 2.0	BA 140 2.0	I 130 2.0	KR 85 2.0
11.6 DAYS	I 131 94.0	XE 133 5.8	I 133 1.1	I 129 2.0	HR 82 2.0	LA 140 2.0	BA 140 2.0	XE 135 2.0	KR 85 2.0	CE 141 2.0
23.1 DAYS	I 131 96.1	XF 133 3.7	I 129 2.2	LA 140 2.0	I 133 2.0	BA 140 2.0	BR 82 2.0	CE 141 2.0	CE 141 2.0	Y 91 2.0
30.0 DAYS	I 131 96.9	XF 133 2.7	I 129 2.4	LA 140 2.0	BA 140 2.0	KR 85 2.0	BR 82 2.0	CE 141 2.0	I 133 2.0	Y 91 2.0
57.9 DAYS	I 131 94.7	I 129 4.6	XE 133 2.8	LA 140 2.0	BA 140 2.0	KR 85 2.0	CE 141 2.0	Y 91 2.0	Y 90 2.0	CS 135 2.0
60.0 DAYS	I 131 93.9	I 129 5.4	XE 133 2.7	LA 140 2.0	BA 140 2.0	KR 85 2.0	CE 141 2.0	Y 91 2.0	Y 90 2.0	CS 135 2.0
115.7 DAYS	I 129 87.6	I 131 12.4	XE 133 2.0	LA 140 2.0	KR 85 2.0	BA 140 2.0	Y 91 2.0	CF 141 2.0	BA 140 2.0	Y 90 2.0
150.0 DAYS	I 129 99.3	I 131 7.7	XE 133 2.0	KR 85 2.0	LA 140 2.0	Y 91 2.0	CF 141 2.0	BA 140 2.0	Y 90 2.0	CS 135 2.0
231.5 DAYS	I 129 100.0	I 131 0.0	KR 85 2.0	Y 91 2.0	CF 141 2.0	LA 140 2.0	Y 90 2.0	CS 135 2.0	HA 140 2.0	NB 95 2.0
1.0 YRS.	I 129 100.0	KR 85 2.0	Y 91 2.0	Y 90 2.0	CS 135 2.0	CE 141 2.0	I 131 2.0	NB 95 2.0	ZR 95 2.0	LA 140 2.0

Source 3 (100% Halogens), Equilibrium, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	BR 8A 12.1	I 136 8.6	HR 89 8.5	I 134 8.2	I 137 7.7	BH 87 7.3	BH 90 7.1	I *136 6.0	I 138 5.4	HR 86 4.0
1.0 SEC.	HR 8A 12.6	I 136 9.2	I 134 9.0	I 137 8.2	HR 89 8.0	BR 87 7.9	I *136 6.5	I 134 5.3	BR 90 5.0	I 133 4.8
2.0 SEC.	BR 8A 12.8	I 136 9.8	I 134 9.5	I 137 8.5	HR 87 8.3	BR 89 7.3	I *136 6.8	I 133 5.1	I 138 5.1	I 135 4.5
5.0 SEC.	HR 8A 12.8	I 134 10.9	I 136 10.9	BR 87 9.1	I 137 8.9	I *136 7.4	I 133 5.8	HR 89 5.2	I 135 5.2	I 132 4.6
10.0 SEC.	I 134 12.4	I 136 11.9	HR 88 11.8	HR 87 9.8	I 137 8.8	I *136 7.9	I 133 6.7	I 135 5.9	I 132 5.3	BR 86 3.5
20.0 SEC.	I 134 14.7	I 136 13.0	BR 87 10.2	HR 88 9.0	I *136 8.1	I 133 7.9	I 137 7.9	I 135 7.0	I 132 6.2	BR 86 3.6
50.0 SEC.	I 134 19.1	I 136 13.2	I 133 10.3	HR 87 9.2	I 135 9.1	I 132 8.1	I *136 6.9	I 137 4.4	HR 84 4.4	HR 85 3.9
40.0 SEC.	I 134 20.2	I 136 12.9	I 133 11.0	I 135 9.7	BR 87 8.6	I 132 8.6	I *136 6.3	HR 84 4.6	BR 85 3.9	I 137 3.5
100.0 SEC.	I 134 23.9	I 133 13.1	I 135 11.5	I 136 11.0	I 132 10.2	BR 87 6.3	HR 84 5.4	I *136 4.2	BR 85 4.0	I 131 2.4
3.5 MIN.	I 134 29.3	I 133 16.4	I 135 14.4	I 132 12.7	HR 84 6.6	I 136 6.0	HR 85 3.3	I 131 3.0	BR 87 2.3	XE 137 2.3
8.3 MIN.	I 134 32.9	I 133 19.6	I 135 17.1	I 132 14.8	HR 84 7.0	I 131 3.7	BR 85 1.2	HR 83 1.1	XE 137 1.1	I 136 .6
16.7 MIN.	I 134 32.2	I 133 21.2	I 135 18.4	I 132 15.5	HR 84 6.4	I 131 4.0	HR 83 1.2	XE 135 .3	XE 137 .3	KR 87 .2
33.3 MIN.	I 134 28.9	I 133 23.5	I 135 20.0	I 132 15.9	HR 84 5.0	I 131 4.4	BR 83 1.2	XE 135 .6	KR 87 .2	HR 88 .0
60.0 MIN.	I 133 26.9	I 134 23.6	I 135 22.1	I 132 16.2	I 131 5.7	HR 84 2.2	XE 135 1.9	HR 83 1.3	KR 87 .2	HR 88 .1
1.4 HR.	I 133 29.6	I 135 23.6	I 135 22.1	I 132 16.2	I 131 5.1	HR 84 3.2	XE 135 1.3	HR 83 1.1	KR 87 .2	HR 88 .1
2.8 HR.	I 133 37.0	I 135 26.8	I 132 13.8	I 134 8.5	I 131 7.5	XE 135 4.5	BR 83 1.1	HR 84 .5	XE 133 .1	KR 87 .1
5.6 HR.	I 133 44.4	I 135 26.3	I 131 9.7	XF 135 9.4	I 132 7.8	I 134 1.2	BR 83 .7	XE 133 .3	RB 88 .0	KR 87 .0
12.0 HR.	I 133 49.8	I 135 18.5	XE 135 15.9	I 131 13.2	I 132 1.5	XE 133 .8	BR 83 .1	I 129 .0	KR 85 .0	HR 88 .0
13.9 HR.	I 133 50.5	XF 135 16.8	I 135 16.4	I 131 14.2	XF 133 1.0	I 132 .9	BR 83 .1	I 129 .0	KR 85 .0	HR 88 .0
1.0 DAYS	I 133 52.5	I 131 19.9	XE 135 17.2	I 135 6.2	XE 133 2.1	I 132 .1	I 129 .0	BR 83 .0	KR 85 .0	I 130 .0
1.2 DAYS	I 133 52.6	I 131 22.3	XE 135 16.2	I 135 6.3	XE 133 2.6	I 129 .0	I 132 .0	HR 83 .0	KR 85 .0	I 130 .0
2.3 DAYS	I 133 43.7	I 131 42.4	XE 133 7.1	XE 135 6.0	I 135 .7	I 129 .1	HR 82 .0	I 130 .0	SK 84 .0	KR 85 .0
4.0 DAYS	I 131 66.1	I 133 20.5	XF 133 12.6	XF 135 .6	I 129 .1	I 135 .0	HR 82 .0	SR 89 .0	I 130 .0	LA 140 .0
5.8 DAYS	I 131 78.0	XF 133 15.0	I 133 6.8	I 129 .1	XE 135 .0	BR 82 .0	I 135 .0	SR 89 .0	LA 140 .0	I 130 .0
10.0 DAYS	I 131 84.8	XF 133 14.6	I 133 .4	I 129 .2	SR 89 .0	HR 82 .0	XE 135 .0	LA 140 .0	KR 85 .0	BA 140 .0
11.6 DAYS	I 131 85.7	XF 133 13.9	I 129 .2	I 133 .1	SR 89 .0	BR 82 .0	LA 140 .0	KR 85 .0	Y 91 .0	BA 140 .0
23.1 DAYS	I 131 90.3	XF 133 9.0	I 129 .7	SR 89 .0	KR 85 .0	LA 140 .0	I 133 .0	Y 91 .0	CS 137 .0	HA 140 .0
30.0 DAYS	I 131 91.9	XF 133 6.8	I 129 .1	SR 89 .0	KR 85 .0	Y 91 .0	LA 140 .0	Y 91 .0	CS 137 .0	HA 140 .0
57.9 DAYS	I 131 81.8	I 129 13.4	XE 133 1.8	SR 89 .0	KR 85 .0	Y 91 .0	CS 137 .0	Y 91 .0	SR 90 .0	BA 140 .0
40.0 DAYS	I 131 82.7	I 129 15.6	XE 133 1.0	SR 89 .0	KR 85 .0	Y 91 .0	CS 137 .0	Y 91 .0	SR 90 .0	BA 140 .0
115.7 DAYS	I 129 95.8	I 131 4.1	SR 89 .0	XE 133 .0	KR 85 .0	CS 137 .0	Y 91 .0	Y 91 .0	SR 90 .0	LA 140 .0
150.0 DAYS	I 129 99.7	I 131 .2	SR 89 .0	KR 85 .0	CS 137 .0	Y 91 .0	Y 91 .0	SR 90 .0	XE 133 .0	CS 135 .0
231.5 DAYS	I 129 100.0	SR 89 .0	KR 85 .0	CS 137 .0	Y 91 .0	Y 91 .0	I 131 .0	SR 90 .0	CS 135 .0	CE 141 .0
1.0 YRS.	I 129 100.0	KR 85 .0	LS 137 .0	SR 89 .0	Y 91 .0	SR 90 .0	Y 91 .0	CS 135 .0	CE 141 .0	I 131 .0

Source 3 (100% Halogens), Equilibrium, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10	
0 SEC.	I 134 21.7	I 132 10.4	I 135 10.1	I 136 7.4	I 137 7.3	HR 88	5.2	I 138 4.9	I 133 4.5	HR 89 4.2	I 136 4.2
1.0 SEC.	I 134 22.8	I 132 11.0	I 135 10.7	I 136 7.7	I 137 7.4	HR 88	5.2	I 133 4.7	I 138 4.6	I 136 4.4	HR 87 4.3
2.0 SEC.	I 134 23.7	I 132 11.4	I 135 11.1	I 136 7.9	I 137 7.5	HR 88	5.2	I 133 4.9	I 136 4.5	HR 87 4.4	I 138 4.3
5.0 SEC.	I 134 25.4	I 132 12.2	I 135 11.9	I 136 8.3	I 137 7.4	I 133 5.2	HR 88	4.9	I 136 4.6	HR 87 4.6	BR 86 3.8
10.0 SEC.	I 134 27.3	I 132 13.1	I 135 12.8	I 136 8.5	I 137 6.9	I 133 5.6	HR 87	4.6	I 136 4.6	BR 88 4.2	BR 86 3.8
20.0 SEC.	I 134 29.8	I 132 14.3	I 135 14.0	I 136 8.6	I 133 6.1	I 137 5.7	HR 87	4.5	I 136 4.3	HR 86 3.7	BR 88 3.0
50.0 SEC.	I 134 34.0	I 132 16.4	I 135 16.0	I 136 7.7	I 133 7.0	BR 87	3.5	I 136 3.2	BR 86 2.9	BR 84 2.9	I 137 2.8
60.0 SEC.	I 134 34.9	I 132 16.9	I 135 16.5	I 136 7.3	I 133 7.3	BR 87	3.2	BR 84 3.0	I 136 2.9	BR 86 2.6	I 137 2.2
100.0 SEC.	I 134 37.7	I 132 18.1	I 135 17.9	I 133 7.9	I 136 5.7	BR 84	3.2	I 131 2.1	BR 87 2.1	I 136 1.8	BR 86 1.7
3.3 MIN.	I 134 40.7	I 132 20.1	I 135 19.7	I 133 8.7	BR 84 3.4	I 136 2.7	I 131 2.4	BR 87 2.4	BR 86 2.1	I 136 1.5	I 136 1.5
8.3 MIN.	I 134 41.5	I 132 21.3	I 135 21.3	I 133 9.4	BR 84 3.3	I 131 2.6	I 136 2.2	BR 84 2.0	KR 87 2.0	XF 137 2.0	0
16.7 MIN.	I 134 39.8	I 135 22.4	I 132 21.8	I 133 10.0	BR 84 2.9	I 131 2.8	XE 135 2.1	KR 87 2.0	BR 88 2.0	CS 138 2.0	0
33.3 MIN.	I 134 36.0	I 135 24.5	I 132 22.6	I 133 11.2	I 131 3.1	HR 84 2.3	XE 135 2.2	KR 87 2.0	KR 88 2.0	CS 138 2.0	0
60.0 MIN.	I 134 30.0	I 135 27.7	I 132 23.4	I 133 13.1	I 131 3.7	BR 84 1.5	XE 135 1.4	KR 87 1.0	KR 88 1.0	CS 138 1.0	0
1.4 HR.	I 135 30.4	I 134 25.2	I 132 23.7	I 133 14.8	I 131 4.2	HR 84 1.1	XE 135 0.6	KR 87 0.0	KR 88 0.0	XF 133 0.0	0
2.8 HR.	I 135 37.6	I 132 22.3	I 133 20.2	I 134 12.1	I 131 6.0	XE 135 1.5	BR 84 0.2	XE 133 0.0	KR 87 0.0	KR 88 0.0	0
5.6 HR.	I 135 42.7	I 133 20.0	I 132 14.6	I 131 9.0	XF 135 3.5	I 134 2.0	XE 133 1.1	KR 88 0.0	BR 84 0.0	KR 85 0.0	0
12.0 HR.	I 133 37.4	I 135 36.4	I 131 14.7	XF 135 7.1	I 132 3.5	XE 133 0.3	I 134 0.0	KR 88 0.0	KR 85 0.0	BR 82 0.0	0
13.9 HR.	I 133 39.8	I 135 33.4	I 131 16.4	XE 135 7.8	I 132 2.2	XF 133 0.4	I 134 0.0	KR 85 0.0	KR 88 0.0	BR 82 0.0	0
1.0 DAYS	I 133 45.9	I 131 25.5	I 135 18.6	XF 135 8.8	XF 133 1.0	I 132 2.2	BR 82 0.0	I 130 0.0	KR 85 0.0	KR 88 0.0	0
1.2 DAYS	I 131 46.8	I 131 29.0	I 135 14.4	XF 135 8.5	XE 133 1.3	I 132 1.1	BR 82 0.0	I 130 0.0	KR 85 0.0	KR 88 0.0	0
2.3 DAYS	I 131 53.9	I 133 38.0	XE 133 3.4	XF 135 3.1	I 135 1.6	HR 82 0.0	I 130 0.0	KR 85 0.0	I 132 0.0	LA 140 0.0	0
4.0 DAYS	I 131 77.6	I 133 16.5	XF 133 5.6	XF 135 0.3	I 135 0.0	HR 82 0.0	I 130 0.0	LA 140 0.0	BA 140 0.0	I 129 0.0	0
5.8 DAYS	I 131 88.3	XE 133 6.5	I 133 5.2	XF 135 0.0	BR 82 0.0	I 135 0.0	LA 140 0.0	I 130 0.0	BA 140 0.0	I 129 0.0	0
10.0 DAYS	I 131 93.6	XF 133 6.1	I 133 3.3	HR 82 0.0	LA 140 0.0	XE 135 0.0	BA 140 0.0	I 129 0.0	KR 85 0.0	CF 141 0.0	0
11.4 DAYS	I 131 94.1	XF 133 5.8	I 133 1.1	HR 82 0.0	LA 140 0.0	BA 140 0.0	HR 82 0.0	CE 141 0.0	Y 91 0.0	Y 91 0.0	0
23.1 DAYS	I 131 96.3	XE 133 3.7	LA 140 0.0	I 133 0.0	I 129 0.0	BA 140 0.0	KR 85 0.0	CE 141 0.0	Y 91 0.0	Y 91 0.0	0
30.0 DAYS	I 131 97.3	XF 133 2.7	LA 140 0.0	I 129 0.0	BA 140 0.0	KR 85 0.0	CE 141 0.0	Y 91 0.0	Y 90 0.0	CS 135 0.0	0
57.9 DAYS	I 131 99.2	XF 133 1.8	LA 140 0.0	I 129 0.0	BA 140 0.0	KR 85 0.0	CE 141 0.0	Y 91 0.0	Y 90 0.0	CS 135 0.0	0
60.0 DAYS	I 131 99.3	XF 133 1.7	LA 140 0.0	I 129 0.0	BA 140 0.0	KR 85 0.0	CE 141 0.0	Y 91 0.0	Y 90 0.0	CS 135 0.0	0
115.7 DAYS	I 131 99.4	XF 133 1.1	I 129 0.0	LA 140 0.0	KR 85 0.0	HA 140 0.0	Y 91 0.0	CE 141 0.0	BA 140 0.0	Y 90 0.0	CS 135 0.0
150.0 DAYS	I 131 99.4	I 129 0.6	XF 133 0.0	KR 85 0.0	LA 140 0.0	Y 91 0.0	CE 141 0.0	BA 140 0.0	Y 90 0.0	CS 135 0.0	0
231.5 DAYS	I 129 95.3	I 131 13.0	KR 85 1.6	Y 91 0.0	CF 141 0.0	LA 140 0.0	Y 90 0.0	CS 135 0.0	BA 140 0.0	NB 95 0.0	0
1.0 YRS.	I 129 98.2	KR 85 1.8	Y 91 0.0	Y 90 0.0	CS 135 0.0	CE 141 0.0	I 131 0.0	NB 95 0.0	ZR 95 0.0	LA 140 0.0	0

Source 3 (100% Halogens), 5000 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO NETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	BR 8A 12.1	I 136 8.6	BR 8A 8.5	I 134 8.2	I 137 7.7	BR 87 7.3	BR 90 7.1	I *136 6.0	I 158 5.4	HR 86 4.6
1.0 SEC.	HR 8A 12.6	I 136 9.2	I 134 9.0	I 137 8.2	HR 89 8.0	BR 87 7.9	I *136 6.5	I 138 5.3	HR 90 5.0	I 133 4.8
2.0 SEC.	BR 8A 12.8	I 136 9.8	I 134 9.5	I 137 8.5	BR 87 8.3	BR 89 7.3	I *136 6.8	I 133 5.1	I 138 5.1	I 135 4.5
5.0 SEC.	BR 8A 12.8	I 134 10.9	I 136 10.9	BR 87 9.1	I 137 8.9	I *136 7.4	I 133 5.8	BR 89 5.2	I 135 5.2	I 132 4.6
10.0 SEC.	I 134 12.4	I 136 11.9	HR 8A 11.8	BR 87 9.8	I 137 8.8	I *136 7.9	I 133 6.7	I 135 5.9	I 132 5.3	BR 86 3.5
20.0 SEC.	I 134 14.7	I 136 13.0	RR 87 10.2	HR 8A 9.0	I 136 9.1	I 133 7.9	I 137 7.9	I 135 7.0	I 132 6.2	BR 86 3.6
50.0 SEC.	I 134 20.2	I 136 12.9	I 133 10.4	HR 87 9.2	I 135 9.1	I 132 8.1	I *136 6.9	I 137 4.4	HR 84 4.4	BR 85 3.4
100.0 SEC.	I 134 23.9	I 133 13.1	I 133 11.0	I 135 9.7	BR 87 8.6	I 132 8.6	I *136 6.3	BR 84 4.6	BR 85 3.9	I 137 3.5
3.3 MIN.	I 134 29.3	I 135 16.4	I 135 11.5	I 136 11.0	I 132 10.2	HR 87 6.3	BR 84 5.4	I *136 4.2	BR 85 4.0	I 131 2.4
8.3 MIN.	I 134 32.9	I 133 19.6	I 135 14.4	I 132 12.7	HR 84 6.6	I 136 6.0	BR 85 3.3	I 131 3.0	BR 87 2.3	HR 87 2.3
16.7 MIN.	I 134 32.2	I 133 21.2	I 135 18.4	I 132 15.5	RR 84 7.0	I 131 3.7	HR 85 1.2	RR 83 1.1	HR 87 1.1	I 136 1.6
33.3 MIN.	I 134 28.9	I 133 23.5	I 135 20.0	I 132 15.9	RR 84 5.0	I 131 4.4	BR 83 1.2	HR 83 1.1	HR 87 1.1	I 136 1.6
60.0 MIN.	I 133 26.9	I 134 23.6	I 135 22.1	I 132 16.2	I 131 5.1	BR 84 3.2	HR 85 1.5	HR 83 1.3	HR 87 1.2	HR 88 1.1
1.4 HR.	I 133 29.6	I 135 23.6	I 134 19.3	I 132 16.0	I 131 5.7	HR 84 2.2	HR 85 1.9	HR 83 1.3	HR 87 1.2	HR 88 1.1
2.8 HR.	I 133 37.1	I 135 26.8	I 132 15.8	I 134 15.5	I 131 7.5	HR 84 4.5	HR 83 1.1	HR 84 1.5	HR 83 1.1	HR 87 1.1
5.6 HR.	I 133 44.4	I 135 26.3	I 131 9.7	HR 84 4.5	I 132 7.8	I 134 1.2	BR 83 1.1	HR 83 1.1	HR 87 1.1	HR 88 1.1
12.0 HR.	I 133 49.8	I 135 19.5	HR 84 4.5	I 132 13.2	I 132 1.5	HR 83 1.1	HR 83 1.1	HR 85 1.1	HR 88 1.1	HR 87 1.1
13.9 HR.	I 133 50.5	HR 84 4.5	I 135 16.8	I 131 14.2	HR 83 1.1	HR 83 1.1	HR 85 1.1	HR 88 1.1	HR 87 1.1	HR 88 1.1
1.0 DAYS	I 133 52.5	I 131 19.9	HR 84 4.5	I 135 17.2	I 132 2.1	I 132 1.1	HR 83 1.1	HR 85 1.1	HR 88 1.1	HR 87 1.1
1.2 DAYS	I 133 52.6	I 131 22.3	HR 84 4.5	I 135 16.2	I 132 2.6	I 132 1.1	HR 83 1.1	HR 85 1.1	HR 88 1.1	HR 87 1.1
2.3 DAYS	I 133 43.8	I 131 42.4	HR 84 4.5	I 135 15.6	I 132 2.6	I 132 1.1	HR 83 1.1	HR 85 1.1	HR 88 1.1	HR 87 1.1
4.0 DAYS	I 131 66.2	I 131 20.5	HR 84 4.5	I 135 12.7	HR 82 1.1	HR 82 1.1	HR 83 1.1	HR 85 1.1	HR 88 1.1	HR 87 1.1
5.8 DAYS	I 131 78.2	HR 84 4.5	I 135 15.0	I 131 13.2	HR 82 1.1	HR 82 1.1	HR 83 1.1	HR 85 1.1	HR 88 1.1	HR 87 1.1
10.0 DAYS	I 131 85.0	HR 84 4.5	I 133 14.6	I 131 14.2	HR 82 1.1	HR 82 1.1	HR 83 1.1	HR 85 1.1	HR 88 1.1	HR 87 1.1
11.6 DAYS	I 131 85.9	HR 84 4.5	I 133 14.0	I 131 14.2	HR 82 1.1	HR 82 1.1	HR 83 1.1	HR 85 1.1	HR 88 1.1	HR 87 1.1
23.1 DAYS	I 131 93.1	HR 84 4.5	I 133 14.0	I 131 14.2	HR 82 1.1	HR 82 1.1	HR 83 1.1	HR 85 1.1	HR 88 1.1	HR 87 1.1
30.0 DAYS	I 131 97.9	HR 84 4.5	I 133 14.0	I 131 14.2	HR 82 1.1	HR 82 1.1	HR 83 1.1	HR 85 1.1	HR 88 1.1	HR 87 1.1
57.9 DAYS	I 131 98.1	HR 84 4.5	I 133 14.0	I 131 14.2	HR 82 1.1	HR 82 1.1	HR 83 1.1	HR 85 1.1	HR 88 1.1	HR 87 1.1
60.0 DAYS	I 131 98.5	HR 84 4.5	I 133 14.0	I 131 14.2	HR 82 1.1	HR 82 1.1	HR 83 1.1	HR 85 1.1	HR 88 1.1	HR 87 1.1
115.7 DAYS	I 131 98.5	HR 84 4.5	I 133 14.0	I 131 14.2	HR 82 1.1	HR 82 1.1	HR 83 1.1	HR 85 1.1	HR 88 1.1	HR 87 1.1
150.0 DAYS	I 131 98.5	HR 84 4.5	I 133 14.0	I 131 14.2	HR 82 1.1	HR 82 1.1	HR 83 1.1	HR 85 1.1	HR 88 1.1	HR 87 1.1
231.5 DAYS	SR 89 39.7	HR 84 4.5	I 129 18.8	CS 137 11.1	Y 90 1.7	Y 91 1.5	I 131 1.5	SR 90 1.5	CS 135 1.5	CE 141 1.5
1.0 YRS.	HR 85 39.2	I 129 29.3	CS 137 17.2	SR 89 10.4	Y 90 2.6	SR 90 2.6	Y 91 2.6	CS 135 2.6	CE 141 2.6	I 131 2.6

Source 3 (100% Halogens), 5000 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCAL	1	2	3	4	5	6	7	8	9	10	
0.0 SEC.	I 134 21.7	I 132 10.4	I 135 10.1	I 136 7.4	I 137 7.3	BR 88	5.2	I 138 4.9	I 133 4.5	BR 89 4.2	I *136 4.2
1.0 SEC.	I 134 22.8	I 132 11.0	I 135 10.7	I 136 7.7	I 137 7.4	BR 88	5.2	I 133 4.7	I 138 4.6	I *136 4.4	BR 87 4.3
2.0 SEC.	I 134 23.7	I 132 11.4	I 135 11.1	I 136 7.9	I 137 7.5	HR 88	5.2	I 133 4.9	I *136 4.5	BR 87 4.4	I 138 4.3
5.0 SEC.	I 134 25.4	I 132 12.2	I 135 11.9	I 136 8.3	I 137 7.4	I 133 5.2	HR 88	4.9	I *136 4.6	BR 87 4.4	BR 86 3.8
10.0 SEC.	I 134 27.3	I 132 13.1	I 135 12.8	I 136 8.5	I 137 6.9	I 133 5.6	BR 87	4.6	I *136 4.6	BR 88 4.2	BR 86 3.8
20.0 SEC.	I 134 29.8	I 132 14.3	I 135 14.0	I 136 8.6	I 133 6.1	I 137 5.7	BR 87	4.5	I *136 4.3	BR 86 3.7	BR 88 3.0
50.0 SEC.	I 134 34.0	I 132 16.4	I 135 16.0	I 136 7.7	I 133 7.0	HR 87	3.5	I *136 3.2	BR 86 2.9	BR 84 2.9	I 137 2.8
80.0 SEC.	I 134 34.9	I 132 16.9	I 135 16.5	I 136 7.3	I 133 7.3	HR 87	3.2	BR 84 3.0	I *136 2.9	BR 86 2.6	I 137 2.2
100.0 SEC.	I 134 37.7	I 132 18.3	I 135 17.9	I 133 7.9	I 136 5.7	BR 84	3.2	I 131 2.1	HR 87 2.1	I *136 1.8	BR 86 1.7
3.3 MIN.	I 134 40.7	I 132 20.1	I 135 19.7	I 133 8.7	BR 84 3.4	I 136 2.7	I 131 2.4	HR 87	.7	BR 86	.5
8.3 MIN.	I 134 41.5	I 132 21.3	I 135 21.3	I 133 9.4	BR 84 3.3	I 131 2.6	I 136	.2	BR 84	.0	HR 87
16.7 MIN.	I 134 39.8	I 135 22.4	I 132 21.8	I 133 10.0	HR 84 2.9	I 131 2.8	HR 87	.1	HR 89	.0	HR 88
33.3 MIN.	I 134 36.0	I 135 24.5	I 132 22.6	I 133 11.2	I 131 3.1	BR 84 2.3	HR 87	.2	HR 88	.0	HR 86
60.0 MIN.	I 134 30.0	I 135 27.7	I 132 23.4	I 133 13.1	I 131 3.7	HR 84 1.5	HR 87	.4	HR 88	.0	HR 88
1.4 HR.	I 135 10.4	I 134 25.2	I 132 23.7	I 133 14.8	I 131 4.2	HR 84 1.1	HR 87	.6	HR 88	.0	HR 88
2.8 HR.	I 135 37.6	I 132 22.3	I 133 20.2	I 134 12.1	I 131 6.0	HR 87 1.5	HR 84	.2	HR 87	.0	HR 88
5.6 HR.	I 135 42.7	I 133 28.0	I 132 14.6	I 131 9.0	HR 87 3.5	I 134 2.0	HR 87	.1	HR 88	.0	HR 88
12.0 HR.	I 133 37.9	I 135 36.4	I 131 14.7	HR 87 3.5	I 132 3.5	HR 87	.3	I 134	.0	HR 88	.0
13.9 HR.	I 133 39.8	I 135 33.4	I 131 16.4	HR 87 3.1	I 135 1.6	HR 82	.0	I 130	.0	HR 85	.0
1.0 DAYS	I 133 45.9	I 131 25.5	I 135 18.6	HR 87 3.5	I 132 1.0	I 132	.2	HR 82	.0	I 130	.0
1.2 DAYS	I 133 46.8	I 131 29.0	I 135 14.4	HR 87 3.5	HR 87 1.3	I 132	.1	HR 82	.0	I 130	.0
2.3 DAYS	I 131 53.9	I 133 38.0	HR 87 3.4	HR 87 3.1	I 135 1.6	HR 82	.0	I 130	.0	HR 85	.0
4.0 DAYS	I 131 77.6	I 133 16.5	HR 87 5.6	HR 87 3.3	I 135	.0	HR 82	.0	I 130	.0	HR 85
5.8 DAYS	I 131 88.3	HR 87 6.5	I 133 5.2	HR 87 3.5	.0	HR 82	.0	I 135	.0	LA 140	.0
10.0 DAYS	I 131 93.6	HR 87 6.1	I 133	HR 87	.0	LA 140	.0	HR 87	.0	BA 140	.0
11.6 DAYS	I 131 94.1	HR 87 5.8	I 133	HR 87	.0	LA 140	.0	HR 87	.0	I 129	.0
23.1 DAYS	I 131 96.3	HR 87 3.7	LA 140	HR 87	.0	BA 140	.0	HR 87	.0	CE 141	.0
30.0 DAYS	I 131 97.3	HR 87 2.7	LA 140	HR 87	.0	BA 140	.0	HR 87	.0	Y 91	.0
57.9 DAYS	I 131 99.2	HR 87	LA 140	HR 87	.0	BA 140	.0	HR 87	.0	Y 91	.0
80.0 DAYS	I 131 99.3	HR 87	LA 140	HR 87	.0	BA 140	.0	HR 87	.0	Y 90	.0
115.7 DAYS	I 131 99.9	HR 87	LA 140	HR 87	.0	BA 140	.0	HR 87	.0	Y 90	.0
150.0 DAYS	I 131 99.9	I 129	HR 87	HR 87	.0	LA 140	.0	HR 87	.0	Y 90	.0
231.5 DAYS	I 131 56.3	I 129 36.3	HR 87	HR 87	.0	LA 140	.0	HR 87	.0	Y 90	.0
1.0 YRS.	I 129 83.9	HR 85 16.0	Y 91	.1	Y 90	.0	HR 85	.0	HR 85	.0	HR 85

Source 3 (100% Halogens), 500 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

A-55

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	BR 88 12.1	I 136 8.6	BR 89 8.5	I 134 8.2	I 137 7.7	BR 87 7.3	BR 90 7.1	I *136 6.4	I 138 5.4	BR 86 4.6
1.0 SEC.	BR 88 12.6	I 136 9.2	I 134 9.0	I 137 8.2	RR 89 8.0	BR 87 7.9	I *136 6.5	I 138 5.3	BR 90 5.0	I 133 4.8
2.0 SEC.	BR 88 12.8	I 136 9.8	I 134 9.5	I 137 8.5	BR 87 8.3	BR 89 7.3	I *136 6.8	I 133 5.1	I 138 5.1	I 135 4.5
5.0 SEC.	BR 88 12.8	I 134 10.9	I 136 10.9	RR 87 9.1	I 137 8.9	I *136 7.4	I 133 5.8	BR 89 5.2	I 135 5.2	I 132 4.6
10.0 SEC.	I 134 12.4	I 136 11.9	BR 88 11.8	BR 87 9.8	I 137 8.8	I *136 7.9	I 133 6.7	I 135 5.9	I 132 5.3	BR 86 3.5
20.0 SEC.	I 134 14.7	I 136 13.0	BR 87 10.2	BR 88 9.0	I *136 8.1	I 133 7.9	I 137 7.9	I 135 7.0	I 132 6.2	BR 86 3.6
50.0 SEC.	I 134 19.1	I 136 13.2	I 133 10.4	RR 87 9.2	I 135 9.1	I 132 8.1	I *136 6.9	I 137 4.4	BR 84 4.4	BR 85 3.9
100.0 SEC.	I 134 20.2	I 136 12.9	I 133 11.0	I 135 9.7	RR 87 8.6	I 132 8.6	I *136 6.3	BR 84 4.6	BR 85 3.9	I 137 3.5
3.3 MIN.	I 134 29.3	I 133 16.4	I 135 14.6	I 132 12.7	BR 84 6.6	I 136 6.0	BR 85 3.3	I 131 3.0	RR 87 2.3	RR 87 2.3
8.3 MIN.	I 134 32.9	I 133 19.6	I 135 17.1	I 132 14.9	RR 84 7.0	I 131 3.7	BR 85 1.2	BR 83 1.1	RR 87 1.1	I 136 1.1
16.7 MIN.	I 134 32.2	I 133 21.2	I 135 18.4	I 132 15.6	RR 84 6.4	I 131 4.0	BR 83 1.2	RR 83 1.2	RR 87 1.3	RR 87 1.3
33.3 MIN.	I 134 28.9	I 133 23.5	I 135 20.0	I 132 15.9	BR 84 5.0	I 131 4.4	BR 83 1.2	RR 83 1.2	RR 87 1.2	RR 87 1.2
60.0 MIN.	I 133 26.9	I 134 23.6	I 135 22.1	I 132 16.2	I 131 5.1	BR 84 3.2	RR 83 1.3	RR 83 1.3	RR 87 1.3	RR 87 1.3
1.4 HR.	I 133 29.6	I 135 23.6	I 134 19.3	I 132 16.0	I 131 5.7	BR 84 2.2	RR 83 1.9	RR 83 1.9	RR 87 1.9	RR 87 1.9
2.8 HR.	I 133 37.1	I 135 26.8	I 132 13.8	I 134 8.5	I 131 7.5	RR 83 4.5	BR 83 1.1	RR 83 1.1	RR 87 1.1	RR 87 1.1
5.6 HR.	I 131 44.4	I 135 26.3	I 131 9.7	RR 83 9.4	I 132 7.8	I 134 1.2	RR 83 1.2	RR 83 1.2	RR 87 1.2	RR 87 1.2
12.0 HR.	I 133 49.8	I 135 18.5	RR 83 15.9	I 131 13.2	I 132 1.5	RR 83 1.8	RR 83 1.1	RR 83 1.1	RR 87 1.1	RR 87 1.1
13.9 HR.	I 133 50.5	RR 83 16.8	I 135 16.4	I 131 14.2	RR 83 1.0	I 132 1.9	RR 83 1.1	RR 83 1.1	RR 87 1.1	RR 87 1.1
1.0 DAYS	I 131 52.5	I 131 19.9	RR 83 17.2	I 135 8.2	RR 83 2.1	I 132 1.1	RR 83 1.1	RR 83 1.1	RR 87 1.1	RR 87 1.1
1.2 DAYS	I 133 53.6	I 131 22.3	RR 83 16.2	I 135 6.3	RR 83 2.6	I 132 1.0	RR 83 1.0	RR 83 1.0	RR 87 1.0	RR 87 1.0
2.3 DAYS	I 133 43.8	I 131 42.4	RR 83 7.1	RR 83 6.0	I 135 7.7	RR 83 0.0	I 130 0.0	RR 83 0.0	RR 87 0.0	RR 87 0.0
4.0 DAYS	I 131 66.2	I 133 20.5	RR 83 12.7	RR 83 6.1	I 135 0.0	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 87 0.0	RR 87 0.0
5.8 DAYS	I 131 78.2	RR 83 15.0	I 133 6.8	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 87 0.0	RR 87 0.0
10.0 DAYS	I 131 85.0	RR 83 14.6	I 133 4.4	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 87 0.0	RR 87 0.0
11.6 DAYS	I 131 85.9	RR 83 14.0	I 133 4.1	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 87 0.0	RR 87 0.0
23.1 DAYS	I 131 90.9	RR 83 9.1	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 87 0.0	RR 87 0.0
30.0 DAYS	I 131 93.1	RR 83 6.9	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 87 0.0	RR 87 0.0
57.9 DAYS	I 131 97.9	RR 83 2.1	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 87 0.0	RR 87 0.0
100.0 DAYS	I 131 98.1	RR 83 1.9	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 87 0.0	RR 87 0.0
115.7 DAYS	I 131 98.6	RR 83 1.0	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 83 0.0	RR 87 0.0	RR 87 0.0
150.0 DAYS	I 131 85.7	RR 83 10.3	RR 83 2.3	RR 83 1.0	RR 83 0.4	RR 83 0.1	RR 83 0.1	RR 83 0.1	RR 87 0.1	RR 87 0.1
231.5 DAYS	RR 89 47.8	RR 85 11.0	RR 83 13.4	I 129 2.2	RR 83 2.1	RR 83 1.8	I 131 1.0	RR 83 0.4	RR 83 0.4	RR 83 0.4
1.0 YRS.	RR 85 53.3	RR 137 23.4	RR 89 14.1	I 129 3.9	RR 83 3.6	RR 83 3.6	RR 83 3.6	RR 83 3.6	RR 83 3.6	RR 83 3.6

Source 3 (100% Halogens), 500 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LNCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	I 134 21.7	I 132 10.4	I 135 10.1	I 136 7.4	I 137 7.3	BR AA 5.2	I 138 4.9	I 133 4.5	BR 89 4.2	I *136 4.2
1.0 SEC.	I 134 22.8	I 132 11.0	I 135 10.7	I 136 7.7	I 137 7.4	RR 88 5.2	I 133 4.7	I 138 4.6	I *136 4.4	BR 87 4.3
2.0 SEC.	I 134 23.7	I 132 11.4	I 135 11.1	I 136 7.9	I 137 7.5	BR 88 5.2	I 133 4.9	I *136 4.5	BR 87 4.4	I 138 4.3
5.0 SEC.	I 134 25.4	I 132 12.2	I 135 11.9	I 136 8.3	I 137 7.9	I 133 5.2	BR 88 4.9	I *136 4.6	BR 87 4.6	BR 86 3.8
10.0 SEC.	I 134 27.3	I 132 13.1	I 135 12.8	I 136 8.5	I 137 8.0	I 133 5.6	BR 87 4.6	I *136 4.6	BR 88 4.2	BR 86 3.8
20.0 SEC.	I 134 29.8	I 132 14.3	I 135 14.0	I 136 8.6	I 133 6.1	I 137 5.7	BR 87 4.5	I *136 4.3	BR 86 3.7	BR 88 3.0
50.0 SEC.	I 134 34.0	I 132 16.4	I 135 16.0	I 136 7.7	I 133 7.0	BR 87 3.5	I *136 3.2	BR 86 2.9	BR 84 2.9	I 137 2.8
60.0 SEC.	I 134 34.9	I 132 16.9	I 135 16.5	I 136 7.3	I 133 7.3	BR 87 3.2	BR 84 3.0	I *136 2.9	BR 86 2.6	I 137 2.2
100.0 SEC.	I 134 37.7	I 132 18.3	I 135 17.9	I 136 7.9	I 136 5.7	BR 84 3.2	I 131 2.1	I *136 2.1	BR 86 1.8	BR 86 1.7
3.3 MIN.	I 134 40.7	I 132 20.1	I 135 19.7	I 133 8.7	RR 84 3.4	I 136 2.7	I 131 2.4	RR 87 2.7	BR 86 2.5	I *136 2.5
8.3 MIN.	I 134 41.5	I 132 21.3	I 135 21.3	I 133 9.4	RR 84 3.3	I 131 2.6	XE 135 2.2	BR 84 2.0	RR 87 2.0	XE 137 2.0
16.7 MIN.	I 134 39.8	I 135 22.4	I 132 21.8	I 133 10.0	RR 84 2.9	I 131 2.8	XE 135 2.1	RR 87 2.0	RR 89 2.0	RR 88 2.0
33.3 MIN.	I 134 36.0	I 135 24.5	I 132 22.6	I 133 11.2	I 131 3.1	RR 84 2.3	XE 135 2.2	RR 87 2.0	RR 88 2.0	CS 138 2.0
40.0 MIN.	I 134 30.0	I 135 27.7	I 132 23.4	I 133 13.1	I 131 3.7	RR 84 1.5	XE 135 2.4	RR 87 2.0	RR 88 2.0	CS 138 2.0
1.4 HR.	I 135 30.4	I 134 25.2	I 132 23.7	I 133 14.8	I 131 4.2	RR 84 1.1	XF 135 2.6	RR 87 2.0	RR 88 2.0	XF 133 2.0
2.8 HR.	I 135 37.6	I 132 22.3	I 133 20.2	I 134 12.1	I 131 6.0	XE 135 1.5	BR 84 2.2	XF 133 2.0	RR 87 2.0	RR 88 2.0
5.6 HR.	I 135 42.7	I 133 28.0	I 132 14.6	I 131 9.0	XE 135 3.5	I 134 2.0	XE 133 2.1	RR 88 2.0	RR 84 2.0	RR 85 2.0
12.0 HR.	I 133 37.9	I 135 36.4	I 131 14.7	XE 135 7.1	I 132 3.5	XE 133 3.1	I 134 2.0	RR 88 2.0	RR 85 2.0	RR 82 2.0
13.9 HR.	I 133 39.8	I 135 33.4	I 131 16.4	XE 135 7.8	I 132 2.2	XF 133 2.4	I 134 2.0	RR 85 2.0	RR 88 2.0	RR 82 2.0
1.0 DAYS	I 133 45.9	I 131 25.5	I 135 18.6	XE 135 8.8	XE 133 1.0	I 132 2.2	RR 82 2.0	I 130 2.0	RR 85 2.0	RR 88 2.0
1.2 DAYS	I 133 46.8	I 131 29.0	I 135 14.4	XE 135 8.5	XF 133 1.3	I 132 2.1	RR 82 2.0	I 130 2.0	RR 85 2.0	RR 88 2.0
2.3 DAYS	I 131 53.9	I 133 38.0	XF 133 3.4	XE 135 3.1	I 135 1.6	RR 82 2.0	I 130 2.0	RR 85 2.0	I 132 2.0	LA 140 2.0
4.0 DAYS	I 131 77.6	I 133 16.5	XE 133 5.6	XE 135 3.1	I 135 1.3	RR 82 2.0	I 130 2.0	RR 85 2.0	BA 140 2.0	RR 91 2.0
5.8 DAYS	I 131 88.3	XF 133 6.5	I 133 5.2	XE 135 3.0	RR 82 2.0	I 135 2.0	LA 140 2.0	I 130 2.0	BA 140 2.0	I 129 2.0
10.0 DAYS	I 131 93.6	XE 133 6.1	I 133 3.3	RR 82 2.0	LA 140 2.0	XE 135 2.0	BA 140 2.0	I 130 2.0	I 129 2.0	RR 85 2.0
11.6 DAYS	I 131 94.1	XF 133 5.8	I 133 3.1	RR 82 2.0	LA 140 2.0	RR 82 2.0	XF 135 2.0	I 129 2.0	RR 85 2.0	CE 141 2.0
23.1 DAYS	I 131 96.3	XE 133 3.7	LA 140 2.0	I 133 3.0	RR 82 2.0	RR 82 2.0	I 129 2.0	RR 85 2.0	CE 141 2.0	Y 91 2.0
30.0 DAYS	I 131 97.3	XF 133 2.7	LA 140 2.0	BA 140 2.0	I 129 2.0	RR 85 2.0	RR 82 2.0	CF 141 2.0	I 133 2.0	Y 91 2.0
57.9 DAYS	I 131 94.2	XE 133 2.8	LA 140 2.0	BA 140 2.0	I 129 2.0	RR 85 2.0	CE 141 2.0	Y 91 2.0	Y 90 2.0	CS 135 2.0
60.0 DAYS	I 131 99.3	XF 133 2.7	LA 140 2.0	BA 140 2.0	I 129 2.0	RR 85 2.0	CE 141 2.0	Y 91 2.0	Y 90 2.0	CS 135 2.0
115.7 DAYS	I 131 99.0	XF 133 2.1	LA 140 2.0	I 129 2.0	RR 85 2.0	RR 85 2.0	Y 91 2.0	CE 141 2.0	Y 90 2.0	CS 135 2.0
150.0 DAYS	I 131 99.0	I 129 2.0	XF 133 2.0	RR 85 2.0	LA 140 2.0	Y 91 2.0	CF 141 2.0	BA 140 2.0	Y 90 2.0	CS 135 2.0
231.5 DAYS	I 131 72.5	I 129 18.0	RR 85 9.1	Y 91 3.3	CF 141 2.1	LA 140 2.0	Y 90 2.0	CS 135 2.0	BA 140 2.0	NB 95 2.0
1.0 YRS.	I 129 66.7	RR 85 33.0	Y 91 2.2	Y 90 2.1	CS 135 2.0	CF 141 2.0	I 131 2.0	RR 95 2.0	ZR 95 2.0	LA 140 2.0

Source 3 (100% Halogens), 200 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LNCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	BR 88 12.1	I 136 8.6	AR 89 8.5	I 134 8.2	I 137 7.7	BR 87 7.3	BR 90 7.1	I *136 6.0	I 138 5.4	BR* 86 4.6
1.0 SEC.	BR 88 12.6	I 136 9.2	I 134 9.0	I 137 8.2	BR 89 8.0	BR 87 7.9	I *136 6.5	I 138 5.3	BR 90 5.0	I 133 4.8
2.0 SEC.	BR 88 12.8	I 136 9.8	I 134 9.5	I 137 8.5	HR 87 8.3	HR 89 7.3	I *136 6.8	I 133 5.1	I 138 5.1	I 135 4.5
5.0 SEC.	BR 88 12.8	I 134 10.9	I 136 10.9	BR 87 9.1	I 137 8.9	I *136 7.4	I 133 5.8	BR 89 5.2	I 135 5.2	I 132 4.6
10.0 SEC.	I 134 12.4	I 136 11.9	AR 88 11.8	BR 87 9.8	I 137 8.8	I *136 7.9	I 133 6.7	I 135 5.9	I 132 5.3	BR 86 3.5
20.0 SEC.	I 134 14.7	I 136 13.0	BR 87 10.2	BR 88 9.0	I *136 8.1	I 133 7.9	I 137 7.9	I 135 7.0	I 132 6.2	BR 86 3.6
50.0 SEC.	I 134 19.1	I 136 13.2	I 133 10.4	HR 87 9.2	I 135 9.1	I 132 8.1	I *136 6.9	I 137 4.4	BR 84 4.4	BR 85 3.9
60.0 SEC.	I 134 20.2	I 136 12.9	I 133 11.0	I 135 9.7	BR 87 8.6	I 132 8.6	I *136 6.3	BR 84 4.6	BR 85 3.9	I 137 3.5
100.0 SEC.	I 134 23.9	I 133 13.1	I 135 11.5	I 132 11.0	I 132 10.2	BR 87 6.3	BR 84 5.4	I *136 4.2	BR 85 4.0	I 131 2.4
3.3 MIN.	I 134 29.3	I 133 16.4	I 135 14.4	I 132 12.7	AR 88 6.6	I 136 6.0	BR 85 3.3	I 131 3.0	BR 87 2.3	XE 137 2.3
8.3 MIN.	I 134 32.9	I 133 19.6	I 135 17.1	I 132 14.9	BR 84 7.0	I 131 3.7	BR 85 1.2	BR 83 1.1	XE 137 1.1	I 136 .6
16.7 MIN.	I 134 32.2	I 133 21.2	I 135 18.4	I 132 15.5	BR 84 6.4	I 131 4.0	BR 83 1.2	XF 135 .3	XE 137 .3	KR 87 .2
33.3 MIN.	I 134 28.9	I 133 23.5	I 135 20.0	I 132 15.9	BR 84 5.0	I 131 4.4	BR 83 1.2	XE 135 .6	KR 87 .2	RB 88 .0
60.0 MIN.	I 133 26.9	I 134 23.6	I 135 22.1	I 132 16.2	I 131 5.1	BR 84 3.2	XF 135 1.3	BR 83 1.3	KR 87 .2	RB 88 .1
1.4 HR.	I 133 29.6	I 135 23.6	I 134 19.3	I 132 16.0	I 131 5.7	AR 84 2.2	XE 135 1.9	AR 83 1.3	KR 87 .2	RB 88 .1
2.8 HR.	I 133 37.1	I 135 26.8	I 132 13.8	I 134 16.5	I 131 7.5	XE 135 4.5	BR 83 1.1	BR 84 .5	XE 133 .1	KR 87 .1
5.6 HR.	I 133 44.4	I 135 26.3	I 131 9.7	XE 135 9.4	I 132 7.8	I 134 1.2	BR 83 .7	XE 133 .3	RB 88 .0	KR 87 .0
12.0 HR.	I 133 49.8	I 135 18.5	XE 135 15.9	I 131 11.2	I 132 1.5	XE 133 .8	BR 83 .1	KR* 85 .0	RB 88 .0	I 134 .0
13.9 HR.	I 133 50.5	XF 135 16.8	I 135 16.4	I 131 14.2	XE 133 1.0	I 132 .9	BR 83 .1	KR* 85 .0	RB 88 .0	I 134 .0
1.0 DAYS	I 133 52.5	I 131 19.9	XF 135 17.2	I 135 8.2	XE 133 2.1	I 132 .1	BR 83 .0	KR* 85 .0	RB 88 .0	I 134 .0
1.2 DAYS	I 133 52.6	I 131 22.3	XF 135 16.2	I 135 6.3	XF 133 2.6	I 132 .0	BR 83 .0	KR* 85 .0	I 130 .0	BR 82 .0
2.3 DAYS	I 133 43.8	I 131 42.4	XE 133 7.1	XE 135 6.0	I 135 .7	BR 82 .0	I 130 .0	SR 89 .0	KR* 85 .0	I 132 .0
4.0 DAYS	I 131 66.2	I 133 20.5	XF 133 12.7	XE 135 .6	I 135 .0	BR 82 .0	SR 89 .0	I 130 .0	LA 140 .0	BA 140 .0
5.8 DAYS	I 131 78.2	XE 133 15.0	I 133 6.8	XE 135 .0	BR 82 .0	I 135 .0	SR 89 .0	LA 140 .0	BA 140 .0	KR 85 .0
10.0 DAYS	I 131 85.0	XE 133 14.6	I 133 .4	SR 89 .0	BR 82 .0	XE 135 .0	KR 85 .0	BA 140 .0	Y 91 .0	HA 140 .0
11.6 DAYS	I 131 85.9	XF 133 14.0	I 133 .4	SR 89 .0	BR 82 .0	LA 140 .0	KR 85 .0	Y 91 .0	CS 137 .0	Y 90 .0
23.1 DAYS	I 131 90.9	XF 133 9.1	SR 89 .0	KR 85 .0	LA 140 .0	I 133 .0	Y 91 .0	CS 137 .0	HA 140 .0	I 129 .0
30.0 DAYS	I 131 93.1	XF 133 6.9	SR 89 .0	KR 85 .0	Y 91 .0	CS 137 .0	LA 140 .0	Y 90 .0	BA 140 .0	I 129 .0
57.9 DAYS	I 131 97.9	XE 133 2.1	SR 89 .0	KR 85 .0	Y 91 .0	CS 137 .0	LA 140 .0	Y 90 .0	BA 140 .0	I 129 .0
60.0 DAYS	I 131 98.1	XF 133 1.9	SR 89 .0	KR 85 .0	Y 91 .0	CS 137 .0	LA 140 .0	Y 90 .0	BA 140 .0	I 129 .0
115.7 DAYS	I 131 98.6	SR 89 1.0	XE 133 .2	KR 85 .0	CS 137 .1	Y 91 .0	Y 90 .0	I 129 .0	SR 90 .0	LA 140 .0
150.0 DAYS	I 131 85.8	SR 89 10.3	KR 85 2.3	CS 137 1.0	Y 91 .4	Y 90 .2	I 129 .1	SR 90 .4	XE 133 .0	CS 135 .0
231.5 DAYS	SR 89 48.5	KR 85 31.4	CS 137 13.6	Y 90 2.1	Y 91 1.9	I 131 1.1	I 129 .9	SR 90 .4	CS 135 .1	CE 141 .0
1.0 YRS.	KR 85 54.6	CS 137 24.0	SR 89 14.5	Y 90 3.7	I 129 1.5	SR 90 .8	Y 91 .7	CS 135 .2	CE 141 .0	I 131 .0

Source 3 (100% Halogens), 200 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 134 29.1	I 132 14.0	I 135 13.6	I 136 9.9	I 137 9.7	I 138 6.5	I 133 6.0	I *136 5.6	I 139 2.7	I 131 1.6
1.0 SEC.	I 134 29.8	I 132 14.3	I 135 13.9	I 136 10.0	I 137 9.7	I 133 6.1	I 138 6.0	I *136 5.7	I 139 2.1	I 131 1.7
2.0 SEC.	I 134 30.0	I 132 14.6	I 135 14.2	I 136 10.1	I 137 9.6	I 133 6.2	I *136 5.7	I 138 5.5	I 131 1.7	I 139 1.6
5.0 SEC.	I 134 31.6	I 132 15.2	I 135 14.8	I 136 10.3	I 137 9.2	I 133 6.5	I *136 5.7	I 138 4.2	I 131 1.8	I 139 1.7
10.0 SEC.	I 134 33.0	I 132 15.9	I 135 15.4	I 136 10.3	I 137 8.3	I 133 6.8	I *136 5.6	I 138 2.6	I 131 1.8	I 139 1.7
20.0 SEC.	I 134 34.8	I 132 16.8	I 135 16.3	I 136 10.0	I 133 7.2	I 137 6.7	I 136 5.1	I 131 2.0	I 138 1.9	I 139 1.2
50.0 SEC.	I 134 38.1	I 132 18.4	I 135 17.9	I 136 8.6	I 133 7.9	I *136 3.6	I 137 3.1	I 131 2.1	I 138 1.1	I 139 1.1
60.0 SEC.	I 134 38.8	I 132 18.8	I 135 18.3	I 136 8.1	I 133 8.1	I *136 3.2	I 137 2.4	I 131 2.2	I 138 1.1	I 139 1.0
100.0 SEC.	I 134 40.8	I 132 19.9	I 135 19.4	I 136 8.6	I 133 8.6	I 131 2.3	I *136 1.9	I 137 1.8	I 138 1.1	I 139 1.0
3.3 MIN.	I 134 42.9	I 132 21.1	I 135 20.8	I 133 9.2	I 136 2.9	I 131 2.5	I *136 1.5	I 137 1.1	I 138 1.1	I 139 1.0
8.3 MIN.	I 134 43.0	I 132 22.1	I 135 22.1	I 133 9.8	I 131 2.7	I 136 2.2	I 137 1.0	I 135 1.0	I 138 1.0	I 139 1.0
16.7 MIN.	I 134 41.1	I 132 22.1	I 135 22.1	I 133 10.4	I 131 2.8	I 135 1.1	I 137 1.0	I 138 1.0	I 139 1.0	I 131 1.0
33.3 MIN.	I 134 36.9	I 132 25.1	I 132 23.1	I 133 11.5	I 131 3.2	I 135 2.2	I 137 1.0	I 138 1.0	I 139 1.0	I 131 1.0
60.0 MIN.	I 134 30.5	I 132 28.2	I 132 23.8	I 133 13.3	I 131 3.7	I 135 1.4	I 137 1.0	I 138 1.0	I 139 1.0	I 131 1.0
1.4 HR.	I 135 30.7	I 134 25.5	I 132 24.0	I 133 14.9	I 131 4.2	I 135 1.6	I 137 1.0	I 138 1.0	I 139 1.0	I 131 1.0
2.8 HR.	I 135 37.8	I 132 22.4	I 133 20.3	I 134 12.1	I 131 6.0	I 135 1.5	I 137 1.0	I 138 1.0	I 139 1.0	I 131 1.0
5.6 HR.	I 135 42.7	I 133 28.0	I 132 14.6	I 131 9.0	I 135 3.5	I 134 2.0	I 137 1.0	I 138 1.0	I 139 1.0	I 131 1.0
12.0 HR.	I 133 37.9	I 135 36.4	I 131 14.7	I 132 7.1	I 132 3.5	I 133 3.1	I 134 1.0	I 130 1.0	I 129 1.0	I 138 1.0
13.9 HR.	I 133 39.8	I 135 33.4	I 131 16.4	I 132 7.8	I 132 2.2	I 133 2.4	I 130 1.0	I 129 1.0	I 138 1.0	I 130 1.0
1.0 DAYS	I 133 45.9	I 131 25.5	I 135 18.6	I 135 8.8	I 132 1.0	I 137 1.1	I 129 1.0	I 130 1.0	I 138 1.0	I 130 1.0
1.2 DAYS	I 133 46.8	I 131 29.0	I 135 14.4	I 135 8.5	I 133 1.3	I 137 1.1	I 129 1.0	I 130 1.0	I 138 1.0	I 130 1.0
2.3 DAYS	I 131 53.0	I 133 38.0	I 133 3.4	I 135 3.1	I 135 1.6	I 129 1.0	I 130 1.0	I 132 1.0	I 138 1.0	I 130 1.0
4.0 DAYS	I 131 77.6	I 133 16.4	I 133 5.6	I 135 3.1	I 135 1.0	I 129 1.0	I 130 1.0	I 132 1.0	I 138 1.0	I 130 1.0
5.8 DAYS	I 131 88.2	I 133 6.5	I 133 5.2	I 129 1.0	I 135 1.0	I 129 1.0	I 130 1.0	I 132 1.0	I 138 1.0	I 130 1.0
10.0 DAYS	I 131 93.5	I 133 6.1	I 133 3.1	I 129 1.0	I 135 1.0	I 129 1.0	I 130 1.0	I 132 1.0	I 138 1.0	I 130 1.0
11.6 DAYS	I 131 94.6	I 133 5.8	I 133 3.1	I 129 1.0	I 135 1.0	I 129 1.0	I 130 1.0	I 132 1.0	I 138 1.0	I 130 1.0
23.1 DAYS	I 131 96.1	I 133 3.7	I 129 2.2	I 134 1.0	I 133 1.0	I 134 1.0	I 135 1.0	I 130 1.0	I 138 1.0	I 130 1.0
30.0 DAYS	I 131 96.9	I 133 2.7	I 129 2.2	I 134 1.0	I 133 1.0	I 134 1.0	I 135 1.0	I 130 1.0	I 138 1.0	I 130 1.0
57.9 DAYS	I 131 94.7	I 129 4.6	I 133 2.7	I 134 1.0	I 133 1.0	I 134 1.0	I 135 1.0	I 130 1.0	I 138 1.0	I 130 1.0
60.0 DAYS	I 131 93.6	I 129 5.4	I 133 2.7	I 134 1.0	I 133 1.0	I 134 1.0	I 135 1.0	I 130 1.0	I 138 1.0	I 130 1.0
115.7 DAYS	I 129 87.6	I 131 12.4	I 133 2.7	I 134 1.0	I 133 1.0	I 134 1.0	I 135 1.0	I 130 1.0	I 138 1.0	I 130 1.0
150.0 DAYS	I 129 90.3	I 131 7.7	I 133 2.7	I 134 1.0	I 133 1.0	I 134 1.0	I 135 1.0	I 130 1.0	I 138 1.0	I 130 1.0
231.5 DAYS	I 129 100.0	I 131 0.0	I 133 2.7	I 134 1.0	I 133 1.0	I 134 1.0	I 135 1.0	I 130 1.0	I 138 1.0	I 130 1.0
1.0 YRS.	I 129 100.0	I 131 0.0	I 133 2.7	I 134 1.0	I 133 1.0	I 134 1.0	I 135 1.0	I 130 1.0	I 138 1.0	I 130 1.0

Source 4 (100% Iodines), Equilibrium, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0 SEC.	I 136 16.6	I 134 16.0	I 137 15.0	I 136 11.7	I 138 10.6	I 133 8.6	I 135 7.6	I 132 6.8	I 139 4.0	I 131 1.6
1.0 SEC.	I 136 17.1	I 134 16.6	I 137 15.1	I 136 12.0	I 138 9.8	I 133 8.9	I 135 7.9	I 132 7.0	I 139 5.1	I 131 1.7
2.0 SFC.	I 136 17.5	I 134 17.0	I 137 15.1	I 136 12.1	I 133 9.2	I 138 9.1	I 135 8.1	I 132 7.2	I 139 2.4	I 131 1.7
5.0 SFC.	I 134 18.1	I 136 18.1	I 137 14.8	I 136 12.4	I 133 9.8	I 135 8.6	I 132 7.7	I 138 7.0	I 131 1.8	I 139 1.1
10.0 SEC.	I 134 19.5	I 136 18.7	I 137 13.8	I 136 12.4	I 133 10.5	I 135 9.3	I 132 8.3	I 138 4.4	I 131 1.9	XE 137 .6
20.0 SEC.	I 134 21.5	I 136 19.0	I 136 11.8	I 133 11.6	I 137 11.5	I 135 10.2	I 132 9.1	I 131 2.2	I 138 1.7	XE 137 1.1
50.0 SFC.	I 134 25.4	I 136 17.6	I 133 13.8	I 135 12.2	I 132 10.8	I 136 9.2	I 137 5.9	I 131 2.6	XE 137 2.2	XE 139 .2
100.0 SFC.	I 134 26.5	I 136 16.9	I 133 14.4	I 135 12.7	I 132 11.3	I 136 8.3	I 137 4.6	I 131 2.7	XE 137 2.4	XE 139 .2
3.3 MIN.	I 134 34.2	I 133 19.1	I 135 14.8	I 132 14.8	I 136 7.0	I 131 3.6	XE 137 2.6	I 136 1.5	I 137 .1	XE 135 .0
8.3 MIN.	I 134 36.6	I 133 21.7	I 135 19.0	I 132 16.5	I 131 4.1	XE 137 1.2	I 136 .7	XE 135 .1	XE 138 .0	CS 139 .0
16.7 MIN.	I 134 35.0	I 133 23.1	I 135 20.0	I 132 16.9	I 131 4.3	XE 135 .3	XE 137 .5	XE 138 .0	CS 138 .0	CS 139 .0
33.3 MIN.	I 134 30.9	I 133 25.2	I 135 21.4	I 132 17.1	I 131 4.8	XE 135 .7	CS 138 .0	XE 133 .0	XE 137 .0	XE 138 .0
60.0 MIN.	I 133 28.2	I 134 24.8	I 135 23.2	I 132 17.0	I 131 5.4	XE 135 1.3	XE 133 .0	CS 138 .0	I 129 .0	XE 138 .0
1.4 HR.	I 133 30.7	I 135 24.5	I 134 20.1	I 132 16.6	I 131 5.9	XE 135 2.0	XE 133 .0	CS 138 .0	I 129 .0	BA 139 .0
2.8 HR.	I 133 37.7	I 135 27.3	I 132 14.0	I 134 8.6	I 131 7.6	XE 135 4.6	XE 133 .1	I 129 .0	CS 138 .0	I 130 .0
5.6 HR.	I 133 44.8	I 135 26.5	I 131 9.8	XE 135 9.5	I 132 7.9	I 134 1.2	XE 133 .3	I 129 .0	I 130 .0	BA 139 .0
12.0 HR.	I 133 49.9	I 135 18.6	XE 135 15.9	I 131 13.2	I 132 1.5	XE 133 .8	I 129 .0	I 134 .0	I 130 .0	BA 139 .0
13.9 HR.	I 133 50.6	XE 135 16.8	I 135 16.4	I 131 14.2	XE 133 1.0	I 132 .9	I 129 .0	I 134 .0	I 130 .0	BA 139 .0
1.0 DAYS	I 133 52.5	I 131 19.9	XE 135 17.2	I 135 8.2	XE 133 2.1	I 132 .1	I 129 .0	I 130 .0	BA 140 .0	I 134 .0
1.2 DAYS	I 133 52.6	I 131 22.3	XE 135 16.2	I 135 6.3	XE 133 2.6	I 129 .0	I 132 .0	I 130 .0	BA 140 .0	LA 140 .0
2.3 DAYS	I 133 43.8	I 131 42.4	XE 135 7.1	XE 135 6.0	I 135 .7	I 129 .1	I 130 .0	I 132 .0	LA 140 .0	BA 140 .0
4.0 DAYS	I 131 66.1	I 133 20.5	XE 133 12.6	XE 135 .6	I 129 .1	I 135 .0	I 130 .0	LA 140 .0	BA 140 .0	CS 137 .0
5.8 DAYS	I 131 78.0	XE 133 15.0	I 133 6.8	I 129 .1	XE 135 .0	I 135 .0	LA 140 .0	I 130 .0	BA 140 .0	CS 137 .0
10.0 DAYS	I 131 84.8	XE 133 14.6	I 133 .4	I 129 .2	XE 135 .0	LA 140 .0	BA 140 .0	CS 137 .0	CE 141 .0	I 130 .0
11.6 DAYS	I 131 85.7	XE 133 13.9	I 129 .2	I 133 .1	LA 140 .0	BA 140 .0	CE 137 .0	XE 135 .0	CE 141 .0	CS 135 .0
23.1 DAYS	I 131 90.3	XE 133 9.0	I 129 .7	LA 140 .0	I 133 .0	CS 137 .0	BA 140 .0	CE 141 .0	CS 135 .0	PR 143 .0
30.0 DAYS	I 131 91.9	XE 133 6.8	I 129 1.3	LA 140 .0	CS 137 .0	BA 140 .0	CE 141 .0	CS 135 .0	I 133 .0	PR 143 .0
57.9 DAYS	I 131 84.8	I 129 13.4	XE 133 1.8	CS 137 .0	LA 140 .0	BA 140 .0	CE 141 .0	CS 135 .0	PR 143 .0	PR 144 .0
60.0 DAYS	I 131 82.8	I 129 15.7	XE 133 1.6	CS 137 .0	LA 140 .0	BA 140 .0	CE 141 .0	CS 135 .0	PR 143 .0	PR 144 .0
115.7 DAYS	I 129 95.8	I 131 4.2	XE 133 .0	CS 137 .0	LA 140 .0	CS 135 .0	BA 140 .0	CE 141 .0	PR 143 .0	PR 144 .0
150.0 DAYS	I 129 99.8	I 131 .2	CS 137 .0	XE 133 .0	CS 135 .0	LA 140 .0	CE 141 .0	BA 140 .0	PR 144 .0	PR 143 .0
231.5 DAYS	I 129 100.0	CS 137 .0	I 131 .0	CS 135 .0	CE 141 .0	LA 140 .0	BA 140 .0	PR 144 .0	XE 133 .0	CE 144 .0
1.0 YRS.	I 129 100.0	CS 137 .0	CS 135 .0	CE 141 .0	I 131 .0	PR 144 .0	CE 144 .0	LA 140 .0	BA 140 .0	PR 143 .0

Source 4 (100% Iodines), Equilibrium, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 134 29.1	I 132 14.0	I 135 13.6	I 136 9.9	I 137 9.7	I 138 6.5	I 133 6.0	I *136 5.6	I 139 2.7	I 131 1.6
1.0 SEC.	I 134 29.8	I 132 14.3	I 135 13.9	I 136 10.0	I 137 9.7	I 133 6.1	I 138 6.0	I *136 5.7	I 139 2.1	I 131 1.7
2.0 SEC.	I 134 30.4	I 132 14.6	I 135 14.2	I 136 10.1	I 137 9.6	I 133 6.2	I *136 5.7	I 138 5.5	I 131 1.7	I 139 1.6
5.0 SEC.	I 134 31.6	I 132 15.2	I 135 14.8	I 136 10.3	I 137 9.2	I 133 6.5	I *136 5.7	I 138 4.2	I 131 1.8	I 139 .7
10.0 SEC.	I 134 33.0	I 132 15.9	I 135 15.4	I 136 10.3	I 137 8.3	I 133 6.8	I *136 5.6	I 138 2.6	I 131 1.8	I 139 .2
20.0 SEC.	I 134 34.8	I 132 16.8	I 135 16.3	I 136 10.0	I 137 7.2	I 137 6.7	I *136 5.1	I 131 2.0	I 138 .9	XE 139 .1
50.0 SEC.	I 134 38.1	I 132 18.4	I 135 17.9	I 136 8.6	I 133 7.9	I *136 3.6	I 137 3.1	I 131 2.1	XE 137 .1	I 138 .0
60.0 SEC.	I 134 38.8	I 132 18.8	I 135 18.3	I 136 8.1	I 133 6.1	I *136 3.2	I 137 2.4	I 131 2.2	XE 137 .1	XE 139 .0
100.0 SEC.	I 134 40.8	I 132 19.9	I 135 19.4	I 133 8.6	I 136 6.1	I 131 2.3	I *136 1.4	I 137 .8	XE 137 .1	XE 138 .0
3.3 MIN.	I 134 42.9	I 132 21.1	I 135 20.8	I 133 9.2	I 136 2.9	I 131 2.5	I *136 .5	XE 137 .1	I 137 .1	XE 138 .0
8.3 MIN.	I 134 43.0	I 132 22.1	I 135 22.1	I 133 9.8	I 131 2.7	I 136 .2	XE 137 .0	XE 135 .0	XE 138 .0	CS 138 .0
16.7 MIN.	I 134 41.1	I 135 23.1	I 132 22.5	I 133 10.4	I 131 2.8	XE 135 .1	XE 138 .0	CS 138 .0	XE 137 .0	I 136 .0
33.3 MIN.	I 134 36.9	I 135 25.1	I 132 23.1	I 133 11.5	I 131 3.2	XE 135 .2	CS 138 .0	XE 138 .0	XE 133 .0	I 130 .0
60.0 MIN.	I 134 30.5	I 135 28.2	I 132 23.8	I 133 13.3	I 131 3.7	XE 135 .4	CS 138 .0	XE 133 .0	XE 138 .0	I 130 .0
1.4 HR.	I 135 30.7	I 134 25.5	I 132 24.0	I 133 14.9	I 131 4.2	XE 135 .6	XE 133 .0	CS 138 .0	I 130 .0	XE 138 .0
2.8 HR.	I 135 37.8	I 132 22.4	I 131 20.3	I 134 12.1	I 131 6.0	XE 135 1.5	XE 133 .0	CS 138 .0	I 130 .0	BA 139 .0
5.6 HR.	I 135 42.7	I 133 28.0	I 132 14.6	I 131 9.0	XE 135 3.5	I 134 2.0	XE 133 .1	I 130 .0	CS 138 .0	BA 139 .0
12.0 HR.	I 133 37.9	I 135 36.4	I 131 14.7	XE 135 7.1	I 132 3.5	XE 133 .3	I 134 .0	I 130 .0	LA 140 .0	BA 140 .0
13.9 HR.	I 133 39.4	I 135 33.4	I 131 16.4	XE 135 7.8	I 132 2.2	XE 133 .4	I 134 .0	I 130 .0	LA 140 .0	BA 140 .0
1.0 DAYS	I 133 45.9	I 131 25.5	I 135 18.6	XE 135 8.8	XE 133 1.0	I 132 .2	I 130 .0	LA 140 .0	I 134 .0	BA 140 .0
1.2 DAYS	I 133 46.8	I 131 29.0	I 135 14.4	XE 135 8.5	XE 133 1.3	I 132 .1	I 130 .0	LA 140 .0	HA 140 .0	I 129 .0
2.3 DAYS	I 131 53.9	I 133 38.0	XE 133 3.4	XE 135 3.1	I 135 1.6	I 130 .0	I 132 .0	LA 140 .0	BA 140 .0	I 129 .0
4.0 DAYS	I 131 77.6	I 133 16.5	XE 133 5.6	XE 135 .3	I 135 .0	I 130 .0	LA 140 .0	BA 140 .0	I 129 .0	CF 141 .0
5.8 DAYS	I 131 88.3	XE 133 6.5	I 133 5.2	XE 135 .0	I 135 .0	LA 140 .0	I 130 .0	HA 140 .0	I 129 .0	CE 141 .0
10.0 DAYS	I 131 93.4	XE 133 6.1	I 133 .3	LA 140 .0	XE 135 .0	HA 140 .0	I 129 .0	I 130 .0	CE 141 .0	I 135 .0
11.6 DAYS	I 131 94.1	XE 133 5.8	I 133 .1	LA 140 .0	HA 140 .0	I 129 .0	XE 135 .0	CE 141 .0	CS 135 .0	PR 144 .0
23.1 DAYS	I 131 96.3	XE 133 3.7	LA 140 .0	I 133 .0	I 129 .0	BA 140 .0	CE 141 .0	CS 135 .0	PR 144 .0	CE 144 .0
30.0 DAYS	I 131 97.3	XE 133 2.7	LA 140 .0	I 129 .0	RA 140 .0	CE 141 .0	CS 135 .0	PR 144 .0	CE 144 .0	I 133 .0
57.9 DAYS	I 131 99.2	XE 133 .8	LA 140 .0	I 129 .0	RA 140 .0	CE 141 .0	CS 135 .0	PR 144 .0	CE 144 .0	ER 167 .0
60.0 DAYS	I 131 99.3	XE 133 .7	LA 140 .0	I 129 .0	RA 140 .0	CE 141 .0	CS 135 .0	PR 144 .0	CE 144 .0	ER 167 .0
115.7 DAYS	I 131 99.9	XE 133 .1	I 129 .0	LA 140 .0	RA 140 .0	CE 141 .0	CS 135 .0	PR 144 .0	CE 144 .0	ER 167 .0
150.0 DAYS	I 131 99.4	I 129 .6	XE 133 .0	LA 140 .0	CE 141 .0	BA 140 .0	CS 135 .0	PR 144 .0	CE 144 .0	ER 167 .0
231.5 DAYS	I 129 98.8	I 131 13.2	CF 141 .0	LA 140 .0	CS 135 .0	BA 140 .0	XE 133 .0	PR 144 .0	CE 144 .0	ER 167 .0
1.0 YRS.	I 129 100.0	CS 135 .0	CE 141 .0	I 131 .0	LA 140 .0	PR 144 .0	CE 144 .0	BA 140 .0	ER 167 .0	ER 167 .0

Source 4 (100% Iodines), 5000 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 136 16.6	I 136 16.0	I 137 15.0	I *136 11.7	I 138 10.6	I 133 8.6	I 135 7.6	I 132 6.8	I 139 4.0	I 131 1.0
1.0 SEC.	I 136 17.1	I 174 16.6	I 137 15.1	I *136 12.0	I 138 9.8	I 133 8.9	I 135 7.9	I 132 7.0	I 139 3.1	I 131 1.7
2.0 SEC.	I 136 17.5	I 144 17.0	I 137 15.1	I *136 12.1	I 133 9.2	I 138 9.1	I 135 8.1	I 132 7.2	I 139 2.4	I 131 1.7
5.0 SEC.	I 134 18.1	I 136 18.1	I 137 14.8	I *136 12.4	I 133 9.8	I 135 8.6	I 132 7.7	I 138 7.0	I 131 1.8	I 139 1.1
10.0 SEC.	I 134 19.5	I 136 18.7	I 137 13.8	I *136 12.4	I 133 10.5	I 135 9.3	I 132 8.3	I 138 4.4	I 131 1.9	XE 137 .6
20.0 SEC.	I 134 21.5	I 136 19.0	I *136 11.8	I 133 11.6	I 137 11.5	I 135 10.2	I 132 9.1	I 131 2.2	I 138 1.7	XE 137 1.1
50.0 SEC.	I 134 25.4	I 136 17.6	I 133 13.6	I 135 12.2	I 132 10.8	I *136 9.2	I 137 5.9	I 131 2.6	XE 137 2.2	XE 139 .2
60.0 SEC.	I 134 26.5	I 136 16.9	I 133 14.4	I 135 12.7	I 132 11.3	I *136 8.3	I 137 4.6	I 131 2.7	XE 137 2.4	XE 139 .2
100.0 SEC.	I 134 29.8	I 133 16.3	I 135 14.4	I 136 13.7	I 132 12.8	I *136 5.3	I 131 3.0	XE 137 2.8	I 137 1.7	XE 139 .1
3.3 MIN.	I 134 34.2	I 133 19.1	I 135 16.8	I 132 14.8	I 136 7.0	I 131 3.6	XE 137 2.6	I *136 1.5	I 137 .1	XE 135 .0
8.3 MIN.	I 134 36.6	I 133 21.7	I 135 19.0	I 132 16.5	I 131 4.1	XE 137 1.2	I 136 .7	XE 135 .1	XE 138 .0	CS 139 .0
16.7 MIN.	I 134 35.0	I 133 23.1	I 135 20.0	I 132 16.9	I 131 4.3	XE 135 .3	XE 137 .3	XE 138 .0	CS 138 .0	CS 139 .0
33.3 MIN.	I 134 30.9	I 133 25.2	I 135 21.4	I 132 17.1	I 131 4.8	XE 135 .7	CS 138 .0	XE 133 .0	XE 137 .0	XE 138 .0
60.0 MIN.	I 133 28.2	I 134 24.8	I 135 23.2	I 132 17.0	I 131 5.4	XE 135 1.3	XE 133 .0	CS 138 .0	XE 138 .0	BA 139 .0
1.4 HR.	I 133 30.7	I 135 24.5	I 134 20.1	I 132 16.6	I 131 6.0	XE 135 2.0	XE 133 .0	CS 138 .0	BA 139 .0	XE 138 .0
2.8 HR.	I 133 37.7	I 135 27.3	I 132 14.0	I 134 6.6	I 131 7.6	XE 135 4.6	XE 133 .1	CS 138 .0	HA 139 .0	I 130 .0
5.6 HR.	I 133 40.8	I 135 26.5	I 131 9.8	XF 135 9.5	I 132 7.9	I 134 1.2	XE 133 .3	I 130 .0	BA 139 .0	CS 138 .0
12.0 HR.	I 133 40.9	I 135 18.6	XF 135 15.9	I 131 13.2	I 132 1.5	XE 133 .8	I 134 .0	I 130 .0	BA 139 .0	LA 141 .0
13.9 HR.	I 133 50.6	XE 135 16.8	I 135 16.4	I 131 14.2	XF 133 1.0	I 137 .9	I 134 .0	I 130 .0	BA 139 .0	LA 141 .0
1.0 DAYS	I 133 52.5	I 131 19.9	XE 135 17.2	I 135 8.2	XE 133 2.1	I 132 .1	I 130 .0	BA 140 .0	I 134 .0	LA 140 .0
1.2 DAYS	I 133 52.6	I 131 22.3	XE 135 16.2	I 135 6.3	XE 133 2.6	I 132 .0	I 130 .0	BA 140 .0	LA 140 .0	I 129 .0
2.3 DAYS	I 133 43.8	I 131 42.4	XE 133 7.1	XF 135 6.0	I 135 .7	I 130 .0	I 132 .0	LA 140 .0	BA 140 .0	I 129 .0
4.0 DAYS	I 131 66.2	I 133 20.5	XF 133 12.7	XE 135 .6	I 135 .0	I 130 .0	LA 140 .0	HA 140 .0	I 129 .0	CS 137 .0
5.8 DAYS	I 131 78.2	XF 133 15.0	I 133 6.8	XF 135 .0	I 135 .0	LA 140 .0	BA 140 .0	I 130 .0	I 129 .0	CS 137 .0
10.0 DAYS	I 131 85.0	XF 133 14.6	I 133 .4	XF 135 .0	LA 140 .0	BA 140 .0	I 129 .0	CS 137 .0	CF 141 .0	CS 135 .0
11.6 DAYS	I 131 85.0	XE 133 14.0	I 133 .4	LA 140 .0	BA 140 .0	I 129 .0	CS 137 .0	XE 135 .0	CF 141 .0	CS 135 .0
23.1 DAYS	I 131 90.9	XE 133 9.1	LA 140 .0	I 133 .0	I 129 .0	CS 137 .0	BA 140 .0	CE 141 .0	CS 135 .0	PR 143 .0
70.0 DAYS	I 131 93.1	XF 133 6.9	I 129 .0	LA 140 .0	CS 137 .0	LA 140 .0	BA 140 .0	CE 141 .0	CS 135 .0	PR 143 .0
57.9 DAYS	I 131 97.9	XF 133 2.1	I 129 .0	CS 137 .0	LA 140 .0	BA 140 .0	CE 141 .0	CS 135 .0	PR 143 .0	PR 144 .0
60.0 DAYS	I 131 98.1	XE 133 1.9	I 129 .0	CS 137 .0	LA 140 .0	BA 140 .0	CE 141 .0	CS 135 .0	PR 143 .0	PR 144 .0
115.7 DAYS	I 131 99.7	XE 133 .2	I 129 .0	CS 137 .0	LA 140 .0	CS 135 .0	BA 140 .0	CE 141 .0	PR 143 .0	PR 144 .0
150.0 DAYS	I 131 97.0	I 129 1.9	CS 137 .1	XF 133 .0	CS 135 .0	LA 140 .0	CF 141 .0	HA 140 .0	PR 144 .0	PR 143 .0
231.5 DAYS	I 129 60.8	CS 137 36.0	I 131 2.8	CS 135 .4	CE 141 .0	LA 140 .0	BA 140 .0	PR 144 .0	XE 133 .0	CF 144 .0
1.0 YRS.	I 129 62.7	CS 137 36.9	CS 135 .4	CE 141 .0	I 131 .0	PR 144 .0	CE 144 .0	LA 140 .0	BA 140 .0	PR 143 .0

Source 4 (100% Iodines), 5000 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 134 29.1	I 132 14.0	I 135 13.6	I 136 9.9	I 137 9.7	I 138 6.5	I 133 6.0	I *136 5.6	I 139 2.7	I 131 1.4
1.0 SEC.	I 134 29.8	I 132 14.3	I 135 13.9	I 136 10.0	I 137 9.7	I 133 6.1	I 138 6.0	I *136 5.7	I 139 2.1	I 131 1.7
2.0 SEC.	I 134 30.4	I 132 14.6	I 135 14.2	I 136 10.1	I 137 9.6	I 133 6.2	I *136 5.7	I 138 5.5	I 131 1.7	I 139 1.6
5.0 SEC.	I 134 31.6	I 132 15.2	I 135 14.8	I 136 10.3	I 137 9.2	I 133 6.5	I *136 5.7	I 138 4.2	I 131 1.8	I 139 1.7
10.0 SEC.	I 134 33.0	I 132 15.9	I 135 15.4	I 136 10.3	I 137 8.3	I 133 6.8	I *136 5.6	I 138 2.6	I 131 1.8	I 139 1.2
20.0 SEC.	I 134 34.8	I 132 16.8	I 135 16.3	I 136 10.0	I 133 7.2	I 137 6.7	I *136 5.1	I 131 2.0	I 138 1.9	XE 139 1.1
50.0 SEC.	I 134 38.1	I 132 18.4	I 135 17.9	I 136 8.6	I 133 7.9	I *136 3.6	I 137 3.1	I 131 2.1	XE 137 1.1	XE 138 0.0
60.0 SEC.	I 134 38.8	I 132 18.8	I 135 18.3	I 136 8.1	I 133 8.1	I *136 3.2	I 137 2.4	I 131 2.2	XE 137 1.1	XE 138 0.0
100.0 SEC.	I 134 40.8	I 132 19.9	I 135 19.4	I 133 8.6	I 136 6.1	I 131 2.3	I *136 1.9	I 137 1.9	XE 137 1.1	XE 138 0.0
3.3 MIN.	I 134 42.9	I 132 21.1	I 135 20.8	I 133 9.2	I 136 2.9	I 131 2.5	I *136 1.5	XE 137 1.1	I 137 1.1	XE 138 0.0
8.3 MIN.	I 134 43.0	I 132 22.1	I 135 22.1	I 133 9.8	I 131 2.7	I 136 2.2	XE 137 1.1	XE 138 0.0	CS 138 0.0	CS 138 0.0
16.7 MIN.	I 134 41.1	I 135 23.1	I 132 22.5	I 133 10.4	I 131 2.8	XE 135 1.1	XE 138 0.0	CS 138 0.0	XE 137 1.1	I 136 0.0
33.3 MIN.	I 134 36.9	I 135 25.1	I 132 23.1	I 133 11.5	I 131 3.2	XE 135 2.2	CS 138 0.0	XE 138 0.0	XE 133 0.0	I 130 0.0
60.0 MIN.	I 134 30.5	I 135 28.2	I 132 23.8	I 133 13.3	I 131 3.7	XE 135 4.8	CS 138 0.0	XE 133 0.0	XE 138 0.0	I 130 0.0
1.4 HR.	I 135 30.7	I 134 25.5	I 132 24.0	I 133 14.9	I 131 4.2	XE 135 6.6	XE 133 0.0	CS 138 0.0	I 130 0.0	XE 138 0.0
2.8 HR.	I 135 37.8	I 132 22.4	I 133 20.3	I 134 12.1	I 131 6.0	XE 135 1.5	XE 133 0.0	CS 138 0.0	I 130 0.0	BA 139 0.0
5.6 HR.	I 135 42.7	I 133 28.0	I 132 14.6	I 131 9.0	XE 135 3.5	I 134 2.0	XE 133 1.1	I 130 0.0	CS 138 0.0	BA 139 0.0
12.0 HR.	I 133 37.9	I 135 36.4	I 131 14.7	XE 135 7.1	I 132 3.5	XE 133 3.3	I 134 0.0	I 130 0.0	LA 140 0.0	BA 139 0.0
13.9 HR.	I 133 39.8	I 135 33.4	I 131 16.4	XE 135 7.8	I 132 2.2	XE 133 4.1	I 134 0.0	I 130 0.0	LA 140 0.0	BA 140 0.0
1.0 DAYS	I 133 45.9	I 131 25.5	I 135 18.6	XE 135 8.8	XE 133 1.0	I 132 2.2	I 130 0.0	LA 140 0.0	BA 140 0.0	BA 140 0.0
1.2 DAYS	I 133 46.9	I 131 29.0	I 135 14.4	XE 135 8.5	XE 133 1.3	I 132 1.1	I 130 0.0	LA 140 0.0	BA 140 0.0	BA 140 0.0
2.3 DAYS	I 131 53.9	I 133 38.0	XE 133 3.4	XE 135 3.1	I 135 1.6	I 130 0.0	I 132 0.0	LA 140 0.0	BA 140 0.0	I 129 0.0
4.0 DAYS	I 131 77.6	I 133 16.5	XE 133 5.6	XE 135 3.3	I 135 0.0	I 130 0.0	LA 140 0.0	HA 140 0.0	I 129 0.0	CE 141 0.0
5.8 DAYS	I 131 88.3	XE 133 6.5	I 133 5.2	XE 135 0.0	I 135 0.0	I 130 0.0	LA 140 0.0	BA 140 0.0	I 129 0.0	CE 141 0.0
10.0 DAYS	I 131 93.6	XE 133 6.1	I 133 3.3	LA 140 0.0	XE 135 0.0	BA 140 0.0	I 129 0.0	CE 141 0.0	I 130 0.0	I 135 0.0
11.6 DAYS	I 131 94.1	XE 133 5.8	I 133 3.1	LA 140 0.0	HA 140 0.0	XE 135 0.0	I 129 0.0	CE 141 0.0	CS 135 0.0	PR 144 0.0
23.1 DAYS	I 131 96.3	XE 133 3.7	LA 140 0.0	I 133 0.0	HA 140 0.0	I 129 0.0	CE 141 0.0	CS 135 0.0	PR 144 0.0	CE 144 0.0
30.0 DAYS	I 131 97.3	XE 133 2.7	LA 140 0.0	HA 140 0.0	BA 140 0.0	I 129 0.0	CE 141 0.0	CS 135 0.0	PR 144 0.0	I 133 0.0
57.9 DAYS	I 131 99.2	XE 133 1.7	LA 140 0.0	BA 140 0.0	I 129 0.0	CE 141 0.0	CS 135 0.0	PR 144 0.0	CE 144 0.0	ER 167 0.0
60.0 DAYS	I 131 99.3	XE 133 1.1	I 129 0.0	LA 140 0.0	HA 140 0.0	CE 141 0.0	CS 135 0.0	PR 144 0.0	CE 144 0.0	ER 167 0.0
115.7 DAYS	I 131 99.9	I 129 1.1	XE 133 0.0	LA 140 0.0	CF 141 0.0	BA 140 0.0	CS 135 0.0	PR 144 0.0	CE 144 0.0	ER 167 0.0
150.0 DAYS	I 131 60.7	I 129 39.1	CF 141 0.0	LA 140 0.0	CS 135 0.0	BA 140 0.0	XE 133 0.0	PR 144 0.0	CE 144 0.0	ER 167 0.0
231.5 DAYS	I 129 100.0	CS 135 0.0	CF 141 0.0	I 131 0.0	LA 140 0.0	PR 144 0.0	CE 144 0.0	BA 140 0.0	ER 167 0.0	ER 167 0.0

Source 4 (100% Iodines), 500 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LNCA

	1	2	3	4	5	6	7	8	9	10
0 SEC.	I 136 16.6	I 134 16.0	I 137 15.0	I *136 11.7	I 138 10.6	I 133 8.6	I 135 7.6	I 132 6.8	I 139 4.0	I 131 1.6
1.0 SEC.	I 136 17.1	I 134 16.6	I 137 15.1	I *136 12.0	I 138 9.8	I 133 8.9	I 135 7.9	I 132 7.0	I 139 3.1	I 131 1.7
2.0 SEC.	I 136 17.5	I 134 17.0	I 137 15.1	I *136 12.1	I 133 9.2	I 138 9.1	I 135 8.1	I 132 7.2	I 139 2.4	I 131 1.7
5.0 SEC.	I 134 18.1	I 136 18.1	I 137 14.8	I *136 12.4	I 133 9.8	I 135 8.6	I 132 7.7	I 138 7.0	I 131 1.8	I 139 1.1
10.0 SEC.	I 134 19.5	I 136 18.7	I 137 13.8	I *136 12.0	I 133 10.5	I 135 9.3	I 132 6.3	I 138 4.4	I 131 1.9	XE 137 .6
20.0 SEC.	I 134 21.5	I 136 19.0	I *136 11.8	I 133 11.6	I 137 11.5	I 135 10.2	I 132 9.1	I 131 2.2	I 138 1.7	XE 137 1.1
50.0 SEC.	I 134 25.4	I 136 17.6	I 133 13.8	I 135 12.2	I 132 10.8	I *136 8.2	I 137 5.9	I 131 2.6	XE 137 2.2	XE 139 .2
60.0 SEC.	I 134 26.5	I 136 16.9	I 133 14.4	I 135 12.7	I 132 11.3	I *136 8.3	I 137 4.6	I 131 2.7	XE 137 2.4	XE 139 .2
100.0 SEC.	I 134 29.8	I 133 16.3	I 135 14.4	I 136 13.7	I 132 12.8	I *136 5.3	I 131 3.0	XE 137 2.8	I 137 1.7	XE 139 .1
3.3 MIN.	I 134 34.2	I 133 19.1	I 135 16.8	I 132 16.9	I 131 4.1	XE 137 1.2	I 136 .7	XE 135 .1	XE 138 .0	CS 139 .0
8.3 MIN.	I 134 36.6	I 133 21.7	I 135 19.0	I 132 16.5	I 131 4.3	XE 135 .3	XE 137 .3	XE 138 .0	CS 138 .0	CS 139 .0
16.7 MIN.	I 134 35.0	I 133 23.1	I 135 20.0	I 132 16.9	I 131 4.3	XE 135 .3	XE 137 .3	XE 138 .0	CS 138 .0	CS 139 .0
33.3 MIN.	I 134 30.9	I 133 25.2	I 135 21.4	I 132 17.1	I 131 4.8	XE 135 .7	CS 138 .0	XE 133 .0	XE 137 .0	XE 138 .0
60.0 MIN.	I 133 28.2	I 134 24.8	I 135 23.2	I 132 17.0	I 131 5.4	XE 135 1.3	XE 133 .0	CS 138 .0	XE 138 .0	HA 139 .0
1.4 HR.	I 133 30.7	I 135 24.5	I 134 20.1	I 132 16.6	I 131 6.0	XE 135 2.0	XE 133 .0	CS 138 .0	BA 139 .0	XE 138 .0
2.8 HR.	I 133 37.7	I 135 27.3	I 132 14.0	I 134 8.6	I 131 7.6	XE 135 4.6	XE 133 .1	CS 138 .0	BA 139 .0	I 130 .0
5.6 HR.	I 133 44.8	I 135 26.5	I 131 9.8	XE 135 9.5	I 132 7.9	I 134 1.2	XE 133 .3	I 130 .0	BA 139 .0	CS 138 .0
12.0 HR.	I 133 49.9	I 135 18.6	XE 135 15.9	I 131 13.2	I 132 1.5	XE 133 .8	I 134 .0	I 130 .0	BA 139 .0	LA 141 .0
13.9 HR.	I 133 50.6	XE 135 16.8	I 135 16.4	I 131 14.2	XE 133 1.0	I 132 .9	I 134 .0	I 130 .0	BA 139 .0	LA 141 .0
1.0 DAYS	I 133 52.5	I 131 19.9	XE 135 17.2	I 135 6.2	XE 133 2.1	I 132 .1	I 130 .0	HA 140 .0	I 134 .0	LA 140 .0
1.2 DAYS	I 133 52.6	I 131 22.3	XE 135 16.2	I 135 6.3	XE 133 2.6	I 132 .0	I 130 .0	HA 140 .0	I 134 .0	CS 137 .0
2.3 DAYS	I 133 43.4	I 131 42.4	XE 133 7.1	XE 135 6.0	I 135 .7	I 130 .0	I 132 .0	LA 140 .0	LA 140 .0	CS 137 .0
4.0 DAYS	I 131 66.2	I 133 20.5	XE 133 12.7	XE 135 .6	I 135 .0	I 130 .0	LA 140 .0	HA 140 .0	CS 137 .0	I 129 .0
5.8 DAYS	I 131 78.2	XE 133 15.0	I 133 6.8	XE 135 .0	I 135 .0	LA 140 .0	BA 140 .0	CS 137 .0	I 129 .0	CS 135 .0
10.0 DAYS	I 131 85.0	XE 133 14.6	I 133 .4	XE 135 .0	I 135 .0	LA 140 .0	BA 140 .0	CS 137 .0	I 129 .0	CS 135 .0
11.6 DAYS	I 131 85.0	XE 133 14.0	I 133 .1	LA 140 .0	I 133 .0	CS 137 .0	BA 140 .0	CF 141 .0	CE 141 .0	CS 135 .0
23.1 DAYS	I 131 40.9	XE 133 9.1	LA 140 .0	I 133 .0	CS 137 .0	BA 140 .0	I 129 .0	CF 141 .0	CE 141 .0	PR 143 .0
30.5 DAYS	I 131 93.1	XE 133 6.9	LA 140 .0	CS 137 .0	BA 140 .0	I 129 .0	CF 141 .0	CE 141 .0	PR 143 .0	PR 144 .0
57.9 DAYS	I 131 97.9	XE 133 2.1	CS 137 .0	LA 140 .0	I 129 .0	BA 140 .0	CF 141 .0	CE 141 .0	PR 143 .0	PR 144 .0
60.0 DAYS	I 131 98.1	XE 133 1.9	CS 137 .0	LA 140 .0	I 129 .0	BA 140 .0	CF 141 .0	CE 141 .0	PR 143 .0	PR 144 .0
115.7 DAYS	I 131 99.8	XE 133 .2	CS 137 .0	I 129 .0	LA 140 .0	CF 141 .0	BA 140 .0	CE 141 .0	PR 144 .0	PR 144 .0
150.0 DAYS	I 131 98.6	CS 137 1.1	I 129 .0	CF 141 .0	LA 140 .0	BA 140 .0	CE 141 .0	PR 144 .0	PR 144 .0	PR 144 .0
231.5 DAYS	CS 137 79.8	I 129 13.2	I 131 6.2	CS 135 .0	CF 141 .0	LA 140 .0	BA 140 .0	PR 144 .0	PR 144 .0	PR 144 .0
1.0 YRS.	CS 137 87.0	I 129 14.1	CS 135 .8	CF 141 .0	I 131 .0	PR 144 .0	CF 144 .0	LA 140 .0	BA 140 .0	PR 143 .0

Source 4 (100% Iodines), 500 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCAL

	1	2	3	4	5	6	7	8	9	10
0 SEC.	I 134 29.1	I 132 14.0	I 135 13.6	I 136 9.9	I 137 9.7	I 138 6.5	I 133 6.0	I *136 5.6	I 139 2.7	I 131 1.6
1.0 SEC.	I 134 29.8	I 132 14.3	I 135 13.9	I 136 10.0	I 137 9.7	I 133 6.1	I 138 6.0	I *136 5.7	I 139 2.1	I 131 1.7
2.0 SFC.	I 134 30.4	I 132 14.6	I 135 14.2	I 136 10.1	I 137 9.6	I 133 6.2	I *136 5.7	I 138 5.5	I 131 1.7	I 139 1.6
5.0 SFC.	I 134 31.6	I 132 15.2	I 135 14.8	I 136 10.3	I 137 9.2	I 133 6.5	I *136 5.7	I 138 4.2	I 131 1.8	I 139 .7
10.0 SFC.	I 134 33.0	I 132 15.9	I 135 15.4	I 136 10.3	I 137 8.3	I 133 6.8	I *136 5.6	I 138 2.6	I 131 1.8	I 139 .2
20.0 SFC.	I 134 34.8	I 132 16.8	I 135 16.3	I 136 10.0	I 133 7.2	I 137 6.7	I *136 5.1	I 131 2.0	I 138 .9	XE 139 .1
50.0 SEC.	I 134 38.1	I 132 18.4	I 135 17.9	I 136 8.6	I 133 7.9	I *136 3.6	I 137 3.1	I .	2.1	XE 137 .1
100.0 SEC.	I 134 38.8	I 132 18.8	I 135 18.3	I 136 8.1	I 133 8.1	I *136 3.2	I 137 2.4	I 131 2.2	XE 137 .1	XE 138 .0
3.3 MIN.	I 134 40.8	I 132 19.9	I 135 19.4	I 133 8.6	I 136 6.1	I 131 2.3	I *136 1.9	I 137 .8	XE 137 .1	XE 138 .0
8.3 MIN.	I 134 42.9	I 132 21.1	I 135 20.8	I 133 9.2	I 136 2.9	I 131 2.5	I *136 .5	XE 137 .1	XE 137 .1	XE 138 .0
16.7 MIN.	I 134 43.0	I 132 22.1	I 135 22.1	I 133 9.8	I 131 2.7	I 136 .2	XE 137 .0	XE 135 .0	XE 138 .0	CS 138 .0
33.3 MIN.	I 134 41.1	I 132 22.5	I 133 10.4	I 131 2.8	XE 135 .1	XF 138 .0	CS 138 .0	XE 137 .0	I 136 .0	
60.0 MIN.	I 134 36.9	I 135 25.1	I 132 23.1	I 133 11.5	I 131 3.2	XE 135 .2	CS 138 .0	XE 138 .0	XE 133 .0	I 130 .0
1.4 HR.	I 134 30.5	I 135 28.2	I 132 23.8	I 133 13.3	I 131 3.7	XE 135 .4	CS 138 .0	XE 133 .0	XF 138 .0	I 130 .0
2.8 HR.	I 135 30.7	I 134 25.5	I 132 24.0	I 133 14.9	I 131 4.2	XE 135 .6	XE 133 .0	CS 138 .0	I 130 .0	XE 138 .0
5.6 HR.	I 135 37.8	I 132 22.4	I 133 20.3	I 134 12.1	I 131 6.0	XE 135 1.5	XE 133 .0	CS 138 .0	I 130 .0	BA 139 .0
12.0 HR.	I 135 42.7	I 133 28.0	I 132 14.6	I 131 9.0	XF 135 3.5	I 134 2.0	XE 133 .1	I 130 .0	CS 138 .0	BA 139 .0
13.9 HR.	I 133 37.9	I 135 16.4	I 131 14.7	XE 135 7.1	I 132 3.5	XE 133 .3	I 134 .0	I 130 .0	LA 140 .0	BA 139 .0
1.0 DAYS	I 133 39.8	I 135 33.4	I 131 16.4	XE 135 7.8	I 132 2.2	XF 133 .4	I 134 .0	I 130 .0	LA 140 .0	BA 140 .0
1.2 DAYS	I 133 45.9	I 131 25.5	I 135 18.6	XF 135 8.8	XE 133 1.0	I 132 .2	I 130 .0	LA 140 .0	I 134 .0	BA 140 .0
2.3 DAYS	I 133 46.8	I 131 29.0	I 135 14.4	XE 135 8.5	XE 133 1.3	I 132 .1	I 130 .0	BA 140 .0	I 134 .0	BA 140 .0
4.0 DAYS	I 131 53.9	I 133 38.0	XE 133 3.4	XF 135 3.1	I 135 1.6	I 130 .0	I 137 .0	LA 140 .0	BA 140 .0	I 129 .0
5.8 DAYS	I 131 77.6	I 133 16.5	XF 133 5.6	XE 135 .3	I 135 .0	I 130 .0	LA 140 .0	BA 140 .0	I 129 .0	CE 141 .0
10.0 DAYS	I 131 88.3	XE 133 6.5	I 133 5.2	XE 135 .0	I 135 .0	LA 140 .0	I 130 .0	BA 140 .0	I 129 .0	CE 141 .0
11.6 DAYS	I 131 93.6	XF 133 6.1	I 133 .3	LA 140 .0	XE 135 .0	BA 140 .0	I 130 .0	I 129 .0	CE 141 .0	I 135 .0
23.7 DAYS	I 131 94.1	XF 133 3.7	LA 140 .0	I 133 .0	BA 140 .0	XE 135 .0	I 129 .0	CE 141 .0	I 130 .0	I 135 .0
30.0 DAYS	I 131 96.3	XF 133 2.7	LA 140 .0	RA 140 .0	I 129 .0	CE 141 .0	I 133 .0	CS 135 .0	CE 143 .0	PR 144 .0
57.0 DAYS	I 131 97.3	XF 133 .8	LA 140 .0	BA 140 .0	I 129 .0	CE 141 .0	CS 135 .0	PR 144 .0	CE 144 .0	I 133 .0
115.7 DAYS	I 131 99.2	XF 133 .7	LA 140 .0	BA 140 .0	I 129 .0	CE 141 .0	CS 135 .0	PR 144 .0	CE 144 .0	ER 167 .0
150.0 DAYS	I 131 99.9	XE 133 .1	LA 140 .0	I 129 .0	BA 140 .0	CE 141 .0	CS 135 .0	PR 144 .0	CE 144 .0	ER 167 .0
231.5 DAYS	I 131 100.0	I 129 .0	XE 133 .0	LA 140 .0	CE 141 .0	BA 140 .0	CS 135 .0	PR 144 .0	CE 144 .0	ER 167 .0
1.0 YRS.	I 131 80.0	I 129 19.9	CE 141 .0	LA 140 .0	CS 135 .0	BA 140 .0	XE 133 .0	PR 144 .0	CE 144 .0	ER 167 .0
	I 129 99.9	CS 135 .0	CE 141 .0	I 131 .0	LA 140 .0	PR 144 .0	CE 144 .0	BA 140 .0	ER 167 .0	ER 167 .0

Source 4 (100% Iodines), 200 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 136 16.6	I 134 16.0	I 137 15.0	I 136 11.7	I 138 10.6	I 133 8.6	I 135 7.6	I 132 6.8	I 139 4.0	I 131 1.6
1.0 SEC.	I 136 17.1	I 134 16.6	I 137 15.1	I 136 12.0	I 138 9.8	I 133 8.9	I 135 7.9	I 132 7.0	I 139 5.1	I 131 1.7
2.0 SEC.	I 136 17.5	I 134 17.0	I 137 15.1	I 136 12.1	I 133 9.2	I 138 9.1	I 135 8.1	I 132 7.2	I 139 2.4	I 131 1.7
5.0 SEC.	I 134 18.1	I 136 18.1	I 137 14.8	I 136 12.4	I 133 9.8	I 135 8.6	I 132 7.7	I 138 7.0	I 131 1.8	I 139 1.1
10.0 SEC.	I 134 19.5	I 136 18.7	I 137 13.8	I 136 12.4	I 133 10.5	I 135 9.3	I 132 8.3	I 138 4.4	I 131 1.9	XE 137 .6
20.0 SEC.	I 134 21.5	I 136 19.0	I 136 11.8	I 133 11.6	I 137 11.5	I 135 10.2	I 132 9.1	I 131 2.2	I 138 1.7	XE 137 1.1
50.0 SEC.	I 134 25.4	I 136 17.6	I 133 13.8	I 135 12.2	I 132 10.8	I 136 9.2	I 137 5.9	I 131 2.6	XE 137 2.2	XE 139 .2
60.0 SEC.	I 134 26.5	I 136 16.9	I 133 14.4	I 135 12.7	I 132 11.3	I 136 8.3	I 137 4.6	I 131 2.7	XE 137 2.4	XE 139 .2
100.0 SEC.	I 134 29.8	I 133 16.3	I 135 14.4	I 136 13.7	I 132 12.8	I 136 5.3	I 131 3.0	XE 137 2.8	I 137 1.7	XE 139 .1
3.3 MIN.	I 134 34.2	I 133 19.1	I 135 16.8	I 132 14.8	I 136 7.0	I 131 3.6	XE 137 2.6	I 136 1.5	I 137 .1	XE 135 .0
8.3 MIN.	I 134 36.6	I 133 21.7	I 135 19.0	I 132 16.5	I 131 4.1	XE 137 1.2	I 136 .7	XE 135 .1	XE 138 .0	CS 139 .0
16.7 MIN.	I 134 35.0	I 133 23.1	I 135 20.0	I 132 16.9	I 131 4.3	XE 135 .3	XE 137 .3	XE 138 .0	CS 138 .0	CS 139 .0
33.3 MIN.	I 134 30.9	I 133 25.2	I 135 21.4	I 132 17.1	I 131 4.8	XE 135 .7	CS 138 .0	XE 133 .0	XE 137 .0	XE 138 .0
60.0 MIN.	I 133 28.2	I 134 24.8	I 135 23.2	I 132 17.0	I 131 5.4	XE 135 1.3	XE 133 .0	CS 138 .0	XE 138 .0	HA 139 .0
1.4 HR.	I 133 30.7	I 135 24.5	I 134 20.1	I 132 16.6	I 131 6.0	XE 135 2.0	XE 133 .0	CS 138 .0	HA 139 .0	XE 138 .0
2.8 HR.	I 133 37.7	I 135 27.3	I 132 14.0	I 134 8.6	I 131 7.6	XE 135 4.6	XE 133 .1	CS 138 .0	BA 139 .0	I 130 .0
5.6 HR.	I 133 44.8	I 135 26.5	I 131 9.8	XE 135 9.5	I 132 7.9	I 134 1.2	XE 133 .3	I 130 .0	BA 139 .0	CS 138 .0
12.0 HR.	I 133 49.9	I 135 18.6	XE 135 15.9	I 131 13.2	I 132 1.5	XE 133 .8	I 134 .0	I 130 .0	BA 139 .0	LA 141 .0
13.9 HR.	I 133 50.6	XE 135 16.8	I 135 16.4	I 131 14.2	XE 133 1.0	I 132 .9	I 134 .0	I 130 .0	BA 139 .0	LA 141 .0
1.0 DAYS	I 133 52.5	I 131 19.9	XE 135 17.2	I 135 8.2	XE 133 2.1	I 132 .1	I 130 .0	BA 140 .0	I 134 .0	LA 140 .0
1.2 DAYS	I 133 52.6	I 131 22.3	XE 135 16.2	I 135 6.3	XE 133 2.6	I 132 .0	I 130 .0	BA 140 .0	LA 140 .0	CS 137 .0
2.3 DAYS	I 133 43.8	I 131 42.4	XE 133 7.1	XE 135 6.0	I 135 .7	I 130 .0	I 132 .0	BA 140 .0	HA 140 .0	CS 137 .0
4.0 DAYS	I 131 66.2	I 133 20.5	XE 133 12.7	XE 135 .6	I 135 .0	I 130 .0	LA 140 .0	BA 140 .0	CS 137 .0	I 129 .0
5.8 DAYS	I 131 78.2	XE 133 15.0	I 133 6.8	XE 135 .0	I 135 .0	LA 140 .0	BA 140 .0	I 130 .0	CS 137 .0	I 129 .0
10.0 DAYS	I 131 85.0	XE 133 14.6	I 133 .4	XE 135 .0	LA 140 .0	BA 140 .0	CS 137 .0	I 129 .0	CE 141 .0	CS 135 .0
11.4 DAYS	I 131 85.9	XE 133 14.0	I 133 .1	LA 140 .0	BA 140 .0	CS 137 .0	XE 135 .7	I 129 .0	CE 141 .0	CS 135 .0
23.1 DAYS	I 131 90.9	XE 133 9.1	LA 140 .0	I 133 .0	CS 137 .0	HA 140 .0	I 129 .0	CE 141 .0	CS 135 .0	PR 143 .0
30.0 DAYS	I 131 93.1	XE 133 6.9	LA 140 .0	CS 137 .0	BA 140 .0	I 129 .0	CE 141 .0	CS 135 .0	I 131 .0	PH 143 .0
57.9 DAYS	I 131 97.9	XE 133 2.1	CS 137 .0	LA 140 .0	BA 140 .0	I 129 .0	CE 141 .0	CS 135 .0	PR 143 .0	PR 144 .0
60.0 DAYS	I 131 98.1	XE 133 1.9	CS 137 .0	LA 140 .0	BA 140 .0	I 129 .0	CE 141 .0	CS 135 .0	PR 143 .0	PR 144 .0
115.7 DAYS	I 131 99.8	XE 133 .2	CS 137 .1	I 129 .0	LA 140 .0	CS 135 .0	CE 141 .0	CE 141 .0	PR 143 .0	PR 144 .0
150.0 DAYS	I 131 98.7	CS 137 1.1	I 129 .1	XE 133 .0	CS 135 .0	LA 140 .0	CE 141 .0	BA 140 .0	PR 144 .0	CE 144 .0
231.5 DAYS	CS 137 86.8	I 131 6.8	I 129 5.5	CS 135 .9	CF 141 .0	LA 140 .0	HA 140 .0	PR 144 .0	XE 133 .0	CE 144 .0
1.0 YRS.	CS 137 93.1	I 129 6.0	CS 135 .9	CF 141 .0	I 131 .0	PR 144 .0	CF 144 .0	LA 140 .0	BA 140 .0	PR 143 .0

Source 4 (100% Iodines), 200 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0 SEC.	KR 89 16.7	KR 90 14.4	KR 88 13.8	XE 138 12.9	XF 140 8.8	XE 139 8.5	XE 141 4.8	KR 91 4.4	KR 87 3.5	XE 135 3.0
1.0 SEC.	KR 89 17.4	KR 90 14.7	KR 88 14.4	XF 138 13.5	XE 140 8.7	XE 139 8.5	KR 91 4.3	KR 87 3.7	XE 141 3.4	XE 135 3.1
2.0 SEC.	KR 89 17.9	KR 88 14.9	KR 90 14.9	XF 138 13.9	XF 139 8.6	XE 140 8.5	KR 91 4.1	KR 87 3.8	XF 135 3.2	XE 141 2.3
5.0 SEC.	KR 89 18.8	KR 88 15.8	KR 90 14.8	XE 138 14.8	XE 139 8.7	XE 140 7.8	KR 87 4.0	XE 135 3.4	KR 91 3.4	XE 137 2.4
10.0 SEC.	KR 89 19.5	KR 88 16.7	XE 138 15.6	KR 90 14.1	XF 139 8.5	XE 140 6.4	KR 87 4.2	XE 135 3.6	XE 137 2.4	KR 91 2.4
20.0 SEC.	KR 89 20.3	KR 88 17.9	XE 138 16.6	KR 90 12.7	XE 139 7.7	KR 87 4.5	XE 140 4.1	XF 135 3.9	XE 137 2.6	KR 91 2.2
50.0 SEC.	KR 89 21.0	KR 88 20.7	XE 138 18.8	KR 90 7.4	XE 139 5.3	KR 87 5.2	XE 135 4.5	KR 90 3.2	CS 140 2.8	XE 137 2.7
60.0 SEC.	KR 89 21.5	KR 88 21.0	XF 138 19.3	KR 90 6.2	KR 87 5.4	XF 135 4.7	XE 139 4.6	KR 90 3.0	CS 140 2.8	XE 137 2.7
100.0 SEC.	KR 88 23.9	XF 138 20.9	KR 89 20.3	KR 87 6.0	XE 135 5.2	RB 90 4.3	KR 90 2.9	XE 137 2.7	XE 139 2.6	CS 140 2.2
3.3 MIN.	KR 88 27.7	XE 138 22.4	KR 89 16.4	KR 87 6.9	XE 135 6.1	RB 90 3.8	KR 89 3.7	CS 138 3.3	XE 137 2.3	XE 133 2.0
8.3 MIN.	KR 88 32.8	XF 138 21.2	CS 138 8.3	KR 87 8.0	XE 135 7.3	KR 89 6.8	WB 89 6.3	WB 88 2.8	XE 133 2.4	KR 89 1.3
16.7 MIN.	KR 88 35.9	XF 138 16.0	CS 138 14.2	KR 87 8.4	XF 135 8.2	RB 89 6.0	RB 88 5.4	XE 133 2.7	KR 89 1.2	KR 85 1.1
33.3 MIN.	KR 88 38.6	CS 138 18.7	XE 135 9.3	RB 88 9.1	KR 87 8.3	XE 138 8.2	RB 89 3.4	XE 133 3.1	KR 85 1.2	CS 139 .1
60.0 MIN.	KR 88 42.2	CS 138 17.3	RR 88 12.6	XF 135 10.9	KR 87 7.9	XE 133 3.7	XE 138 2.7	KR 85 1.4	HH 89 1.2	BA 139 .0
1.4 HR.	KR 88 44.7	RR 88 14.4	CS 138 13.6	XE 135 12.4	KR 87 7.5	XE 133 4.4	KR 85 1.5	XE 138 1.0	RB 89 .5	BA 139 .0
2.8 HR.	KR 88 48.6	XF 135 17.1	HH 88 16.5	XE 133 6.6	KR 87 5.4	CS 138 3.8	KR 85 1.9	XE 138 .0	RB 89 .0	KR 85 .0
5.6 HR.	KR 88 43.9	XF 135 24.9	RR 88 14.4	XE 133 11.8	KR 85 2.2	KR 87 2.1	CS 138 .2	KR 85 .0	SR 91 .0	BA 139 .0
12.0 HR.	XF 135 38.7	XF 133 28.9	KR 88 22.5	RR 88 7.7	KR 85 2.1	KR 87 .2	KR 85 .0	SR 91 .0	LA 140 .0	SR 92 .0
13.9 HR.	XF 135 40.6	XF 133 34.6	KR 88 17.1	RR 88 5.8	KR 85 1.9	KR 87 .1	KR 85 .0	SR 91 .0	LA 140 .0	SR 92 .0
1.0 DAYS	XF 133 60.8	XF 135 34.9	KR 88 2.6	RR 88 .9	KR 85 .7	KR 85 .4	KR 85 .1	SR 91 .0	LA 140 .0	BA 140 .0
1.2 DAYS	XF 133 68.0	XF 135 5.8	KR 85 .1	LA 140 .0	KR 85 .4	KR 85 .1	SR 91 .0	BA 140 .0	BA 140 .0	Y 92 .0
2.3 DAYS	XF 133 94.0	XF 135 .4	KR 85 .2	LA 140 .0	HA 140 .0	CE 141 .0	SR 91 .0	KR 88 .0	RB 88 .0	CF 141 .0
4.0 DAYS	XF 133 99.4	XE 135 .7	LA 140 .0	HA 140 .0	CE 141 .0	SR 91 .0	SR 91 .0	Y 91 .0	CF 143 .0	ZR 95 .0
5.8 DAYS	XF 133 99.7	KR 85 .4	LA 140 .0	BA 140 .0	CE 141 .0	Y 91 .0	SR 95 .0	NR 95 .0	CF 143 .0	WH 95 .0
10.0 DAYS	XF 133 99.6	KR 85 .5	LA 140 .0	BA 140 .0	CE 141 .0	Y 91 .0	SR 95 .0	NR 95 .0	Y 90 .0	PH 144 .0
11.6 DAYS	XF 133 94.5	KR 85 .2	LA 140 .0	BA 140 .0	CE 141 .0	Y 91 .0	SR 95 .0	NR 95 .0	Y 90 .0	PR 144 .0
23.1 DAYS	XF 133 97.8	KR 85 2.1	LA 140 .0	BA 140 .0	CE 141 .0	Y 91 .0	SR 95 .0	NR 95 .0	Y 90 .0	PR 144 .0
30.0 DAYS	XF 133 94.9	KR 85 4.9	LA 140 .0	BA 140 .0	CE 141 .0	Y 91 .0	SR 95 .0	NR 95 .0	Y 90 .0	PR 144 .0
57.9 DAYS	KR 85 66.2	XF 133 33.2	LA 140 .0	BA 140 .0	CE 141 .0	Y 91 .0	SR 95 .0	NR 95 .0	Y 90 .0	PR 144 .0
60.0 DAYS	KR 85 72.1	XE 135 27.4	LA 140 .0	BA 140 .0	CE 141 .0	Y 91 .0	SR 95 .0	NR 95 .0	Y 90 .0	PR 144 .0
115.7 DAYS	KR 85 99.9	LA 140 .0	BA 140 .0	Y 91 .0	CF 141 .0	Y 91 .0	SR 95 .0	NR 95 .0	Y 90 .0	PH 144 .0
150.0 DAYS	KR 85 100.0	LA 140 .0	BA 140 .0	Y 91 .0	CF 141 .0	Y 91 .0	SR 95 .0	NR 95 .0	Y 90 .0	PH 144 .0
231.5 DAYS	KR 85 100.0	Y 91 .0	LA 140 .0	Y 91 .0	CF 141 .0	Y 91 .0	SR 95 .0	NR 95 .0	Y 90 .0	PH 144 .0
1.0 YRS.	KR 85 100.0	Y 91 .0	Y 90 .0	NR 95 .0	CE 141 .0	Y 90 .0	ZR 95 .0	HA 140 .0	PH 144 .0	CF 144 .0

Source 5 (100% Noble Gases), Equilibrium, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO RETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0 SEC.	XE 137 17.7	XE 139 14.4	KR 91 14.2	KR 89 9.1	KR 90 8.8	XE 138 6.4	KR 92 5.8	KR 87 5.3	XE 140 5.1	XE 135 3.2
1.0 SEC.	XF 137 18.6	XE 139 14.9	KR 91 13.8	KR 89 9.5	KR 90 9.1	XE 138 6.8	KR 87 5.6	XE 140 5.1	KR 92 4.2	XE 135 3.4
2.0 SEC.	XF 137 19.2	XE 139 15.2	KR 91 13.2	KR 89 9.8	KR 90 9.2	XE 138 7.0	KR 87 5.8	XE 140 5.0	XE 135 3.5	KR 92 3.0
5.0 SEC.	XE 137 20.8	XE 139 15.7	KR 91 11.3	KR 89 10.6	KR 90 9.4	XE 138 7.6	KR 87 6.3	XE 140 4.7	XE 135 3.8	RB 92 2.1
10.0 SEC.	XF 137 22.5	XE 139 15.9	KR 89 11.4	KR 90 9.3	KR 91 8.4	XE 138 8.3	KR 87 6.9	XF 135 4.2	XE 140 4.0	KR 88 1.8
20.0 SEC.	XE 137 24.7	XF 139 15.1	KR 89 12.5	XF 138 9.4	KR 90 8.5	KR 87 7.8	XE 135 4.7	KR 91 4.3	XE 140 2.7	KR 88 2.1
50.0 SEC.	XE 137 27.6	KR 89 13.7	XE 138 11.2	XE 139 11.1	KR 87 9.5	XE 135 5.8	KR 90 5.4	CS 140 2.8	KR 88 2.5	RB 90 2.2
60.0 SEC.	XF 137 28.0	KR 89 13.8	XE 138 11.6	KR 87 10.0	XE 139 9.8	XF 135 6.1	KR 90 4.6	CS 140 2.7	KR 88 2.6	RB 90 2.4
100.0 SEC.	XE 137 28.7	KR 89 13.8	XE 138 13.0	KR 87 11.4	XE 135 7.0	XF 139 5.7	KR 88 3.0	RB 90 3.0	XE 133 2.4	KR 90 2.3
3.3 MIN.	XE 137 26.3	XE 138 14.8	KR 87 14.0	KR 89 11.9	XE 135 8.6	RB 88 3.9	KR 88 3.7	XF 133 2.9	RB 90 2.9	CS 139 2.3
8.3 MIN.	KR 87 17.9	XF 138 15.5	XF 137 14.3	RB 88 11.6	XE 135 11.5	CS 138 6.0	KR 89 5.3	KR 88 4.9	XE 133 3.9	RB 89 3.4
16.7 MIN.	RB 88 22.8	KR 87 19.2	XE 135 13.3	XE 138 12.0	CS 138 10.5	KR 88 5.5	XF 133 4.6	XE 137 3.7	RB 89 3.3	KR 85 1.9
33.3 MIN.	RB 88 35.1	KR 87 17.5	XF 135 13.8	CS 138 12.7	XF 138 5.6	KR 88 5.4	XF 133 4.8	KR 85 1.9	RB 89 1.7	KR 85 .5
60.0 MIN.	RB 88 44.0	KR 87 15.1	XF 135 14.6	CS 138 13.6	KR 88 5.4	XE 133 5.3	KR 85 2.0	XE 138 1.7	RB 89 .6	KR 85 .5
1.4 HR.	RB 88 47.8	XE 135 15.8	KR 87 13.5	CS 138 7.9	XF 133 5.9	KR 88 5.4	KR 85 2.0	XE 138 .6	BA 139 .9	BA 139 .1
2.8 HR.	RB 88 51.3	XE 135 20.4	KR 87 9.1	XE 133 8.3	KR 88 5.5	KR 85 2.4	CS 138 2.1	KR 85 .9	BA 139 .1	SR 91 .0
5.6 HR.	RB 88 44.7	XF 135 28.6	XE 133 14.2	KR 88 4.8	KR 87 3.4	KR 85 2.7	KR 85 2.2	KR 87 .2	SR 91 .0	BA 139 .0
12.0 HR.	XE 135 39.9	XE 133 31.4	RB 88 20.6	KR 85 3.4	KR 85 2.7	KR 88 1.6	KR 87 .1	SR 91 .0	SR 89 .0	Y 92 .0
13.9 HR.	XF 135 40.6	XF 133 36.6	RB 88 15.2	KR 85 4.0	KR 85 2.0	KR 88 1.6	KR 87 .1	SR 91 .0	BA 140 .0	Y 92 .0
1.0 DAYS	XF 133 58.5	XF 135 31.8	KR 85 6.7	RB 88 2.1	KR 85 .7	KR 88 .4	SR 89 .2	SR 91 .0	BA 140 .0	Y 91 .0
1.2 DAYS	XE 133 64.3	XE 135 26.7	KR 85 7.5	RB 88 .9	KR 85 .4	KR 88 .1	SR 89 .0	SR 91 .0	BA 140 .0	Y 91 .0
2.3 DAYS	XF 133 83.9	KR 85 11.1	XF 135 4.9	SR 89 .0	KR 85 .0	LA 140 .0	BA 140 .0	SR 91 .0	CS 137 .0	CE 141 .0
4.0 DAYS	XF 133 85.7	KR 85 14.0	XF 135 .3	SR 89 .0	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0	Y 90 .0	CE 141 .0
5.8 DAYS	XF 133 83.1	KR 85 16.9	SR 89 .0	XF 135 .0	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0	Y 90 .0	CE 141 .0
10.0 DAYS	XF 133 74.2	KR 85 25.7	SR 89 .0	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0	Y 90 .0	CE 141 .0	SR 90 .0
11.6 DAYS	XE 133 70.2	KR 85 29.8	SR 89 .0	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0	Y 90 .0	CE 141 .0	SR 90 .0
23.1 DAYS	KR 85 65.5	XE 133 34.4	SR 89 .0	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0	Y 90 .0	CE 141 .0	SR 90 .0
30.0 DAYS	KR 85 82.3	XE 133 17.6	SR 89 .0	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0	Y 90 .0	CE 141 .0	SR 90 .0
57.9 DAYS	KR 85 99.4	XE 133 .6	SR 89 .0	Y 91 .0	LA 140 .0	BA 140 .0	CS 137 .0	Y 90 .0	CE 141 .0	SR 90 .0
60.0 DAYS	KR 85 99.5	XE 133 .4	SR 89 .0	Y 91 .0	LA 140 .0	BA 140 .0	CS 137 .0	Y 90 .0	CE 141 .0	SR 90 .0
115.7 DAYS	KR 85 100.0	SR 89 .0	Y 91 .0	CS 137 .0	XE 133 .0	Y 90 .0	SR 90 .0	LA 140 .0	BA 140 .0	CE 141 .0
150.0 DAYS	KR 85 100.0	SR 89 .0	Y 91 .0	CS 137 .0	Y 90 .0	SR 90 .0	LA 140 .0	CE 141 .0	BA 140 .0	CE 141 .0
231.5 DAYS	KR 85 100.0	SR 89 .0	CS 137 .0	Y 91 .0	Y 90 .0	SR 90 .0	CE 141 .0	CS 135 .0	PR 144 .0	LA 140 .0
1.0 YRS.	KR 85 100.0	SR 89 .0	CS 137 .0	Y 90 .0	Y 91 .0	SR 90 .0	CS 135 .0	PR 144 .0	CE 141 .0	CE 144 .0

Source 5 (100% Noble Gases), Equilibrium, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO RETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	XF 137 17.7	XE 139 14.4	KR 91 14.2	KR 89 9.1	KR 90 8.8	XF 138 6.4	KR 92 5.4	KR 87 5.3	XF 140 5.1	XE 135 3.2
1.0 SEC.	XE 137 18.6	XE 139 14.9	KR 91 13.8	KR 89 9.5	KR 90 9.1	XF 138 6.8	KR 87 5.6	XE 140 5.1	KR 92 4.2	XE 135 3.4
2.0 SEC.	XF 137 19.2	XE 139 15.2	KR 91 13.2	KR 89 9.8	KR 90 9.2	XE 138 7.0	KR 87 5.8	XE 140 5.0	XF 135 3.5	KR 92 3.0
5.0 SEC.	XF 137 20.8	XF 139 15.7	KR 91 11.3	KR 89 10.6	KR 90 9.4	XE 138 7.6	KR 87 6.3	XF 140 4.7	XE 125 3.8	KR 92 2.1
10.0 SEC.	XF 137 22.5	XF 139 15.9	KR 89 11.5	KR 90 9.3	KR 91 8.4	XE 138 8.3	KR 87 6.9	XF 135 4.2	XE 140 4.0	KR 88 1.8
20.0 SEC.	XF 137 24.7	XF 139 15.1	KR 89 12.5	XE 138 9.4	KR 90 8.5	KR 87 7.8	XE 135 4.7	KR 91 4.3	XF 140 2.7	KR 88 2.1
30.0 SEC.	XE 137 27.6	KR 89 13.7	XE 138 11.2	XE 139 11.1	KR 87 9.5	XE 135 5.8	KR 90 5.5	CS 140 2.8	KR 88 2.5	RB 90 2.2
40.0 SEC.	XE 137 28.1	KR 89 13.8	XE 138 11.6	KR 87 10.0	XE 139 9.8	XE 135 6.1	KR 90 4.6	CS 140 2.7	KR 88 2.6	RB 90 2.4
60.0 SEC.	XF 137 28.7	KR 89 13.8	XE 138 13.0	KR 87 11.4	XE 135 7.0	XE 139 5.7	KR 88 3.0	RB 90 3.0	XE 133 2.4	KR 90 2.3
80.0 SEC.	XF 137 26.4	XE 138 14.8	KR 87 14.0	KR 89 11.9	XF 135 8.7	RB 88 3.9	KR 88 3.7	XE 133 2.9	RB 90 2.9	CS 139 2.3
3.3 MIN.	KR 87 17.9	XE 138 15.6	XE 137 14.3	RB 88 11.6	XE 135 11.5	CS 138 6.0	KR 89 5.3	KR 88 4.9	XE 133 3.9	RB 89 3.4
16.7 MIN.	RB 88 22.9	KR 87 19.3	XE 135 13.3	XE 138 12.1	CS 138 10.5	KR 88 5.5	XE 133 4.6	XE 137 3.7	RB 89 3.3	KR 85 1.9
33.3 MIN.	RB 88 35.2	KR 87 17.5	XE 135 13.0	CS 138 12.7	XE 138 5.7	KR 88 5.5	XF 133 4.8	KR 85 1.9	RB 89 1.7	CS 139 .4
60.0 MIN.	RB 88 44.1	KR 87 15.1	XE 135 14.7	CS 138 10.6	KR 88 5.4	XF 133 5.3	KR 85 2.0	XF 138 1.7	RB 89 .6	KR 85 .3
1.4 HR.	RB 88 48.0	XF 135 15.8	KR 87 13.6	CS 138 7.9	XF 133 5.9	KR 88 5.4	KR 85 2.0	XF 138 .6	KR 85 .4	RB 89 .2
2.8 HR.	RB 88 51.4	XF 135 20.4	KR 87 9.1	XE 133 8.4	KR 88 5.5	KR 85 2.4	CS 138 2.1	KR 85 .5	BA 139 .1	XE 138 .0
5.6 HR.	RB 88 45.0	XE 135 24.7	XE 133 14.3	KR 88 4.8	KR 87 3.5	KR 85 2.7	KR 85 .9	CS 138 .1	BA 139 .1	SR 91 .0
12.0 HR.	XE 135 40.5	XE 133 31.9	RB 88 20.9	KR 85 2.3	KR 88 2.2	KR 85 2.0	KR 87 .2	SR 91 .0	SR 89 .0	BA 139 .0
13.9 HR.	XE 135 41.3	XE 133 37.2	RB 88 15.4	KR 85 2.4	KR 85 2.0	KR 88 1.6	KR 87 .1	SR 91 .0	SR 89 .0	BA 139 .0
1.0 DAYS	XF 133 60.2	XE 135 32.7	KR 85 4.0	RB 88 2.1	KR 85 .7	KR 88 .2	SR 89 .0	SR 91 .0	BA 140 .0	Y 92 .0
1.2 DAYS	XE 133 66.4	XE 135 27.6	KR 85 4.5	RB 88 .9	KR 85 .4	KR 88 .1	SR 89 .0	SR 91 .0	BA 140 .0	Y 92 .0
2.3 DAYS	XF 133 68.0	KR 85 6.9	XE 135 5.1	SR 89 .0	KR 85 .0	LA 140 .0	HA 140 .0	SR 91 .0	HA 140 .0	LA 140 .0
4.0 DAYS	XF 133 91.0	KR 85 8.7	XF 135 .3	SR 89 .0	LA 140 .0	HA 140 .0	Y 91 .0	SR 91 .0	RB 88 .0	Y 91 .0
5.8 DAYS	XF 133 89.3	KR 85 10.6	SR 89 .0	XF 135 .0	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0	CS 137 .0	CE 141 .0
10.0 DAYS	XE 133 87.1	KR 85 16.9	SR 89 .0	LA 140 .0	RA 140 .0	Y 91 .0	CS 137 .0	Y 90 .0	CF 141 .0	SR 90 .0
11.6 DAYS	XE 133 86.0	KR 85 19.9	SR 89 .0	LA 140 .0	BA 140 .0	Y 91 .0	CS 137 .0	Y 90 .0	CE 141 .0	SR 90 .0
23.1 DAYS	KR 85 52.8	XE 133 47.1	SR 89 .1	LA 140 .0	RA 140 .0	Y 91 .0	CS 137 .0	Y 90 .0	CE 141 .0	SR 90 .0
30.0 DAYS	KR 85 73.2	XE 133 26.7	SR 89 .1	LA 140 .0	Y 91 .0	HA 140 .0	CS 137 .0	Y 90 .0	CF 141 .0	SR 90 .0
57.9 DAYS	KR 85 98.9	XE 133 .9	SR 89 .1	Y 91 .0	LA 140 .0	BA 140 .0	CS 137 .0	Y 90 .0	CE 141 .0	SR 90 .0
40.0 DAYS	KR 85 99.2	XF 133 .7	SR 89 .1	Y 91 .0	LA 140 .0	BA 140 .0	CS 137 .0	Y 90 .0	CE 141 .0	SR 90 .0
115.7 DAYS	KR 85 99.9	SR 89 .0	Y 91 .0	CS 137 .0	Y 90 .0	SR 90 .0	LA 140 .0	CE 141 .0	BA 140 .0	CE 141 .0
150.0 DAYS	KR 85 100.0	SR 89 .0	Y 91 .0	CS 137 .0	Y 90 .0	SR 90 .0	LA 140 .0	CE 141 .0	BA 140 .0	CE 141 .0
231.5 DAYS	KR 85 100.0	SR 89 .0	Y 91 .0	CS 137 .0	Y 90 .0	SR 90 .0	CE 141 .0	CS 135 .0	PR 144 .0	LA 140 .0
1.0 YRS.	KR 85 100.0	SR 89 .0	CS 137 .0	Y 90 .0	Y 91 .0	SR 90 .0	CS 135 .0	PR 144 .0	CE 141 .0	CE 144 .0

Source 5 (100% Noble Gases), 500 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0 SEC.	KR 89 16.7	KR 90 14.4	KR 8A 13.8	XE 13A 12.9	XE 140 8.8	XE 139 8.3	XE 141 4.8	KR 91 4.4	KR 87 3.5	XE 135 3.0
1.0 SFC.	KR 89 17.4	KR 90 14.7	KR 8A 14.4	XE 13A 13.5	XE 140 8.7	XE 139 8.5	KR 91 4.3	KR 87 3.7	XE 141 3.4	XE 135 3.1
2.0 SFC.	KR 89 17.9	KR 90 14.9	KR 8A 14.9	XE 13A 13.9	XE 139 8.6	XE 140 8.5	KR 91 4.1	KR 87 3.8	XE 135 3.2	XE 141 2.5
5.0 SFC.	KR 89 18.8	KR 8A 15.8	KR 90 14.8	XE 13A 14.8	XE 139 8.7	XE 140 7.8	KR 87 4.0	XF 135 3.4	KR 91 3.4	XE 137 2.4
10.0 SFC.	KR 89 19.5	KR 8A 16.7	XE 13B 15.6	KR 90 14.1	XE 139 8.5	XE 140 6.4	KR 87 4.2	XE 135 3.6	XE 137 2.4	KR 91 2.4
20.0 SFC.	KR 89 20.3	KR 8A 17.9	XE 13A 16.6	KR 90 12.2	XF 139 7.7	KR 87 4.5	XE 140 4.1	XE 135 3.9	XE 137 2.6	RB 91 2.2
50.0 SFC.	KR 89 21.0	KR 8A 20.7	XE 13B 18.8	KR 90 7.4	XE 139 5.3	KR 87 5.2	XE 135 4.5	RB 90 3.2	CS 140 2.8	XE 137 2.7
60.0 SFC.	KR 8A 21.5	KR 8A 21.0	XE 13A 19.3	KR 90 6.2	KR 87 5.4	XE 135 4.7	XF 139 4.6	RB 90 3.6	CS 140 2.8	XE 137 2.7
100.0 SEC.	KR 8A 23.9	XF 13A 20.9	KR 8A 20.3	KR 87 6.0	XE 135 5.2	RB 90 4.3	KR 90 2.9	XE 137 2.7	XE 139 2.6	CS 140 2.2
3.3 MIN.	KR 8A 27.7	XF 13A 22.4	KR 8A 16.4	KR 87 6.9	XE 135 6.1	RB 90 3.8	RB 89 3.7	CS 138 3.3	XF 137 2.3	XE 143 2.0
8.3 MIN.	KR 8B 32.8	XE 13B 21.2	CS 13A 8.3	KR 87 8.0	XE 135 7.3	KR 89 6.6	RB 89 6.3	KR 8B 2.8	XE 133 2.4	RB 90 1.3
16.7 MIN.	KR 8A 35.9	XE 13A 16.0	CS 13A 14.2	KR 87 8.4	XE 135 8.2	RB 89 6.0	RB 8B 5.4	XE 133 2.7	KR 89 1.2	KR 85 1.1
33.3 MIN.	KR 8A 38.6	CS 13A 18.7	XE 135 9.3	RA 8A 9.1	KR 87 8.3	XE 138 8.2	RB 89 3.4	XE 133 3.1	KR 85 1.2	CS 139 .1
60.0 MIN.	KR 8A 42.2	CS 13A 17.3	RA 8A 12.6	XE 135 10.9	KR 87 7.9	XE 133 3.7	XE 138 2.7	KR 85 1.4	RB 89 1.2	BA 139 .0
1.4 HR.	KR 8A 44.7	RA 8B 14.4	CS 13B 13.6	XE 135 12.4	KR 87 7.5	XE 133 4.4	KR 85 1.5	XF 138 1.0	HB 89 .5	BA 139 .0
2.8 HR.	KR 8A 48.6	XE 135 17.1	RA 8A 16.5	XE 135 13.6	KR 87 5.4	CS 138 3.8	KR 85 1.9	XF 138 .0	RB 89 .0	BA 139 .0
5.6 HR.	KR 8B 43.9	XF 135 24.9	RB 8A 14.9	XE 133 11.8	KR 85 2.2	KR 87 2.1	CS 138 .2	SR 91 .0	KR 85 .0	BA 139 .0
12.0 HR.	XF 135 38.7	XE 133 28.9	KR 8B 22.5	RA 8A 7.7	KR 85 2.1	KR 87 .2	KR 85 .0	SR 91 .0	LA 140 .0	SR 92 .0
13.0 HR.	XF 135 40.6	XE 133 34.6	KR 8B 17.1	RA 8A 5.8	KR 85 1.9	KR 87 .1	KR 85 .0	SR 91 .0	LA 140 .0	SR 92 .0
1.0 DAYS	XF 133 60.9	XE 135 34.9	KR 8A 2.6	RA 8A .9	KR 85 .7	KR 85 .0	SR 91 .0	LA 140 .0	BA 140 .0	SR 87 .0
1.2 DAYS	XF 133 68.1	XE 135 29.0	KR 8A 1.2	RA 8A .5	RA 8A .4	KR 85 .1	SR 91 .0	LA 140 .0	BA 140 .0	Y 92 .0
2.3 DAYS	XF 133 94.1	XE 135 5.6	KR 85 .1	LA 140 .0	KR 85 .0	SR 91 .0	BA 140 .0	KR 8A .0	RB 88 .0	CF 141 .0
4.0 DAYS	XF 133 99.5	XE 135 .4	KR 85 .1	LA 140 .0	BA 140 .0	SR 91 .0	KR 85 .0	CF 141 .0	Y 91 .0	CE 143 .0
5.8 DAYS	XF 133 99.8	KR 85 .2	LA 140 .0	BA 140 .0	CE 141 .0	Y 91 .0	XE 135 .0	Y 91 .0	CE 143 .0	ZR 95 .0
10.0 DAYS	XF 133 99.7	KR 85 .3	LA 140 .0	BA 140 .0	CE 141 .0	Y 91 .0	Y 91 .0	ZR 95 .0	CE 143 .0	NB 95 .0
11.6 DAYS	XE 133 99.7	KR 85 .3	LA 140 .0	BA 140 .0	CE 141 .0	Y 91 .0	Y 91 .0	ZR 95 .0	Y 90 .0	PH 144 .0
23.1 DAYS	XF 133 98.6	KR 85 1.2	LA 140 .0	BA 140 .0	CE 141 .0	Y 91 .0	ZR 95 .0	NB 95 .0	Y 90 .0	PH 144 .0
30.0 DAYS	XF 133 96.8	KR 85 3.0	LA 140 .0	BA 140 .0	CE 141 .0	Y 91 .0	ZR 95 .0	NB 95 .0	Y 90 .0	PH 144 .0
57.9 DAYS	KR 85 53.5	XE 133 45.7	LA 140 .0	BA 140 .0	CE 141 .0	Y 91 .0	ZR 95 .0	NB 95 .0	Y 90 .0	PH 144 .0
60.0 DAYS	KR 85 60.2	XF 133 38.9	LA 140 .0	BA 140 .0	CE 141 .0	Y 91 .0	ZR 95 .0	NB 95 .0	Y 90 .0	PH 144 .0
115.7 DAYS	KR 85 99.9	LA 140 .1	XF 133 .0	BA 140 .0	CE 141 .0	Y 91 .0	NB 95 .0	ZR 95 .0	Y 90 .0	PH 144 .0
150.0 DAYS	KR 85 100.0	LA 140 .0	BA 140 .0	Y 91 .0	CE 141 .0	XE 133 .0	NB 95 .0	ZR 95 .0	Y 90 .0	PR 144 .0
231.5 DAYS	KR 85 100.0	Y 91 .0	BA 140 .0	Y 91 .0	CE 141 .0	Y 90 .0	NB 95 .0	BA 140 .0	PR 144 .0	CE 144 .0
1.0 YRS.	KR 85 100.0	Y 91 .0	Y 90 .0	NB 95 .0	CE 141 .0	ZR 95 .0	PR 144 .0	CE 144 .0	CS 135 .0	LA 140 .0

Source 5 (100% Noble Gases), 5000 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	KR 89 16.7	KR 90 14.4	KR 88 13.8	XE 138 12.9	XF 140 8.8	XF 139 8.3	XE 141 4.8	KR 91 4.4	KR 87 3.5	XE 135 3.0
1.0 SEC.	KR 89 17.4	KR 90 14.7	KR 88 14.4	XE 138 13.5	XF 140 8.7	XE 139 8.5	KR 91 4.3	KR 87 3.7	XE 141 3.4	XE 135 3.1
2.0 SEC.	KR 89 17.9	KR 88 14.9	KR 90 14.9	XE 138 13.9	XE 139 8.6	XE 140 8.5	KR 91 4.1	KR 87 3.6	XE 135 3.2	XE 141 2.3
5.0 SEC.	KR 89 18.8	KR 88 15.8	KR 90 14.8	XE 138 14.8	XF 139 8.7	XE 140 7.8	KR 87 4.0	XE 135 3.4	KR 91 3.4	XE 137 2.4
10.0 SEC.	KR 89 19.5	KR 88 16.7	XF 138 15.6	KR 90 14.1	XE 139 8.5	XE 140 6.4	KR 87 4.2	XE 135 3.6	XF 137 2.4	KR 91 2.4
20.0 SEC.	KR 89 20.3	KR 88 17.9	XF 138 16.6	KR 90 12.2	XF 139 7.7	KR 87 4.5	XE 140 4.1	XE 135 3.9	XF 137 2.6	HB 91 2.2
50.0 SEC.	KR 89 21.0	KR 88 20.7	XE 138 18.8	KR 90 7.4	XE 139 5.3	KR 87 5.2	XE 135 4.5	RB 90 3.2	CS 140 2.8	XE 137 2.7
60.0 SEC.	KR 88 21.5	KR 89 21.0	XE 138 19.3	KR 90 6.2	KR 87 5.4	XE 135 4.7	XE 139 4.6	RB 90 3.6	CS 140 2.8	XE 137 2.7
100.0 SEC.	KR 88 23.9	XE 138 20.9	KR 89 20.3	KR 87 6.0	XE 135 5.2	RB 90 4.3	KR 90 2.9	XE 137 2.7	XE 139 2.6	CS 140 2.2
3.3 MIN.	KR 88 27.7	XE 138 22.4	KR 89 16.4	KR 87 6.9	XE 135 6.1	RB 90 3.8	RB 89 3.7	CS 138 3.3	XE 137 2.3	XE 133 2.0
8.3 MIN.	KR 88 32.8	XE 138 21.2	CS 138 8.3	KR 87 8.0	XF 135 7.3	KR 89 6.6	RB 89 6.3	RB 88 5.4	XE 133 2.7	KR 89 1.2
16.7 MIN.	KR 88 35.9	XE 138 16.0	CS 138 14.2	KR 87 8.4	XF 135 8.2	RB 89 6.0	RB 88 5.4	XE 133 3.1	KR 85 1.2	CS 139 1.1
33.3 MIN.	KR 88 38.6	CS 138 17.3	RB 88 9.3	RB 88 9.1	KR 87 7.9	XF 133 3.7	XE 138 2.7	KR 85 1.4	RB 89 1.2	BA 139 0.0
60.0 MIN.	KR 88 42.2	CS 138 17.3	RB 88 12.6	XE 135 10.9	KR 87 7.9	XF 133 3.7	XE 138 2.7	KR 85 1.4	RB 89 1.2	BA 139 0.0
1.4 HR.	KR 88 44.7	RB 88 14.4	CS 138 13.6	XE 135 12.4	KR 87 7.5	XE 133 4.4	KR 85 1.5	XE 138 1.0	RB 89 1.5	BA 139 0.0
2.8 HR.	KR 88 48.6	XF 135 17.1	RB 88 16.5	XE 133 6.6	KR 87 5.4	CS 138 3.8	KR 85 1.9	XF 138 0.0	RB 89 0.0	BA 139 0.0
5.6 HR.	KR 88 43.9	XE 135 24.9	RB 88 14.9	XE 133 11.8	KR 85 2.2	KR 87 2.1	CS 138 2.2	SR 91 0.0	BA 139 0.0	SR 92 0.0
12.0 HR.	XF 135 38.7	XF 133 28.9	KR 88 22.5	RB 88 7.7	KR 85 2.1	KR 87 2.2	SR 91 0.0	KR 85 0.0	LA 140 0.0	SR 92 0.0
13.9 HR.	XF 135 40.6	XE 133 34.6	KR 88 17.1	RB 88 5.8	KR 85 1.9	KR 87 1.1	SR 91 0.0	KR 85 0.0	LA 140 0.0	SR 92 0.0
1.0 DAYS	XE 133 60.9	XF 135 34.9	KR 88 2.6	RB 88 0.9	KR 85 0.7	SR 91 0.0	KR 85 0.0	LA 140 0.0	BA 140 0.0	KR 87 0.0
1.2 DAYS	XF 133 68.1	XE 135 29.9	KR 88 1.2	KR 85 0.5	RB 88 0.4	SR 91 0.0	KR 85 0.0	LA 140 0.0	BA 140 0.0	Y 92 0.0
2.3 DAYS	XF 133 94.2	XF 135 5.8	LA 140 0.0	KR 85 0.0	KR 85 0.0	SR 91 0.0	BA 140 0.0	KR 88 0.0	RB 88 0.0	CE 141 0.0
4.0 DAYS	XE 133 99.6	XE 135 4.4	LA 140 0.0	KR 85 0.0	BA 140 0.0	SR 91 0.0	KR 85 0.0	CE 141 0.0	Y 91 0.0	CE 143 0.0
5.8 DAYS	XE 133 99.9	LA 140 0.0	KR 85 0.0	XF 135 0.0	BA 140 0.0	CE 141 0.0	SR 91 0.0	Y 91 0.0	CE 143 0.0	ZR 95 0.0
10.0 DAYS	XF 133 99.9	LA 140 0.0	KR 85 0.0	BA 140 0.0	CF 141 0.0	XE 135 0.0	Y 91 0.0	ZR 95 0.0	NB 95 0.0	CE 143 0.0
11.6 DAYS	XF 133 99.9	LA 140 0.0	KR 85 0.0	BA 140 0.0	CF 141 0.0	Y 91 0.0	XE 135 0.0	ZR 95 0.0	CE 143 0.0	NB 95 0.0
23.1 DAYS	XF 133 99.9	KR 85 0.2	LA 140 0.1	BA 140 0.0	CE 141 0.0	Y 91 0.0	ZR 95 0.0	NB 95 0.0	Y 90 0.0	PR 144 0.0
30.0 DAYS	XF 133 99.4	KR 85 0.4	LA 140 0.2	BA 140 0.1	CE 141 0.0	Y 91 0.0	ZR 95 0.0	NB 95 0.0	Y 90 0.0	PR 144 0.0
57.9 DAYS	XF 133 84.3	KR 85 14.2	LA 140 1.4	BA 140 0.1	CF 141 0.0	Y 91 0.0	ZR 95 0.0	NB 95 0.0	Y 90 0.0	PR 144 0.0
60.0 DAYS	XE 133 80.4	KR 85 17.9	LA 140 1.5	BA 140 0.1	CF 141 0.0	Y 91 0.0	ZR 95 0.0	NB 95 0.0	Y 90 0.0	PR 144 0.0
115.7 DAYS	KR 85 99.2	LA 140 0.4	XF 133 0.3	BA 140 0.0	CF 141 0.0	Y 91 0.0	NB 95 0.0	ZR 95 0.0	Y 90 0.0	PR 144 0.0
150.0 DAYS	KR 85 99.9	LA 140 0.1	LA 140 0.0	Y 91 0.0	CE 141 0.0	XE 133 0.0	NB 95 0.0	ZR 95 0.0	Y 90 0.0	PR 144 0.0
231.5 DAYS	KR 85 100.0	Y 91 0.0	LA 140 0.0	CE 141 0.0	NB 95 0.0	Y 90 0.0	ZR 95 0.0	BA 140 0.0	PR 144 0.0	CF 144 0.0
1.0 YRS.	KR 85 100.0	Y 91 0.0	Y 90 0.0	NB 95 0.0	CF 141 0.0	ZR 95 0.0	PR 144 0.0	CE 144 0.0	CS 135 0.0	LA 140 0.0

Source 5 (100% Noble Gases), 500 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO RETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	XF 137 17.7	XF 139 14.4	KR 91 14.2	KR 89 9.1	KR 90 8.8	XE 13A 6.4	KR 92 5.8	KR 87 5.3	XE 140 5.1	XE 135 3.2
1.0 SEC.	XE 137 18.6	XF 139 14.9	KR 91 13.8	KR 89 9.5	KR 90 9.1	XF 13A 6.8	KR 87 5.6	XE 140 5.1	KR 92 4.2	XF 135 3.4
2.0 SEC.	XF 137 19.3	XF 139 15.2	KR 91 13.2	KR 89 9.8	KR 90 9.2	XF 13A 7.0	KR 87 5.8	XE 140 5.1	XE 135 3.5	KR 92 3.0
5.0 SEC.	XF 137 20.8	XF 139 15.8	KR 91 11.3	KR 89 10.6	KR 90 9.4	XE 13A 7.6	KR 87 6.3	XE 140 4.7	XE 135 3.8	RB 92 2.1
10.0 SEC.	XF 137 22.5	XF 139 15.9	KR 89 11.5	KR 90 9.3	KR 91 8.4	XE 13A 8.4	KR 87 6.9	XE 135 4.2	XE 140 4.0	KR 88 1.8
20.0 SEC.	XF 137 24.7	XF 139 15.2	KR 89 12.5	XF 13A 9.4	KR 90 8.5	KR 87 7.8	XE 135 4.7	KR 91 4.3	XE 140 2.7	KR 88 2.1
50.0 SEC.	XE 137 27.7	KR 89 13.7	XE 13A 11.2	XF 139 11.1	KR 87 9.6	XE 135 5.8	KR 90 5.5	CS 140 2.8	KR 88 2.5	RB 90 2.2
100.0 SEC.	XF 137 28.7	KR 89 13.8	XE 13A 11.6	KR 87 10.0	XF 139 9.8	XE 135 6.1	KR 90 4.6	CS 140 2.7	KR 88 2.6	RB 90 2.4
3.3 MIN.	XF 137 26.4	XE 13A 14.9	KR 87 14.0	KR 89 11.5	XE 135 7.0	XE 139 5.7	KR 8A 3.0	WB 90 3.0	XE 133 2.4	KR 90 2.3
8.3 MIN.	KR 87 17.9	XE 13A 15.6	XF 137 14.3	RB 8A 11.7	XF 135 11.5	CS 13A 6.0	KR 89 5.3	KR 88 4.9	XF 133 3.9	RB 89 3.4
16.7 MIN.	OR 8A 22.9	KR 87 19.3	XE 135 13.3	XE 13A 12.1	CS 13A 10.5	KR 8A 5.5	XE 133 4.6	XE 137 3.7	RB 89 3.3	KR 85 1.9
33.3 MIN.	RB 8A 35.3	KR 87 17.6	XF 135 13.8	CS 13A 12.7	XF 138 5.7	KR 8A 5.5	XE 133 4.8	KR 85 1.9	RB 89 1.7	CS 139 4.4
60.0 MIN.	RB 8A 44.3	KR 87 15.2	XE 135 14.7	CS 13A 10.6	KR 8A 5.4	XE 133 5.3	KR 85 2.0	XF 138 1.7	RB 89 1.6	BA 139 4.2
1.4 HR.	RB 8A 48.1	XF 135 15.0	KR 87 13.6	CS 13A 8.0	XF 133 5.9	KR 8A 5.4	KR 85 2.0	XF 138 1.6	RB 89 1.6	BA 139 4.2
2.8 HR.	RB 8A 51.7	XF 135 20.5	KR 87 9.1	XE 133 8.4	KR 88 5.5	KR 85 2.4	CS 13A 2.1	BA 139 1.1	KR 85 1.1	XE 138 0.0
5.6 HR.	RB 8A 45.3	XF 135 28.9	XF 133 14.0	KR 8A 4.8	KR 87 3.5	KR 85 2.7	KR 85 1.1	CS 138 1.1	BA 139 1.1	SR 91 0.0
12.0 HR.	XE 135 41.2	XE 133 32.4	RB 8A 21.3	KR 85 2.3	KP 88 2.3	KR 85 3.3	KR 87 2.2	SR 91 0.0	SR 89 0.0	BA 139 0.0
13.9 HR.	XE 135 42.1	XE 133 37.9	RB 8A 15.7	KR 85 2.0	KR 8A 1.7	KR 85 3.3	KR 87 1.1	SR 91 0.0	SR 89 0.0	Y 92 0.0
1.0 DAYS	XE 133 42.3	XE 135 33.9	RB 8A 2.2	KR 85 1.7	KR 85 1.6	KR 8A 2.2	SR 89 0.0	SR 91 0.0	BA 140 0.0	Y 92 0.0
1.2 DAYS	XF 133 49.0	XE 135 28.7	RB 8A 1.0	KR 85 1.0	KR 85 1.0	KR 8A 1.0	SR 89 0.0	SR 91 0.0	BA 140 0.0	LA 140 0.0
2.3 DAYS	XF 133 93.5	XE 135 5.5	KR 85 1.1	SR 89 0.0	KR 85 0.0	LA 140 0.0	HA 140 0.0	SR 91 0.0	WB 88 0.0	Y 91 0.0
4.0 DAYS	XF 133 98.3	KR 85 1.4	XF 135 1.3	SR 89 0.0	LA 140 0.0	BA 140 0.0	Y 91 0.0	SR 91 0.0	CS 137 0.0	CE 141 0.0
5.8 DAYS	XF 133 98.3	KR 85 1.7	SR 89 0.0	XF 135 0.0	LA 140 0.0	BA 140 0.0	Y 91 0.0	SR 91 0.0	CS 137 0.0	Y 90 0.0
10.0 DAYS	XF 133 97.1	KR 85 2.8	SR 89 0.0	LA 140 0.0	BA 140 0.0	Y 91 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0	SR 90 0.0
11.6 DAYS	XE 133 96.5	KR 85 3.5	SR 89 0.1	LA 140 0.0	BA 140 0.0	Y 91 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0	SR 90 0.0
23.1 DAYS	XF 133 85.9	KR 85 13.9	SR 89 0.2	LA 140 0.0	BA 140 0.0	Y 91 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0	SR 90 0.0
30.0 DAYS	XF 133 71.4	KR 85 28.2	SR 89 0.4	LA 140 0.0	Y 91 0.0	BA 140 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0	SR 90 0.0
57.9 DAYS	KR 85 93.0	XF 133 6.1	SR 89 0.8	Y 91 0.0	LA 140 0.0	BA 140 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0	SR 90 0.0
60.0 DAYS	KR 85 94.4	XF 133 4.7	SR 89 0.8	Y 91 0.0	LA 140 0.0	BA 140 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0	SR 90 0.0
115.7 DAYS	KR 85 99.6	SR 89 0.4	Y 91 0.0	CS 137 0.0	XE 133 0.0	Y 90 0.0	LA 140 0.0	SR 90 0.0	BA 140 0.0	CE 141 0.0
150.0 DAYS	KR 85 99.7	SR 89 0.3	Y 91 0.0	CS 137 0.0	Y 90 0.0	SR 90 0.0	LA 140 0.0	CE 141 0.0	BA 140 0.0	CE 141 0.0
231.5 DAYS	KR 85 99.9	SR 89 0.1	CS 137 0.0	Y 91 0.0	Y 90 0.0	SR 90 0.0	CF 141 0.0	CS 135 0.0	PR 144 0.0	LA 140 0.0
1.0 YRS.	KR 85 100.0	SR 89 0.0	CS 137 0.0	Y 90 0.0	Y 91 0.0	SR 90 0.0	CS 135 0.0	PR 144 0.0	CF 141 0.0	CE 144 0.0

Source 5 (100% Noble Gases), 500 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0 SEC.	KR 89 16.7	KR 90 14.4	KR 88 13.8	XF 13A 12.9	XF 140 8.8	XF 139 8.3	XF 141 4.4	KR 91 4.4	KR 87 3.5	XF 135 3.0
1,0 SFC.	KR 89 17.4	KR 90 14.7	KR 88 14.4	XF 13A 13.5	XF 140 8.7	XF 139 8.5	KR 91 4.3	KR 87 3.7	XF 141 3.4	XF 135 3.1
2,0 SFC.	KR 89 17.9	KR 88 14.9	KR 90 14.9	XF 138 13.9	XF 139 8.6	XF 140 8.5	KR 91 4.1	KR 87 3.8	XF 135 3.2	XF 141 2.3
5,0 SFC.	KR 89 18.8	KR 88 15.8	KR 90 14.8	XF 13A 14.8	XF 139 8.7	XF 140 7.8	KR 87 4.0	XF 135 3.4	KR 91 3.4	XF 137 2.4
10,0 SEC.	KR 89 19.5	KR 88 16.7	XF 13A 15.6	KR 90 14.1	XF 139 8.5	XF 140 6.4	KR 87 4.2	XF 135 3.6	XF 137 2.4	KR 91 2.4
20,0 SFC.	KR 89 20.3	KR 88 17.9	XF 13A 16.6	KR 90 12.2	XF 139 7.7	KR 87 4.5	XF 140 4.1	XF 135 3.9	XF 137 2.6	HR 91 2.2
50,0 SFC.	KR 89 21,0	KR 88 20,7	XF 13A 18,8	KR 90 7,4	XF 139 5,3	KR 87 5,2	XF 135 4,5	RB 90 3,2	CS 140 2,8	XF 137 2,7
60,0 SFC.	KR 88 21,5	KR 89 21,0	XF 138 19,3	KR 90 6,2	KR 87 5,4	XF 135 4,7	XF 139 4,6	RB 90 3,6	CS 140 2,8	XF 137 2,7
100,0 SFC.	KR 88 21,9	XF 13A 20,9	KR 89 20,3	KR 87 6,0	XF 135 5,2	HR 90 4,3	KR 90 2,9	XF 137 2,7	XF 139 2,6	CS 140 2,2
3,3 MIN.	KR 88 27,7	XF 13A 22,4	KR 89 16,4	KR 87 6,9	XF 135 6,1	RB 90 3,8	RB 89 3,7	CS 138 5,3	XF 137 2,3	XF 133 2,0
8,3 MIN.	KR 88 32,8	XF 13A 21,2	CS 13A 8,3	KR 87 8,0	XF 135 7,3	KR 89 6,6	RB 89 6,3	RB 88 2,8	XF 133 2,4	RB 90 1,3
16,7 MIN.	KR 88 35,9	XF 13A 18,0	CS 13A 14,2	KR 87 8,4	XF 135 8,2	RB 89 6,0	RB 88 5,4	XF 133 2,7	KR 89 1,2	KR 85 1,1
33,3 MIN.	KR 88 38,6	CS 138 18,7	XF 135 9,3	RB 88 9,1	KR 87 8,3	XF 138 8,2	RB 89 3,4	XF 133 3,1	KR 85 1,2	CS 139 1,1
60,0 MIN.	KR 88 42,2	CS 13A 17,3	RB 8A 12,6	XF 135 10,9	KR 87 7,9	XF 133 3,7	XF 138 2,7	KR 85 1,4	RB 89 1,2	BA 139 1,0
1,4 HR.	KR 88 44,7	RB 8A 14,4	CS 13A 13,6	XF 135 12,4	KR 87 7,5	XF 133 4,4	KR 85 1,5	XF 138 1,0	RB 89 1,5	BA 139 1,0
2,8 HR.	KR 88 48,6	XF 135 17,1	RB 8A 16,5	XF 135 11,8	KR 85 2,2	CS 138 2,1	KR 85 1,9	XF 138 1,0	RB 89 1,0	BA 139 1,0
5,6 HR.	KR 88 43,9	XF 135 24,9	RB 8A 14,9	XF 133 11,8	KR 85 2,2	CS 138 2,1	SR 91 1,0	BA 139 1,0	SR 92 1,0	SR 92 1,0
12,0 HR.	XF 135 38,7	XF 133 28,9	KR 8A 22,5	RB 8A 7,7	KR 85 2,1	KR 87 1,9	SR 91 1,0	KR 85 1,0	LA 140 1,0	SR 92 1,0
13,9 HR.	XF 135 40,6	XF 133 34,6	KR 8A 17,1	RB 8A 5,8	KR 85 1,9	KR 87 1,9	SR 91 1,0	KR 85 1,0	LA 140 1,0	SR 92 1,0
1,0 DAYS	XF 133 60,9	XF 135 38,9	KR 8A 2,6	RB 8A 1,2	KR 85 1,9	SR 91 1,0	LA 140 1,0	KR 85 1,0	HA 140 1,0	Y 92 1,0
1,2 DAYS	XF 133 68,1	XF 135 39,9	KR 8A 1,2	KR 85 1,9	SR 91 1,0	LA 140 1,0	KR 85 1,0	HA 140 1,0	Y 92 1,0	CE 141 1,0
2,3 DAYS	XF 133 94,2	XF 135 5,4	LA 140 1,0	KR 85 1,0	BA 140 1,0	CF 141 1,0	Y 91 1,0	CF 143 1,0	NR 95 1,0	NR 95 1,0
4,0 DAYS	XF 133 99,6	XF 135 5,4	LA 140 1,0	KR 85 1,0	BA 140 1,0	CF 141 1,0	Y 91 1,0	CF 143 1,0	NR 95 1,0	NR 95 1,0
5,8 DAYS	XF 133 99,9	LA 140 1,0	CF 141 1,0	KR 85 1,0	BA 140 1,0	CF 141 1,0	Y 91 1,0	CF 143 1,0	NR 95 1,0	NR 95 1,0
10,0 DAYS	XF 133 99,9	LA 140 1,0	CF 141 1,0	KR 85 1,0	BA 140 1,0	CF 141 1,0	Y 91 1,0	CF 143 1,0	NR 95 1,0	NR 95 1,0
11,6 DAYS	XF 133 99,9	LA 140 1,0	CF 141 1,0	KR 85 1,0	BA 140 1,0	CF 141 1,0	Y 91 1,0	CF 143 1,0	NR 95 1,0	NR 95 1,0
23,1 DAYS	XF 133 99,8	LA 140 1,0	CF 141 1,0	KR 85 1,0	BA 140 1,0	CF 141 1,0	Y 91 1,0	CF 143 1,0	NR 95 1,0	NR 95 1,0
30,0 DAYS	XF 133 99,6	LA 140 1,0	CF 141 1,0	KR 85 1,0	BA 140 1,0	CF 141 1,0	Y 91 1,0	CF 143 1,0	NR 95 1,0	NR 95 1,0
57,9 DAYS	XF 133 92,0	KR 85 6,4	LA 140 1,0	CF 141 1,0	Y 91 1,0	CF 143 1,0	NR 95 1,0	PR 144 1,0	PR 144 1,0	PR 144 1,0
60,0 DAYS	XF 133 89,9	KR 85 8,2	LA 140 1,0	CF 141 1,0	Y 91 1,0	CF 143 1,0	NR 95 1,0	PR 144 1,0	PR 144 1,0	PR 144 1,0
115,7 DAYS	KR 85 98,1	LA 140 1,0	CF 141 1,0	Y 91 1,0	CF 143 1,0	NR 95 1,0	PR 144 1,0	PR 144 1,0	PR 144 1,0	PR 144 1,0
150,0 DAYS	KR 85 99,8	LA 140 1,0	CF 141 1,0	Y 91 1,0	CF 143 1,0	NR 95 1,0	PR 144 1,0	PR 144 1,0	PR 144 1,0	PR 144 1,0
231,5 DAYS	KR 85 100,0	Y 91 1,0	CF 141 1,0	Y 91 1,0	CF 143 1,0	NR 95 1,0	PR 144 1,0	PR 144 1,0	PR 144 1,0	PR 144 1,0
1.0 YRS.	KR 85 100,0	Y 91 1,0	Y 90 1,0	NR 95 1,0	CF 141 1,0	ZR 45 1,0	PR 144 1,0	CE 144 1,0	CS 135 1,0	LA 140 1,0

Source 5 (100% Noble Gases), 200 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCAL

	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	XF 137 17.7	XE 139 14.4	KR 91 14.2	KR 89 9.1	KR 90 8.8	XF 13A 6.4	KR 92 5.8	KR 87 5.3	XF 140 5.1	XF 135 3.2
1.0 SEC.	XF 137 18.6	XF 139 14.9	KR 91 13.8	KR 89 9.5	KR 90 9.1	XF 13A 6.8	KR 87 5.6	XE 140 5.1	KR 92 4.2	XE 135 3.4
2.0 SEC.	XE 137 19.3	XE 139 15.2	KR 91 13.2	KR 89 9.8	KR 90 9.2	XE 13A 7.0	KR 87 5.8	XE 140 5.1	XF 135 3.5	KR 92 3.0
5.0 SEC.	XE 137 20.8	XF 139 15.8	KR 91 11.3	KR 89 10.6	KR 90 9.4	XF 13A 7.6	KR 87 6.3	XE 140 4.7	XE 135 3.8	RB 92 2.1
10.0 SEC.	XE 137 22.5	XE 139 15.9	KR 89 11.5	KR 90 9.3	KR 91 8.4	XE 13A 8.4	KR 87 6.9	XE 135 4.2	XE 140 4.0	KR 88 1.8
20.0 SEC.	XE 137 24.7	XF 139 15.2	KR 89 12.5	XE 13A 9.4	KR 90 8.5	KR 87 7.8	XE 135 4.7	KR 91 4.3	XF 140 2.7	KR 88 2.1
50.0 SEC.	XF 137 27.7	KR 89 13.7	XF 13A 11.2	XE 139 11.1	KR 87 9.6	XE 135 5.8	KR 90 5.5	CS 140 2.8	KR 88 2.5	RB 90 2.2
100.0 SEC.	XF 137 28.1	KR 89 13.8	XE 13A 11.6	KR 87 10.0	XF 139 9.8	XE 135 6.1	KR 90 4.6	CS 140 2.7	KR 88 2.6	KB 90 2.4
3.3 MIN.	XF 137 28.4	KR 89 13.8	XF 13A 11.0	KR 87 11.5	XE 135 7.0	XF 139 5.7	KR 88 3.0	RB 90 2.9	XF 133 2.4	KR 90 2.3
8.3 MIN.	KR 87 17.9	XF 13A 14.9	KR 87 14.0	KR 89 11.9	XE 135 8.7	RB 88 3.9	KR 88 3.7	XE 133 2.9	RB 90 2.9	CS 139 2.3
16.7 MIN.	RR 8A 22.9	XF 13A 15.6	XF 137 14.4	RB 8A 11.7	XE 135 11.6	CS 13A 6.0	KR 89 5.3	KR 88 4.9	XE 133 3.9	RR 89 3.4
33.3 MIN.	RR 8A 35.3	KR 87 19.3	XE 135 13.3	XE 13A 12.1	CS 138 10.5	KR 88 5.5	XF 133 4.6	XE 137 3.7	RB 89 3.3	KR 85 1.9
60.0 MIN.	RR 8A 44.3	KR 87 15.2	XE 135 14.7	CS 138 10.6	KR 88 5.4	XF 133 5.3	KR 85 2.0	XE 13A 1.7	RB 89 1.7	CS 139 1.4
1.4 HR.	RR 8A 48.1	XE 135 15.9	KR 87 13.6	CS 13A 8.0	XE 133 5.9	KR 88 5.4	KR 85 2.1	XE 13A 1.6	RB 89 1.6	BA 139 1.2
2.8 HR.	RR 8A 51.7	XE 135 20.5	KR 87 9.1	XE 133 8.4	KR 88 5.5	KR 85 2.4	CS 138 2.1	BA 139 1.1	KR 85 1.0	XE 138 1.0
5.6 HR.	RR 8A 45.3	XF 135 29.0	XE 133 14.4	KR 88 4.8	KR 87 3.5	KR 85 2.7	CS 138 1.1	BA 139 1.1	KR 85 1.1	SR 91 0.0
12.0 HR.	XF 135 41.2	XF 133 12.5	RR 8A 21.3	KR 85 2.3	KR 8A 2.3	KR 87 1.7	KR 85 1.2	KR 85 1.1	SR 91 0.0	SR 89 0.0
13.9 HR.	XF 135 42.2	XF 133 38.0	RR 8A 15.8	KR 85 2.0	KR 88 1.7	KR 85 1.2	KR 85 1.1	SR 91 0.0	SR 89 0.0	BA 139 0.0
1.0 DAYS	XE 135 62.6	XE 135 34.0	RR 8A 2.2	KR 85 1.0	KR 85 1.2	KR 8A 1.2	SR 84 0.0	SR 91 0.0	BA 140 0.0	Y 92 0.0
1.2 DAYS	XF 131 69.3	XF 135 28.8	RR 8A 1.0	KR 85 1.0	KR 85 1.3	KR 88 1.1	SR 89 0.0	SR 91 0.0	BA 140 0.0	LA 140 0.0
2.3 DAYS	XF 133 94.0	XF 135 5.5	KR 85 1.0	KR 85 1.0	KR 85 1.0	LA 140 0.0	BA 140 0.0	SR 91 0.0	RB 88 0.0	Y 91 0.0
4.0 DAYS	XF 133 99.1	KR 85 1.6	XE 135 1.3	SR 89 0.0	LA 140 0.0	BA 140 0.0	Y 91 0.0	SR 91 0.0	CS 137 0.0	CF 141 0.0
5.8 DAYS	XF 133 99.2	KR 85 1.7	SR 89 0.0	XE 135 0.0	LA 140 0.0	BA 140 0.0	Y 91 0.0	CS 137 0.0	Y 90 0.0	CF 141 0.0
10.0 DAYS	XF 133 98.7	RR 85 1.2	SR 89 0.0	LA 140 0.0	BA 140 0.0	Y 91 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0	SR 90 0.0
11.6 DAYS	XF 133 98.5	KR 85 1.5	SR 89 0.0	LA 140 0.0	BA 140 0.0	Y 91 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0	SR 90 0.0
23.1 DAYS	XF 133 93.5	KR 85 6.2	SR 89 0.0	LA 140 0.0	BA 140 0.0	Y 91 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0	SR 90 0.0
30.0 DAYS	XF 133 95.6	KR 85 13.9	SR 89 0.0	LA 140 0.0	BA 140 0.0	Y 91 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0	SR 90 0.0
47.9 DAYS	KR 85 84.4	XE 133 13.6	SR 89 1.9	Y 91 0.0	LA 140 0.0	BA 140 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0	SR 90 0.0
60.0 DAYS	KR 85 87.4	XE 133 10.8	SR 89 1.9	Y 91 0.0	LA 140 0.0	BA 140 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0	SR 90 0.0
115.7 DAYS	KR 85 98.9	SR 89 1.0	Y 91 0.0	CS 137 0.0	Y 90 0.0	SR 90 0.0	LA 140 0.0	CE 141 0.0	BA 140 0.0	CE 141 0.0
150.0 DAYS	KR 85 99.3	SR 89 0.6	Y 91 0.0	CS 137 0.0	Y 90 0.0	SR 90 0.0	LA 140 0.0	CE 141 0.0	BA 140 0.0	CE 141 0.0
231.5 DAYS	KR 85 99.7	SR 89 0.2	CS 137 0.0	Y 91 0.0	Y 90 0.0	SR 90 0.0	CE 141 0.0	CS 135 0.0	PR 144 0.0	LA 140 0.0
1.0 YRS.	KR 85 99.9	SR 89 0.0	CS 137 0.0	Y 90 0.0	Y 91 0.0	SR 90 0.0	CS 135 0.0	PR 144 0.0	CE 141 0.0	CE 144 0.0

Source 5 (100% Noble Gases), 200 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SFC.	RR 91 3,5	CS 13A 3,4	LA 142 3,4	LA 140 3,1	RR 90 2,8	CS 140 2,0	RR 89 2,4	LA 144 2,3	Y 96 1,9	SR 93 1,9
1,0 SEC.	RR 91 3,7	CS 13B 3,6	LA 142 3,6	LA 140 3,3	RR 90 3,0	CS 140 3,0	RR 89 2,6	LA 144 2,5	Y 96 2,1	SR 93 2,1
2,0 SEC.	RR 91 3,8	CS 13B 3,8	LA 142 3,8	LA 140 3,5	RR 90 3,1	CS 140 3,1	RR 89 2,8	LA 144 2,6	Y 96 2,2	SR 93 2,2
5,0 SFC.	CS 13A 4,1	LA 142 4,1	RR 91 4,0	LA 140 3,8	RR 90 3,3	CS 140 3,2	RR 89 3,0	LA 144 2,7	SR 93 2,3	Y 96 2,3
10,0 SFC.	CS 13A 4,4	LA 142 4,4	RR 91 4,1	LA 140 4,0	RR 90 3,5	CS 140 3,3	RR 89 3,2	LA 144 2,8	SR 93 2,5	Y 96 2,5
20,0 SEC.	LA 142 4,9	CS 13A 4,8	LA 140 4,4	RR 91 4,0	RR 90 3,7	RR 89 3,5	CS 140 3,2	LA 144 2,8	SR 93 2,7	Y 96 2,6
50,0 SEC.	LA 142 5,7	CS 13A 5,6	LA 140 5,2	RR 89 4,0	RR 90 3,8	RR 91 3,2	SR 93 3,0	SR 92 3,0	CS 140 2,7	Y 96 2,6
60,0 SEC.	LA 142 5,9	CS 13B 5,8	LA 140 5,4	RR 89 4,1	RR 90 3,8	SR 93 3,1	SR 92 3,1	RR 91 3,0	MO 101 2,6	Y 96 2,6
100,0 SFC.	LA 142 6,5	CS 13A 6,3	LA 140 6,0	RR 89 4,4	RR 90 3,6	SR 92 3,4	SR 93 3,2	MO 101 2,8	LA 143 2,7	Y 94 2,7
3,3 MTN.	LA 142 7,6	CS 13B 7,1	LA 140 7,0	RR 89 4,8	SP 92 3,9	SR 93 3,2	MO 101 3,0	Y 94 3,0	LA 143 2,9	TE*133 2,7
8,3 MTN.	LA 142 9,2	LA 140 8,1	CS 13A 7,9	SR 92 4,7	RR 89 4,7	TE*133 3,2	Y 94 3,1	NR 95 3,0	TE 134 3,0	ZR 95 2,9
15,7 MTN.	LA 142 10,6	LA 140 10,2	CS 13B 7,8	SR 92 5,4	RR 89 4,8	NR 95 3,6	ZR 95 3,5	TE*133 3,4	PR 146 3,1	TE 134 3,1
33,3 MTN.	LA 140 12,7	LA 142 11,9	CS 13B 6,8	SR 92 6,3	NR 95 4,5	ZR 95 4,3	I 134 4,3	NR 97 3,7	SR 91 3,6	TE*133 3,4
60,0 MTN.	LA 140 15,6	LA 142 12,2	SR 92 6,9	I 134 6,4	NR 95 5,5	ZR 95 5,3	CS 13B 4,7	NR 97 4,5	SR 91 4,3	TE*133 3,0
1,4 HR.	LA 140 17,5	LA 142 11,5	I 134 7,0	SR 92 7,7	NR 95 6,2	ZR 95 6,0	NR 97 5,0	SR 91 4,7	I 132 4,1	CS 13B 3,2
2,8 HR.	LA 140 21,9	I 132 8,3	NR 95 7,8	LA 142 7,7	ZR 95 7,4	SR 92 6,1	NR 97 6,0	SR 91 5,3	I 134 5,2	CE 143 2,6
5,6 HR.	LA 140 26,1	I 132 14,0	NR 95 9,3	ZR 95 6,9	NR 97 6,4	SR 91 5,1	SR 92 3,6	CE 143 3,0	RU 103 2,9	LA 142 2,6
12,0 HR.	LA 140 29,6	I 132 18,1	NR 95 10,5	ZR 95 10,1	NR 97 5,6	SR 91 3,6	RU 103 3,2	CE 143 2,9	BA 140 2,8	TE 132 2,2
13,9 HR.	LA 140 30,3	I 132 18,5	NR 95 10,6	ZR 95 10,3	NR 97 5,3	RU 103 3,3	SR 91 3,3	CE 143 2,9	BA 140 2,9	TE 132 2,2
1,0 DAYS	LA 140 32,9	I 132 16,8	NR 95 11,8	ZR 95 11,2	NR 97 3,8	RU 103 3,6	BA 140 3,1	CE 143 2,6	TE 132 2,2	MO 99 2,1
1,2 DAYS	LA 140 33,7	I 132 18,6	NR 95 12,1	ZR 95 11,5	RU 103 3,7	NR 97 3,4	BA 140 3,1	CF 143 2,4	TE 132 2,2	MO 99 2,1
2,3 DAYS	LA 140 37,4	I 132 16,7	NR 95 13,9	ZR 95 13,0	RU 103 4,1	BA 140 3,4	TE 132 1,9	MO 99 1,8	CE 143 1,6	NR 97 1,2
4,0 DAYS	LA 140 39,9	NR 95 15,8	ZR 95 14,5	I 132 13,3	RU 103 4,6	BA 140 3,5	TE 132 1,5	MO 99 1,3	CF 141 1,2	CE 143 1,8
5,8 DAYS	LA 140 41,0	NR 95 17,5	ZR 95 15,9	I 132 10,1	RU 103 4,9	BA 140 3,6	CF 141 1,3	TE 132 1,2	MO 99 1,0	NR 147 1,7
10,1 DAYS	LA 140 40,3	NR 95 21,3	ZR 95 18,6	RU 103 5,6	I 132 5,0	BA 140 3,5	CE 141 1,5	PR 144 1,7	CE 144 1,9	ND 147 1,6
11,6 DAYS	LA 140 39,4	NR 95 22,6	ZR 95 19,4	RU 103 5,8	I 132 3,8	BA 140 3,4	CE 141 1,5	PR 144 1,0	CF 144 1,8	CE 144 1,7
23,1 DAYS	NR 95 30,8	LA 140 29,8	ZR 95 24,3	RU 103 6,7	HA 140 2,5	CE 141 1,7	PR 144 1,2	CF 144 1,1	RM 106 1,0	I 132 1,5
30,0 DAYS	NR 95 35,0	ZR 95 26,3	LA 140 24,0	RU 103 6,9	HA 140 2,0	CE 141 1,7	PR 144 1,2	CF 144 1,1	RM 106 1,0	ND 147 1,3
57,9 DAYS	NR 95 47,0	ZR 95 30,6	LA 140 8,3	RU 103 6,8	PR 144 1,7	CE 141 1,6	CE 141 1,5	RM 106 1,0	BA 140 1,7	EU 152 1,2
60,0 DAYS	NR 95 47,6	ZR 95 30,8	LA 140 7,4	RU 103 6,6	PR 144 1,8	CE 141 1,7	CE 141 1,4	RM 106 1,0	BA 140 1,6	EU 152 1,2
115,7 DAYS	NR 95 55,5	ZR 95 30,4	RU 103 4,4	PR 144 2,8	CE 144 2,6	HM 106 1,4	CE 141 1,8	LA 140 1,7	EU 152 1,3	SB 125 1,3
150,0 DAYS	NR 95 56,4	ZR 95 29,1	PR 144 3,5	RU 103 3,3	CE 144 3,3	HM 106 1,8	CE 141 1,5	EU 152 1,7	SB 125 1,4	SB*126 1,3
231,5 DAYS	NR 95 53,8	ZR 95 25,6	PH 140 6,0	CE 144 5,6	RM 106 3,2	RU 103 1,7	EU 152 1,8	SB 125 1,8	SB*126 1,7	ZR 93 1,6
1.0 YRS.	NR 95 39,6	ZR 95 18,0	PR 144 17,5	CF 144 11,7	DM 106 7,1	EU 152 2,3	SB*126 2,0	SR 125 1,9	ZR 93 1,6	SB 126 1,8

Source 6 (100% Solids), Equilibrium, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SFC.	RR 92 3.2	Y 96 2.8	CS 140 2.2	CS 139 2.2	Y 95 2.2	Y 94 2.1	Y 97 2.1	NR 98 2.1	SR 95 2.0	Y 98 2.0
1.0 SEC.	Y 96 3.1	RR 92 3.0	CS 139 2.4	CS 140 2.4	Y 95 2.4	Y 94 2.3	NR 98 2.3	SR 95 2.2	NR 101 1.9	NR 99 1.9
2.0 SEC.	Y 96 3.2	RR 92 2.7	CS 139 2.5	Y 95 2.5	CS 140 2.5	Y 94 2.5	NR 98 2.4	SR 95 2.3	NR 99 2.0	Y 92 1.9
5.0 SEC.	Y 96 3.5	CS 139 2.8	Y 95 2.8	Y 94 2.7	CS 140 2.7	NR 98 2.5	SR 95 2.3	Y 92 2.2	CS 138 2.0	NR 99 2.0
10.0 SEC.	Y 96 3.8	Y 95 3.1	CS 139 3.0	Y 94 3.0	CS 140 2.8	NR 98 2.5	Y 92 2.4	CS 138 2.2	SR 95 2.2	LA 144 2.1
20.0 SEC.	Y 96 4.1	Y 95 3.4	CS 139 3.4	Y 94 3.4	CS 140 2.8	Y 92 2.7	CS 138 2.5	Y 93 2.3	NR 98 2.3	RB 88 2.3
50.0 SEC.	Y 96 4.2	Y 94 4.0	Y 95 4.0	CS 139 3.9	Y 92 3.2	CS 138 3.0	Y 93 2.8	RR 88 2.7	PR 144 2.5	SR 93 2.5
100.0 SEC.	Y 96 4.1	Y 94 4.1	Y 95 4.1	CS 139 4.0	Y 92 3.3	CS 138 3.1	Y 93 2.9	RR 88 2.8	PR 144 2.6	SR 93 2.5
3.3 MIN.	Y 94 4.5	Y 95 4.4	CS 139 4.2	Y 96 3.8	Y 92 3.7	CS 138 3.4	Y 93 3.2	RR 88 3.0	PR 144 2.9	SR 93 2.6
8.3 MIN.	Y 92 5.0	Y 95 4.5	CS 139 4.3	Y 92 4.2	CS 138 3.8	Y 93 3.7	PR 144 3.4	NR 88 3.2	LA 141 2.8	BA 139 2.8
16.7 MIN.	Y 92 5.2	Y 94 5.2	Y 93 4.5	CS 138 4.1	PR 144 4.1	Y 95 4.0	CS 139 3.6	LA 141 3.4	BA 139 3.4	LA 142 3.3
33.3 MIN.	Y 92 6.2	Y 93 5.3	PR 144 4.9	Y 94 4.5	CS 138 4.1	LA 141 4.1	Y 90 3.9	BA 139 3.9	LA 142 3.8	ZR 97 2.9
60.0 MIN.	Y 92 7.6	Y 93 6.4	PR 144 6.0	LA 141 4.9	Y 90 4.8	BA 139 4.3	LA 142 4.2	ZR 97 3.6	CS 138 3.5	SR 91 3.2
1.4 HR.	Y 92 8.9	Y 93 7.5	PR 144 7.2	Y 90 5.7	LA 141 5.5	ZR 97 4.2	LA 142 4.2	BA 139 4.1	SR 91 3.8	Y 91 3.7
2.8 HR.	Y 92 9.5	Y 93 7.9	PR 144 7.8	Y 90 6.3	LA 141 5.6	ZR 97 4.5	Y 91 4.1	SR 91 4.0	LA 142 3.9	LA 140 3.7
5.6 HR.	PR 144 10.7	Y 92 8.8	Y 90 8.5	Y 93 8.1	Y 91 5.6	ZR 97 5.0	Y 91 4.8	LA 140 4.3	SR 91 4.2	SR 89 3.7
12.0 HR.	PR 144 13.1	Y 90 10.5	Y 91 8.8	Y 93 8.4	LA 140 6.2	SR 89 5.3	ZR 97 4.9	Y 92 4.2	MO 99 4.0	NR 97 3.7
13.9 HR.	PR 144 13.7	Y 90 10.9	Y 91 7.1	LA 140 6.5	Y 93 5.9	SR 89 5.6	ZR 97 4.7	MO 99 4.0	I 132 3.9	PR 143 3.8
1.0 DAYS	PR 144 15.8	Y 90 12.7	Y 91 8.2	LA 140 7.5	SR 89 6.4	PR 143 4.4	I 132 4.2	MO 99 4.2	BA 140 3.9	ZR 97 3.6
1.2 DAYS	PR 144 16.4	Y 90 13.1	Y 91 8.5	LA 140 7.7	SR 89 6.6	PR 143 4.5	I 132 4.3	MO 99 4.2	BA 140 4.0	CE 143 3.4
2.3 DAYS	PR 144 18.8	Y 90 15.1	Y 91 9.6	LA 140 8.6	SR 89 7.5	PR 143 5.1	BA 140 4.3	I 132 3.8	MO 99 3.8	SR 90 3.2
4.0 DAYS	PR 144 20.4	Y 90 16.5	Y 91 10.3	LA 140 8.8	SR 89 8.0	PR 143 5.2	BA 140 4.3	SR 90 3.5	CS 137 3.5	I 132 2.9
5.8 DAYS	PR 144 21.6	Y 90 17.5	Y 91 10.7	LA 140 8.6	SR 89 8.3	PR 143 5.1	BA 140 4.1	SR 90 3.7	CS 137 3.5	CE 141 2.6
10.0 DAYS	PR 144 23.4	Y 90 19.1	Y 91 11.2	SR 89 8.6	LA 140 7.6	PR 143 4.5	SR 90 4.1	CS 137 3.6	BA 140 3.6	CE 141 2.7
11.6 DAYS	PR 144 23.9	Y 90 19.6	Y 91 11.2	SR 89 8.6	LA 140 7.2	PR 143 4.3	SR 90 4.2	CS 137 3.9	BA 140 3.4	CE 141 2.6
23.1 DAYS	PR 144 26.7	Y 90 22.6	Y 91 11.3	SR 89 8.5	SR 90 4.8	CS 137 4.5	LA 140 4.4	PR 143 2.7	ZR 95 2.4	CF 141 2.4
30.0 DAYS	PR 144 27.9	Y 90 20.0	Y 91 11.1	SR 89 8.2	SR 90 5.1	CS 137 4.8	LA 140 3.2	ZR 95 2.1	CF 144 2.3	CE 141 2.2
57.9 DAYS	PR 144 30.9	Y 90 28.3	Y 91 9.4	SR 89 6.7	SR 90 6.0	CS 137 5.6	RM 106 2.6	ZR 95 2.1	CF 144 2.0	CE 141 1.4
60.0 DAYS	PR 144 31.0	Y 91 28.6	Y 91 9.3	SR 89 6.6	SR 90 6.1	CS 137 5.7	RM 106 2.6	ZR 95 2.1	CE 144 2.0	CE 141 1.4
115.7 DAYS	Y 90 34.2	PR 144 32.4	SR 90 7.3	CS 137 6.8	Y 91 5.8	SR 89 3.8	RM 106 2.9	CF 144 2.1	ZR 95 1.4	NR 95 .9
150.0 DAYS	Y 90 36.9	PR 144 32.4	SR 90 7.9	CS 137 7.3	Y 91 4.2	RM 106 2.9	SR 89 2.6	CE 144 2.1	ZR 95 1.0	PM 147 .9
231.5 DAYS	Y 90 42.0	PR 144 30.4	SR 90 8.9	CS 137 8.3	RM 106 2.8	CE 144 2.0	Y 91 1.8	SR 89 1.0	PM 147 .9	ZR 95 .5
1.0 YRS.	Y 90 48.0	PR 144 25.3	SR 90 10.2	CS 137 9.5	RM 106 2.5	CE 144 1.7	PM 147 1.0	Y 91 .4	CS 135 .4	SR 89 .2

Source 6 (100% Solids), Equilibrium, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1		2		3		4		5		6		7		8		9		10											
0 SEC.	RR	91	3.5	CS	13R	3.4	LA	142	3.4	LA	140	3.1	RR	90	2.8	CS	140	2.8	RR	89	2.4	LA	144	2.3	Y	96	1.9	SR	93	1.9
1.0 SEC.	RR	91	3.7	CS	13R	3.7	LA	142	3.6	LA	140	3.3	RR	90	3.0	CS	140	3.0	RR	89	2.6	LA	144	2.5	Y	96	2.1	SR	93	2.1
2.0 SEC.	RR	91	3.8	CS	13R	3.8	LA	142	3.8	LA	140	3.5	RR	90	3.1	CS	140	3.1	RR	89	2.8	LA	144	2.6	Y	96	2.2	SR	93	2.2
5.0 SEC.	CS	13R	4.1	LA	142	4.1	RR	91	4.0	LA	140	3.8	RR	90	3.3	CS	140	3.2	RR	89	3.0	LA	144	2.7	SR	93	2.3	Y	96	2.3
10.0 SEC.	CS	13R	4.4	LA	142	4.4	RR	91	4.1	LA	140	4.0	RR	90	3.5	CS	140	3.3	RR	89	3.2	LA	144	2.8	SR	93	2.5	Y	96	2.5
20.0 SEC.	LA	142	4.9	CS	13R	4.8	LA	140	4.4	RR	91	4.0	RR	90	3.7	RR	89	3.5	CS	140	3.2	LA	144	2.8	SR	93	2.7	Y	96	2.6
50.0 SEC.	LA	142	5.7	CS	13R	5.6	LA	140	5.2	RR	89	4.0	RR	90	3.8	RR	91	3.2	SR	93	3.0	SR	92	3.0	CS	140	2.7	Y	96	2.6
100.0 SEC.	LA	142	5.9	CS	13R	5.8	LA	140	5.4	RR	89	4.1	RR	90	3.8	SR	93	3.1	SR	92	3.1	RR	91	3.0	MO	101	2.6	Y	96	2.6
3.3 MIN.	LA	142	6.5	CS	13R	6.3	LA	140	6.0	RR	89	4.4	RR	90	3.8	SR	92	3.4	SR	93	3.2	MO	101	2.8	LA	143	2.7	Y	94	2.7
8.3 MIN.	LA	142	7.6	CS	13R	7.1	LA	140	7.0	RR	89	4.8	SR	92	3.9	SR	93	3.2	MO	101	3.0	Y	94	3.0	LA	143	2.9	TE	133	2.7
16.7 MIN.	LA	142	10.6	LA	140	10.2	CS	13R	7.8	SR	92	5.4	RR	89	3.8	NR	95	3.6	ZR	95	3.5	TE	133	3.4	PR	146	3.1	TE	134	3.1
33.3 MIN.	LA	140	12.7	LA	142	12.0	CS	13R	6.8	SR	92	6.3	NR	95	4.5	ZR	95	4.3	I	134	4.3	NR	97	3.7	SR	91	3.6	TE	133	3.4
40.0 MIN.	LA	140	15.6	LA	142	12.2	SR	92	6.9	I	134	6.4	NR	95	5.5	ZR	95	5.3	CS	13R	4.7	NR	97	4.5	SR	91	4.3	TE	133	3.0
1.4 HR.	LA	140	17.5	LA	142	11.5	I	134	7.1	SR	92	7.0	NR	95	6.2	ZR	95	6.0	NR	97	5.0	SR	91	4.7	I	132	4.1	CS	138	3.2
2.8 HR.	LA	140	21.9	I	132	8.3	NR	95	7.8	LA	142	7.7	ZR	95	7.5	SR	92	6.1	NR	97	6.0	SR	91	5.3	I	134	5.2	CF	143	2.6
5.6 HR.	LA	140	26.1	I	132	14.0	NR	95	9.3	ZR	95	8.9	NR	97	6.4	SR	91	5.1	SR	92	3.6	CF	143	3.0	RU	103	2.9	LA	142	2.6
12.0 HR.	LA	140	29.6	I	132	18.1	NR	95	10.5	ZR	95	10.1	NR	97	5.6	SR	91	3.7	RU	103	3.2	CE	143	2.9	BA	140	2.8	TE	132	2.2
13.9 HR.	LA	140	30.3	I	132	18.5	NR	95	10.8	ZR	95	10.3	NR	97	5.3	RU	103	3.3	SR	91	3.3	CF	143	2.9	BA	140	2.9	TE	132	2.2
1.0 DAYS	LA	140	32.9	I	132	18.8	NR	95	11.8	ZR	95	11.2	NR	97	3.9	RU	103	3.6	HA	140	3.1	CF	143	2.6	TE	132	2.2	MO	99	2.1
1.2 DAYS	LA	140	33.7	I	132	18.7	NR	95	12.1	ZR	95	11.5	RU	103	3.7	NR	97	3.4	BA	140	3.2	CF	143	2.4	TE	132	2.2	MO	99	2.1
2.3 DAYS	LA	140	37.4	I	132	16.7	NR	95	13.9	ZR	95	13.0	RU	103	4.1	BA	140	3.4	TE	132	1.4	MO	99	1.8	CF	143	1.6	NR	97	1.2
4.0 DAYS	LA	140	40.0	NR	95	15.8	ZR	95	14.6	I	132	13.3	RU	103	4.6	BA	140	3.5	TE	132	1.5	MO	99	1.3	CF	141	1.2	CF	143	.8
5.8 DAYS	LA	140	41.0	NR	95	17.6	ZR	95	15.9	I	132	10.1	RU	103	4.9	BA	140	3.6	CE	141	1.3	TE	132	1.2	MO	99	.9	MO	147	.7
10.0 DAYS	LA	140	40.4	NR	95	21.3	ZR	95	18.6	RU	103	5.6	I	132	5.0	BA	140	3.5	CF	141	1.5	PR	144	.7	CE	144	.7	ND	147	.6
11.6 DAYS	LA	140	39.5	NR	95	22.6	ZR	95	19.5	RU	103	5.8	I	132	3.8	BA	140	3.4	CE	141	.5	PR	144	.8	CE	144	.7	ND	147	.6
23.1 DAYS	NR	95	30.9	LA	140	29.9	ZR	95	24.3	RU	103	6.7	HA	140	2.6	CF	141	1.7	PR	144	1.0	CE	144	1.0	RM	106	.5	I	132	.5
30.0 DAYS	NR	95	35.1	ZR	95	26.4	LA	140	24.0	RU	103	6.9	RA	140	2.1	CE	141	1.7	PR	144	1.2	CE	144	1.1	RM	106	.6	ND	147	.3
57.9 DAYS	NR	95	47.3	ZR	95	30.8	LA	140	8.3	RU	103	6.7	PR	144	1.8	CE	144	1.6	CE	141	1.5	RM	106	.8	BA	140	.7	SH	125	.1
60.0 DAYS	NR	95	47.9	ZR	95	30.9	LA	140	7.6	RU	103	6.8	PR	144	1.8	CE	144	1.7	CF	141	1.4	RM	106	.9	BA	140	.7	SH	125	.2
115.7 DAYS	NR	95	56.0	ZR	95	30.7	RU	103	4.4	PR	144	2.8	CE	144	2.6	RM	106	1.4	CF	141	.8	LA	140	.7	SB	125	.3	Y	91	.1
150.0 DAYS	NR	95	57.1	ZR	95	29.5	PR	144	3.6	RU	103	3.4	CE	144	3.3	RM	106	1.8	CE	141	.5	SB	125	.4	LA	140	.1	PH	144	.1
231.5 DAYS	NR	95	55.3	ZR	95	26.4	PR	144	6.2	CF	144	5.7	RM	106	3.2	RU	103	1.7	SB	125	.7	CE	141	.2	EU	155	.1	PR	144	.1
1.0 YRS.	NR	95	42.9	ZR	95	19.5	PR	144	13.6	CF	144	12.7	RM	106	7.7	SH	125	2.0	RU	103	.5	EU	155	.4	PR	144	.3	SN	123	.1

Source 6 (100% Solids), 5000 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO REYR DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	RH 92 3.2	Y 96 2.8	CS 140 2.2	CS 139 2.2	Y 95 2.2	Y 94 2.1	Y 97 2.1	NB 98 2.1	SR 95 2.1	Y 98 2.0
1.0 SEC.	Y 96 3.1	RH 92 3.1	CS 139 2.4	CS 140 2.4	Y 95 2.4	Y 94 2.4	NB 98 2.3	SR 95 2.3	NR 101 1.9	NH 99 1.9
2.0 SEC.	Y 96 3.3	RH 92 2.8	CS 139 2.6	Y 95 2.5	CS 140 2.5	Y 94 2.5	NB 98 2.4	SR 95 2.3	NB 99 2.0	Y 92 2.0
5.0 SEC.	Y 96 3.6	CS 139 2.8	Y 95 2.8	Y 94 2.8	CS 140 2.7	NB 98 2.6	SR 95 2.3	Y 92 2.2	CS 138 2.1	NB 99 2.1
10.0 SEC.	Y 96 3.9	Y 95 3.1	CS 139 3.1	Y 94 3.0	CS 140 2.8	NB 98 2.6	Y 92 2.4	CS 138 2.3	SR 95 2.3	LA 144 2.1
20.0 SEC.	Y 96 4.2	Y 95 3.5	CS 139 3.4	Y 94 3.4	CS 140 2.9	Y 92 2.7	CS 138 2.6	Y 93 2.4	NB 98 2.4	RB 88 2.3
50.0 SEC.	Y 96 4.3	Y 94 4.1	Y 95 4.1	CS 139 4.0	Y 92 3.3	CS 138 3.0	Y 93 2.8	RR 88 2.7	PR 144 2.6	SR 93 2.5
100.0 SEC.	Y 96 4.2	Y 94 4.2	Y 95 4.2	CS 139 4.1	Y 92 3.4	CS 138 3.1	Y 93 2.9	RB 88 2.8	PR 144 2.7	SR 93 2.6
100.0 SEC.	Y 94 4.6	Y 95 4.5	CS 139 4.3	Y 96 3.9	Y 92 3.6	CS 138 3.4	Y 93 3.3	RR 88 3.0	PR 144 3.0	SR 93 2.7
3.3 MIN.	Y 94 5.2	Y 95 4.7	CS 139 4.4	Y 92 4.4	CS 138 3.9	Y 93 3.8	PR 144 3.4	RB 88 3.3	LA 141 2.9	BA 139 2.9
8.3 MIN.	Y 92 5.4	Y 94 5.3	Y 93 4.6	CS 138 4.3	PR 144 4.2	Y 95 4.1	CS 139 3.7	LA 141 3.6	BA 139 3.5	LA 142 3.4
16.7 MIN.	Y 92 6.4	Y 93 5.5	PR 144 5.1	Y 94 4.7	CS 138 4.3	LA 141 4.2	BA 139 4.0	LA 142 3.9	ZR 97 3.1	NB 88 2.9
33.3 MIN.	Y 92 8.0	Y 93 6.8	PR 144 6.3	LA 141 5.1	BA 139 4.5	LA 142 4.5	ZR 97 3.8	CS 138 3.7	SR 91 3.4	Y 91 3.3
60.0 MIN.	Y 92 9.5	Y 93 7.0	PR 144 7.6	LA 141 5.8	ZR 97 4.5	LA 142 4.5	BA 139 4.4	SR 91 4.0	Y 91 4.0	LA 140 3.6
1.4 HR.	Y 92 10.2	Y 93 8.5	PR 144 8.4	LA 141 6.0	ZR 97 4.8	Y 91 4.4	SR 91 4.2	LA 142 4.1	LA 140 4.0	BA 139 4.0
2.8 HR.	Y 92 10.9	PR 144 9.0	Y 93 9.1	LA 141 5.5	ZR 97 5.4	Y 91 5.1	LA 140 4.7	SR 91 4.5	SR 89 4.0	NH 97 3.8
5.6 HR.	PR 144 11.7	Y 92 9.6	Y 93 8.9	Y 91 6.1	ZR 97 5.7	LA 140 5.6	SR 89 4.8	SR 91 4.4	NB 97 4.0	LA 141 4.0
12.0 HR.	PR 144 14.7	Y 91 7.6	Y 93 7.2	LA 140 7.0	SR 89 6.0	ZR 97 5.5	Y 92 4.7	MO 99 4.4	I 132 4.3	CF 143 4.2
13.9 HR.	PR 144 15.4	Y 91 8.0	LA 140 7.3	Y 93 6.6	SR 89 6.3	ZR 97 5.3	MO 99 4.6	I 132 4.4	Y 90 4.2	ZR 97 4.1
1.0 DAYS	PR 144 18.2	Y 91 9.4	LA 140 8.6	SR 89 7.4	PR 143 5.1	I 132 4.9	MO 99 4.8	BA 140 4.4	Y 90 4.3	CE 143 3.9
1.2 DAYS	PR 144 18.9	Y 91 9.8	LA 140 8.9	SR 89 7.7	PR 143 5.3	I 132 4.9	MO 99 4.9	BA 140 4.6	Y 90 4.3	CE 143 3.9
2.3 DAYS	PR 144 22.2	Y 91 11.4	LA 140 10.2	SR 89 8.9	PR 143 6.0	Y 90 5.1	BA 140 5.1	I 132 4.5	MO 99 4.3	CE 141 2.9
4.0 DAYS	PR 144 24.6	Y 91 12.4	LA 140 10.6	SR 89 9.7	PR 143 6.2	Y 90 5.7	BA 140 5.1	I 132 3.5	CE 141 3.1	MO 99 3.1
5.8 DAYS	PR 144 26.3	Y 91 13.0	LA 140 10.5	SR 89 10.1	PR 143 6.2	Y 90 6.1	BA 140 5.0	CE 141 3.2	ZR 95 2.7	I 132 2.6
10.0 DAYS	PR 144 29.1	Y 91 13.9	SR 89 10.7	LA 140 9.4	Y 90 6.8	PR 143 5.6	BA 140 4.5	CE 141 3.3	ZR 95 2.9	RH 106 2.4
11.6 DAYS	PR 144 29.1	Y 91 14.1	SR 89 10.8	LA 140 9.0	Y 90 7.0	PR 143 5.3	BA 140 4.2	CE 141 3.3	ZR 95 3.0	RH 106 2.5
23.1 DAYS	PR 144 34.8	Y 91 14.7	SR 89 11.1	Y 90 8.4	LA 140 5.7	PR 143 3.5	ZR 95 3.1	CE 141 3.1	RH 106 2.9	BA 140 2.7
30.0 DAYS	PR 144 37.1	Y 91 14.7	SR 89 10.9	Y 90 9.1	LA 140 4.3	ZR 95 3.2	RH 106 3.1	CE 141 2.9	PR 143 2.7	CE 144 2.4
57.9 DAYS	PR 144 43.5	Y 91 13.3	Y 90 11.4	SR 89 9.5	RH 106 3.7	ZR 95 3.0	CE 144 2.9	SR 90 2.4	CS 137 2.1	CE 141 2.0
60.0 DAYS	PR 144 43.9	Y 91 13.1	Y 90 11.6	SR 89 9.4	RH 106 3.7	ZR 95 2.9	CE 144 2.9	SR 90 2.5	CS 137 2.2	CE 141 1.9
115.7 DAYS	PR 144 50.2	Y 90 15.1	Y 91 8.9	SR 89 5.8	RH 106 4.4	CE 144 3.3	SR 90 3.2	CS 137 2.8	ZR 95 2.1	NB 95 1.4
150.0 DAYS	PR 144 52.2	Y 90 17.0	Y 91 6.7	RH 106 4.7	SR 89 4.2	SH 90 3.6	CE 144 3.4	CS 137 3.2	ZR 95 1.7	PM 147 1.4
231.5 DAYS	PR 144 53.4	Y 90 21.2	RH 106 5.0	SR 90 4.5	CS 137 4.0	CE 144 3.5	Y 91 3.2	SR 89 1.8	PM 147 1.6	ZR 95 1.9
1.0 YRS.	PR 144 49.9	Y 90 27.2	SR 90 5.8	CS 137 5.1	RH 106 5.0	CE 144 3.3	PM 147 1.9	Y 91 1.8	SR 89 1.4	ZR 95 1.3

Source 6 (100% Solids), 5000 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	RR 91 3.5	CS 138 3.4	LA 142 3.4	LA 140 3.1	RB 90 2.8	CS 140 2.8	RB 89 2.4	LA 144 2.3	Y 96 1.9	SR 93 1.9
1.0 SEC.	RR 91 3.7	CS 138 3.7	LA 142 3.6	LA 140 3.3	RB 90 3.0	CS 140 3.0	NB 89 2.6	LA 144 2.5	Y 96 2.1	SR 93 2.1
2.0 SEC.	RR 91 3.8	CS 138 3.8	LA 142 3.8	LA 140 3.5	RB 90 3.1	CS 140 3.1	NH 89 2.8	LA 144 2.6	Y 96 2.2	SR 93 2.2
5.0 SEC.	CS 138 4.1	LA 142 4.1	RR 91 4.0	LA 140 3.8	RR 90 3.3	CS 140 3.2	RB 89 3.0	LA 144 2.7	SR 93 2.3	Y 96 2.3
10.0 SEC.	CS 138 4.4	LA 142 4.4	RR 91 4.1	LA 140 4.0	RR 90 3.5	CS 140 3.3	RB 89 3.2	LA 144 2.8	SR 93 2.5	Y 96 2.5
20.0 SEC.	LA 142 4.9	CS 138 4.8	LA 140 4.5	RR 91 4.0	RR 90 3.7	RR 89 3.5	CS 140 3.2	LA 144 2.8	SR 93 2.7	Y 96 2.6
50.0 SEC.	LA 142 5.7	CS 138 5.6	LA 140 5.2	RR 89 4.0	RR 90 3.8	RB 91 3.2	SR 93 3.0	SR 92 3.0	CS 140 2.7	Y 96 2.6
60.0 SEC.	LA 142 5.9	CS 138 5.8	LA 140 5.4	RR 89 4.1	RR 90 3.8	SR 93 3.1	SR 92 3.1	RB 91 3.0	MD 101 2.6	Y 96 2.6
100.0 SEC.	LA 142 6.5	CS 138 6.3	LA 140 6.0	RR 89 4.4	RR 90 3.6	SR 92 3.4	SR 93 3.2	MD 101 2.8	LA 143 2.7	Y 96 2.7
3.3 MIN.	LA 142 7.6	CS 138 7.1	LA 140 7.0	RB 89 4.8	SR 92 3.9	SR 93 3.2	MD 101 3.0	Y 94 3.0	LA 143 2.9	TE*133 2.7
8.3 MIN.	LA 142 9.2	LA 140 8.6	CS 138 7.9	SR 92 4.7	RR 89 4.7	TE*133 3.2	Y 94 3.1	NB 95 3.0	TE 134 3.0	MD 101 2.9
16.7 MIN.	LA 142 10.6	LA 140 10.2	CS 138 7.8	SR 92 5.4	RB 89 3.8	NB 95 3.6	ZR 95 3.5	TE*133 3.4	PR 146 3.1	TE 134 3.1
33.3 MIN.	LA 140 12.7	LA 142 12.0	CS 138 6.8	SR 92 6.3	NB 95 4.5	ZR 95 4.3	I 134 4.3	NB 97 3.7	SR 91 3.6	TE*133 3.4
60.0 MIN.	LA 140 15.6	LA 142 12.2	SR 92 6.9	I 134 6.4	NB 95 5.5	ZR 95 5.3	CS 138 4.7	NB 97 4.5	SR 91 4.3	TE*133 3.6
1.4 HR.	LA 140 17.5	LA 142 11.5	I 134 7.1	SR 92 7.0	NB 95 6.2	ZR 95 6.0	NB 97 5.0	SR 91 4.7	I 132 4.1	CS 138 3.2
2.8 HR.	LA 140 21.9	I 132 8.4	LA 142 7.7	NB 95 7.7	ZR 95 7.4	SR 92 6.2	NB 97 6.0	SR 91 5.3	I 134 5.2	CE 143 2.6
5.6 HR.	LA 140 26.2	I 132 14.1	NB 95 9.2	ZR 95 8.9	NB 97 6.5	SR 91 5.2	SR 92 3.6	CE 143 3.0	RU 103 2.9	LA 142 2.6
12.0 HR.	LA 140 29.8	I 132 18.2	NB 95 10.5	ZR 95 10.1	NH 97 5.4	RU 103 3.3	SR 91 3.3	CE 143 2.9	BA 140 2.9	TE 132 2.2
13.9 HR.	LA 140 30.4	I 132 18.9	NB 95 10.7	ZR 95 10.3	NH 97 5.4	RU 103 3.3	SR 91 3.3	CE 143 2.9	BA 140 2.9	TE 132 2.2
1.0 DAYS	LA 140 33.1	I 132 18.9	NB 95 11.7	ZR 95 11.2	NB 97 3.9	RU 103 3.6	BA 140 3.1	CE 143 2.6	TE 132 2.2	MD 99 2.1
1.2 DAYS	LA 140 33.9	I 132 18.8	NB 95 12.1	ZR 95 11.5	RU 103 3.7	NB 97 3.4	BA 140 3.2	CE 143 2.4	TE 132 2.2	MD 99 2.1
2.3 DAYS	LA 140 37.6	I 132 16.8	NB 95 13.8	ZR 95 13.0	RU 103 4.2	BA 140 3.4	TE 132 2.0	MD 99 1.8	CE 143 1.6	NB 97 1.2
4.0 DAYS	LA 140 40.2	NB 95 15.7	ZR 95 14.0	I 132 13.4	RU 103 4.6	BA 140 3.5	TE 132 1.6	MD 99 1.3	CE 141 1.3	CE 143 0.8
5.8 DAYS	LA 140 41.3	NB 95 17.5	ZR 95 16.0	I 132 10.2	RU 103 5.0	BA 140 3.5	CE 141 1.3	TF 132 1.2	MD 99 1.0	ND 147 0.7
10.0 DAYS	LA 140 40.8	NB 95 21.3	ZR 95 18.7	RU 103 5.7	I 132 5.1	BA 140 3.5	CE 141 1.5	ND 147 1.2	TE 132 1.0	PR 144 0.5
11.6 DAYS	LA 140 39.9	NB 95 22.6	ZR 95 19.6	RU 103 5.9	I 132 3.9	BA 140 3.4	CE 141 1.5	ND 147 1.2	PR 144 0.6	CE 144 0.5
23.1 DAYS	NB 95 31.6	LA 140 30.3	ZR 95 24.5	RU 103 6.8	BA 140 2.6	CE 141 1.7	PR 144 0.7	CE 144 0.7	I 132 0.5	ND 147 0.4
30.0 DAYS	NB 95 35.3	ZR 95 26.6	LA 140 24.4	RU 103 7.0	HA 140 2.1	CE 141 1.7	PR 144 0.9	CE 144 0.8	RH 106 0.3	ND 147 0.3
57.9 DAYS	NB 95 47.9	ZR 95 31.3	LA 140 8.5	RU 103 6.8	CF 141 1.5	PR 144 1.3	CE 144 1.2	BA 140 0.7	RH 106 0.5	Y 91 0.1
60.0 DAYS	NB 95 48.5	ZR 95 31.4	LA 140 7.8	RU 103 6.7	CE 141 1.5	PR 144 1.3	CE 144 1.2	BA 140 0.7	RH 106 0.5	Y 91 0.1
115.7 DAYS	NB 95 57.1	ZR 95 31.4	RU 103 4.6	PR 144 2.6	CE 144 1.9	RH 106 0.9	CE 141 0.8	LA 140 0.7	Y 91 0.1	SB 125 0.1
150.0 DAYS	NB 95 58.9	ZR 95 30.4	RU 103 3.5	PR 144 2.6	CF 144 2.4	RU 106 1.1	CE 141 0.5	LA 140 0.1	SB 125 0.1	Y 91 0.1
231.5 DAYS	NB 95 58.5	ZR 95 27.9	PR 144 4.6	CF 144 4.3	RH 106 2.1	RU 103 1.8	SB 125 0.2	CE 141 0.1	PR*144 0.1	SN 123 0.1
1.0 YRS.	NB 95 49.1	ZR 95 22.3	PR 144 11.0	CF 144 10.2	RH 106 5.4	SB 125 0.7	RU 103 0.6	PR*144 0.3	SN 123 0.1	EU 155 0.1

Source 6 (100% Solids), 500 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO RETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

TIME AFTER LOCA	1		2		3		4		5		6		7		8		9		10			
0 SEC.	RR	92 3.3	Y	96 3.1	RR	92 3.1	CS	140 2.2	CS	139 2.2	Y	95 2.2	Y	94 2.2	Y	97 2.1	NB	98 2.1	SR	95 2.1	Y	98 2.0
1.0 SEC.	Y	96 3.1	RR	92 3.1	CS	139 2.4	CS	140 2.4	Y	95 2.4	Y	94 2.4	Y	94 2.4	NB	98 2.3	SR	95 2.2	NB	101 2.0	Y	98 2.0
2.0 SEC.	Y	96 3.3	RR	92 2.8	CS	139 2.6	Y	95 2.6	CS	140 2.5	Y	94 2.5	NB	98 2.4	SR	95 2.3	NB	99 2.0	Y	92 2.0	Y	92 2.0
5.0 SEC.	Y	96 3.6	CS	139 2.8	Y	95 2.8	Y	94 2.8	CS	140 2.7	NB	98 2.6	SR	95 2.4	Y	92 2.2	CS	138 2.1	Y	99 2.1	Y	99 2.1
10.0 SEC.	Y	96 3.9	Y	95 3.1	CS	139 3.1	Y	94 3.1	CS	140 2.9	NB	98 2.6	Y	92 2.4	CS	138 2.3	SR	95 2.3	LA	144 2.1	Y	99 2.1
20.0 SEC.	Y	96 4.2	Y	95 3.5	CS	139 3.5	Y	94 3.5	CS	140 2.9	Y	92 2.6	CS	138 2.6	Y	93 2.4	NB	98 2.4	RB	88 2.4	Y	99 2.1
50.0 SEC.	Y	96 4.4	Y	94 4.2	Y	95 4.1	CS	139 4.0	Y	92 3.3	CS	138 3.1	Y	93 2.9	RB	88 2.8	SR	93 2.6	CS	140 2.5	Y	99 2.1
60.0 SEC.	Y	96 4.3	Y	94 4.3	Y	95 4.3	CS	139 4.1	Y	92 3.4	CS	138 3.2	Y	93 3.0	WB	88 2.9	SR	93 2.6	HR	90 2.4	Y	99 2.1
100.0 SEC.	Y	98 4.7	Y	95 4.6	CS	139 4.4	Y	96 3.9	Y	92 3.8	CS	138 3.5	Y	93 3.3	RB	88 3.1	SR	93 2.8	TC	102 2.6	Y	99 2.1
3.3 MIN.	Y	94 5.3	Y	95 4.8	CS	139 4.5	Y	92 4.5	CS	138 3.9	Y	93 3.9	RR	88 3.4	LA	141 3.0	BA	139 3.6	LA	142 3.5	Y	99 2.1
8.3 MIN.	Y	92 5.5	Y	94 5.5	Y	93 4.8	CS	138 4.4	Y	95 4.2	CS	139 3.8	LA	141 3.7	BA	139 4.2	LA	142 4.1	PR	144 3.7	Y	99 2.1
16.7 MIN.	Y	92 6.6	Y	93 5.7	Y	94 4.9	CS	138 4.4	LA	141 4.4	HA	139 4.2	LA	142 4.1	PR	144 3.7	ZR	97 3.2	RB	88 3.0	Y	99 2.1
33.3 MIN.	Y	92 8.3	Y	93 7.0	LA	141 5.4	RA	139 4.7	LA	142 4.7	PR	144 4.7	ZR	97 3.9	CS	138 3.9	SR	91 3.6	Y	91 3.4	Y	99 2.1
60.0 MIN.	Y	92 10.0	Y	93 8.3	LA	141 6.1	PR	144 5.7	ZP	97 4.7	LA	147 4.7	BA	139 4.6	SR	91 4.2	Y	91 4.2	LA	140 3.8	Y	99 2.1
1.4 HR.	Y	92 10.8	Y	93 8.9	LA	141 6.3	PR	144 6.2	ZR	97 5.1	Y	91 4.6	SR	91 4.5	LA	142 4.4	LA	140 4.2	BA	139 4.2	Y	99 2.1
2.8 HR.	Y	92 11.6	Y	93 9.7	PR	144 7.4	LA	141 5.9	ZR	97 5.7	Y	91 5.5	LA	140 5.0	SR	91 4.8	SR	89 4.3	NB	97 4.0	Y	99 2.1
5.6 HR.	Y	92 10.4	Y	93 9.6	PR	144 8.9	Y	91 6.6	ZR	97 6.1	LA	140 6.0	SR	89 5.2	SR	91 4.7	NB	97 4.4	LA	141 4.3	Y	99 2.1
12.0 HR.	PR	144 11.4	Y	91 8.4	Y	93 6.0	LA	140 7.7	SR	89 6.6	ZR	97 6.0	Y	92 5.2	MO	99 4.9	I	132 4.7	CE	143 4.6	Y	99 2.1
13.9 HR.	PR	144 12.0	Y	91 8.9	LA	140 6.1	Y	93 7.4	SR	89 6.9	ZR	97 5.9	MO	99 5.1	I	132 4.9	PR	143 4.8	CE	143 4.6	Y	99 2.1
1.0 DAYS	PR	144 14.5	Y	91 10.7	LA	140 9.7	SR	89 8.3	PR	143 5.7	I	132 5.5	MO	99 5.5	BA	140 5.0	ZP	97 4.7	CE	143 4.6	Y	99 2.1
1.2 DAYS	PR	144 15.2	Y	91 11.2	LA	140 10.1	SR	89 8.7	PR	143 6.0	I	132 5.6	MO	99 5.5	BA	140 5.0	ZP	97 4.7	CE	143 4.6	Y	99 2.1
2.3 DAYS	PR	144 18.3	Y	91 13.3	LA	140 11.9	SR	89 10.4	PR	143 7.0	HA	140 5.9	I	132 5.3	MO	99 5.0	CE	143 4.4	ZR	97 4.2	Y	99 2.1
4.0 DAYS	PR	144 20.7	Y	91 14.8	LA	140 12.6	SR	89 11.5	PR	143 7.4	BA	140 6.1	I	132 4.2	CE	141 3.7	MO	99 3.7	ZR	95 3.1	Y	99 2.1
5.8 DAYS	PR	144 22.3	Y	91 15.7	LA	140 12.6	SR	89 12.2	PR	143 7.4	BA	140 6.0	CE	141 3.9	ZR	95 3.3	I	132 3.1	MO	99 2.6	Y	99 2.1
10.0 DAYS	PR	144 25.3	Y	91 17.1	SR	89 13.2	LA	140 11.6	PR	143 6.9	BA	140 5.5	CE	141 4.1	ZR	95 3.6	RM	106 1.8	CE	144 1.7	Y	99 2.1
11.6 DAYS	PR	144 26.3	Y	91 17.5	SR	89 13.4	LA	140 11.2	PR	143 6.6	BA	140 5.3	CE	141 4.1	ZR	95 3.7	RM	106 1.9	CE	144 1.7	Y	99 2.1
23.1 DAYS	PR	144 31.9	Y	91 19.1	SR	89 14.4	LA	140 7.5	PR	143 4.6	ZR	95 4.1	CE	141 4.0	HA	140 3.5	RM	106 2.3	CE	144 2.1	Y	99 2.1
4.0 DAYS	PR	144 20.7	Y	91 14.8	LA	140 12.6	SR	89 11.5	PR	143 7.4	BA	140 6.1	I	132 4.2	CE	141 3.7	MO	99 3.7	ZR	95 3.1	Y	99 2.1
5.8 DAYS	PR	144 22.3	Y	91 15.7	LA	140 12.6	SR	89 12.2	PR	143 7.4	BA	140 6.0	CE	141 3.9	ZR	95 3.3	I	132 3.1	MO	99 2.6	Y	99 2.1
10.0 DAYS	PR	144 25.3	Y	91 17.1	SR	89 13.2	LA	140 11.6	PR	143 6.9	BA	140 5.5	CE	141 4.1	ZR	95 3.6	RM	106 1.8	CE	144 1.7	Y	99 2.1
11.6 DAYS	PR	144 26.3	Y	91 17.5	SR	89 13.4	LA	140 11.2	PR	143 6.6	BA	140 5.3	CE	141 4.1	ZR	95 3.7	RM	106 1.9	CE	144 1.7	Y	99 2.1
23.1 DAYS	PR	144 31.9	Y	91 19.1	SR	89 14.4	LA	140 7.5	PR	143 4.6	ZR	95 4.1	CE	141 4.0	HA	140 3.5	RM	106 2.3	CE	144 2.1	Y	99 2.1
4.0 DAYS	PR	144 20.7	Y	91 14.8	LA	140 12.6	SR	89 11.5	PR	143 7.4	BA	140 6.1	I	132 4.2	CE	141 3.7	MO	99 3.7	ZR	95 3.1	Y	99 2.1
5.8 DAYS	PR	144 22.3	Y	91 15.7	LA	140 12.6	SR	89 12.2	PR	143 7.4	BA	140 6.0	CE	141 3.9	ZR	95 3.3	I	132 3.1	MO	99 2.6	Y	99 2.1
10.0 DAYS	PR	144 25.3	Y	91 17.1	SR	89 13.2	LA	140 11.6	PR	143 6.9	BA	140 5.5	CE	141 4.1	ZR	95 3.6	RM	106 1.8	CE	144 1.7	Y	99 2.1
11.6 DAYS	PR	144 26.3	Y	91 17.5	SR	89 13.4	LA	140 11.2	PR	143 6.6	BA	140 5.3	CE	141 4.1	ZR	95 3.7	RM	106 1.9	CE	144 1.7	Y	99 2.1
23.1 DAYS	PR	144 31.9	Y	91 19.1	SR	89 14.4	LA	140 7.5	PR	143 4.6	ZR	95 4.1	CE	141 4.0	HA	140 3.5	RM	106 2.3	CE	144 2.1	Y	99 2.1
4.0 DAYS	PR	144 20.7	Y	91 14.8	LA	140 12.6	SR	89 11.5	PR	143 7.4	BA	140 6.1	I	132 4.2	CE	141 3.7	MO	99 3.7	ZR	95 3.1	Y	99 2.1
5.8 DAYS	PR	144 22.3	Y	91 15.7	LA	140 12.6	SR	89 12.2	PR	143 7.4	BA	140 6.0	CE	141 3.9	ZR	95 3.3	I	132 3.1	MO	99 2.6	Y	99 2.1
10.0 DAYS	PR	144 25.3	Y	91 17.1	SR	89 13.2	LA	140 11.6	PR	143 6.9	BA	140 5.5	CE	141 4.1	ZR	95 3.6	RM	106 1.8	CE	144 1.7	Y	99 2.1
11.6 DAYS	PR	144 26.3	Y	91 17.5	SR	89 13.4	LA	140 11.2	PR	143 6.6	BA	140 5.3	CE	141 4.1	ZR	95 3.7	RM	106 1.9	CE	144 1.7	Y	99 2.1
23.1 DAYS	PR	144 31.9	Y	91 19.1	SR	89 14.4	LA	140 7.5	PR	143 4.6	ZR	95 4.1	CE	141 4.0	HA	140 3.5	RM	106 2.3	CE	144 2.1	Y	99 2.1
4.0 DAYS	PR	144 20.7	Y	91 14.8	LA	140 12.6	SR	89 11.5	PR	143 7.4	BA	140 6.1	I	132 4.2	CE	141 3.7	MO	99 3.7	ZR	95 3.1	Y	99 2.1
5.8 DAYS	PR	144 22.3	Y	91 15.7	LA	140 12.6	SR	89 12.2	PR	143 7.4	BA	140 6.0	CE	141 3.9	ZR	95 3.3	I	132 3.1	MO	99 2.6	Y	99 2.1
10.0 DAYS	PR	144 25.3	Y	91 17.1	SR	89 13.2	LA	140 11.6	PR	143 6.9	BA	140 5.5	CE	141 4.1	ZR	95 3.6	RM	106 1.8	CE	144 1.7	Y	99 2.1
11.6 DAYS	PR	144 26.3	Y	91 17.5	SR	89 13.4	LA	140 11.2	PR	143 6.6	BA	140 5.3	CE	141 4.1	ZR	95 3.7	RM	106 1.9	CE	144 1.7	Y	99 2.1
23.1 DAYS	PR	144 31.9	Y	91 19.1	SR	89 14.4	LA	140 7.5	PR	143 4.6	ZR	95 4.1	CE	141 4.0	HA	140 3.5	RM	106 2.3	CE	144 2.1	Y	99 2.1
4.0 DAYS	PR	144 20.7	Y	91 14.8	LA	140 12.6	SR	89 11.5	PR	143 7.4	BA	140 6.1	I	132 4.2	CE	141 3.7	MO	99 3.7	ZR	95 3.1	Y	99 2.1
5.8 DAYS	PR	144 22.3	Y	91 15.7	LA	140 12.6	SR	89 12.2	PR	143 7.4	BA	140 6.0	CE	141 3.9	ZR	95 3.3	I	132 3.1	MO	99 2.6	Y	99 2.1
10.0 DAYS	PR	144 25.3	Y	91 17.1	SR	89 13.2	LA	140 11.6	PR	143 6.9	BA	140 5.5	CE	141 4.1	ZR	95 3.6	RM	106 1.8	CE	144 1.7	Y	99 2.1
11.6 DAYS	PR	144 26.3	Y	91 17.5	SR	89 13.4	LA	140 11.2	PR	143 6.6	BA	140 5.3	CE	141 4.1	ZR	95 3.7	RM	106 1.9	CE	144 1.7	Y	99 2.1
23.1 DAYS	PR	144 31.9	Y	91 19.1	SR	89 14.4	LA	140 7.5	PR	143 4.6	ZR	95 4.1	CE	141 4.0	HA	140 3.5	RM	106 2.3	CE	144 2.1	Y	99 2.1
4.0 DAYS	PR	144 20.7	Y	91 14.8	LA	140 12.6	SR	89 11.5	PR	143 7.4	BA	140 6.1	I	132 4.2	CE	141 3.7	MO	99 3.7	ZR	95 3.1	Y	99 2.1
5.8 DAYS	PR	144 22.3	Y	91 15.7	LA	140 12.6	SR	89 12.2	PR	143 7.4	BA	140 6.0	CE	141 3.9	ZR	95 3.3	I	132 3.1	MO	99 2.6	Y	99 2.1
10.0 DAYS	PR	144 25.3	Y	91 17.1	SR	89 13.2	LA	140 11.6	PR	143 6.9	BA	140 5.5	CE	141 4.1	ZR	95 3.6	RM	106 1.8	CE	144 1.7	Y	99 2.1
11.6 DAYS	PR	144 26.3	Y	91 17.5	SR	89 13.4	LA	140 11.2	PR	143 6.6	BA	140 5.3	CE	141 4.1	ZR	95 3.7	RM	106 1.9	CE	144 1.7	Y	99 2.1
23.1 DAYS	PR	144 31.9	Y	91 19.1	SR	89 14.4	LA	140 7.5	PR	143 4.6	ZR	95 4.1	CE	141 4.0	HA	140 3.5	RM	106 2.3	CE	144 2.1	Y	99 2.1
4.0 DAYS	PR	144 20.7	Y	91 14.8	LA	140 12.6	SR	89 11.5	PR	143 7.4	BA	140 6.1	I	132 4.2	CE	141 3.7	MO	99 3.7	ZR	95 3.1	Y	99 2.1
5.8 DAYS	PR	144 22.3	Y	91 15.7	LA	140 12.6	SR	89 12.2	PR	143 7.4	BA	140 6.0	CE	141 3.9	ZR	95 3.3	I	132 3.1	MO	99 2.6</		

Source 6 (100% Solids), 500 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LNCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	RR 91 3.5	CS 138 3.4	LA 142 3.4	LA 140 3.1	RR 90 2.8	CS 140 2.8	RB 89 2.5	LA 140 2.3	Y 96 2.0	SR 93 1.9
1.0 SEC.	RR 91 3.7	CS 138 3.7	LA 142 3.7	LA 140 3.3	RR 90 3.0	CS 140 3.0	RR 89 2.7	LA 144 2.5	Y 96 2.1	SR 93 2.1
2.0 SEC.	RR 91 3.9	CS 138 3.8	LA 142 3.8	LA 140 3.5	RR 90 3.1	CS 140 3.1	RR 89 2.8	LA 144 2.6	Y 96 2.2	SR 93 2.2
5.0 SEC.	CS 138 4.1	LA 142 4.1	RR 91 4.0	LA 140 3.8	RR 90 3.3	CS 140 3.2	RR 89 3.0	LA 144 2.8	SR 93 2.4	Y 96 2.3
10.0 SEC.	CS 138 4.4	LA 142 4.4	RR 91 4.1	LA 140 4.1	RR 90 3.5	CS 140 3.3	RR 89 3.2	LA 144 2.8	SR 93 2.5	Y 96 2.5
20.0 SEC.	LA 142 4.9	CS 138 4.9	LA 140 4.5	RR 91 4.0	RR 90 3.7	RB 89 3.5	CS 140 3.2	LA 144 2.8	SR 93 2.7	Y 96 2.6
50.0 SEC.	LA 142 5.7	CS 138 5.6	LA 140 5.2	RR 89 4.0	RR 90 3.8	RB 91 3.3	SR 93 3.1	SR 92 3.0	CS 140 2.7	Y 96 2.6
60.0 SEC.	LA 142 5.9	CS 138 5.8	LA 140 5.4	RR 89 4.1	RR 90 3.8	SR 93 3.1	SR 92 3.1	RR 91 3.0	MO 101 2.6	Y 96 2.6
100.0 SEC.	LA 142 6.6	CS 138 6.4	LA 140 6.0	RR 89 4.5	RR 90 3.6	SR 92 3.4	SR 93 3.3	MO 101 2.8	LA 143 2.7	Y 94 2.7
3.3 MIN.	LA 142 7.7	CS 138 7.2	LA 140 7.1	RR 89 4.8	SR 92 4.0	SR 93 3.3	MO 101 3.0	Y 94 3.0	LA 143 2.9	TE*133 2.8
8.3 MIN.	LA 142 9.3	LA 140 8.7	CS 138 8.0	SR 92 4.8	RR 89 4.7	TE*133 3.2	Y 94 3.1	TE 130 3.0	MO 101 3.0	PR 140 2.9
16.7 MIN.	LA 142 10.8	LA 140 10.4	CS 138 7.9	SR 92 5.5	RR 89 3.9	TE*133 3.5	PR 146 3.2	TE 130 3.2	ZR 95 3.1	SR 91 3.0
33.3 MIN.	LA 140 12.9	LA 142 12.2	CS 138 6.9	SR 92 6.4	I 134 4.4	ZR 95 3.9	NR 97 3.7	SR 91 3.7	NR 95 3.5	TE*133 3.5
60.0 MIN.	LA 140 16.0	LA 142 12.5	SR 92 7.1	I 134 6.5	CS 138 4.8	ZR 95 4.8	NR 97 4.6	SR 91 4.4	NR 95 4.3	TE*133 3.1
1.4 HR.	LA 140 18.0	LA 142 11.8	I 134 7.2	SR 92 7.2	ZR 95 5.4	NR 97 5.1	NR 95 4.9	SR 91 4.8	I 132 4.2	CS 138 3.3
2.8 HR.	LA 140 22.6	I 132 8.6	LA 142 8.0	ZR 95 6.8	SR 92 6.3	NR 97 6.2	NR 95 6.1	SR 91 5.5	I 134 5.3	CE 143 2.7
5.6 HR.	LA 140 27.1	I 132 14.6	ZR 95 9.3	NR 95 7.4	NR 97 6.7	SR 91 5.3	SR 92 3.7	CE 143 3.1	RU 103 2.9	LA 142 2.7
12.0 HR.	LA 140 31.0	I 132 19.0	ZR 95 9.5	NR 95 8.4	NR 97 5.9	SR 91 3.8	RU 103 3.3	CE 143 3.1	BA 140 3.0	TE 132 2.3
13.9 HR.	LA 140 31.7	I 132 19.4	ZR 95 9.5	NR 95 8.6	NR 97 5.6	SR 91 3.4	RU 103 3.4	CF 143 3.0	HA 140 3.0	TE 132 2.3
1.0 DAYS	LA 140 34.6	I 132 19.8	ZR 95 10.4	NR 95 9.5	NR 97 4.1	RU 103 3.7	BA 140 3.3	CE 143 2.7	TE 132 2.3	MO 99 2.2
1.7 DAYS	LA 140 35.5	I 132 19.6	ZR 95 10.7	NR 95 9.8	RU 103 3.8	NR 97 3.6	BA 140 3.3	CE 143 2.6	TE 132 2.3	MO 99 2.2
2.3 DAYS	LA 140 39.7	I 132 17.7	ZR 95 12.1	NR 95 11.3	RU 103 4.3	HA 140 3.6	TE 132 2.1	MO 99 1.9	CE 143 1.6	NR 97 1.3
4.0 DAYS	LA 140 42.7	I 132 14.2	ZR 95 13.7	NR 95 13.0	RU 103 4.7	BA 140 3.8	TE 132 1.7	MO 99 1.4	CF 141 1.3	CE 143 .8
5.8 DAYS	LA 140 44.1	ZR 95 15.1	NR 95 14.6	I 132 10.9	RU 103 5.2	BA 140 3.8	CE 141 1.4	TE 132 1.3	MO 99 1.0	ND 147 .7
10.0 DAYS	LA 140 44.0	NR 95 18.2	ZR 95 17.8	RU 103 5.9	I 132 5.5	HA 140 3.8	CE 141 1.6	ND 147 .7	TE 132 .6	MO 99 .4
11.6 DAYS	LA 140 43.1	NR 95 19.4	ZR 95 18.7	RU 103 6.2	I 132 4.2	BA 140 3.7	CE 141 1.7	ND 147 .7	TE 132 .5	PH 144 .3
23.1 DAYS	LA 140 33.5	NR 95 27.8	ZR 95 24.0	RU 103 7.3	HA 140 2.9	CF 141 1.9	I 132 .5	ND 147 .5	PR 144 .5	CE 144 .4
30.0 DAYS	NR 95 32.3	LA 140 27.3	ZR 95 26.4	RU 103 7.6	BA 140 2.3	CE 141 1.9	PR 144 .5	CE 144 .5	ND 147 .4	NH 106 .2
57.9 DAYS	NR 95 46.2	ZR 95 31.7	LA 140 9.7	RU 103 7.6	CF 141 1.7	BA 140 .8	PR 144 .8	CE 144 .7	RH 106 .3	Y 91 .1
60.0 DAYS	NR 95 46.9	ZR 95 31.9	LA 140 8.9	RU 103 7.5	CF 141 1.7	PR 144 .8	BA 140 .8	CE 144 .8	RH 106 .3	Y 91 .1
115.7 DAYS	NR 95 57.5	ZR 95 32.3	RU 103 5.2	PR 144 1.1	CE 144 1.2	CE 141 .9	LA 140 .6	RH 106 .5	Y 91 .1	BA 140 .1
150.0 DAYS	NR 95 59.7	ZR 95 31.4	RU 103 4.0	PR 144 1.7	CE 144 1.5	RH 106 .7	LA 140 .6	Y 91 .1	SB 125 .1	Y 91 .1
231.5 DAYS	NR 95 60.9	ZR 95 29.3	PR 144 3.0	CF 144 2.8	RU 103 2.1	RH 106 1.3	CE 141 .2	SH 125 .1	Y 91 .1	PH*144 .1
1.0 YRS.	NR 95 55.0	ZR 95 25.1	PR 144 7.7	CF 144 7.1	RM 106 3.5	RU 103 .7	SB 125 .4	PR*144 .2	SN 123 .1	Y 91 .1

Source 6 (100% Solids), 200 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1		2		3		4		5		6		7		8		9		10												
0.0 SEC.	NR	92	3.3	Y	96	2.9	CS	140	2.2	CS	139	2.2	Y	95	2.2	Y	94	2.2	Y	97	2.2	NR	98	2.1	SR	95	2.1	Y	98	2.0	
1.0 SEC.	Y	96	3.2	Y	96	3.1	CS	139	2.5	CS	140	2.5	Y	95	2.4	Y	94	2.4	NR	97	2.3	SR	95	2.3	NR	101	2.0	Y	NR	99	2.0
2.0 SEC.	Y	96	3.3	NR	97	2.8	CS	139	2.6	Y	95	2.6	CS	140	2.6	Y	94	2.6	NR	98	2.4	SR	95	2.3	NR	99	2.1	Y	92	2.0	
5.0 SEC.	Y	96	3.7	CS	139	2.9	Y	95	2.9	Y	94	2.8	CS	140	2.8	NR	98	2.6	SR	95	2.4	Y	92	2.2	CS	138	2.1	NR	99	2.1	
10.0 SEC.	Y	96	4.0	Y	95	3.2	CS	139	3.2	Y	94	3.1	CS	140	2.9	NR	98	2.6	Y	92	2.5	CS	138	2.3	SR	95	2.3	LA	144	2.2	
20.0 SEC.	Y	96	4.3	Y	95	3.6	CS	139	3.5	Y	94	3.5	CS	140	2.9	Y	92	2.8	CS	138	2.6	Y	93	2.4	NR	98	2.4	NR	88	2.4	
50.0 SEC.	Y	96	4.4	Y	94	4.2	Y	95	4.2	CS	139	4.1	Y	92	3.4	CS	138	3.1	Y	93	2.9	NR	98	2.8	SR	93	2.6	CS	140	2.5	
100.0 SEC.	Y	96	4.4	Y	94	4.4	Y	95	4.3	CS	139	4.2	Y	92	3.5	CS	138	3.2	Y	93	3.0	NR	88	2.9	SR	93	2.7	NR	90	2.4	
3.3 MIN.	Y	94	5.4	Y	95	4.6	CS	139	4.6	Y	92	4.0	Y	95	3.9	CS	138	3.6	Y	93	3.4	NR	88	3.2	SR	93	2.8	TC	102	2.6	
8.3 MIN.	Y	92	5.6	Y	94	5.6	Y	94	4.9	CS	138	4.5	Y	95	4.5	CS	139	3.9	LA	141	3.8	HA	139	3.7	LA	142	3.6	NR	88	3.5	
16.7 MIN.	Y	92	6.8	Y	93	5.9	Y	90	5.0	CS	138	4.5	LA	141	4.5	BA	139	4.3	LA	142	4.2	ZR	97	3.3	NR	88	3.1	Y	95	3.0	
33.3 MIN.	Y	92	8.6	Y	93	7.3	LA	141	5.5	HA	139	4.9	LA	142	4.8	ZR	97	4.1	CS	138	4.0	SR	91	3.7	Y	94	3.5	LA	140	3.2	
60.0 MIN.	Y	92	10.4	Y	93	8.7	LA	141	6.4	ZR	97	4.9	LA	142	4.9	RA	139	4.8	SR	91	4.4	LA	140	4.0	Y	91	3.9	NR	97	3.4	
1.4 HR.	Y	92	11.3	Y	93	9.3	LA	141	6.6	ZR	97	5.3	SR	91	4.7	LA	142	4.6	LA	140	4.4	HA	139	4.4	Y	91	4.4	NR	97	3.7	
2.8 HR.	Y	92	12.3	Y	93	10.2	LA	141	6.2	ZR	97	6.1	LA	140	5.1	Y	91	5.2	SR	91	5.1	PR	144	4.3	NR	97	4.3	SR	89	4.2	
5.6 HR.	Y	92	11.1	Y	93	10.3	ZR	97	6.6	LA	140	6.4	Y	91	6.4	PR	144	5.2	SR	89	5.1	SR	91	5.0	NR	97	4.7	LA	141	4.6	
12.0 HR.	Y	93	5.7	LA	140	8.4	Y	91	8.1	PR	144	7.2	SR	89	6.7	ZR	97	6.6	Y	92	5.7	MD	99	5.3	I	132	5.1	CE	143	5.0	
13.0 HR.	LA	140	8.8	Y	91	8.8	Y	91	8.1	PR	144	7.8	SR	89	7.1	ZR	97	6.4	MD	99	5.5	I	132	5.4	PR	143	5.2	CF	143	5.1	
1.0 DAYS	LA	140	10.8	Y	91	10.8	PR	144	8.8	SR	89	8.6	PP	143	6.4	I	132	6.2	MD	99	6.1	HA	140	5.6	ZR	97	5.2	CF	143	5.1	
1.2 DAYS	LA	140	11.5	Y	91	11.3	PR	144	9.3	SR	89	9.1	PR	143	6.7	I	132	6.3	MD	99	6.2	HA	140	5.8	CF	143	4.9	ZR	97	4.7	
2.3 DAYS	Y	91	13.8	LA	140	13.6	PR	144	11.5	SR	89	11.1	PR	143	8.0	HA	140	6.8	I	132	6.1	MD	99	5.7	CF	141	3.8	CF	143	3.4	
4.0 DAYS	Y	91	15.7	LA	140	14.7	PR	144	13.2	SR	89	12.5	PR	143	8.7	HA	140	7.2	I	132	4.9	MD	99	4.3	CF	141	4.3	ZR	95	3.2	
5.8 DAYS	Y	91	16.9	LA	140	14.9	PR	144	14.5	SR	89	13.4	PR	143	8.8	HA	140	7.1	CE	141	4.5	I	132	3.7	ZR	95	3.4	MD	99	3.0	
10.0 DAYS	Y	91	18.8	PR	144	16.8	SR	89	14.9	LA	140	14.1	PR	143	8.3	HA	140	6.7	CE	141	4.9	ZR	95	3.8	MD	147	1.9	I	132	1.8	
11.6 DAYS	Y	91	19.4	PP	144	17.5	SR	89	15.2	LA	140	13.6	PR	143	8.1	HA	140	6.4	CE	141	4.9	ZR	95	4.0	MD	147	1.8	NR	95	1.5	
23.1 DAYS	PR	144	22.2	Y	91	22.0	SP	89	17.1	LA	140	9.5	PR	143	5.8	CE	141	5.0	ZR	95	4.8	PR	143	4.5	NR	95	1.9	HA	106	1.5	
30.0 DAYS	PR	144	24.7	Y	91	23.0	SP	89	17.6	LA	140	7.4	CE	141	4.9	ZR	95	4.8	PR	143	4.0	HA	140	3.5	NR	95	2.1	HA	106	1.7	
57.9 DAYS	PR	144	33.5	Y	91	23.9	SP	89	17.6	ZR	95	5.2	CF	141	3.9	NR	95	2.7	LA	140	2.4	HA	106	2.3	CE	144	2.2	PR	143	1.6	
60.0 DAYS	PR	144	34.1	Y	91	23.9	SR	89	17.5	ZR	95	5.2	CF	141	3.8	NR	95	2.7	RM	106	2.3	CE	144	2.2	LA	140	2.2	PR	143	1.5	
115.7 DAYS	PR	144	47.2	Y	91	19.6	SR	89	13.2	ZR	95	4.6	NR	106	3.4	CE	144	3.1	NR	95	2.9	CF	141	1.9	Y	90	1.7	RU	103	.6	
150.0 DAYS	PR	144	53.9	Y	91	16.2	SP	89	10.4	ZR	95	4.0	NR	106	3.9	CE	144	3.5	NR	95	2.7	Y	90	2.1	CE	141	1.1	PM	147	.5	
231.5 DAYS	PR	144	66.0	Y	91	9.2	SP	89	5.2	PM	146	5.0	CF	144	4.3	Y	90	3.2	ZR	95	2.5	NR	95	1.9	PM	147	.7	SR	90	.7	
1.0 YRS.	PR	144	74.8	PM	146	6.1	Y	91	4.9	CE	144	4.9	Y	91	3.0	SR	89	1.4	SR	90	1.1	PM	147	1.0	ZR	95	.9	CS	137	.9	

Source 6 (100% Solids), 200 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LNCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	I 134 3.3	RR 91 2.6	CS 138 2.5	LA 142 2.5	LA 140 2.3	RR 90 2.1	CS 140 2.1	RR 89 1.8	LA 144 1.7	RR 89 1.6
1.0 SEC.	I 134 3.5	RR 91 2.8	CS 138 2.7	LA 142 2.7	LA 140 2.5	RR 90 2.3	CS 140 2.2	RR 89 2.0	LA 144 1.9	RR 89 1.7
2.0 SEC.	I 134 3.7	RR 91 2.9	CS 138 2.8	LA 142 2.8	LA 140 2.6	RR 90 2.3	CS 140 2.3	RR 89 2.1	LA 144 1.9	RR 89 1.8
5.0 SEC.	I 134 4.0	RR 91 3.1	CS 138 3.1	LA 142 3.0	LA 140 2.8	RR 90 2.5	CS 140 2.5	RR 89 2.2	LA 144 2.0	RR 89 1.9
10.0 SEC.	I 134 4.3	CS 138 3.3	LA 142 3.3	RR 91 3.2	LA 140 3.0	RR 90 2.7	CS 140 2.6	RR 89 2.4	LA 144 2.1	I 132 2.0
20.0 SEC.	I 134 4.7	CS 138 3.6	LA 142 3.6	LA 140 3.3	RR 91 3.2	RR 90 2.9	RR 89 2.6	CS 140 2.6	I 132 2.2	I 135 2.2
50.0 SEC.	I 134 5.4	CS 138 4.2	LA 142 4.2	LA 140 3.8	RR 90 3.2	RR 89 3.0	RR 91 2.6	I 132 2.6	I 135 2.5	CS 140 2.3
60.0 SEC.	I 134 5.6	CS 138 4.3	LA 142 4.3	LA 140 4.0	RR 90 3.2	RR 89 3.1	I 132 2.7	I 135 2.6	RR 91 2.4	SR 93 2.3
100.0 SEC.	I 134 6.2	CS 138 4.8	LA 142 4.8	LA 140 4.4	RR 89 3.4	RR 90 3.1	I 132 3.0	I 135 2.9	SR 92 2.5	RR 88 2.5
3.3 MIN.	I 134 7.2	LA 142 5.5	CS 138 5.5	LA 140 5.1	RR 89 3.9	I 132 3.5	I 135 3.3	SR 92 2.9	RR 88 2.9	RR 90 2.4
8.3 MIN.	I 134 8.5	LA 142 6.5	CS 138 6.4	LA 140 6.1	I 132 4.2	I 135 4.0	RR 89 4.0	SR 92 3.4	RR 88 3.4	TE 133 2.3
16.7 MIN.	I 134 9.6	LA 142 7.3	LA 140 7.1	CS 138 6.9	I 132 4.8	I 135 4.6	RR 88 3.8	SR 92 3.8	RR 89 3.3	NR 95 2.5
33.3 MIN.	I 134 10.7	LA 140 8.5	LA 142 8.0	CS 138 6.6	I 132 5.8	I 135 5.3	RR 88 4.2	SR 92 4.2	NR 95 4.0	ZR 95 2.9
60.0 MIN.	I 134 11.0	LA 140 10.4	LA 142 8.1	I 132 7.1	I 135 6.2	CS 138 5.0	RR 88 4.6	SR 92 4.6	NR 95 3.7	ZR 95 3.5
1.4 HR.	LA 140 11.8	I 134 10.3	I 132 8.0	LA 142 7.7	I 135 6.7	RR 88 4.8	SR 92 4.7	NR 95 4.4	SR 92 4.3	NR 97 4.2
2.8 HR.	LA 140 15.4	I 132 10.4	I 135 7.6	I 134 6.1	NR 95 5.5	LA 142 5.4	ZR 95 5.3	RR 88 4.4	SR 92 4.3	NR 97 4.2
5.6 HR.	LA 140 19.9	I 132 13.2	I 135 7.4	NR 95 7.1	ZR 95 6.8	I 133 4.9	NR 97 4.9	SR 91 3.9	RR 88 2.9	SR 92 2.7
13.9 HR.	LA 140 24.6	I 132 15.7	NR 95 8.8	ZR 95 8.5	I 133 5.0	NR 97 4.7	I 135 4.7	SR 91 3.1	RU 103 2.7	CE 143 2.5
1.0 DAYS	LA 140 25.8	I 132 16.0	NR 95 9.2	ZR 95 8.8	I 133 4.9	NR 97 4.6	I 135 4.0	RU 103 2.8	SR 91 2.8	CE 143 2.5
1.2 DAYS	LA 140 29.5	I 132 16.9	NR 95 10.6	ZR 95 10.1	I 133 4.0	NR 97 3.5	HU 103 3.2	HA 140 2.8	CF 143 2.3	I 131 2.2
2.3 DAYS	LA 140 35.3	I 132 15.7	NR 95 11.1	ZR 95 12.3	RU 103 3.9	BA 140 3.2	I 131 2.4	TE 132 1.8	I 133 1.7	MO 99 1.7
4.0 DAYS	LA 140 38.1	NR 95 15.1	ZR 95 13.9	I 132 12.7	RU 103 4.4	BA 140 3.4	I 131 2.4	TE 132 1.5	MO 99 1.3	XE 133 1.2
5.8 DAYS	LA 140 39.5	NR 95 16.9	ZR 95 15.3	I 132 9.7	RU 103 4.8	BA 140 3.4	I 131 2.4	CF 141 1.3	TE 132 1.1	XE 133 1.1
10.0 DAYS	LA 140 39.2	NR 95 20.7	ZR 95 18.1	RU 103 5.4	I 132 4.9	BA 140 3.4	I 131 2.0	CE 141 1.4	XE 133 .8	PR 144 .7
11.6 DAYS	LA 140 38.4	NR 95 22.0	ZR 95 18.9	RU 103 5.6	I 132 3.7	BA 140 3.3	I 131 1.9	CE 141 1.5	PR 144 .7	XE 133 .7
23.1 DAYS	NR 95 30.3	LA 140 29.4	ZR 95 24.0	RU 103 6.6	BA 140 2.5	CF 141 1.7	PR 144 1.0	I 131 1.0	CE 144 1.0	RR 106 .5
30.0 DAYS	NR 95 34.7	ZR 95 26.1	LA 140 23.8	RU 103 6.9	BA 140 2.0	CF 141 1.7	PR 144 1.2	CE 144 1.1	I 131 .6	RR 106 .6
57.9 DAYS	NR 95 47.0	ZR 95 30.6	LA 140 8.3	RU 103 6.6	PR 144 1.7	CE 144 1.6	CF 141 1.5	RM 106 .8	BA 140 .7	EU 152 .2
60.0 DAYS	NR 95 47.6	ZR 95 30.7	LA 140 7.6	RU 103 6.6	PR 144 1.8	CE 144 1.7	CE 141 1.4	RM 106 .8	HA 140 .6	EU 152 .2
115.7 DAYS	NR 95 55.5	ZR 95 30.4	RU 103 4.4	PR 144 2.8	CE 144 2.6	RM 106 1.4	CE 141 .8	LA 140 .7	EU 152 .3	SB 125 .3
150.0 DAYS	NR 95 56.3	ZR 95 29.1	PR 144 3.5	RU 103 3.3	CF 144 3.3	RM 106 1.8	CE 141 .5	EU 152 .4	SB 125 .4	SH 126 .3
231.5 DAYS	NR 95 53.8	ZR 95 25.6	PR 144 6.0	CE 144 5.6	RM 106 3.1	RU 103 1.7	EU 152 .8	SB 125 .7	SB 126 .7	ZR 93 .6
1.0 YRS.	NR 95 39.5	ZR 95 18.0	PR 144 12.5	CE 144 11.6	RM 106 7.1	EU 152 2.3	SR 126 2.0	SB 125 1.9	ZR 93 1.8	SB 126 .8

Source 7 (All Fission Products), Equilibrium, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO META DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SFC.	RR 92 2.6	Y 96 2.2	CS 140 1.8	XE 137 1.7	CS 139 1.7	Y 95 1.7	Y 94 1.7	Y 97 1.7	NR 98 1.7	SR 95 1.6
1.0 SFC.	RR 92 2.5	Y 96 2.4	CS 140 1.9	XE 137 1.9	CS 139 1.9	Y 95 1.9	Y 94 1.9	Y 97 1.9	NR 98 1.8	SR 95 1.6
2.0 SFC.	Y 96 2.6	RR 92 2.4	CS 139 2.0	XE 137 2.0	CS 140 2.0	Y 95 2.0	Y 94 2.0	Y 97 2.0	NR 98 1.9	SR 95 1.6
5.0 SFC.	Y 96 2.8	CS 139 2.2	XF 137 2.2	Y 95 2.2	CS 140 2.2	Y 94 2.2	NR 98 2.0	SR 95 1.8	NR 98 2.0	Y 92 1.7
10.0 SEC.	Y 96 3.1	CS 139 2.5	Y 95 2.4	XF 137 2.4	Y 94 2.4	CS 140 2.4	NR 98 2.0	Y 92 1.9	CS 138 1.8	SR 95 1.8
20.0 SFC.	Y 96 3.1	CS 139 2.8	Y 95 2.8	Y 94 2.7	XF 137 2.7	CS 140 2.5	Y 92 2.2	CS 138 2.0	RR 90 1.9	NR 98 1.9
50.0 SFC.	Y 96 3.4	CS 139 3.3	Y 94 3.3	Y 95 3.2	XF 137 3.0	Y 92 2.6	CS 138 2.5	CS 140 2.3	Y 93 2.3	RR 90 2.1
100.0 SFC.	Y 96 3.4	Y 94 3.4	CS 139 3.4	Y 91 3.3	XE 137 3.1	Y 92 2.7	CS 138 2.6	RR 88 2.3	Y 93 2.6	RR 90 2.1
3.3 MIN.	Y 94 4.2	CS 139 3.8	Y 95 3.8	Y 92 3.1	XE 137 3.1	Y 92 3.0	CS 138 2.9	RR 88 2.6	Y 93 2.6	RR 90 2.4
8.3 MIN.	Y 92 4.4	Y 94 4.3	CS 138 4.0	Y 93 3.5	CS 138 3.5	Y 93 3.1	NR 88 3.1	PR 144 2.8	XE 137 2.7	LA 141 2.4
16.7 MIN.	Y 92 5.1	Y 93 4.4	CS 138 4.4	Y 93 3.8	RR 88 3.7	PR 144 3.4	Y 95 3.4	CS 139 3.2	LA 141 2.9	BA 139 2.9
33.3 MIN.	Y 92 6.2	Y 93 5.2	RR 88 4.4	CS 138 4.4	PR 144 4.1	Y 94 3.8	LA 141 3.4	BA 139 3.2	Y 90 3.2	LA 142 3.2
60.0 MIN.	Y 92 7.2	Y 93 6.0	PR 144 5.1	RR 88 5.4	Y 90 4.6	LA 141 4.4	ZR 97 3.4	LA 142 3.4	BA 139 3.4	I 134 3.3
1.4 HR.	Y 92 7.7	Y 93 6.4	PR 144 6.3	RR 88 5.4	Y 90 5.1	LA 141 4.5	ZR 97 3.7	Y 91 3.3	SR 91 3.2	LA 142 3.3
2.8 HR.	Y 92 8.4	PR 144 7.6	Y 93 7.0	Y 90 6.1	RR 88 4.7	LA 141 4.5	ZR 97 4.1	Y 91 4.0	LA 140 3.6	SR 91 3.5
5.6 HR.	PR 144 9.2	Y 92 7.6	Y 90 7.4	Y 93 7.0	Y 91 4.8	ZR 97 4.5	LA 140 4.4	SR 89 3.8	SR 91 3.5	I 133 3.2
12.0 HR.	PR 144 11.8	Y 90 9.4	Y 91 6.1	Y 93 5.8	LA 140 5.6	SR 89 4.8	ZR 97 4.4	Y 92 3.8	MO 99 3.6	I 132 3.5
13.9 HR.	PR 144 12.4	Y 90 9.9	Y 91 6.4	LA 140 5.9	Y 93 5.3	SR 89 5.0	ZR 97 4.3	MO 99 3.7	I 132 3.6	PR 143 3.5
1.0 DAYS	PR 144 14.6	Y 90 11.7	Y 91 7.6	LA 140 6.9	SR 89 5.9	PR 143 4.1	I 132 3.9	MO 99 3.9	BA 140 3.6	ZR 97 3.3
2.5 DAYS	PR 144 16.0	Y 90 12.2	Y 91 7.9	LA 140 7.2	SR 89 6.2	PR 143 4.2	I 132 4.0	MO 99 3.9	BA 140 3.7	CE 143 3.1
4.0 DAYS	PR 144 19.8	Y 90 16.0	Y 91 9.2	LA 140 8.5	SR 89 7.2	PR 143 4.8	BA 140 4.1	I 132 3.7	MO 99 3.5	SR 90 3.1
5.8 DAYS	PR 144 21.0	Y 90 17.0	Y 91 10.4	LA 140 8.4	SR 89 7.8	PR 143 4.9	BA 140 4.1	SR 90 3.4	CS 137 3.2	I 132 2.8
10.0 DAYS	PR 144 22.0	Y 90 18.8	Y 91 11.0	SR 89 8.4	LA 140 7.4	PR 143 4.4	SR 90 4.0	CS 137 3.7	RA 140 3.5	CE 141 2.6
11.6 DAYS	PR 144 23.5	Y 90 19.3	Y 91 11.1	SR 89 8.5	LA 140 7.0	PR 143 4.2	SR 90 4.1	CS 137 3.8	HA 140 3.3	CF 141 2.6
23.1 DAYS	PR 144 26.5	Y 90 22.4	Y 91 11.2	SR 89 8.4	SR 90 4.4	CS 137 4.4	LA 140 4.4	PR 143 2.7	ZR 95 2.4	CE 141 2.4
30.0 DAYS	PR 144 27.8	Y 90 23.8	Y 91 11.0	SR 89 8.2	SR 90 5.1	CS 137 4.7	LA 140 3.2	ZR 95 2.4	RH 106 2.3	CF 141 2.2
57.9 DAYS	PR 144 30.8	Y 90 28.2	Y 91 9.4	SR 89 6.7	SR 90 6.0	CS 137 5.6	RH 106 2.6	ZR 95 2.1	CE 144 2.0	CE 141 1.4
60.0 DAYS	PR 144 30.9	Y 90 28.5	Y 91 9.2	SR 89 6.8	SR 90 6.1	CS 137 5.7	RH 106 2.6	ZR 95 2.1	CE 144 2.0	CE 141 1.4
115.7 DAYS	Y 90 30.1	PR 144 32.4	SR 90 7.2	CS 137 6.8	Y 91 5.7	SR 89 3.8	RH 106 2.8	CF 144 2.1	ZR 95 1.4	NR 95 .9
150.0 DAYS	Y 90 36.8	PR 144 32.2	SR 90 7.8	CS 137 7.3	Y 91 4.1	WH 106 2.9	SR 89 2.8	CE 144 2.1	ZR 95 1.0	PM 147 .9
231.5 DAYS	Y 90 41.8	PR 144 30.2	SR 90 8.9	CS 137 8.3	RH 106 2.8	CF 144 2.0	Y 91 2.6	SR 89 1.9	PM 147 .9	SR 85 .5
1.0 YRS.	Y 90 47.7	PR 144 25.1	SR 90 10.1	CS 137 9.5	RH 106 2.5	CE 144 1.7	PM 147 1.0	KR 85 .6	Y 91 .4	CS 135 .4

Source 7 (All Fission Products), Equilibrium, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1		2		3		4		5		6		7		8		9		10		
.0 SEC.	I	134	3,3	RH 91	2,6	CS 138	2,5	LA 142	2,5	LA 140	2,3	RH 90	2,1	CS 140	2,1	NB 89	1,8	LA 144	1,7	KR 89	1,6
1.0 SEC.	I	134	3,5	RB 91	2,8	CS 138	2,7	LA 142	2,7	LA 140	2,5	RB 90	2,3	CS 140	2,2	RB 89	2,0	LA 144	1,9	KR 89	1,7
2.0 SEC.	I	134	3,7	RB 91	2,9	CS 138	2,8	LA 142	2,8	LA 140	2,6	RB 90	2,3	CS 140	2,3	RB 89	2,1	LA 144	1,9	KR 89	1,8
5.0 SEC.	I	134	4,0	RB 91	3,1	CS 138	3,1	LA 142	3,0	LA 140	2,8	RB 90	2,5	CS 140	2,5	NB 89	2,2	LA 144	2,0	KR 89	1,9
10.0 SEC.	I	134	4,3	CS 138	3,3	LA 142	3,3	RB 91	3,2	LA 140	3,0	RB 90	2,7	CS 140	2,6	RB 89	2,4	LA 144	2,1	I 132	2,0
20.0 SEC.	I	134	4,7	CS 138	3,6	LA 142	3,6	LA 140	3,3	RB 91	3,2	RB 90	2,9	RB 89	2,6	CS 140	2,6	I 132	2,2	I 135	2,2
40.0 SEC.	I	134	5,4	CS 138	4,2	LA 142	4,2	LA 140	3,8	RB 90	3,2	RB 89	3,0	RB 91	2,6	I 132	2,6	I 135	2,5	CS 140	2,3
60.0 SEC.	I	134	5,6	CS 138	4,3	LA 142	4,3	LA 140	4,0	RB 90	3,2	RB 89	3,1	I 132	2,7	I 135	2,6	RH 91	2,4	SR 93	2,3
100.0 SEC.	I	134	6,2	CS 138	4,8	LA 142	4,8	LA 140	4,4	RB 89	3,4	RB 90	3,1	I 132	3,0	I 135	2,9	SR 92	2,5	KR 88	2,5
3.3 MIN.	I	134	7,2	LA 142	5,5	CS 138	5,5	LA 140	5,1	RB 89	3,9	I 132	3,5	I 135	3,3	SR 92	2,9	KR 88	2,9	RB 90	2,4
8.3 MIN.	I	134	8,5	LA 142	6,5	CS 138	6,0	LA 140	6,1	I 132	4,2	I 135	4,0	RB 89	4,0	SR 92	3,4	KR 88	3,4	TE 133	2,3
16.7 MIN.	I	134	9,6	LA 142	7,3	LA 140	7,1	CS 138	6,9	I 132	4,8	I 135	4,6	KR 88	3,8	SR 92	3,8	NB 89	3,3	NB 95	2,5
33.3 MIN.	I	134	10,7	LA 140	8,5	LA 142	8,0	CS 138	6,6	I 132	5,8	I 135	5,3	KR 88	4,2	SR 92	4,2	NB 95	3,0	ZR 95	2,9
60.0 MIN.	I	134	11,0	LA 140	10,4	LA 142	8,1	I 132	7,1	I 135	6,2	CS 138	5,0	KR 88	4,6	SR 92	4,6	NB 95	3,7	ZR 95	3,5
1.4 HR.	LA 140	11,8	I 134	10,3	I 132	8,0	LA 142	7,7	I 135	6,7	KR 88	4,8	SR 92	4,7	NB 95	4,2	ZR 95	4,0	CS 138	3,6	
2.8 HR.	LA 140	15,4	I 132	10,4	I 135	7,6	I 134	6,1	NB 95	5,5	LA 142	5,4	ZR 95	5,3	KR 88	4,4	SR 92	4,3	NB 97	4,2	
5.6 HR.	LA 140	19,9	I 132	13,2	I 135	7,4	NB 95	7,1	ZR 95	6,8	I 133	5,0	NB 97	4,9	SR 91	3,9	KR 88	2,9	SR 92	2,7	
12.0 HR.	LA 140	24,9	I 132	15,7	NB 95	8,9	ZR 95	8,5	I 133	5,0	NB 97	4,7	I 135	4,7	SR 91	3,1	RU 103	2,7	CE 143	2,5	
13.9 HR.	LA 140	25,8	I 132	16,0	NB 95	9,2	ZR 95	8,8	I 133	4,9	NB 97	4,6	I 135	4,0	RU 103	2,8	SR 91	2,8	CE 143	2,5	
1.0 DAYS	LA 140	29,6	I 132	16,9	NB 95	10,6	ZR 95	10,1	I 133	4,0	NB 97	3,5	RU 103	3,2	BA 140	2,8	CE 143	2,3	I 131	2,2	
1.2 DAYS	LA 140	30,6	I 132	16,9	NB 95	11,0	ZR 95	10,4	I 133	3,7	RU 103	3,3	NB 97	3,1	BA 140	2,9	I 131	2,2	CE 143	2,2	
2.3 DAYS	LA 140	35,3	I 132	15,8	NB 95	13,1	ZR 95	12,3	RU 103	3,9	BA 140	3,2	I 131	2,4	TE 132	1,8	I 133	1,7	MD 99	1,7	
4.0 DAYS	LA 140	38,3	NB 95	15,1	ZR 95	14,0	I 132	12,7	RU 103	4,4	BA 140	3,4	I 131	2,5	TE 132	1,5	MD 99	1,3	XF 133	1,2	
5.8 DAYS	LA 140	39,6	NB 95	16,9	ZR 95	15,4	I 132	9,7	RU 103	4,8	BA 140	3,4	I 131	2,4	CE 141	1,3	TE 132	1,1	XF 133	1,1	
10.0 DAYS	LA 140	39,3	NB 95	20,7	ZR 95	18,1	RU 103	5,5	I 132	4,9	BA 140	3,4	I 131	2,0	CF 141	1,4	XF 133	,8	PR 144	,7	
11.6 DAYS	LA 140	38,5	NB 95	22,0	ZR 95	19,0	RU 103	5,7	I 132	3,7	BA 140	3,3	I 131	1,9	CE 141	1,5	PH 144	,7	XE 133	,7	
23.1 DAYS	NB 95	30,5	LA 140	29,5	ZR 95	24,0	RU 103	6,6	BA 140	2,5	CE 141	1,7	PR 144	1,0	I 131	1,0	CE 144	1,0	RH 106	,5	
30.0 DAYS	NB 95	34,8	ZR 95	26,2	LA 140	23,9	RU 103	6,9	BA 140	2,0	CE 141	1,7	PR 144	1,2	CE 144	1,1	I 131	,6	RH 106	,6	
57.9 DAYS	NB 95	47,2	ZR 95	30,8	LA 140	8,3	RU 103	6,7	PR 144	1,8	CE 144	1,6	CE 141	1,5	RH 106	,8	BA 140	,7	SB 125	,1	
60.0 DAYS	NB 95	47,9	ZR 95	30,9	LA 140	7,6	RU 103	6,6	PR 144	1,8	CE 144	1,7	CE 141	1,4	NH 106	,9	BA 140	,7	SB 125	,2	
115.7 DAYS	NB 95	56,0	ZR 95	30,7	RU 103	4,4	PR 144	2,8	CE 144	2,6	RH 106	1,4	CE 141	,8	LA 140	,7	SB 125	,3	Y 91	,1	
150.0 DAYS	NB 95	57,1	ZR 95	29,5	PR 144	3,6	RU 103	3,4	CE 144	3,3	RH 106	1,8	CE 141	,5	SB 125	,4	LA 140	,1	PH 144	,1	
231.5 DAYS	NB 95	55,3	ZR 95	26,4	PR 144	6,2	CE 144	5,7	RH 106	3,2	RU 103	1,7	SB 125	,7	CF 141	,2	EU 155	,1	PH 144	,1	
1.0 YRS.	NB 95	42,9	ZR 95	19,5	PR 144	13,6	CE 144	12,6	RH 106	7,7	SB 125	2,0	RU 103	,5	EU 155	,4	PR 144	,3	SN 123	,1	

Source 7 (All Fission Products), 5000 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA		1	2	3	4	5	6	7	8	9	10																			
0.0 SEC.	RB	92	2.6	Y	96	2.3	CS	140	1.8	XE	137	1.8	CS	139	1.8	Y	95	1.7	Y	94	1.7	Y	97	1.7	NR	98	1.7	SR	95	1.7
1.0 SEC.	RR	92	2.5	Y	96	2.5	CS	140	1.9	XE	137	1.9	CS	139	1.9	Y	95	1.9	Y	94	1.9	Y	94	1.9	NR	98	1.8	SR	95	1.8
2.0 SEC.	Y	96	2.6	RR	92	2.4	CS	139	2.0	XE	137	2.0	Y	95	2.0	Y	95	2.0	Y	94	2.0	Y	94	2.0	NR	98	1.9	SR	95	1.9
5.0 SEC.	Y	96	2.9	CS	139	2.3	XE	137	2.2	Y	95	2.2	CS	140	2.2	Y	94	2.2	NH	98	2.0	SR	95	1.9	RB	92	1.8	Y	92	1.7
10.0 SEC.	Y	96	3.1	CS	139	2.5	Y	95	2.5	XE	137	2.5	Y	94	2.4	CS	140	2.4	NR	98	2.1	Y	92	1.9	CS	138	1.8	SR	95	1.8
20.0 SEC.	Y	96	3.4	CS	139	2.8	Y	95	2.8	Y	94	2.8	XE	137	2.7	CS	140	2.5	Y	92	2.2	CS	138	2.1	RB	90	1.9	RB	88	1.9
50.0 SEC.	Y	96	3.5	CS	139	3.3	Y	94	3.3	Y	95	3.3	XE	137	3.1	Y	92	2.6	CS	138	2.5	CS	140	2.3	RB	88	2.3	Y	93	2.3
60.0 SEC.	Y	96	3.4	Y	94	3.4	CS	139	3.4	Y	95	3.4	XE	137	3.1	Y	92	2.7	CS	138	2.6	RR	88	2.4	Y	93	2.4	HH	90	2.2
100.0 SEC.	Y	94	3.8	CS	139	3.7	Y	95	3.7	Y	96	3.2	XE	137	3.1	Y	92	3.1	CS	138	2.9	RR	88	2.7	Y	93	2.7	PH	144	2.4
3.3 MIN.	Y	94	4.3	CS	139	3.9	Y	95	3.9	Y	92	3.6	CS	138	3.4	Y	93	3.1	RR	88	3.1	PR	144	2.9	XE	137	2.7	LA	141	2.4
8.3 MIN.	Y	92	4.5	Y	94	4.5	CS	138	4.1	Y	93	3.9	RB	88	3.9	PR	144	3.5	Y	95	3.4	CS	139	3.3	LA	141	3.0	BA	139	2.9
16.7 MIN.	Y	92	5.3	Y	93	4.6	RB	88	4.5	CS	138	4.5	PR	144	4.2	Y	94	3.9	LA	141	3.5	BA	139	3.4	LA	142	3.3	I	134	3.1
33.3 MIN.	Y	92	6.4	Y	93	5.5	RB	88	5.2	PR	144	5.1	CS	138	4.3	LA	141	4.1	HA	139	3.7	LA	142	3.6	I	134	3.5	ZR	97	3.0
60.0 MIN.	Y	92	7.5	Y	93	6.3	PR	144	6.1	RB	88	5.7	LA	141	4.6	ZR	97	3.6	LA	142	3.6	BA	139	3.5	I	134	3.5	CS	138	3.2
1.4 HR.	Y	92	8.1	Y	93	6.7	PR	144	6.7	RB	88	5.7	LA	141	4.8	ZR	97	3.9	Y	91	3.5	SR	91	3.4	LA	142	3.3	BA	139	3.2
2.8 HR.	Y	92	9.0	PR	144	8.1	Y	93	7.5	RB	88	5.0	LA	141	4.5	ZR	97	4.4	Y	91	4.2	LA	140	3.9	SR	91	3.7	SR	89	3.3
5.6 HR.	PR	144	10.0	Y	92	8.2	Y	93	7.6	Y	91	5.2	ZR	97	4.9	LA	140	4.7	SR	89	4.1	SR	91	3.7	I	133	3.5	NB	97	3.5
12.0 HR.	PR	144	13.0	Y	91	6.8	Y	93	6.4	LA	140	6.2	SR	89	5.3	ZR	97	4.9	Y	92	4.2	MO	99	3.9	I	132	3.9	CE	143	3.7
13.9 HR.	PR	144	13.8	Y	91	7.2	LA	140	6.5	Y	93	5.9	SR	89	5.6	ZR	97	4.7	MO	99	4.1	I	132	4.0	PR	143	3.4	CE	143	3.8
1.0 DAYS	PR	144	16.7	Y	91	8.6	LA	140	7.9	SR	89	6.7	PR	143	4.6	I	132	4.5	MO	99	4.4	HA	140	4.1	Y	90	3.8	ZR	97	3.8
1.2 DAYS	PR	144	17.5	Y	91	9.0	LA	140	8.2	SR	89	7.1	PR	143	4.8	I	132	4.5	MO	99	4.5	BA	140	4.2	Y	90	4.0	CE	143	3.6
2.3 DAYS	PR	144	21.1	Y	91	10.8	LA	140	9.6	SR	89	8.4	PR	143	5.7	Y	90	4.9	BA	140	4.8	I	132	4.3	MO	99	4.1	CE	141	2.8
4.0 DAYS	PR	144	23.7	Y	91	12.0	LA	140	10.2	SR	89	9.3	PR	143	6.0	Y	90	5.5	BA	140	5.0	I	132	3.4	CE	141	3.0	MO	99	3.0
5.8 DAYS	PR	144	25.5	Y	91	12.7	LA	140	10.1	SR	89	9.8	PR	143	6.0	Y	90	5.9	BA	140	4.9	CE	141	3.1	ZR	95	2.7	I	132	2.5
10.0 DAYS	PR	144	28.5	Y	91	13.6	SR	89	10.5	LA	140	9.2	Y	90	6.7	PR	143	5.5	BA	140	4.4	CE	141	3.2	ZR	95	2.9	HH	106	2.3
11.6 DAYS	PR	144	29.4	Y	91	13.8	SR	89	10.6	LA	140	8.8	Y	90	6.9	PR	143	5.2	BA	140	4.1	CE	141	3.2	ZR	95	2.9	HH	106	2.4
23.1 DAYS	PR	144	34.5	Y	91	14.6	SR	89	11.0	Y	90	8.4	LA	140	5.7	PR	143	3.5	ZR	95	3.1	CE	141	3.1	RH	106	2.9	HA	106	2.7
30.0 DAYS	PR	144	36.9	Y	91	14.6	SR	89	10.9	Y	90	9.1	LA	140	4.3	ZR	95	3.1	RH	106	3.1	CE	141	2.9	PR	143	2.7	CE	144	2.4
57.9 DAYS	PR	144	43.4	Y	91	13.2	Y	90	11.4	SR	89	9.5	RH	106	3.7	ZR	95	3.0	CE	144	2.9	SR	90	2.4	CS	137	2.1	CE	141	2.0
60.0 DAYS	PR	144	43.8	Y	91	13.1	Y	90	11.6	SR	89	9.3	RH	106	3.7	ZR	95	2.9	CE	144	2.9	SR	90	2.5	CS	137	2.2	CE	141	1.9
115.7 DAYS	PR	144	50.0	Y	90	15.1	Y	91	8.8	SR	89	5.8	RH	106	4.4	CE	144	3.3	SR	90	3.2	CS	137	2.8	ZR	95	2.1	NB	95	1.4
150.0 DAYS	PR	144	51.9	Y	90	17.0	Y	91	6.7	RH	106	4.6	SR	89	4.2	SR	90	3.6	CF	144	3.4	CS	137	3.2	ZR	95	1.7	PM	147	1.4
231.5 DAYS	PR	144	53.2	Y	90	21.1	RH	106	5.0	SR	90	4.5	CS	137	4.0	CE	144	3.5	Y	91	3.2	SR	89	1.7	PM	147	1.6	ZR	95	0.9
1.0 YRS.	PR	144	49.6	Y	90	27.0	SR	90	5.7	CS	137	5.1	RH	106	5.0	CE	144	3.3	PM	147	1.9	Y	91	0.8	KR	85	0.7	SR	89	0.4

Source 7 (A11 Fission Products), 5000 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

0.0 SEC.	I 134 3.3 RB 91 2.6 CS 138 2.5 LA 142 2.5 LA 140 2.3 RH 90 2.1 CS 140 2.1 RB 89 1.8 LA 144 1.7 KR 89 1.6	I 134 3.5 RB 91 2.8 CS 138 2.7 LA 142 2.7 LA 140 2.5 RH 90 2.3 CS 140 2.2 RB 89 2.0 LA 144 1.9 KR 89 1.7	I 134 3.7 RB 91 2.9 CS 138 2.8 LA 142 2.8 LA 140 2.6 RH 90 2.3 CS 140 2.3 RB 89 2.1 LA 144 1.9 KR 89 1.8	I 134 4.0 RB 91 3.1 CS 138 3.1 LA 142 3.0 LA 140 2.8 RH 90 2.5 CS 140 2.5 RB 89 2.2 LA 144 2.0 KR 89 1.9	I 134 4.3 CS 138 3.3 LA 142 3.3 RB 91 3.2 LA 140 3.0 RB 90 2.7 CS 140 2.6 RB 89 2.4 LA 144 2.1 I 132 2.0	I 134 4.7 CS 138 3.6 LA 142 3.6 LA 140 3.3 RB 91 3.2 RB 90 2.9 RB 89 2.6 CS 140 2.6 I 132 2.6 I 135 2.5 CS 140 2.3	I 134 5.4 CS 138 4.2 LA 142 4.2 LA 140 3.8 RH 90 3.2 RB 89 3.0 RB 91 2.6 I 132 2.6 I 135 2.6 RB 91 2.4 SR 93 2.3	I 134 5.6 CS 138 4.3 LA 142 4.3 LA 140 4.0 RH 90 3.2 RB 89 3.1 I 132 2.7 I 135 2.6 SR 92 2.5 KR 88 2.5	I 134 6.2 CS 138 4.8 LA 142 4.8 LA 140 4.4 RH 89 3.4 RB 90 3.1 I 132 3.0 I 135 2.9 SR 92 2.5 KR 88 2.5	I 134 7.2 LA 142 5.5 CS 138 5.5 LA 140 5.1 RB 89 3.9 I 132 3.5 I 135 3.3 SR 92 2.9 KR 88 2.9	I 134 8.5 LA 142 6.6 CS 138 6.4 LA 140 6.1 I 132 4.2 I 135 4.0 RB 89 4.0 SR 92 3.4 KR 88 3.4 TE*133 2.3	I 134 9.6 LA 142 7.4 LA 140 7.1 CS 138 6.9 I 132 4.8 I 135 4.6 KR 88 3.8 SR 92 3.8 RB 89 3.3 NB 95 2.5	I 134 10.7 LA 140 8.5 LA 142 8.1 CS 138 6.6 I 132 5.8 I 135 5.3 KR 88 4.6 SR 92 4.6 NB 95 3.7 ZR 95 3.5	I 134 11.0 LA 140 10.4 LA 142 8.1 I 132 7.1 I 135 6.2 CS 138 5.0 KR 88 4.6 SR 92 4.7 NB 95 4.0 CS 138 3.6	LA 140 11.8 I 134 10.3 I 132 8.0 LA 142 7.8 I 135 6.1 LA 142 5.5 NB 95 5.4 ZR 95 5.2 KR 88 4.4 SR 92 4.3 NB 97 4.2	LA 140 15.5 I 132 10.4 I 135 7.7 I 134 8.1 ZR 95 7.0 ZR 95 6.8 I 133 5.0 NB 97 4.8 I 135 4.7 SR 91 3.9 KR 88 2.9 SR 92 2.8	LA 140 20.0 I 132 13.2 I 135 7.4 NB 95 8.8 ZR 95 8.5 I 133 5.0 NB 97 4.8 I 135 4.7 SR 91 3.1 RU 103 2.7 CE 143 2.5	LA 140 25.0 I 132 15.7 NB 95 9.1 ZR 95 8.8 I 133 4.9 NB 97 4.8 I 135 4.0 RU 103 2.8 SR 91 2.8 CE 143 2.5	LA 140 29.7 I 132 17.0 NB 95 10.5 ZR 95 10.1 I 133 4.0 NB 97 5.5 RU 103 3.4 NB 97 3.1 BA 140 2.9 I 131 2.5	LA 140 30.7 I 132 17.0 NB 95 10.9 ZR 95 10.4 I 133 4.7 RU 103 3.4 BA 140 3.4 I 131 2.5 TE 132 1.8 I 133 1.7 MO 99 1.7	LA 140 35.5 I 132 15.8 NB 95 13.0 ZR 95 12.3 RU 103 3.4 BA 140 3.2 I 131 2.5 TE 132 1.5 MO 99 1.3 XE 133 1.2	LA 140 38.6 NB 95 15.1 ZR 95 14.0 I 132 12.8 RU 103 4.4 BA 140 3.4 I 131 2.5 TE 132 1.3 TE 132 1.1 XE 133 1.1	LA 140 39.9 NB 95 16.9 ZR 95 15.4 I 132 9.8 RU 103 4.8 BA 140 3.5 I 131 2.4 CE 141 1.5 XE 133 1.1	LA 140 39.6 NB 95 20.7 ZR 95 18.2 RU 103 5.5 I 132 4.9 BA 140 3.4 I 131 2.0 CE 141 1.5 XE 133 1.1	LA 140 38.9 NB 95 22.0 ZR 95 19.1 RU 103 5.7 I 132 3.8 BA 140 3.3 I 131 1.9 CE 141 1.5 XE 133 1.1	LA 140 30.6 LA 140 29.9 ZR 95 24.2 RU 103 6.7 BA 140 2.6 CE 141 1.7 I 131 1.0 PR 144 1.7 CE 144 1.8	NR 95 35.0 ZR 95 26.4 LA 140 24.2 RU 103 7.0 BA 140 2.1 CE 141 1.7 PR 144 1.7 CE 144 1.8	NR 95 47.8 ZR 95 31.2 LA 140 8.5 RU 103 6.8 CE 141 1.5 PR 144 1.3 CE 144 1.2 BA 140 1.7 RM 106 1.3	NR 95 48.5 ZR 95 31.4 LA 140 7.8 RU 103 6.7 CE 141 1.5 PR 144 1.3 CE 144 1.2 BA 140 1.7 RM 106 1.3	NR 95 57.3 ZR 95 31.4 RU 103 4.6 PR 144 2.0 CE 141 1.9 RH 106 1.5 CF 141 1.8 LA 140 1.7 Y 91 1.1	NR 95 58.9 ZR 95 30.4 RU 103 3.5 PR 144 2.6 CE 144 2.4 RU 106 1.8 SH 125 1.1 CF 141 1.5 LA 140 1.1 SR 125 1.1 Y 91 1.1	NR 95 58.5 ZR 95 27.9 PR 144 4.6 CF 144 4.3 RM 106 2.1 RU 103 1.8 SH 125 1.2 CF 141 1.2 PR 144 1.2 SN 123 1.1	NR 95 49.1 ZR 95 22.3 PR 144 11.0 CE 144 10.2 RH 106 5.4 SH 125 1.7 RU 103 1.6 PR 144 1.3 SN 123 1.1 RU 155 1.1

Source 7 (All Fission Products), 500 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1		2		3		4		5		6		7		8		9		10											
.0 SEC.	RB	92	2.6	Y	96	2.3	CS	140	1.8	XE	137	1.8	CS	139	1.8	Y	90	1.7	Y	07	1.7	NB	98	1.7	SR	95	1.7	SR	95	1.7
1.0 SFC.	RR	92	2.6	Y	96	2.5	CS	140	1.9	XE	137	1.9	CS	139	1.9	Y	90	1.9	Y	94	1.9	NB	98	1.8	SR	95	1.8	XE	139	1.8
2.0 SEC.	Y	96	2.6	RR	92	2.4	CS	139	2.1	XE	137	2.0	CS	140	2.0	Y	90	2.0	Y	94	2.0	NB	98	1.9	SR	95	1.8	XE	139	1.8
5.0 SEC.	Y	96	2.9	CS	139	2.3	XE	137	2.3	Y	95	2.3	CS	140	2.2	Y	94	2.2	NB	98	2.1	SR	95	1.9	RB	92	1.8	Y	92	1.8
10.0 SEC.	Y	96	3.1	CS	139	2.5	Y	95	2.5	XE	137	2.5	Y	94	2.5	CS	140	2.4	NB	98	2.1	Y	92	1.9	CS	138	1.8	SR	95	1.8
20.0 SEC.	Y	96	3.4	CS	139	2.8	Y	95	2.8	Y	94	2.8	XE	137	2.8	CS	140	2.5	Y	92	2.2	CS	138	2.1	RB	90	1.9	RB	88	1.9
50.0 SEC.	Y	96	3.5	CS	139	3.4	Y	94	3.4	Y	95	3.3	XE	137	3.1	Y	92	2.7	CS	138	2.5	CS	140	2.3	RB	88	2.3	Y	93	2.3
60.0 SEC.	Y	96	3.5	Y	94	3.5	CS	139	3.5	Y	95	3.5	XE	137	3.2	Y	92	2.8	CS	138	2.6	RB	88	2.4	Y	93	2.4	RB	90	2.2
100.0 SFC.	Y	94	3.9	CS	139	3.8	Y	95	3.7	Y	96	3.2	XE	137	3.2	Y	92	3.1	CS	138	3.0	RB	88	2.7	Y	93	2.7	SR	93	2.3
3.3 MIN.	Y	94	4.4	CS	139	4.0	Y	95	4.0	Y	92	3.7	CS	138	3.5	Y	93	3.2	RB	88	3.2	XE	137	2.8	LA	141	2.5	BA	139	2.5
8.3 MIN.	Y	92	4.6	Y	94	4.6	CS	138	4.2	Y	93	4.0	RB	88	3.9	Y	95	3.5	CS	139	3.4	LA	141	3.1	BA	139	3.0	LA	142	2.9
16.7 MIN.	Y	92	5.5	Y	93	4.7	RB	88	4.6	CS	138	4.6	Y	94	4.0	LA	141	3.6	BA	139	3.5	LA	142	3.4	I	134	3.2	PR	144	3.0
33.3 MIN.	Y	92	6.6	Y	93	5.6	RB	88	5.4	CS	138	4.5	LA	141	4.3	BA	139	3.8	LA	142	3.7	PR	144	3.7	I	134	3.6	ZR	97	3.2
60.0 MIN.	Y	92	7.8	Y	93	6.6	RB	88	5.9	LA	141	4.8	PR	144	4.5	ZR	97	3.7	LA	142	3.7	BA	139	3.7	I	134	3.6	CS	138	3.4
1.4 HR.	Y	92	8.5	Y	93	7.1	RB	88	6.0	LA	141	5.0	PR	144	4.9	ZR	97	4.0	Y	91	3.6	SR	91	3.5	LA	142	3.4	BA	139	3.3
2.8 HR.	Y	92	9.5	Y	93	7.9	PR	144	6.0	RB	88	5.2	LA	141	4.8	ZR	97	4.7	Y	91	4.5	LA	140	4.1	SR	91	3.9	SR	89	3.5
5.6 HR.	Y	92	8.8	Y	93	8.1	PR	144	7.5	Y	91	5.6	ZR	97	5.2	LA	140	5.1	SR	89	4.4	SR	91	4.0	I	133	3.8	NB	97	3.7
12.0 HR.	PR	144	10.0	Y	91	7.4	Y	93	7.0	LA	140	6.8	SR	89	5.8	ZR	97	5.3	Y	92	4.6	MO	99	4.3	I	132	4.3	CE	143	4.1
13.9 HR.	PR	144	10.7	Y	91	7.8	LA	140	7.2	Y	93	6.5	SR	89	6.1	ZR	97	5.2	MO	99	4.5	I	132	4.4	PR	143	4.2	CE	143	4.1
1.0 DAYS	PR	144	13.2	Y	91	9.7	LA	140	8.8	SR	89	7.6	PR	143	5.5	I	132	5.0	MO	99	5.0	BA	140	4.6	ZR	97	4.5	CE	143	4.1
1.2 DAYS	PR	144	13.9	Y	91	10.2	LA	140	9.3	SR	89	8.0	PR	143	5.6	I	132	5.1	MO	99	5.1	BA	140	4.8	CE	143	4.0	ZR	97	3.8
2.3 DAYS	PR	144	17.3	Y	91	12.5	LA	140	11.2	SR	89	9.8	PR	143	6.6	BA	140	5.6	I	132	5.0	MO	99	4.7	CE	141	3.2	CE	143	2.8
4.0 DAYS	PR	144	19.8	Y	91	14.2	LA	140	12.1	SR	89	11.0	PR	143	7.1	BA	140	5.9	I	132	4.0	CE	141	3.6	MO	99	3.5	ZR	95	3.0
5.8 DAYS	PR	144	21.6	Y	91	15.2	LA	140	12.2	SR	89	11.8	PR	143	7.2	BA	140	5.8	CE	141	3.8	ZR	95	3.2	I	132	3.0	MO	99	2.5
10.0 DAYS	PR	144	24.7	Y	91	16.7	SR	89	12.9	LA	140	11.4	PR	143	6.7	BA	140	5.4	CE	141	4.0	ZR	95	3.5	RH	106	1.8	CE	144	1.6
11.6 DAYS	PR	144	25.7	Y	91	17.1	SR	89	13.1	LA	140	10.9	PR	143	6.5	BA	140	5.1	CE	141	4.0	ZR	95	3.6	RH	106	1.8	CE	144	1.7
23.1 DAYS	PR	144	31.6	Y	91	18.9	SR	89	14.3	LA	140	7.4	PR	143	4.6	ZR	95	4.0	CE	141	4.0	BA	140	3.5	RH	106	2.3	CE	144	2.1
30.0 DAYS	PR	144	34.6	Y	91	19.4	SR	89	14.5	LA	140	5.7	ZR	95	4.2	CE	141	3.8	PR	143	3.6	BA	140	2.7	RH	106	2.5	CE	144	2.3
57.9 DAYS	PR	144	43.8	Y	91	16.9	SR	89	13.6	ZR	95	4.2	RH	106	3.2	CE	144	2.9	CE	141	2.9	NB	95	2.3	Y	90	1.9	LA	140	1.7
60.0 DAYS	PR	144	44.4	Y	91	18.8	SR	89	13.4	ZR	95	4.2	RH	106	3.3	CE	144	2.9	CE	141	2.8	NB	95	2.3	Y	90	1.9	LA	140	1.5
115.7 DAYS	PR	144	56.3	Y	91	14.1	SR	89	9.3	RH	106	4.3	CE	144	3.7	ZR	95	3.4	Y	90	2.8	NB	95	2.2	CE	141	1.2	PM	147	.6
150.0 DAYS	PR	144	61.6	Y	91	11.2	SR	89	7.0	RH	106	4.8	CE	144	4.0	Y	90	3.3	ZR	95	2.8	NB	95	2.0	PM	147	.7	CE	141	.7
231.5 DAYS	PR	144	69.9	Y	91	5.9	RH	106	5.6	CE	144	4.6	Y	90	4.6	SR	89	3.3	ZR	95	1.6	NB	95	1.2	SR	90	1.0	PM	147	.9
1.0 YRS.	PR	144	74.1	Y	90	6.6	RH	106	6.5	CE	144	4.9	Y	91	1.8	SR	90	1.4	PM	147	1.3	CS	137	1.2	SR	89	.8	ZR	95	.8

Source 7 (All Fission Products), 500 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	1 134 3.3 RB 91 2.6 CS 138 2.5 LA 142 2.5 LA 140 2.3 RB 90 2.1 CS 140 2.1 RB 89 1.8 LA 144 1.7 KR 89 1.6									
1.0 SEC.	1 134 3.5 RB 91 2.8 CS 138 2.7 LA 142 2.7 LA 140 2.5 RB 90 2.3 CS 140 2.2 RB 89 2.0 LA 144 1.9 KR 89 1.7									
2.0 SEC.	1 134 3.7 RB 91 2.9 CS 138 2.9 LA 142 2.8 LA 140 2.6 RB 90 2.4 CS 140 2.3 RB 89 2.1 LA 144 1.9 KR 89 1.8									
5.0 SEC.	1 134 4.0 RB 91 3.1 CS 138 3.1 LA 142 3.1 LA 140 2.8 RB 90 2.5 CS 140 2.5 RB 89 2.2 LA 144 2.0 KR 89 1.9									
10.0 SEC.	1 134 4.3 CS 138 3.3 LA 142 3.3 RB 91 3.2 LA 140 3.0 RB 90 2.7 CS 140 2.6 RB 89 2.4 LA 144 2.1 I 132 2.1									
20.0 SEC.	1 134 4.7 CS 138 3.6 LA 142 3.6 LA 140 3.3 RB 91 3.2 RB 90 2.9 RB 89 2.6 CS 140 2.6 I 132 2.3 I 135 2.2									
50.0 SEC.	1 134 5.5 CS 138 4.2 LA 142 4.2 LA 140 3.9 RB 90 3.2 RB 89 3.1 RB 91 2.6 I 132 2.6 I 135 2.6 CS 140 2.3									
60.0 SEC.	1 134 5.7 CS 138 4.4 LA 142 4.4 LA 140 4.0 RB 90 3.2 RB 89 3.2 I 132 2.7 I 135 2.6 RB 91 2.4 SH 93 2.3									
100.0 SEC.	1 134 6.3 CS 138 4.8 LA 142 4.8 LA 140 4.4 RB 89 3.5 RB 90 3.1 I 132 3.0 I 135 2.9 SR 92 2.5 KR 88 2.5									
3.3 MIN.	1 134 7.2 LA 142 5.6 CS 138 5.6 LA 140 5.1 RB 89 3.9 I 132 3.5 I 135 3.4 SR 92 2.9 KR 88 2.9 RB 90 2.4									
8.3 MIN.	1 134 8.6 LA 142 6.6 CS 138 6.5 LA 140 6.1 I 132 4.2 I 135 4.0 RB 89 4.0 SR 92 3.4 KR 88 3.4 TE+133 2.3									
16.7 MIN.	1 134 9.7 LA 142 7.4 LA 140 7.1 CS 138 7.0 I 132 4.9 I 135 4.6 KR 88 3.8 SR 92 3.8 RB 89 3.3 TE+133 2.4									
33.3 MIN.	1 134 10.9 LA 140 8.6 LA 142 8.1 CS 138 8.7 I 132 5.9 I 135 5.4 KR 88 4.3 SR 92 4.3 ZR 95 2.6 I 133 2.5									
60.0 MIN.	1 134 11.2 LA 140 10.6 LA 142 8.3 I 132 7.2 I 135 6.3 CS 138 5.1 KR 88 4.7 SR 92 4.7 ZR 95 3.2 I 133 3.0									
1.4 HR.	LA 140 12.0 I 134 10.5 I 132 8.1 LA 142 7.9 I 135 6.9 KR 88 4.8 SR 92 4.8 CS 138 3.7 ZR 95 3.6 NH 97 3.4									
2.8 HR.	LA 140 15.8 I 132 10.7 I 135 7.8 I 134 6.2 LA 142 5.6 ZR 95 4.7 KR 88 4.5 SR 92 4.4 NH 97 4.3 I 133 4.3									
5.6 HR.	LA 140 20.5 I 132 13.6 I 135 7.6 ZR 95 6.1 NR 95 5.6 I 133 5.1 NR 97 5.1 SR 91 4.0 KR 88 3.0 SH 92 2.8									
12.0 HR.	LA 140 25.8 I 132 16.3 ZR 95 7.7 NR 95 7.0 I 133 5.2 NR 97 4.9 I 135 4.9 SH 91 3.2 RU 103 2.7 CE 143 2.6									
13.9 HR.	LA 140 26.9 I 132 16.7 ZR 95 8.0 NR 95 7.3 I 133 5.1 NR 97 4.7 I 135 4.1 SR 91 2.9 RU 103 2.9 CE 143 2.6									
1.0 DAYS	LA 140 30.9 I 132 17.7 ZR 95 9.3 NR 95 8.5 I 133 4.2 NR 97 3.6 RU 103 3.3 HA 140 2.9 CE 143 2.4 I 131 2.3									
1.2 DAYS	LA 140 32.1 I 132 17.7 ZR 95 9.6 NR 95 8.8 I 133 3.9 RU 103 3.4 NB 97 3.2 HA 140 3.0 I 131 2.4 CE 143 2.3									
2.3 DAYS	LA 140 37.3 I 132 16.6 ZR 95 11.4 NR 95 10.6 RU 103 4.0 BA 140 3.4 I 131 2.6 TE 132 1.9 I 133 1.8 MO 99 1.8									
4.0 DAYS	LA 140 40.8 I 132 13.6 ZR 95 13.1 NR 95 12.4 RU 103 4.5 BA 140 3.6 I 131 2.6 TE 132 1.6 MO 99 1.4 XE 133 1.3									
5.8 DAYS	LA 140 42.4 ZR 95 14.5 NR 95 14.1 I 132 10.5 RU 103 5.0 BA 140 3.7 I 131 2.5 CE 141 1.4 TE 132 1.2 XE 133 1.2									
10.0 DAYS	LA 140 42.7 NB 95 17.6 ZR 95 17.3 RU 103 5.7 I 132 5.3 BA 140 3.7 I 131 2.2 CE 141 1.6 XE 133 .9 ND 147 .7									
11.6 DAYS	LA 140 42.1 NB 95 18.9 ZR 95 18.2 RU 103 6.0 I 132 4.1 BA 140 3.6 I 131 2.1 CE 141 1.6 XE 133 .9 ND 147 .6									
23.1 DAYS	LA 140 33.1 NB 95 27.5 ZR 95 21.7 RU 103 7.2 BA 140 2.8 CE 141 1.8 I 131 1.1 I 132 .5 ND 147 .5 PR 144 .4									
30.0 DAYS	NR 95 32.0 LA 140 27.1 ZR 95 26.2 RU 103 7.6 BA 140 2.3 CE 141 1.9 I 131 .7 PR 144 .5 CE 144 .5 ND 147 .3									
57.9 DAYS	NR 95 46.1 ZR 95 31.7 LA 140 9.7 RU 103 7.6 CE 141 1.7 BA 140 .8 PR 144 .8 CE 144 .7 RM 106 .3 I 131 .1									
60.0 DAYS	NR 95 46.9 ZR 95 31.9 LA 140 8.9 RU 103 7.5 CE 141 1.7 PR 144 .8 BA 140 .8 CE 144 .8 RM 106 .3 Y 91 .1									
115.7 DAYS	NR 95 57.5 ZR 95 32.3 RU 103 5.2 PR 144 1.3 CF 144 1.2 CE 141 .9 LA 140 .8 RM 106 .5 Y 91 .1 HA 140 .1									
150.0 DAYS	NR 95 59.7 ZR 95 31.4 RU 103 4.0 PR 144 1.7 CE 144 1.5 RM 106 .7 CE 141 .6 LA 140 .2 Y 91 .1 SB 125 .1									
231.5 DAYS	NR 95 60.9 ZR 95 29.3 PR 144 3.0 CE 144 2.8 RU 103 2.1 RM 106 1.3 CE 141 .2 SH 125 .1 Y 91 .1 PR+144 .1									
1.0 YRS.	NR 95 55.0 ZR 95 25.1 PR 144 7.7 CE 144 7.1 RM 106 3.5 RU 103 .7 SB 125 .4 PH+144 .2 SN 123 .1 Y 91 .1									

Source 7 (All Fission Products), 200 d, Power = 1 watt, Pure U-235

GREATEST CONTRIBUTORS TO REPT DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10																						
.0 SEC.	RR 92 2.6 Y 96 2.3 CS 140 1.8 XE 137 1.8 CS 139 1.8 Y 95 1.8 Y 94 1.7 Y 97 1.7 NB 98 1.7 SH 95 1.7	RR 92 2.6 Y 96 2.5 CS 140 2.0 XE 137 2.0 CS 139 2.0 Y 95 1.9 Y 94 1.9 NR 98 1.8 SR 95 1.8 XE 139 1.8	Y 96 2.9 CS 139 2.3 XE 137 2.3 Y 95 2.3 CS 140 2.3 Y 94 2.2 NR 98 2.1 SR 95 1.9 RB 92 1.8 Y 92 1.8	Y 96 3.2 CS 139 2.5 Y 95 2.5 XE 137 2.5 Y 94 2.5 CS 140 2.4 NB 98 2.1 Y 92 2.0 CS 138 1.9 SR 95 1.8	Y 96 3.4 CS 139 2.9 Y 95 2.8 Y 94 2.8 XE 137 2.8 CS 140 2.6 Y 92 2.2 CS 138 2.1 NB 90 2.0 RB 88 1.9	Y 96 3.6 CS 139 3.4 Y 94 3.4 Y 95 3.4 XE 137 3.2 Y 92 2.7 CS 138 2.6 CS 140 2.4 NR 88 2.3 Y 93 2.3	Y 96 3.5 Y 94 3.5 CS 139 3.5 Y 95 3.5 XE 137 3.2 Y 92 2.8 CS 138 2.7 RB 88 2.4 Y 93 2.4 RB 90 2.2	Y 94 3.9 CS 139 3.8 Y 95 3.8 Y 96 3.3 XE 137 3.2 Y 92 3.2 CS 138 3.0 RB 88 2.7 Y 93 2.7 SR 93 2.3	Y 94 4.4 CS 139 4.0 Y 95 4.0 Y 92 3.7 CS 138 3.5 Y 93 3.2 RB 88 3.2 XE 137 2.8 LA 141 2.5 HA 139 2.5	Y 92 5.6 Y 93 4.8 RR 88 4.7 CS 138 4.7 Y 94 4.1 LA 141 4.4 BA 139 3.9 LA 142 3.8 I 134 3.7 ZR 97 3.2 SR 91 2.9	Y 92 6.8 Y 93 5.8 RB 88 5.6 CS 138 5.6 LA 141 5.0 ZR 97 4.2 SR 91 3.7 LA 142 3.6 HA 139 3.5 LA 140 3.4 I 134 3.4	Y 92 8.1 Y 93 6.8 RR 88 6.1 LA 141 5.2 ZR 97 4.2 SR 91 3.7 LA 142 3.6 HA 139 3.5 LA 140 3.4 I 134 3.4	Y 92 8.8 Y 93 7.3 RB 88 6.2 LA 141 5.2 ZR 97 4.2 SR 91 3.7 LA 142 3.6 HA 139 3.5 LA 140 3.4 I 134 3.4	Y 92 9.9 Y 93 8.2 RB 88 5.5 LA 141 5.0 ZR 97 4.9 LA 140 4.2 Y 91 4.2 SR 91 4.1 PR 144 3.5 I 133 3.4	Y 92 9.3 Y 93 8.6 ZR 97 5.5 LA 140 5.4 Y 91 5.3 PR 144 4.4 SR 89 4.3 SR 91 4.2 I 133 4.0 NR 97 3.9	Y 94 7.5 LA 140 7.3 Y 91 7.1 PR 144 5.9 SR 89 5.8 ZR 97 5.7 Y 92 4.9 MD 99 4.8 I 132 4.6 CE 143 4.4	LA 140 7.7 Y 91 7.7 Y 93 7.1 PR 144 6.3 SR 89 6.2 ZR 97 5.6 MD 99 5.5 MD 99 5.5 BA 140 5.0 ZR 97 4.7 CF 143 4.6	LA 140 9.7 Y 91 9.7 PR 144 7.9 SR 89 7.8 PR 143 5.7 I 132 5.7 MD 99 5.6 BA 140 5.3 CE 143 4.5 ZR 97 4.2	LA 140 10.3 Y 91 10.2 PR 144 8.4 SR 89 8.2 PR 143 6.1 I 132 5.7 MD 99 5.6 BA 140 5.3 CE 143 4.5 ZR 97 4.2	Y 91 12.9 LA 140 12.7 PR 144 10.7 SR 89 10.3 PR 143 7.5 HA 140 6.4 I 132 5.7 MD 99 5.6 BA 140 5.3 CE 143 4.5 ZR 97 4.2	Y 91 14.9 LA 140 14.0 PR 144 12.6 SR 89 11.9 PR 143 8.2 HA 140 6.8 I 132 4.7 MD 99 4.1 CE 141 3.6 CE 143 3.2	Y 91 16.2 LA 140 14.3 PR 144 13.9 SR 89 12.9 PR 143 8.4 BA 140 6.9 CE 141 4.4 I 132 3.5 ZR 95 3.3 MD 99 2.9	Y 91 18.3 PR 144 16.3 SR 89 14.4 LA 140 13.7 PR 143 8.1 BA 140 6.5 CE 141 4.7 ZR 95 3.9 ND 147 1.8 I 132 1.7	Y 91 18.8 PR 144 17.1 SR 89 14.9 LA 140 13.2 PR 143 7.9 HA 140 6.2 CE 141 4.8 ZR 95 3.9 ND 147 1.7 NB 95 1.4	PR 144 22.0 Y 91 21.8 SR 89 16.9 LA 140 9.4 PR 143 5.8 CE 141 5.0 ZR 95 4.5 BA 140 4.4 NR 95 1.9 RM 106 1.5	PR 144 24.6 Y 91 22.8 SR 89 17.5 LA 140 7.4 CE 141 4.9 ZR 95 4.8 PR 143 4.6 BA 140 3.5 NB 95 2.1 RM 106 1.7	PR 144 33.4 Y 91 23.9 SR 89 17.6 ZR 95 5.2 CE 141 3.9 NR 95 2.7 LA 140 2.4 RM 106 2.3 CE 144 2.2 PR 143 1.6	PR 144 34.0 Y 91 23.8 SR 89 17.5 ZR 95 5.2 CE 141 3.8 NR 95 2.7 RH 106 2.3 CE 144 2.2 LA 140 2.2 PR 143 1.5	PR 144 47.2 Y 91 19.6 SR 89 13.2 ZR 95 4.6 RM 106 3.4 CE 144 3.1 MD 95 2.9 CE 141 1.9 Y 90 1.7 RU 103 .6	PR 144 53.9 Y 91 16.2 SR 89 10.4 ZR 95 3.9 RM 106 3.9 CE 144 3.5 MD 95 2.7 Y 90 2.1 CE 141 1.1 PM 147 .5	PR 144 66.0 Y 91 9.2 SR 89 5.2 RM 106 5.0 CE 144 4.3 Y 90 3.2 ZR 95 2.5 NR 95 1.9 PM 147 .7 SR 90 .7	PR 144 74.7 RM 106 6.1 Y 90 4.9 CE 144 4.9 Y 91 3.0 SR 89 1.4 SR 90 1.0 PM 147 1.0 ZR 95 .9 CS 137 .9

Source 7 (All Fission Products), 200 d, Power = 1 watt, Pure U-235

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APPENDIX B

TEN GREATEST CONTRIBUTIONS TO DECAY POWER

Source 1, Power = 4000 MW, Pure U-235 (with capture)

SOURCE 1 (AIR), EQUILIBRIUM, POWER=4000 MW, PURE U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC	KR 89 11,9	KR 90 10,3	KR 88 9,8	XE 138 9,2	XE 140 6,3	I 134 6,1	XE 139 5,9	XF 137 5,5	KR 87 4,6	XE 141 3,4
1,0 SEC	KR 89 12,4	KR 90 10,4	KR 88 10,2	XE 138 9,6	I 134 6,4	XE 140 6,2	XF 139 6,1	XE 137 5,7	KR 87 4,7	I 132 3,1
2,0 SEC	KR 89 12,6	KR 88 10,5	KR 90 10,3	XE 138 9,8	I 134 6,5	XE 139 6,1	XE 140 6,0	XE 137 5,9	KR 87 4,4	I 132 3,1
5,0 SEC	KR 89 13,2	KR 88 11,0	KR 90 10,3	XE 138 10,3	I 134 6,9	XE 137 6,1	XE 139 6,1	XE 140 5,5	KR 87 5,1	I 132 3,3
10,0 SEC	KR 89 13,6	KR 88 11,6	XE 138 10,8	KR 90 9,8	I 134 7,2	XE 137 6,3	XE 139 5,9	KR 87 5,4	XL 140 4,4	I 132 3,5
20,0 SEC	KR 89 14,0	KR 88 12,4	XE 138 11,4	KR 90 8,4	I 134 7,7	XE 137 6,6	KR 87 5,7	XE 139 5,3	I 132 3,7	I 135 3,6
50,0 SEC	KR 89 14,2	KR 88 14,0	XE 138 12,7	I 134 8,6	XE 137 6,8	KR 87 6,5	KR 90 5,0	I 132 4,2	I 135 4,1	XE 139 3,6
60,0 SEC	KR 88 14,4	KR 89 14,1	XE 138 13,0	I 134 8,9	XE 137 6,8	KR 87 6,7	I 132 4,3	I 135 4,2	KR 90 4,2	XE 139 3,1
100,0 SEC	KR 88 15,8	XE 138 13,8	KR 89 13,4	I 134 9,7	KR 87 7,3	XE 137 6,6	I 132 4,7	I 135 4,6	WB 90 2,8	XE 133 2,8
3,3 MIN	KR 88 17,9	XE 138 14,5	I 134 10,8	KR 89 10,6	KR 87 8,2	XE 137 5,6	I 132 5,3	I 135 5,2	XE 133 3,2	WB 90 2,5
6,3 MIN	KR 88 20,7	XE 138 13,4	I 134 12,0	KR 87 9,2	I 132 6,1	I 135 6,1	CS 138 5,3	KR 89 4,2	RB 89 4,0	XE 133 3,7
16,7 MIN	KR 88 22,5	I 134 12,1	XE 138 10,0	KR 87 9,6	CS 138 8,9	I 135 6,8	I 132 6,6	XE 133 4,2	RB 89 3,8	RB 88 3,4
33,3 MIN	KR 88 23,9	CS 138 11,6	I 134 11,1	KR 87 9,4	I 135 7,5	I 132 6,9	WB 88 5,6	XF 138 5,1	XE 133 4,6	XE 135 3,5
60,0 MIN	KR 88 25,7	CS 138 10,5	I 134 9,3	KR 87 8,8	I 135 8,6	WB 88 7,7	I 132 7,3	XE 133 5,7	XE 135 4,2	I 133 4,1
1,4 HR	KR 88 26,9	I 135 9,5	RB 88 8,7	KR 87 8,2	CS 138 8,2	I 134 7,9	I 132 7,4	XE 133 6,0	XE 135 4,7	I 133 4,6
2,8 HR	KR 88 28,1	I 135 12,1	XE 133 9,7	RB 88 9,6	T 132 7,2	I 133 6,5	XE 135 6,5	KR 87 5,7	I 134 3,9	I 130 3,0
5,6 HR	KR 88 23,1	XE 133 15,8	I 135 14,8	I 133 9,7	XE 135 9,2	RB 88 7,9	I 132 5,1	I 131 4,7	I 130 4,2	KA 85 2,6
12,0 HR	XE 133 29,5	I 133 14,8	I 135 14,2	XE 135 12,1	KR 88 8,9	I 131 8,7	I 130 5,5	WB 88 3,0	KA 85 1,4	I 132 1,4
13,9 HR	XE 133 33,0	I 133 15,6	I 135 13,1	XE 135 12,1	I 131 9,7	KR 88 6,2	I 130 5,0	RB 88 2,1	KA 85 1,5	I 132 0,9
1,0 DAYS	XE 133 47,5	I 133 16,4	I 131 13,8	XE 135 9,8	I 135 6,7	I 130 4,7	KR 88 0,8	KA 85 0,5	WB 88 0,3	KA 85 0,1
1,2 DAYS	XE 133 51,4	I 133 15,9	I 131 14,9	XE 135 8,0	I 135 4,9	I 130 4,1	KR 88 0,1	KA 85 0,3	WB 88 0,1	KA 85 0,1
2,3 DAYS	XE 133 68,1	I 131 19,4	I 133 9,1	XE 135 1,6	I 130 1,3	I 135 0,4	KR 85 0,1	KA 85 0,3	LA 140 0,0	SR 91 0,0
4,0 DAYS	XE 133 75,0	I 131 21,5	I 133 3,0	KR 85 0,2	I 130 0,2	XE 135 0,1	I 135 0,0	LA 140 0,0	BA 140 0,0	SR 91 0,0
5,8 DAYS	XE 133 76,3	I 131 22,6	I 133 0,9	KR 85 0,2	I 130 0,0	LA 140 0,0	XE 135 0,0	BA 140 0,0	I 135 0,0	CE 141 0,0
10,0 DAYS	XE 133 74,6	I 131 25,0	KR 85 0,4	I 133 0,0	LA 140 0,0	BA 140 0,0	I 130 0,0	CE 141 0,0	XE 135 0,0	I 129 0,0
11,6 DAYS	XE 133 73,5	I 131 26,0	KR 85 0,4	I 133 0,0	LA 140 0,0	BA 140 0,0	I 130 0,0	CE 141 0,0	I 129 0,0	Y 91 0,0
23,1 DAYS	XE 133 62,5	I 131 35,9	KR 85 1,6	LA 140 0,0	BA 140 0,0	CE 141 0,0	I 129 0,0	Y 91 0,0	I 133 0,0	ZR 95 0,0
30,0 DAYS	XE 133 54,4	I 131 42,3	KR 85 3,3	LA 140 0,0	BA 140 0,0	CE 141 0,0	I 129 0,0	Y 91 0,0	ZR 95 0,0	WB 95 0,0
57,9 DAYS	I 131 44,8	KR 85 38,6	XE 133 16,5	LA 140 0,0	BA 140 0,0	I 129 0,0	CE 141 0,0	Y 91 0,0	ZR 95 0,0	WB 95 0,0
60,0 DAYS	KR 85 43,6	I 131 42,1	XE 133 14,1	LA 140 0,0	BA 140 0,0	I 129 0,0	CE 141 0,0	Y 91 0,0	ZR 95 0,0	WB 95 0,0
115,7 DAYS	KR 85 99,2	I 131 0,8	XE 133 0,0	LA 140 0,0	I 129 0,0	BA 140 0,0	CE 141 0,0	Y 91 0,0	WB 95 0,0	ZR 95 0,0
150,0 DAYS	KR 85100,0	I 131 0,0	LA 140 0,0	I 129 0,0	XE 133 0,0	BA 140 0,0	Y 91 0,0	CE 141 0,0	WB 95 0,0	ZR 95 0,0
231,5 DAYS	KR 85100,0	I 129 0,0	Y 91 0,0	I 131 0,0	LA 140 0,0	CE 141 0,0	WB 95 0,0	Y 90 0,0	ZR 95 0,0	BA 140 0,0
1,0 YRS.	KR 85100,0	I 129 0,0	Y 91 0,0	Y 90 0,0	WB 95 0,0	CE 141 0,0	ZR 95 0,0	PR 144 0,0	CE 144 0,0	LA 140 0,0

SOURCE 1 (AIR), EQUILIBRIUM, POWER=4000 MW, PURE U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC	XF 137 39.5	XE 139 8.6	KR 91 8.5	KR 87 5.8	KR 89 5.4	KR 90 5.3	XE 138 3.8	KR 92 3.5	XE 140 3.1	XF 141 1.8
1.0 SEC	XE 137 40.7	XE 139 8.8	KR 91 8.1	KR 87 6.0	KR 89 5.6	KR 90 5.3	XE 138 4.0	AE 140 3.0	KR 92 2.5	XE 133 1.7
2.0 SEC	XE 137 41.6	XE 139 8.8	KR 91 7.7	KR 87 6.2	KR 89 5.7	KR 90 5.3	XE 138 4.1	XF 140 2.9	KR 92 1.7	XF 133 1.7
5.0 SEC	XE 137 43.7	XE 139 8.9	KR 87 6.5	KR 91 6.4	KR 89 6.0	KR 90 5.3	XF 138 4.3	XE 140 2.7	XE 133 1.8	I 134 1.4
10.0 SEC	XE 137 45.8	XE 139 8.7	KR 87 6.9	KR 89 6.3	KR 90 5.1	KR 91 4.6	XF 138 4.6	XE 140 2.2	XE 133 1.9	I 134 1.5
20.0 SEC	XE 137 48.4	XE 139 8.0	KR 87 7.5	KR 89 6.6	XE 138 4.9	KR 90 4.5	KR 91 2.2	XE 133 2.1	I 134 1.6	XE 140 1.4
50.0 SEC	XF 137 51.4	KR 87 8.7	KR 89 6.8	XE 138 5.7	XE 139 4.8	XE 133 2.5	KR 90 2.3	I 134 1.9	XE 135 1.7	CS 140 1.4
60.0 SEC	XF 137 51.8	KR 87 9.0	KR 89 6.8	XE 138 6.3	XE 133 2.9	XE 139 2.8	I 134 2.1	XE 135 2.0	KR 88 1.5	RB 90 1.5
100.0 SEC	XE 137 52.1	KR 87 10.2	KR 89 6.7	XE 138 5.8	XE 133 3.6	I 134 2.6	XE 135 2.5	WR 88 1.9	KR 88 1.8	I 133 1.5
3.3 MIN	XE 137 48.5	KR 87 12.6	XE 138 7.3	KR 89 5.8	XE 133 5.5	XE 135 3.8	I 134 3.8	CS 134 3.4	KR 89 3.0	KR 88 2.8
6.3 MIN	XE 137 30.1	KR 87 18.4	XE 138 8.7	RB 88 6.5	XE 133 7.5	CS 134 6.9	XE 135 5.2	I 134 4.6	KR 88 3.6	I 133 3.0
16.7 MIN	KR 87 23.1	RB 88 14.9	XE 137 9.0	XE 138 7.9	XE 133 8.6	XE 135 6.0	I 134 4.2	XE 138 4.0	KR 88 3.9	I 133 3.0
33.3 MIN	RB 88 24.9	KR 87 22.7	CS 138 9.0	XE 133 8.6	XE 135 6.0	I 134 4.2	XE 138 4.0	KR 88 3.9	I 133 3.4	KR 85 3.0
60.0 MIN	RB 88 31.8	KR 87 19.9	XE 133 9.6	CS 138 7.6	XE 135 6.6	KR 88 3.9	I 133 3.8	I 134 3.3	KR 85 3.1	I 135 3.1
1.4 HR	RB 88 34.6	KR 87 17.9	XE 133 10.7	XE 135 7.2	CS 138 5.7	I 133 4.2	KR 88 3.9	I 134 3.3	KR 85 3.3	I 134 2.7
2.8 HR	RB 88 36.6	XE 133 15.0	KR 87 11.8	XE 135 9.6	I 133 5.6	I 135 4.1	KR 88 3.9	KR 85 3.6	KR 85 3.4	I 132 2.1
5.6 HR	RB 88 29.5	XE 133 23.9	XE 135 13.2	I 133 8.2	I 135 4.9	KR 87 4.1	KR 85 3.9	KR 85 3.9	KR 88 3.1	I 131 2.7
12.0 HR	XE 133 41.2	XE 135 16.0	I 133 11.5	RB 88 10.4	KR 85 6.8	I 131 4.6	I 135 4.3	KR 85 2.5	KR 88 1.1	I 130 2.9
13.9 HR	XE 133 45.0	XE 135 15.7	I 133 11.9	KR 85 7.4	RB 88 7.2	I 131 5.0	I 135 3.9	KR 85 2.1	I 130 1.8	KR 88 1.8
1.0 DAYS	XE 133 58.0	I 133 11.2	XE 135 10.9	KR 85 9.8	I 131 6.4	I 135 1.8	WR 88 1.8	I 130 1.6	KR 85 1.6	KR 88 1.0
1.2 DAYS	XE 133 61.0	I 133 10.5	KR 85 10.4	XE 135 9.0	I 131 6.7	I 135 1.3	I 130 1.5	KR 85 1.3	RB 88 1.3	KR 88 1.0
2.3 DAYS	XE 133 71.7	KR 85 13.3	I 131 7.8	I 133 5.3	XE 135 1.6	I 130 1.1	I 135 1.1	KR 85 1.1	SW 89 1.0	LA 140 0.0
4.0 DAYS	XE 133 74.1	KR 85 16.0	I 131 8.1	I 133 1.7	XE 135 1.1	I 130 1.0	SR 89 1.0	I 135 1.0	LA 140 1.0	BA 140 0.0
5.8 DAYS	XF 133 72.5	KR 85 18.8	I 131 8.2	I 133 1.5	SR 89 1.0	XE 135 1.0	I 130 1.0	LA 140 1.0	BA 140 1.0	Y 91 0.0
10.0 DAYS	XE 133 64.5	KR 85 27.2	I 131 8.2	I 133 1.0	SR 89 1.0	LA 140 1.0	BA 140 1.0	Y 91 1.0	CS 137 1.0	Y 90 0.0
11.6 DAYS	XE 133 60.7	KR 85 31.1	I 131 8.2	SR 89 1.0	I 133 1.0	LA 140 1.0	BA 140 1.0	Y 91 1.0	CS 137 1.0	Y 90 0.0
23.1 DAYS	KR 85 64.8	XE 133 28.4	I 131 6.3	SR 89 1.0	LA 140 1.0	BA 140 1.0	Y 91 1.0	CS 137 1.0	Y 90 1.0	CE 141 0.0
30.0 DAYS	KR 85 80.9	XE 133 14.8	I 131 4.4	SR 89 1.0	LA 140 1.0	Y 91 1.0	BA 140 1.0	CS 137 1.0	Y 90 1.0	CE 141 0.0
57.9 DAYS	KR 85 99.0	I 131 5.5	XE 133 4.4	SR 89 1.0	Y 91 1.0	LA 140 1.0	CS 137 1.0	BA 140 1.0	Y 90 1.0	I 129 0.0
60.0 DAYS	KR 85 99.2	I 131 4.4	XE 133 4.4	SR 89 1.0	Y 91 1.0	LA 140 1.0	CS 137 1.0	BA 140 1.0	Y 90 1.0	I 129 0.0
115.7 DAYS	KR 85100.0	SR 89 1.0	I 131 1.0	CS 137 1.0	Y 91 1.0	Y 91 1.0	Y 91 1.0	Y 91 1.0	Y 91 1.0	SR 90 0.0
150.0 DAYS	KR 85100.0	SR 89 1.0	CS 137 1.0	Y 91 1.0	I 131 1.0	Y 91 1.0	Y 91 1.0	Y 91 1.0	Y 91 1.0	CE 133 0.0
231.5 DAYS	KR 85100.0	SR 89 1.0	CS 137 1.0	Y 91 1.0	Y 91 1.0	I 129 1.0	SR 90 1.0	CE 141 1.0	I 131 1.0	PH 144 0.0
1.0 YRS	KR 85100.0	CS 137 1.0	SR 89 1.0	Y 91 1.0	Y 91 1.0	I 129 1.0	SR 90 1.0	CS 135 1.0	PR 144 1.0	CE 141 0.0

SOURCE 1 (ATR), 200 DAYS, POWER=4000 PURE U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	KR 89 13,1	KR 90 11,3	KR 88 10,8	XE 138 10,2	XE 140 6,9	I 134 6,7	XE 139 6,5	XE 141 3,8	KR 91 3,5	I 132 3,2
1,0 SEC.	KR 89 13,6	KR 90 11,5	KR 88 11,3	XE 138 10,6	I 134 7,0	XE 140 6,8	XE 139 6,7	I 132 3,4	KR 91 3,3	I 135 3,3
2,0 SEC.	KR 89 14,0	KR 90 11,8	KR 90 11,6	XE 134 10,9	I 134 7,2	XE 139 6,8	XE 140 6,7	I 132 3,5	I 135 3,4	KR 91 3,2
5,0 SEC.	KR 89 14,6	KR 88 12,3	KR 90 11,5	XE 138 11,5	I 134 7,6	XE 139 6,8	XE 140 6,1	I 132 3,7	I 135 3,6	KR 87 3,1
10,0 SEC.	KR 89 15,2	KR 88 13,0	XE 138 12,1	KR 90 10,9	I 134 8,0	XE 139 6,6	XE 140 5,0	I 132 3,9	I 135 3,8	KR 87 3,3
20,0 SEC.	KR 89 15,7	KR 88 13,9	XE 138 12,9	KR 90 9,5	I 134 8,6	XE 139 6,0	I 132 4,2	I 135 4,0	KR 87 3,5	XE 140 3,2
50,0 SEC.	KR 89 16,1	KR 88 15,9	XE 138 14,4	I 134 9,8	KR 90 5,7	I 132 4,7	I 135 4,6	XE 139 4,1	KR 87 4,0	KR 90 2,5
60,0 SEC.	KR 88 16,4	KR 89 16,1	XE 138 14,8	I 134 10,1	I 132 4,9	I 135 4,8	KR 90 4,7	KR 87 4,1	XE 139 3,6	KR 90 2,7
100,0 SEC.	KR 88 16,1	XE 138 15,8	KR 89 15,3	I 134 11,1	I 132 5,4	I 135 5,3	KR 87 4,6	KR 90 3,2	I 133 2,3	KR 90 2,2
3,3 MIN.	KR 88 20,6	XE 138 16,7	I 134 12,4	KR 89 12,2	I 132 6,1	I 135 6,0	KR 87 5,1	KR 90 2,9	KR 89 2,8	I 133 2,7
8,3 MIN.	KR 88 23,6	XE 138 15,3	I 134 13,7	I 132 7,0	I 135 7,0	CS 138 6,0	KR 87 5,7	KR 89 4,8	KR 89 4,5	I 133 3,1
16,7 MIN.	KR 88 25,5	I 134 13,7	XE 138 11,4	CS 138 10,1	I 135 7,7	I 132 7,5	KR 87 5,9	KR 89 4,3	KR 88 3,8	I 133 3,5
33,3 MIN.	KR 88 27,3	CS 138 13,2	I 134 12,6	I 135 8,6	I 132 7,9	RB 88 6,4	KR 87 5,9	XE 138 5,8	I 133 3,9	KR 89 2,4
60,0 MIN.	KR 88 29,7	CS 138 12,2	I 134 10,8	I 135 9,9	RB 88 6,9	I 132 8,4	KR 87 5,6	I 133 4,7	XE 133 2,6	XE 135 2,2
1,4 HR.	KR 88 31,4	I 135 11,1	RB 88 10,1	CS 138 9,5	I 134 9,2	I 132 8,7	I 133 5,4	KR 87 5,2	XE 133 3,1	XE 135 2,6
2,8 HR.	KR 88 34,0	I 135 14,7	RB 88 11,5	I 132 8,7	I 133 7,9	I 134 4,7	XE 133 4,6	XE 135 3,8	KR 87 3,7	CS 138 2,7
5,6 HR.	KR 88 29,7	I 135 19,0	I 133 12,5	RB 88 10,1	XE 133 8,0	I 132 6,5	XE 135 6,1	I 131 4,0	KR* 85 1,5	KR 87 1,4
12,0 HR.	I 133 22,0	I 135 21,1	XE 133 17,1	KR 88 13,2	XE 135 10,2	I 131 8,5	KR 88 4,5	I 132 2,0	KR* 85 1,2	KR 87 1,1
13,9 HR.	I 133 24,1	I 135 20,1	XE 133 19,7	XF 135 10,9	I 131 9,9	KR 88 9,6	KR 88 3,3	I 132 1,3	KR* 85 1,1	I 130 1,1
1,0 DAYS	XE 133 31,5	I 133 28,6	I 131 15,8	I 135 11,6	XE 135 10,3	KR 88 1,3	KR 88 4,4	KR* 85 4,1	I 132 1,1	I 130 1,0
1,2 DAYS	XF 133 34,9	I 133 28,4	I 131 17,6	XE 135 9,2	I 135 8,8	KR 88 6,6	KR* 85 2,2	RB 88 2,1	I 130 1,0	I 132 1,0
2,3 DAYS	XF 133 51,4	I 131 26,6	I 133 18,8	XE 135 2,3	I 135 8,8	I 130 8,8	KR* 85 0,6	KR* 85 0,6	KR 85 0,6	SR 91 0,6
4,0 DAYS	XE 133 60,1	I 131 32,8	I 133 6,9	XE 135 2,1	I 135 8,8	LA 140 0,0	KR 85 0,0	LA 140 0,0	BA 140 0,0	SW 91 0,0
5,8 DAYS	XE 133 61,9	I 131 36,0	I 133 2,1	LA 140 0,0	XE 135 0,0	KR 85 0,0	BA 140 0,0	BA 140 0,0	I 130 0,0	LE 141 0,0
10,0 DAYS	XE 133 59,1	I 131 40,7	I 133 1,1	LA 140 0,0	KR 85 0,0	BA 140 0,0	CE 141 0,0	CE 141 0,0	Y 91 0,0	I 130 0,0
11,6 DAYS	XE 133 57,6	I 131 42,3	I 133 0,1	LA 140 0,0	KR 85 0,0	BA 140 0,0	CE 141 0,0	Y 91 0,0	XE 135 0,0	I 130 0,0
23,1 DAYS	I 131 54,9	XE 133 45,0	LA 140 0,0	KR 85 0,0	BA 140 0,0	CE 141 0,0	Y 91 0,0	I 133 0,0	ZR 95 0,0	NB 95 0,0
30,0 DAYS	I 131 62,3	XE 133 37,6	LA 140 0,0	KR 85 0,0	BA 140 0,0	CE 141 0,0	Y 91 0,0	ZR 95 0,0	NB 95 0,0	I 129 0,0
57,9 DAYS	I 131 86,2	XE 133 14,6	KR 85 1,0	LA 140 0,0	BA 140 0,0	CE 141 0,0	Y 91 0,0	ZR 95 0,0	NB 95 0,0	I 129 0,0
40,0 DAYS	I 131 85,2	XE 133 13,4	KR 85 1,2	LA 140 0,0	BA 140 0,0	CE 141 0,0	Y 91 0,0	ZR 95 0,0	NB 95 0,0	I 129 0,0
115,7 DAYS	KR 85 61,6	I 131 37,2	LA 140 0,0	XE 133 5,6	BA 140 0,0	CE 141 0,0	Y 91 0,0	NB 95 0,0	ZR 95 0,0	I 129 0,0
150,0 DAYS	KR 85 96,7	I 131 3,1	LA 140 0,0	BA 140 0,0	Y 91 0,0	CE 141 0,0	XE 133 0,0	NB 95 0,0	I 129 0,0	ZR 95 0,0
231,5 DAYS	KR 85 100,0	Y 91 0,0	I 131 0,0	LA 140 0,0	CE 141 0,0	I 129 0,0	NB 95 0,0	Y 90 0,0	ZR 95 0,0	BA 140 0,0
1,0 YRS.	KR 85 100,0	Y 91 0,0	I 129 0,0	Y 90 0,0	NB 95 0,0	CE 141 0,0	ZR 95 0,0	PH 144 0,0	CE 144 0,0	LA 140 0,0

SOURCE 1 (AIR), 200 DAYS, POWER=4000 PURE U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	XE 137 16.0	XE 139 13.0	KR 91 12.8	KR 89 8.2	KR 90 8.0	XE 138 5.8	KR 92 5.3	KR 87 4.8	XE 140 4.6	XE 141 2.7
1.0 SEC.	XE 137 16.8	XE 139 13.5	KR 91 12.5	KR 89 8.6	KR 90 8.2	XE 138 6.1	KR 87 5.0	XE 140 4.6	KR 92 3.8	I 136 2.0
2.0 SEC.	XE 137 17.4	XE 139 13.8	KR 91 12.0	KR 89 8.9	KR 90 8.3	XE 138 6.3	KR 87 5.2	XE 140 4.6	KR 92 2.7	I 136 2.1
5.0 SEC.	XE 137 18.8	XE 139 14.3	KR 91 10.2	KR 89 9.6	KR 90 8.5	XE 138 6.9	KR 87 5.7	XE 140 4.3	I 134 2.2	I 136 2.2
10.0 SEC.	XE 137 20.4	XE 139 14.4	KR 89 10.4	KR 90 9.4	KR 91 7.6	XE 138 7.5	KR 87 6.3	XE 140 3.6	I 134 2.4	I 136 2.3
20.0 SEC.	XE 137 22.5	XE 139 13.7	KR 89 11.3	XE 138 8.5	KR 90 7.7	KR 87 7.1	KR 91 3.9	I 134 2.7	XE 140 2.5	I 136 2.4
50.0 SEC.	XE 137 25.4	KR 89 12.4	XE 138 10.2	XE 139 10.1	KR 87 8.7	KR 90 5.0	I 134 3.4	CS 140 2.5	I 136 2.3	KR 88 2.3
60.0 SEC.	XF 137 25.8	KR 89 12.6	XE 138 10.6	KR 87 9.1	XE 139 8.9	KR 90 4.2	I 134 3.5	CS 140 2.5	KR 88 2.4	I 136 2.2
100.0 SEC.	XE 137 26.6	KR 89 12.6	XE 138 11.8	KR 87 10.4	XE 139 5.2	I 134 4.0	KR 88 2.8	KR 90 2.8	I 133 2.2	XE 133 2.2
3.3 MIN.	XE 137 24.5	XE 138 13.6	KR 87 12.8	KR 89 10.9	I 134 4.9	KR 88 3.5	KR 87 3.4	I 133 2.7	XE 133 2.7	KR 90 2.6
8.3 MIN.	KR 87 16.3	XE 138 14.2	XE 137 13.3	KR 88 10.6	I 134 6.1	CS 138 5.5	KR 89 4.8	KR 88 4.5	I 133 3.6	XE 133 3.6
16.7 MIN.	KR 88 20.8	KR 87 17.5	XE 138 11.0	CS 138 9.6	I 134 6.4	KR 88 5.0	I 133 4.2	XE 133 4.1	I 135 3.8	XE 137 3.4
33.3 MIN.	KR 88 32.3	KR 87 16.1	CS 138 11.7	I 134 5.5	XE 138 5.2	KR 88 5.0	I 133 4.5	XE 133 4.4	I 135 3.8	XE 135 3.5
60.0 MIN.	KR 88 41.0	KR 87 14.0	CS 138 9.9	KR 88 5.0	XE 133 4.9	I 133 4.9	I 134 4.3	I 135 4.0	XE 135 3.9	I 132 2.9
1.4 HR.	KR 88 44.9	KR 87 12.7	CS 138 7.4	XE 133 5.5	I 133 5.4	KR 88 5.1	XE 135 4.3	I 135 4.3	I 134 3.5	I 132 2.9
2.8 HR.	KR 88 48.7	KR 87 8.6	XE 133 7.9	I 133 7.5	XE 135 6.1	I 135 5.4	KR 88 5.2	I 132 2.8	KR 85 2.2	CS 138 2.0
5.6 HR.	KR 88 42.4	XE 133 13.6	I 133 11.8	XE 135 9.8	I 135 7.0	KR 88 4.5	KR 87 3.3	I 131 2.6	KR 85 2.5	I 132 2.1
12.0 HR.	XE 133 28.0	I 133 20.1	KR 88 18.2	XE 135 15.9	I 135 7.5	I 131 5.3	KR 85 2.0	KR 88 1.9	I 132 1.6	KR 87 1.2
13.9 HR.	XE 133 31.8	I 133 21.6	XE 135 16.6	KR 88 13.1	I 135 7.0	I 131 6.1	KR 85 1.7	KR 88 1.4	I 132 1.4	KR 85 1.1
1.0 DAYS	XE 133 46.7	I 133 23.6	XE 135 14.5	I 131 9.0	I 135 3.7	KR 88 1.6	KR 85 1.5	KR 85 1.2	KR 88 1.2	I 132 1.0
1.2 DAYS	XE 133 50.6	I 133 22.0	XE 135 12.6	I 131 9.7	I 135 2.7	KR 88 1.7	KR 85 1.3	KR 85 1.2	KR 88 1.1	I 132 1.0
2.3 DAYS	XE 133 68.9	I 133 14.0	I 131 13.6	XE 135 3.0	KR 85 3.2	I 135 2.7	KR 85 2.0	KR 85 1.0	I 130 0.0	LA 140 0.0
4.0 DAYS	XE 133 78.1	I 131 16.2	I 133 5.0	KR 85 3.4	XE 135 2.2	KR 89 0.1	I 135 0.0	LA 140 0.0	LA 140 0.0	Y 91 0.0
5.8 DAYS	XE 133 80.1	I 131 17.7	I 133 1.5	KR 85 3.5	SR 69 0.0	XE 135 0.0	LA 140 0.0	HA 140 0.0	Y 91 0.0	I 135 0.0
10.0 DAYS	XE 133 78.4	I 131 20.6	KR 85 1.1	SR 89 0.1	I 133 0.0	LA 140 0.0	BA 140 0.0	Y 91 0.0	CS 137 0.0	Y 90 0.0
11.6 DAYS	XE 133 77.2	I 131 21.6	KR 85 1.1	SR 89 0.1	I 133 0.0	LA 140 0.0	BA 140 0.0	Y 91 0.0	CS 137 0.0	Y 90 0.0
23.1 DAYS	XE 133 65.3	I 131 30.4	KR 85 4.1	SR 89 0.1	LA 140 0.0	BA 140 0.0	Y 91 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0
30.0 DAYS	XE 133 55.8	I 131 35.3	KR 85 8.6	SR 89 0.3	LA 140 0.0	Y 91 0.0	HA 140 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0
47.9 DAYS	KR 85 63.9	I 131 23.8	XE 133 10.8	SR 89 1.4	Y 91 0.1	LA 140 0.0	BA 140 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0
60.0 DAYS	KR 85 68.5	I 131 21.2	XE 133 8.7	SR 89 1.5	Y 91 0.1	LA 140 0.0	BA 140 0.0	CS 137 0.0	Y 90 0.0	SH 90 0.0
115.7 DAYS	KR 85 98.7	SR 89 1.0	I 131 3.3	Y 91 0.0	CS 137 0.0	XE 133 0.0	Y 90 0.0	LA 140 0.0	SR 90 0.0	HA 140 0.0
150.0 DAYS	KR 85 99.3	SR 89 1.7	Y 91 0.0	I 131 0.0	CS 137 0.0	Y 90 0.0	SR 90 0.0	LA 140 0.0	CE 141 0.0	BA 140 0.0
231.5 DAYS	KR 85 99.7	SR 89 2.2	CS 137 0.0	Y 91 0.0	Y 90 0.0	SR 90 0.0	CE 141 0.0	I 131 0.0	I 129 0.0	PR 140 0.0
1.0 YRS.	KR 85 99.9	SR 89 2.0	CS 137 0.0	Y 90 0.0	Y 91 0.0	SR 90 0.0	I 129 0.0	PR 140 0.0	CS 135 0.0	LE 141 0.0

SOURCE 1 (PLATE OUT), EQUILIBRIUM, POWER=4000 MW, PURE U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC	I 134 16,4	I 132 7,9	I 135 7,7	I 136 5,6	I 137 5,5	LA 140 4,6	EU 156 3,9	I 138 3,7	I 133 3,4	I 136 3,2
1,0 SEC	I 134 16,8	I 132 8,1	I 135 7,9	I 136 5,7	I 137 5,5	LA 140 4,9	EU 156 4,1	I 133 3,5	I 138 3,4	I 136 3,2
2,0 SEC	I 134 17,1	I 132 8,2	I 135 8,0	I 136 5,7	I 137 5,4	LA 140 4,6	EU 156 4,1	I 133 3,5	I 136 3,2	I 138 3,1
5,0 SEC	I 134 17,7	I 132 8,5	I 135 8,3	I 136 5,8	I 137 5,1	LA 140 5,0	EU 156 4,3	I 133 3,6	I 136 4,2	I 138 2,3
10,0 SEC	I 134 18,3	I 132 8,8	I 135 8,6	I 136 5,7	LA 140 5,2	I 137 4,6	EU 156 4,4	I 133 3,8	I 136 5,1	TR 160 2,2
20,0 SEC	I 134 19,1	I 132 9,2	I 135 9,0	I 136 5,5	LA 140 5,4	EU 156 4,6	I 133 3,4	I 137 3,7	I 136 4,8	TR 160 2,3
50,0 SEC	I 134 20,4	I 132 9,9	I 135 9,6	LA 140 5,8	EU 156 5,0	I 136 4,6	I 133 4,2	TR 160 2,4	DY 165 2,1	I 130 2,1
100,0 SEC	I 134 20,7	I 132 10,0	I 135 9,8	LA 140 5,9	EU 156 5,0	I 136 4,3	I 133 4,3	TR 160 2,5	DY 165 2,1	I 130 2,1
3,3 MIN	I 134 21,5	I 132 10,5	I 135 10,2	LA 140 6,2	EU 156 5,3	I 133 4,5	I 136 3,3	TR 160 2,6	DY 165 2,2	I 130 2,2
6,3 MIN	I 134 22,3	I 132 11,0	I 135 10,8	LA 140 6,6	EU 156 5,6	I 133 4,8	TR 160 2,8	DY 165 2,3	I 130 2,3	KU 103 2,1
16,7 MIN	I 134 22,2	I 132 11,3	I 135 11,3	LA 140 6,9	EU 156 5,9	I 133 5,0	TR 160 2,9	I 130 2,4	DY 165 2,4	KU 103 2,2
33,3 MIN	I 134 21,0	I 135 11,7	I 132 11,4	LA 140 7,3	EU 156 6,2	I 133 5,3	TR 160 3,1	I 130 2,6	DY 165 2,4	KU 103 2,3
60,0 MIN	I 134 18,3	I 135 12,3	I 132 11,4	LA 140 7,8	EU 156 6,7	I 133 5,6	TR 160 3,3	I 130 2,7	RU 103 2,5	CY 165 2,4
1,4 HR	I 134 14,3	I 135 12,9	I 132 11,0	LA 140 8,6	EU 156 7,4	I 133 6,1	TR 160 3,6	I 130 2,9	RU 103 2,7	I 131 2,6
2,8 HR	I 135 13,3	I 134 11,4	I 132 10,6	LA 140 9,1	EU 156 7,9	I 133 6,5	TR 160 3,9	I 130 3,1	RU 103 2,9	I 131 2,8
5,6 HR	I 135 13,6	LA 140 10,6	EU 156 9,3	I 132 8,5	I 133 7,3	TR 160 4,6	I 134 4,6	RU 103 3,5	I 130 3,4	I 131 3,2
12,0 HR	I 135 12,0	LA 140 12,0	EU 156 11,0	I 133 7,9	TR 160 5,5	I 132 4,8	RU 103 4,1	I 131 3,8	I 131 3,4	NB 45 3,4
13,9 HR	LA 140 13,0	EU 156 13,0	I 133 7,6	I 135 7,3	TR 160 6,5	RU 103 4,9	I 131 4,5	NB 95 4,0	ZR 95 3,9	PM=148 3,3
1,0 DAYS	EU 156 13,5	LA 140 13,1	I 133 7,4	TR 160 6,8	I 135 6,2	RU 103 5,1	I 131 4,6	NB 95 4,2	ZR 95 4,0	PM=148 3,4
1,2 DAYS	EU 156 15,7	LA 140 12,8	TR 160 7,8	I 133 6,1	RU 103 5,8	I 131 5,1	NB 95 4,8	ZR 95 4,6	PM=148 3,4	IN 114 3,0
2,3 DAYS	EU 156 18,0	LA 140 10,4	TR 160 8,1	RU 103 6,0	I 133 5,6	I 131 5,2	NB 95 5,0	ZR 95 4,8	PM=148 4,0	IN 114 3,1
4,0 DAYS	EU 156 19,3	TR 160 11,0	RU 103 7,1	NB 95 6,1	I 131 5,7	ZR 95 5,7	PM=148 4,8	IN 114 5,7	CS 134 3,6	
5,8 DAYS	EU 156 19,5	TR 160 11,8	RU 103 8,0	LA 140 7,1	NB 95 7,0	ZR 95 6,5	I 131 5,7	PM=148 5,4	IN 114 4,2	CS 134 4,1
10,0 DAYS	EU 156 18,4	TR 160 13,0	RU 103 9,0	NB 95 8,8	ZR 95 7,6	PM=148 6,1	CS 134 5,2	IN 114 4,8	HD=166 4,4	I 131 4,3
11,6 DAYS	EU 156 17,9	TR 160 13,4	RU 103 9,1	NB 95 9,1	ZR 95 7,8	PM=148 6,2	CS 134 5,4	IN 114 4,4	HD=166 4,5	I 131 3,9
23,1 DAYS	TR 160 15,1	EU 156 13,3	NB 95 11,1	RU 103 9,4	ZR 95 8,7	CS 134 6,7	PM=148 6,4	HD=166 5,7	IN 114 5,3	CD=113 3,6
30,0 DAYS	TR 160 15,8	NB 95 12,0	EU 156 10,9	RU 103 9,3	ZR 95 9,1	CS 134 7,5	PM=148 6,4	HD=166 6,4	IN 114 5,3	CD=113 4,0
57,9 DAYS	TR 160 16,9	NB 95 14,5	CS 134 10,2	ZR 95 9,4	HD=166 8,9	RU 103 8,0	CD=113 5,6	PM=148 5,6	EU 154 5,2	IN 114 5,0
60,0 DAYS	TR 160 16,9	NB 95 14,6	CS 134 10,4	ZR 95 9,4	HD=166 9,1	RU 103 7,9	CD=113 5,8	PM=148 5,5	EU 154 5,3	IN 114 5,0
115,7 DAYS	TR 160 15,1	CS 134 15,0	NB 95 10,6	HD=166 13,9	CD=113 8,7	EU 154 8,0	ZR 95 8,0	RU 103 4,5	IN 114 3,5	PM=148 3,3
150,0 DAYS	CS 134 17,6	HD=166 16,9	TR 160 13,2	NB 95 13,0	CD=113 10,5	EU 154 9,6	ZR 95 8,2	RU 103 3,0	IN 114 2,6	AG 110 2,3
231,5 DAYS	HD=166 23,2	CS 134 22,5	CD=113 14,3	EU 154 12,9	TR 160 8,3	NB 95 8,2	ZR 95 7,9	AG 110 2,6	IN 114 1,2	RU 103 1,0
1,0 YRS.	HD=166 29,8	CS 134 25,6	CD=113 18,1	EU 154 16,2	TR 160 3,0	NB 95 2,7	AG 110 2,3	ZR 95 1,2	IN 114 0,2	EU 155 0,2

SOURCE 1 (PLATE OUT), EQUILIBRIUM, POWER=4000 MW, PURE U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 136 6.1	I 134 5.8	I 137 5.5	AG 110 4.7	TC 100 4.4	I *136 4.3	HM 104 4.0	IN 114 3.9	I 138 3.6	I 133 3.1
1.0 SEC.	I 136 6.2	I 134 6.0	I 137 5.5	AG 110 4.9	TC 100 4.4	I *136 4.4	HM 104 4.1	IN 114 4.0	I 138 3.6	I 133 3.2
2.0 SEC.	I 136 6.3	I 134 6.2	I 137 5.5	AG 110 5.0	I *136 4.4	TC 100 4.3	IN 114 4.1	HM 104 4.1	I 133 3.5	I 138 3.3
5.0 SEC.	I 136 6.5	I 134 6.5	I 137 5.3	AG 110 5.3	I *136 4.4	IN 114 4.3	HM 104 4.1	TC 100 4.0	I 133 3.5	I 135 3.1
10.0 SEC.	I 134 6.9	I 136 6.6	AG 110 5.6	I 137 4.9	IN 114 4.5	I *136 4.4	RM 104 4.0	I 133 3.7	TC 100 3.4	I 135 3.3
20.0 SEC.	I 134 7.4	I 136 6.6	AG 110 6.0	IN 114 4.7	I *136 4.1	I 133 4.0	PR 142 3.6	IN 114 4.0	TC 100 3.4	PR 142 3.2
50.0 SEC.	I 134 8.4	AG 110 6.8	I 136 5.8	IN 114 4.9	I 133 4.5	I 135 4.0	PR 142 3.6	I 132 3.6	HA 139 3.3	I *136 3.0
60.0 SEC.	I 134 8.6	AG 110 7.0	I 136 5.5	IN 114 5.0	I 133 4.7	I 135 4.1	PR 142 3.7	I 132 3.7	HA 139 3.4	I *136 2.7
100.0 SEC.	I 134 9.2	AG 110 7.6	I 133 5.1	IN 114 5.0	I 135 4.5	I 136 4.3	PR 142 4.0	I 132 3.9	BA 139 3.6	EU 156 2.8
3.3 MIN.	I 134 9.9	AG 110 8.3	I 133 5.5	IN 114 4.9	I 135 4.9	PR 142 4.4	I 132 4.3	HA 139 3.9	EU 156 3.0	TH 160 2.9
8.3 MIN.	I 134 10.1	AG 110 9.0	I 133 6.0	I 135 5.2	IN 114 5.0	PR 142 4.7	I 132 4.5	HA 139 4.1	EU 156 3.5	TH 160 3.1
16.7 MIN.	I 134 9.6	AG 110 9.5	I 133 6.3	I 135 5.4	IN 114 5.2	PR 142 5.0	I 132 4.6	HA 139 4.2	EU 156 3.5	TH 160 3.3
33.3 MIN.	AG 110 10.2	I 134 8.3	I 133 6.6	I 135 5.6	IN 114 5.6	PR 142 5.3	I 132 4.5	HA 139 3.8	EU 156 3.7	TH 160 3.5
60.0 MIN.	AG 110 10.9	I 133 7.0	I 134 6.3	IN 114 6.0	I 135 5.8	PR 142 5.6	I 132 4.5	EU 156 4.0	TH 160 3.6	LA 140 3.3
1.4 HR.	AG 110 11.4	I 133 7.3	IN 114 6.5	I 135 5.8	PR 142 5.7	I 134 4.9	EU 156 4.2	I 132 4.0	TH 160 3.9	LA 140 3.5
2.8 HR.	AG 110 12.6	I 133 7.7	IN 114 6.9	PR 142 6.1	I 135 5.6	EU 156 4.6	TH 160 4.4	LA 140 3.7	PD 109 3.5	MO 99 3.2
5.6 HR.	AG 110 14.0	I 133 7.8	IN 114 7.7	PR 142 6.1	EU 156 5.1	TH 160 4.9	I 135 4.6	LA 140 4.0	MO 99 3.4	PD 109 3.4
12.0 HR.	AG 110 16.0	IN 114 8.7	I 133 7.1	EU 156 5.7	TH 160 5.5	PR 142 5.5	LA 140 4.1	MO 99 3.6	ND 147 3.4	SM 153 2.9
13.9 HR.	AG 110 16.0	IN 114 9.0	I 133 6.9	EU 156 5.9	TH 160 5.7	PR 142 5.3	LA 140 4.1	MO 99 3.7	ND 147 3.5	I 131 2.9
1.0 DAYS	AG 110 18.5	IN 114 10.1	EU 156 6.5	TH 160 6.4	I 133 5.6	PR 142 4.1	LA 140 4.0	ND 147 3.6	MO 99 3.7	I 131 3.2
1.2 DAYS	AG 110 19.2	IN 114 10.4	EU 156 6.7	TH 160 6.6	I 133 5.1	ND 147 3.9	LA 140 3.9	PR 142 3.7	MO 99 3.7	I 131 3.3
2.3 DAYS	AG 110 23.1	IN 114 12.4	TH 160 7.9	EU 156 7.6	ND 147 4.4	I 131 3.6	MO 99 3.3	LA 140 3.2	CD*113 3.1	I 133 2.4
4.0 DAYS	AG 110 26.2	IN 114 13.8	TH 160 8.8	EU 156 8.1	ND 147 4.5	CD*113 3.6	I 131 3.5	CE 141 2.5	HO*166 2.5	MO 99 2.5
5.8 DAYS	AG 110 28.1	IN 114 14.5	TH 160 9.4	EU 156 8.0	ND 147 4.3	CD*113 3.9	I 131 3.2	HO*166 2.7	CF 141 2.6	Y 90 2.1
10.0 DAYS	AG 110 31.0	IN 114 15.2	TH 160 10.0	EU 156 7.4	CD*113 4.3	ND 147 3.7	HO*166 3.0	CE 141 2.7	I 131 2.5	PM 147 2.0
11.6 DAYS	AG 110 31.8	IN 114 15.3	TH 160 10.2	EU 156 7.1	CD*113 4.4	ND 147 3.5	HO*166 3.1	CE 141 2.7	I 131 2.3	PR 144 2.1
23.1 DAYS	AG 110 36.1	IN 114 15.3	TH 160 10.7	CD*113 5.2	EU 156 4.9	HO*166 3.6	CE 141 2.4	PR 144 2.4	Y 90 2.0	ND 147 2.0
30.0 DAYS	AG 110 38.1	IN 114 14.9	TH 160 10.7	CD*113 5.6	HO*166 3.9	EU 156 3.4	PR 144 2.5	CE 141 2.3	Y 90 2.1	SM 89 1.7
57.9 DAYS	AG 110 43.5	IN 114 12.5	TH 160 10.1	CD*113 6.8	HO*166 4.8	PR 144 2.9	Y 90 2.6	CS 137 1.9	PM 147 1.8	CF 141 1.5
60.0 DAYS	AG 110 43.9	IN 114 12.3	TH 160 10.1	CD*113 6.9	HO*166 4.9	PR 144 2.9	Y 90 2.6	CS 137 1.9	PM 147 1.9	CF 141 1.5
115.7 DAYS	AG 110 49.3	CD*113 9.0	TH 160 7.7	IN 114 7.4	HO*166 6.4	Y 90 3.4	PR 144 3.3	CS 137 2.5	PM 147 2.3	EU 154 1.3
150.0 DAYS	AG 110 50.8	CD*113 10.1	HO*166 7.2	TH 160 6.3	IN 114 5.2	Y 90 3.8	PR 144 3.4	CS 137 2.4	PM 147 2.6	EU 154 1.4
231.5 DAYS	AG 110 51.0	CD*113 12.6	HO*166 9.1	Y 90 4.8	TH 160 3.6	CS 137 3.6	PR 144 3.6	PM 147 3.0	IN 114 2.1	EU 154 1.8
1.0 YRS.	AG 110 46.0	CD*113 16.2	HO*166 11.8	Y 90 6.2	CS 137 4.6	PM 147 3.6	PR 144 3.3	EU 154 2.3	CS 134 1.6	SR 90 1.3

SOURCE 1 (PLATE OUT), 200 DAYS, POWER=4000 PURE U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC	I 134 23.0	I 132 11.0	I 135 10.7	I 134 7.8	I 137 7.7	I 138 5.2	I 133 4.7	I *136 4.5	I 139 2.2	I 131 1.3
1.0 SEC	I 134 23.8	I 132 11.5	I 135 11.1	I 136 8.0	I 137 7.8	I 133 4.9	I 138 4.8	I *136 4.6	I 139 1.7	I 131 1.3
2.0 SEC	I 134 24.4	I 132 11.7	I 135 11.4	I 136 8.1	I 137 7.7	I 133 5.0	I *136 4.8	I 138 4.4	I 131 1.4	I 139 1.3
5.0 SEC	I 134 25.5	I 132 12.3	I 135 11.9	I 136 8.3	I 137 7.4	I 133 5.3	I *136 4.6	I 138 3.4	I 131 1.4	CS 138 .8
10.0 SEC	I 134 26.8	I 132 12.9	I 135 12.6	I 136 8.4	I 137 6.8	I 133 5.5	I *136 4.5	I 138 2.1	I 131 1.5	CS 138 .8
20.0 SEC	I 134 28.6	I 132 13.7	I 135 13.4	I 136 8.3	I 133 5.9	I 137 5.5	I *136 4.2	I 131 1.6	LA 142 .9	CS 138 .9
50.0 SEC	I 134 31.5	I 132 15.2	I 135 14.9	I 136 7.2	I 133 6.5	I *136 3.0	I 137 2.6	I 131 1.8	LA 142 1.0	CS 138 1.0
60.0 SEC	I 134 32.2	I 132 15.6	I 135 15.2	I 136 6.7	I 133 6.7	I *136 2.7	I 137 2.0	I 131 1.8	LA 142 1.0	CS 138 1.0
100.0 SEC	I 134 34.2	I 132 16.6	I 135 16.2	I 133 7.2	I 136 5.2	I 131 1.9	I *136 1.6	LA 142 1.1	CS 138 1.0	LA 140 1.0
3.3 MIN	I 134 34.4	I 132 17.9	I 135 17.6	I 133 7.8	I 136 2.4	I 131 2.1	LA 142 1.2	CS 138 1.1	LA 140 1.1	RB 89 .7
8.3 MIN	I 134 37.4	I 132 19.1	I 135 19.1	I 133 8.5	I 131 2.3	LA 142 1.3	LA 140 1.2	CS 138 1.1	SR 92 .6	WB 89 .6
18.7 MIN	I 134 36.3	I 135 20.3	I 132 19.8	I 133 9.1	I 131 2.5	LA 142 1.3	LA 140 1.3	CS 138 1.0	SR 92 .7	RB 89 .5
33.3 MIN	I 134 33.3	I 135 22.3	I 132 20.7	I 133 10.2	I 131 2.8	LA 140 1.4	LA 142 1.3	CS 138 .8	SR 92 .7	ZR 95 .4
60.0 MIN	I 134 28.0	I 135 25.2	I 132 21.6	I 133 11.9	I 131 3.3	LA 140 1.7	LA 142 1.3	SR 92 .7	CS 138 .5	ZR 95 .5
1.4 HR	I 135 27.4	I 134 23.5	I 132 21.9	I 133 13.3	I 131 3.8	LA 140 1.9	LA 142 1.3	SR 92 .8	ZR 95 .6	NB 97 .5
2.8 HR	I 135 33.2	I 132 20.7	I 133 17.9	I 134 11.3	I 131 5.3	LA 140 2.7	XE 135 1.3	LA 142 .9	ZR 95 .8	SR 92 .8
5.6 HR	I 135 36.5	I 133 23.9	I 132 14.6	I 131 7.7	LA 140 4.0	XE 135 3.0	I 134 1.9	ZR 95 1.2	NB 95 1.1	NB 97 1.0
12.0 HR	I 133 30.3	I 135 29.1	I 131 11.8	I 132 6.6	LA 140 4.2	XE 135 5.7	ZR 95 1.9	NB 95 1.7	NB 97 1.2	SR 91 .8
13.9 HR	I 133 31.3	I 135 26.2	I 131 12.8	LA 140 6.8	XE 135 6.1	I 132 5.9	ZR 95 2.0	NB 95 1.8	NB 97 1.2	SR 91 .7
1.0 DAYS	I 133 32.8	I 131 18.1	I 135 13.2	LA 140 9.9	XE 135 6.3	I 132 5.8	ZR 95 3.0	NB 95 2.7	NB 97 1.2	RU 103 1.0
1.2 DAYS	I 133 32.2	I 131 20.0	LA 140 11.0	I 135 9.9	I 132 6.1	XE 135 5.8	ZR 95 3.3	NB 95 3.0	RU 103 1.2	NB 97 1.1
2.3 DAYS	I 131 29.8	I 133 21.1	LA 140 17.6	I 132 7.9	ZR 95 5.4	NB 95 5.0	XE 133 1.9	RU 103 1.9	XE 135 1.7	BA 140 1.6
4.0 DAYS	I 131 35.8	LA 140 22.9	I 132 7.6	I 133 7.6	ZR 95 7.3	NB 95 7.0	XE 133 2.6	RU 103 2.5	BA 140 2.0	TE 132 .9
5.8 DAYS	I 131 37.1	LA 140 25.5	ZR 95 8.7	NB 95 8.4	I 132 6.3	RU 103 3.0	XE 133 2.7	BA 140 2.2	I 133 2.2	CE 141 .8
10.0 DAYS	I 131 34.6	LA 140 27.6	NB 95 11.4	ZR 95 11.2	RU 103 3.7	I 132 3.4	BA 140 2.4	XE 133 2.3	CE 141 1.0	ND 147 .4
11.6 DAYS	I 131 33.2	LA 140 27.8	NB 95 12.5	ZR 95 12.1	RU 103 4.0	I 132 2.7	BA 140 2.4	XE 133 2.1	CE 141 1.1	ND 147 .4
23.1 DAYS	LA 140 25.9	NB 95 21.5	I 131 21.3	ZR 95 18.6	RU 103 5.6	BA 140 2.2	CE 141 1.4	XE 133 .8	I 132 .4	PM=148 .4
30.0 DAYS	NB 95 27.1	LA 140 22.9	ZR 95 22.1	I 131 15.1	RU 103 6.4	BA 140 2.0	CE 141 1.6	PR 144 .4	PM=148 .4	XE 133 .4
57.9 DAYS	NB 95 44.7	ZR 95 30.7	LA 140 9.4	RU 103 7.3	I 131 2.6	CE 141 1.6	BA 140 .8	PR 144 .8	CE 144 .7	PM=148 .5
60.0 DAYS	NB 95 55.6	ZR 95 31.0	LA 140 8.7	RU 103 7.3	I 131 2.2	CE 141 1.6	PR 144 .8	BA 140 .7	CE 144 .7	PM=148 .5
115.7 DAYS	NB 95 57.1	ZR 95 32.1	RU 103 5.1	PR 144 1.3	CE 144 1.2	CE 141 .9	LA 140 .8	RM 106 .5	PM=148 .4	CS 134 .2
150.0 DAYS	NB 95 59.4	ZR 95 31.2	PR 103 3.9	PR 144 1.6	CE 144 1.5	RM 106 .7	CE 141 .6	PM=148 .3	CS 134 .3	LA 140 .2
231.5 DAYS	NB 95 60.5	ZR 95 29.0	PR 144 3.0	CE 144 2.8	RU 103 2.1	RM 106 1.3	CS 134 .6	CE 141 .2	PM=148 .2	SB 125 .1
1.0 YRS.	NR 95 54.0	ZR 95 24.6	PR 144 7.5	CE 144 7.0	RM 106 3.4	CS 134 1.8	RU 103 .7	SB 125 .4	PR=144 .2	SN 123 .1

SOURCE 1 (PLATE OUT), 200 DAYS, POWER=4000 PURE U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC	I 136 10,3	I 134 9,9	I 137 9,3	I 136 7,3	I 138 6,5	I 133 5,3	I 135 4,7	I 132 4,2	I 139 2,5	HB 92 1,3
1,0 SEC	I 136 10,8	I 134 10,5	I 137 9,6	I 136 7,6	I 138 6,2	I 133 5,6	I 135 5,0	I 132 4,4	I 139 2,0	Y 96 1,2
2,0 SEC	I 136 11,2	I 134 10,9	I 137 9,7	I 136 7,8	I 133 5,9	I 138 5,8	I 135 5,2	I 132 4,6	I 139 1,5	Y 96 1,2
5,0 SEC	I 136 11,8	I 134 11,8	I 137 9,6	I 136 8,0	I 133 6,3	I 135 5,6	I 132 5,0	I 138 4,6	Y 96 1,3	I 131 1,2
10,0 SEC	I 134 12,8	I 136 12,3	I 137 9,1	I 136 8,1	I 133 6,9	I 135 6,1	I 132 5,4	I 138 2,9	Y 96 1,4	I 131 1,3
20,0 SEC	I 134 14,2	I 136 12,6	I 136 7,8	I 133 7,7	I 137 7,6	I 135 6,8	I 132 6,0	Y 96 1,4	I 131 1,4	Y 95 1,2
50,0 SEC	I 134 16,9	I 136 11,8	I 133 9,2	I 135 8,1	I 132 7,2	I 136 6,1	I 137 3,9	I 131 1,7	Y 96 1,5	XE 137 1,4
60,0 SEC	I 134 17,5	I 136 11,3	I 133 9,5	I 135 8,4	I 132 7,5	I 136 5,5	I 137 3,1	I 131 1,8	XE 137 1,6	Y 96 1,5
100,0 SEC	I 134 19,6	I 133 10,8	I 135 9,5	I 136 9,1	I 132 8,4	I 136 3,5	I 131 2,0	XE 137 1,9	Y 94 1,6	Y 95 1,6
3,3 MIN	I 134 22,5	I 133 12,6	I 135 11,1	I 132 9,8	I 136 4,6	I 131 2,3	Y 94 1,8	XE 137 1,7	Y 95 1,7	CS 139 1,6
8,3 MIN	I 134 24,8	I 133 14,0	I 135 12,9	I 132 11,2	I 131 2,7	Y 92 1,8	Y 94 1,8	Y 93 1,6	CS 138 1,5	Y 95 1,4
16,7 MIN	I 134 24,8	I 133 16,0	I 135 14,1	I 132 11,9	I 131 3,0	Y 92 2,0	Y 93 1,7	Y 94 1,5	CS 138 1,4	LA 141 1,3
33,3 MIN	I 134 23,0	I 133 18,4	I 135 15,6	I 132 12,6	I 131 3,5	Y 92 2,3	Y 93 1,9	LA 141 1,5	BA 139 1,3	LA 142 1,3
60,0 MIN	I 133 21,1	I 134 19,0	I 135 17,3	I 132 12,8	I 131 4,0	Y 92 2,6	Y 93 2,2	LA 141 1,6	ZR 97 1,2	LA 142 1,2
1,4 HR	I 133 23,0	I 135 18,3	I 134 15,5	I 132 12,7	I 131 4,4	Y 92 2,8	Y 93 2,4	LA 141 1,7	XE 135 1,5	ZR 97 1,3
2,8 HR	I 133 27,7	I 135 19,1	I 132 10,8	I 134 6,7	I 131 5,6	XE 135 3,4	Y 92 3,3	Y 93 2,7	LA 141 1,7	ZR 97 1,6
5,6 HR	I 133 32,3	I 135 19,1	I 131 7,1	XE 135 6,8	I 132 6,6	Y 92 3,1	Y 93 2,9	ZR 97 1,8	LA 140 1,8	Y 91 1,8
12,0 HR	I 133 35,4	I 135 13,2	XE 135 11,3	I 131 9,4	I 132 2,6	Y 93 2,5	LA 140 2,4	Y 91 2,4	PR 144 2,0	SR 89 1,9
13,9 HR	I 133 35,7	XE 135 11,9	I 135 11,6	I 131 10,0	LA 140 2,6	Y 91 2,6	Y 93 2,4	I 132 2,2	PR 144 2,1	SR 89 2,1
1,0 DAYS	I 133 35,1	I 131 13,3	XE 135 11,5	I 135 5,5	LA 140 3,6	Y 91 3,6	PR 144 2,9	SR 89 2,9	PR 143 2,1	I 132 2,1
1,2 DAYS	I 133 34,3	I 131 14,5	XE 135 10,6	I 135 4,1	LA 140 3,9	Y 91 3,9	PR 144 3,2	SR 89 3,2	PR 143 2,3	I 132 2,2
2,3 DAYS	I 133 23,0	I 131 22,2	Y 91 6,6	LA 140 6,5	PR 144 5,5	SR 89 5,3	PR 143 3,8	XE 133 3,7	BA 140 3,2	XF 135 3,1
4,0 DAYS	I 131 27,4	Y 91 9,2	LA 140 8,6	I 133 8,5	PR 144 7,7	SR 89 7,3	XE 133 5,2	PR 143 5,1	BA 140 4,2	I 132 2,9
5,8 DAYS	I 131 28,2	Y 91 10,8	LA 140 9,5	PR 144 9,2	SR 89 8,6	PR 143 5,6	XE 133 5,4	BA 140 4,6	CE 141 2,9	I 133 2,4
10,0 DAYS	I 131 25,2	Y 91 13,2	PR 144 11,8	SR 89 10,4	LA 140 9,9	PR 143 5,8	BA 140 4,7	XE 133 4,3	CE 141 3,4	ZR 95 2,7
11,6 DAYS	I 131 23,8	Y 91 14,0	PR 144 12,7	SR 89 11,0	LA 140 9,8	PR 143 5,8	BA 140 4,6	XE 133 3,9	CE 141 3,6	ZR 95 2,9
23,1 DAYS	PR 144 18,9	Y 91 18,8	SR 89 14,5	I 131 13,5	LA 140 8,1	PR 143 5,0	CE 141 4,3	ZR 95 3,9	BA 140 3,8	NR 95 1,6
30,0 DAYS	PR 144 22,3	Y 91 20,8	SR 89 15,9	I 131 9,0	LA 140 6,7	CE 141 4,4	ZR 95 4,4	PR 143 4,2	BA 140 3,1	NR 95 1,9
57,9 DAYS	PR 144 13,0	Y 91 23,6	SR 89 17,4	ZR 95 5,1	CE 141 3,9	NB 95 2,7	LA 140 2,3	RH 106 2,3	CE 144 2,2	PR 143 1,6
60,0 DAYS	PR 144 33,7	Y 91 23,6	SR 89 17,3	ZR 95 5,1	CE 141 3,8	NB 95 2,7	RH 106 2,3	CE 144 2,2	LA 140 2,1	PR 143 1,5
115,7 DAYS	PR 144 47,2	Y 91 19,6	SR 89 13,2	ZR 95 4,6	RH 106 3,4	CE 144 3,1	NB 95 2,9	CE 141 1,9	Y 90 1,7	RU 103 1,0
150,0 DAYS	PR 144 53,9	Y 91 16,2	SR 89 10,4	ZR 95 4,0	RH 106 3,9	CE 144 3,5	NB 95 2,7	Y 90 2,1	CE 141 1,1	PM 147 1,5
231,5 DAYS	PR 144 66,0	Y 91 9,2	SR 89 5,2	RH 106 5,0	CE 144 4,3	Y 90 3,2	ZR 95 2,5	NB 95 1,9	PM 147 1,7	SR 90 1,7
1,0 YR8	PR 144 74,8	RH 106 6,1	Y 90 4,9	CE 144 4,9	Y 91 3,0	SR 89 1,4	SR 90 1,1	PM 147 1,0	ZR 95 1,9	CS 137 1,9

SOURCE 1 (WATER), EQUILIBRIUM, POWER=4000 MW, PURE U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC	I 134 16,5	I 132 7,9	I 135 7,7	I 136 5,6	I 137 5,5	BR 88	I 136 3,7	I 133 3,4	BR 89	I *136 3,2
1,0 SEC	I 134 17,2	I 132 8,3	I 135 8,1	I 136 5,8	I 137 5,6	BR 88	I 133 3,5	I 138 3,5	I *136 3,3	HR 87 3,3
2,0 SEC	I 134 17,8	I 132 8,5	I 135 8,3	I 136 5,9	I 137 5,6	BR 88	I 133 3,7	I *136 3,3	BR 87 3,3	I 138 3,2
5,0 SEC	I 134 18,8	I 132 9,1	I 135 8,8	I 136 6,1	I 137 5,5	I 133 3,9	BR 88	I *136 3,4	BR 87 3,4	HR 86 2,8
10,0 SEC	I 134 20,0	I 132 9,6	I 135 9,4	I 136 6,3	I 137 5,1	I 133 4,1	BR 87	I *136 3,4	BR 88 3,1	LA 140 2,8
20,0 SEC	I 134 21,4	I 132 10,3	I 135 10,0	I 136 6,2	I 133 4,2	I 137 4,1	BR 87	I *136 3,1	LA 140 3,0	BR 86 2,7
50,0 SEC	I 134 23,8	I 132 11,5	I 135 11,2	I 136 5,4	I 133 4,9	LA 140 3,4	EU 156 2,9	HR 87 2,5	I 130 2,4	I *136 2,3
60,0 SEC	I 134 24,3	I 132 11,8	I 135 11,5	I 136 5,1	I 133 5,1	LA 140 3,5	EU 156 3,0	I 130 2,5	HR 87 2,2	I 131 2,1
100,0 SEC	I 134 25,8	I 132 12,5	I 135 12,3	I 133 5,4	I 136 3,9	LA 140 3,7	EU 156 3,2	I 130 2,6	I 131 2,2	HR 84 2,2
3,3 MIN	I 134 27,3	I 132 13,4	I 135 13,2	I 133 5,8	LA 140 4,0	EU 156 3,4	I 130 2,8	I 131 2,4	HR 84 2,3	I 130 1,8
8,3 MIN	I 134 27,5	I 132 14,1	I 135 14,0	I 133 6,2	LA 140 4,3	EU 156 3,7	I 130 3,0	I 131 2,6	RR 84 2,2	TB 160 1,8
16,7 MIN	I 134 28,1	I 135 14,6	I 132 14,3	I 133 6,6	LA 140 4,5	EU 156 3,9	I 130 3,2	I 131 2,7	BR 84 1,9	TB 160 1,9
33,3 MIN	I 134 29,0	I 135 15,6	I 132 14,4	I 133 7,1	LA 140 5,0	EU 156 4,2	I 130 3,4	I 131 3,0	TB 160 2,1	BR 82 1,9
60,0 MIN	I 134 16,3	I 135 16,7	I 132 14,2	I 133 7,9	LA 140 5,5	EU 156 4,8	I 130 3,8	I 131 3,3	TB 160 2,4	BR 82 2,1
1,4 HR	I 135 17,5	I 134 14,8	I 132 13,8	I 133 8,5	LA 140 6,0	EU 156 5,2	I 130 4,0	I 131 3,6	TB 160 2,6	BR 82 2,3
2,8 HR	I 135 18,8	I 132 11,4	I 133 10,1	LA 140 7,3	EU 156 6,4	I 134 5,6	I 130 4,6	I 131 4,5	TB 160 3,2	BR 82 2,8
5,6 HR	I 135 17,5	I 133 11,5	LA 140 8,7	EU 156 8,0	I 132 6,5	I 131 5,6	I 130 5,0	TB 160 4,6	BR 82 3,3	RU 103 3,0
12,0 HR	I 133 11,8	I 135 11,3	LA 140 10,1	EU 156 10,1	I 131 6,9	TB 160 5,1	I 130 4,4	RU 103 3,8	BR 82 3,7	NB 95 3,1
13,9 HR	I 133 11,6	EU 156 10,5	LA 140 10,3	I 135 9,7	I 131 7,2	TB 160 5,3	I 130 4,2	RU 103 4,0	BR 82 3,7	NB 95 3,3
1,0 DAYS	EU 156 12,5	LA 140 10,7	I 133 10,1	I 131 8,4	TB 160 6,4	RU 103 4,8	I 135 4,1	NR 95 4,0	ZR 95 3,8	HR 82 3,7
1,2 DAYS	EU 156 12,1	LA 140 10,7	I 131 9,4	I 131 8,8	TB 160 6,7	RU 103 5,0	NR 95 4,2	ZR 95 4,0	BR 82 3,7	PM*148 3,4
2,3 DAYS	EU 156 16,0	I 131 10,2	LA 140 9,2	TB 160 8,6	RU 103 6,3	NB 95 5,4	ZR 95 5,1	I 133 4,8	PM*148 4,3	IN 114 3,3
4,2 DAYS	EU 156 17,8	I 131 10,6	TB 160 10,1	RU 103 7,3	LA 140 6,6	NB 95 6,3	ZR 95 6,0	PM*148 5,0	IN 114 3,8	CS 134 3,8
5,8 DAYS	EU 156 18,3	TB 160 11,1	I 131 10,1	RU 103 7,9	NB 95 7,2	ZR 95 6,5	PM*148 5,4	LA 140 4,6	CS 134 4,3	IN 114 4,2
10,0 DAYS	EU 156 17,6	TB 160 12,5	RU 103 8,6	NB 95 8,4	I 131 8,2	ZR 95 7,3	PM*148 5,9	CS 134 5,0	IN 114 4,6	HO*166 4,2
11,6 DAYS	EU 156 17,2	TB 160 12,8	RU 103 8,8	NB 95 8,7	I 131 7,5	ZR 95 7,5	PM*148 6,0	CS 134 5,2	IN 114 4,7	HO*166 4,4
23,1 DAYS	TR 160 14,8	EU 156 13,1	NR 95 10,9	RU 103 4,2	ZR 95 8,6	CS 134 6,0	PM*148 6,3	HO*166 5,6	IN 114 5,2	I 131 3,6
30,0 DAYS	TR 160 15,6	NB 95 11,9	EU 156 10,7	RU 103 9,2	ZR 95 9,0	CS 134 7,4	PM*148 6,3	HO*166 6,3	IN 114 5,3	CD*113 4,0
57,9 DAYS	TR 160 16,8	NB 95 14,5	CS 134 10,1	ZR 95 9,0	HO*166 8,9	RU 103 8,0	CD*113 5,6	PM*148 5,6	EU 154 5,2	IN 114 5,0
68,0 DAYS	TB 160 16,9	NB 95 14,6	CS 134 10,3	ZR 95 9,0	HO*166 9,1	RU 103 7,9	CD*113 5,7	PM*148 5,7	EU 154 5,3	IN 114 5,0
115,7 DAYS	TB 160 15,1	CS 134 15,0	NR 95 14,8	HO*166 13,9	CD*113 8,7	EU 154 8,0	ZR 95 8,0	RU 103 4,5	IN 114 3,5	PM*148 3,3
150,0 DAYS	CS 134 17,6	HO*166 16,9	TR 160 13,2	NB 95 13,0	CD*113 10,5	EU 154 9,6	ZR 95 6,7	RU 103 3,0	IN 114 2,6	AG 110 2,3
23,5 DAYS	HO*166 23,2	CS 134 22,5	CD*113 14,3	EU 154 12,9	TR 160 8,3	NB 95 8,2	ZR 95 3,9	AG 110 2,6	IN 114 1,2	RU 103 1,0
1,0 YRS	HO*166 29,8	CS 134 25,6	CD*113 18,1	EU 154 16,2	TB 160 3,0	NR 95 2,7	AG 110 2,3	ZR 95 1,2	IN 114 0,2	EU 155 0,2

SOURCE 1 (WATER), EQUILIBRIUM, POWER=4000 MW, PURE U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC	BR 88 6.3	I 136 5.9	BR 89 5.6	I 134 5.6	I 137 5.3	BR 87 5.0	BR 90 4.8	I 136 4.1	I 138 3.7	BR 86 3.2
1.0 SEC	BR 88 6.5	I 136 6.2	I 134 6.0	I 137 5.5	BR 89 5.4	BR 87 5.3	I 136 4.4	I 138 3.6	BR 90 3.4	I 133 3.2
2.0 SEC	BR 88 6.5	I 136 6.5	I 134 6.3	I 137 5.6	BR 87 5.5	BR 89 4.8	I 136 4.5	I 133 3.4	I 138 3.4	I 135 3.0
5.0 SEC	BR 88 6.3	I 134 7.0	I 136 7.0	BR 87 5.9	I 137 5.7	I 136 4.8	I 133 3.9	BR 89 3.4	I 135 3.3	I 132 3.0
10.0 SEC	I 134 7.8	I 136 7.5	BR 88 7.4	BR 87 6.1	I 137 5.5	I 136 4.9	I 133 4.7	I 137 4.7	I 135 4.2	I 132 3.7
20.0 SEC	I 134 8.8	I 136 7.8	BR 87 6.1	BR 88 5.4	I 136 4.9	I 133 4.7	I 137 4.7	I 135 4.2	I 132 3.7	AG 110 3.6
50.0 SEC	I 134 10.7	I 136 7.4	I 133 5.8	BR 87 5.2	I 135 5.1	I 132 4.5	AG 110 4.3	I 136 3.8	IN 114 3.1	I 137 2.5
60.0 SEC	I 134 11.1	I 136 7.1	I 133 6.0	I 135 5.3	BR 87 4.7	I 132 4.7	AG 110 4.5	I 136 3.5	IN 114 3.2	BR 84 2.5
100.0 SEC	I 134 12.4	I 133 6.8	I 135 6.0	I 136 5.7	I 132 5.3	AG 110 5.1	IN 114 3.4	BR 87 3.3	BR 84 2.8	PM 142 2.7
3.3 MIN	I 134 14.0	I 133 7.8	I 135 6.9	I 132 6.1	AG 110 5.9	IN 114 3.5	BR 84 3.1	PR 142 3.1	I 136 2.4	BA 139 2.8
8.3 MIN	I 134 14.8	I 133 8.4	I 135 7.7	I 132 6.7	AG 110 6.6	IN 114 3.6	PR 142 3.5	BR 84 3.2	BA 139 3.0	I 131 2.5
16.7 MIN	I 134 14.2	I 133 9.3	I 135 8.1	AG 110 7.1	I 132 6.8	IN 114 3.9	PR 142 3.7	BA 139 3.0	BR 84 2.8	I 131 2.6
33.3 MIN	I 134 12.4	I 133 10.0	I 135 8.5	AG 110 7.7	I 132 6.8	IN 114 4.2	PM 142 4.0	I 131 2.9	KA 139 2.8	EU 156 2.8
60.0 MIN	I 133 10.8	I 134 9.6	I 135 8.9	AG 110 8.4	I 132 6.6	IN 114 4.6	PR 142 4.3	I 131 3.1	EU 156 3.1	TH 160 2.9
1.4 HR	I 133 11.4	I 135 9.1	AG 110 8.9	I 134 7.6	I 132 6.2	IN 114 4.9	PR 142 4.5	I 131 3.3	EU 156 3.3	TH 160 3.1
2.8 HR	I 133 12.5	AG 110 10.3	I 135 9.0	IN 114 5.6	PR 142 4.9	I 132 4.8	I 131 3.4	EU 156 3.7	TH 160 3.5	LA 140 3.0
5.6 HR	I 133 13.0	AG 110 11.7	I 135 7.7	IN 114 6.4	PR 142 5.1	I 131 4.3	EU 156 4.2	TH 160 4.1	LA 140 3.3	MO 99 2.9
12.0 HR	AG 110 13.7	I 133 12.3	IN 114 7.5	I 131 4.9	EU 156 4.9	TH 160 4.7	PR 142 4.7	I 135 4.0	XE 135 3.4	LA 140 3.5
13.9 HR	AG 110 14.2	I 133 11.9	IN 114 7.8	EU 156 5.1	I 131 5.1	TH 160 4.9	PR 142 4.6	XE 135 4.0	I 135 3.9	LA 140 3.0
1.0 DAYS	AG 110 16.5	I 133 9.9	IN 114 9.0	EU 156 5.8	I 131 5.7	TH 160 5.7	PR 142 3.7	LA 140 3.5	ND 147 3.4	MO 99 3.3
1.2 DAYS	AG 110 17.3	IN 114 9.4	I 133 9.2	EU 156 6.0	TH 160 5.9	I 131 5.9	ND 147 3.5	LA 140 3.5	PR 142 3.4	MO 99 3.3
2.3 DAYS	AG 110 21.5	IN 114 11.5	TH 160 7.3	EU 156 7.1	I 131 6.6	I 133 4.5	ND 147 4.1	ND 99 3.1	LA 140 3.0	CO*113 2.9
4.0 DAYS	AG 110 25.0	IN 114 13.1	TH 160 8.4	EU 156 7.7	I 131 6.7	ND 147 4.3	CO*113 3.7	ND*166 2.6	CE 141 2.5	Y 90 2.0
5.8 DAYS	AG 110 27.1	IN 114 14.0	TH 160 9.0	EU 156 7.7	I 131 6.3	ND 147 4.3	CO*113 3.7	ND*166 2.6	CE 141 2.6	PH 144 2.0
10.0 DAYS	AG 110 30.2	IN 114 14.8	TH 160 9.7	EU 156 7.2	I 131 4.9	CO*113 4.2	ND 147 3.6	ND*166 2.9	CE 141 2.6	PH 144 2.0
11.6 DAYS	AG 110 31.0	IN 114 15.0	TH 160 9.9	EU 156 6.9	I 131 4.4	CO*113 4.3	ND 147 3.4	ND*166 2.9	CE 141 2.6	Y 90 1.9
23.1 DAYS	AG 110 35.8	IN 114 15.2	TH 160 10.6	CO*113 5.1	EU 156 4.9	ND*166 3.6	CF 141 2.4	PR 144 2.3	I 131 1.4	Y 90 1.9
30.0 DAYS	AG 110 37.8	IN 114 14.8	TH 160 10.7	CO*113 5.5	MO*166 3.9	EU 156 3.8	PH 144 2.5	CE 141 2.3	Y 90 2.1	SR 89 1.6
57.9 DAYS	AG 110 43.5	IN 114 12.5	TH 160 10.1	CO*113 6.8	MO*166 4.8	PR 144 2.9	Y 90 2.6	CS 137 1.9	PM 147 1.8	CE 141 1.5
60.0 DAYS	AG 110 43.8	IN 114 12.3	TH 160 10.1	CO*113 6.8	MO*166 4.9	PR 144 2.9	Y 90 2.6	CS 137 1.9	PM 147 1.8	CE 141 1.5
115.7 DAYS	AG 110 49.3	CO*113 9.0	TH 160 7.7	IN 114 7.4	MO*166 6.4	Y 90 3.4	PR 144 3.3	CS 137 2.5	PM 147 2.3	EU 154 1.3
150.0 DAYS	AG 110 50.8	CO*113 10.1	MO*166 7.2	TH 160 6.3	IN 114 5.2	Y 90 3.8	PR 144 3.8	CS 137 2.9	PM 147 2.8	EU 154 1.4
231.5 DAYS	AG 110 51.0	CO*113 12.6	MO*166 9.1	I 131 4.8	TH 160 3.6	CS 137 3.6	PR 144 3.6	PM 147 3.0	IN 114 2.1	EU 154 1.8
1.0 YRS	AG 110 66.0	CO*113 16.2	MO*166 11.8	Y 90 6.2	CS 137 4.6	PM 147 3.6	PR 144 3.3	EU 154 2.3	CS 134 1.8	SR 90 1.3

SOURCE 1 (WATER), 200 DAYS, POWER=4000 PURE U-235

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC	I 134 10,8	I 132 9,5	I 135 9,2	I 136 6,7	I 137 6,6	BR 88 4,7	I 138 4,4	I 133 4,1	BR 89 3,8	I *136 3,8
1,0 SEC	I 134 20,8	I 132 10,0	I 135 9,7	I 136 7,0	I 137 6,8	BR 88 4,8	I 133 4,3	I 138 4,2	I *136 4,0	BR 87 3,9
2,0 SEC	I 134 21,6	I 132 10,4	I 135 10,1	I 136 7,2	I 137 6,8	BR 88 4,7	I 133 4,4	I *136 4,1	BR 87 4,0	I 138 3,9
5,0 SEC	I 134 25,2	I 132 11,2	I 135 10,9	I 136 7,6	I 137 6,8	I 133 4,8	BR 88 4,5	I *136 4,2	BR 87 4,2	BR 86 3,5
10,0 SEC	I 134 24,9	I 132 12,0	I 135 11,7	I 136 7,8	I 137 6,3	I 133 5,1	BR 87 4,2	I *136 4,2	BR 88 3,9	BR 86 3,5
20,0 SEC	I 134 27,2	I 132 13,1	I 135 12,8	I 136 7,9	I 133 5,6	I 137 5,2	BR 87 4,1	I *136 4,0	BR 86 3,4	BR 88 2,7
50,0 SEC	I 134 31,1	I 132 15,0	I 135 14,7	I 136 7,0	I 133 6,4	BR 87 3,2	I *136 3,0	BR 86 2,7	BR 84 2,6	I 137 2,6
60,0 SEC	I 134 32,0	I 132 15,5	I 135 15,1	I 136 6,7	I 133 6,6	BR 87 2,9	BR 84 2,7	I *136 2,6	BR 86 2,4	I 137 2,0
100,0 SEC	I 134 34,6	I 132 16,8	I 135 16,4	I 133 7,2	I 136 5,2	BR 84 2,9	I 131 2,0	BR 87 2,0	I *136 1,6	BR 86 1,6
3,3 MIN	I 134 37,6	I 132 18,5	I 135 18,2	I 133 8,0	BR 84 3,1	I 136 2,5	I 131 2,2	BR 87 1,6	LA 142 1,6	CS 138 1,6
8,3 MIN	I 134 38,7	I 132 19,8	I 135 19,8	I 133 8,8	BR 84 3,1	I 131 2,4	LA 142 1,7	LA 140 1,6	CS 138 1,6	BR 89 1,4
16,7 MIN	I 134 37,4	I 135 21,0	I 132 20,5	I 133 9,4	BR 84 2,8	I 131 2,6	LA 142 1,7	LA 140 1,6	CS 138 1,5	SR 92 1,3
33,3 MIN	I 134 34,2	I 135 23,1	I 132 21,3	I 133 10,6	I 131 2,9	BR 84 2,2	LA 140 1,4	LA 142 1,7	CS 138 1,4	SW 92 1,4
60,0 MIN	I 134 28,7	I 135 26,2	I 132 22,3	I 133 12,4	I 131 3,5	BR 84 1,4	LA 140 1,4	LA 142 1,7	SR 92 1,4	XF 135 1,3
1,4 HR	I 135 28,7	I 134 24,2	I 132 22,6	I 133 13,0	I 131 3,9	LA 140 1,0	BR 84 1,0	LA 142 1,7	XE 135 1,5	SR 92 1,4
2,8 HR	I 135 35,2	I 132 21,4	I 133 18,9	I 134 11,6	I 131 5,6	LA 140 1,4	XE 135 1,4	LA 142 1,5	ZR 95 1,4	SR 92 1,4
5,6 HR	I 135 39,3	I 133 25,8	I 132 14,6	I 131 8,3	XE 135 3,2	LA 140 2,1	I 134 2,0	ZR 95 1,6	NB 95 1,6	NA 97 1,5
12,0 HR	I 133 33,7	I 135 32,3	I 131 13,1	XE 135 6,3	I 132 5,2	LA 140 3,4	ZR 95 1,0	NB 95 1,0	NA 97 1,7	SR 91 1,4
13,9 HR	I 133 35,0	I 135 29,3	I 131 14,4	XE 135 6,8	I 132 4,2	LA 140 3,8	ZR 95 1,1	NB 95 1,0	NA 97 1,7	SR 91 1,4
1,0 DAYS	I 133 36,2	I 131 21,2	I 135 15,5	XE 135 7,4	LA 140 5,8	I 132 3,4	ZR 95 1,7	NB 95 1,6	XE 133 1,1	KU 103 1,7
1,2 DAYS	I 133 38,1	I 131 23,6	I 135 11,7	XE 135 6,9	LA 140 6,5	I 132 3,7	ZR 95 2,0	NB 95 1,8	XE 133 1,1	KU 103 1,5
2,3 DAYS	I 131 38,4	I 133 27,1	LA 140 11,3	I 132 5,1	ZR 95 3,5	NB 95 3,2	XF 133 2,4	XE 135 2,2	KU 103 1,2	I 135 1,1
4,0 DAYS	I 131 49,0	LA 140 15,7	I 133 10,8	I 132 5,2	ZR 95 5,0	NB 95 4,8	XE 133 3,6	KU 103 1,7	BA 140 1,4	TE 132 1,6
5,8 DAYS	I 131 52,2	LA 140 17,9	ZR 95 6,1	NB 95 5,9	I 132 4,4	XE 133 3,8	I 133 3,1	KU 103 2,1	HA 140 1,0	CE 141 1,6
10,0 DAYS	I 131 50,5	LA 140 20,1	NB 95 8,3	ZR 95 8,2	XF 133 3,3	KU 103 2,7	I 132 2,5	BA 140 1,7	CE 141 1,7	ND 147 1,3
11,6 DAYS	I 131 49,1	LA 140 20,6	NB 95 9,2	ZR 95 8,9	XF 133 3,0	KU 103 2,9	I 132 2,0	BA 140 1,8	CE 141 1,8	ND 147 1,3
23,1 DAYS	I 131 34,9	LA 140 21,2	NB 95 17,6	ZP 95 15,2	RL 103 4,6	HA 140 1,8	XE 133 1,3	CE 141 1,2	I 132 1,3	PM*148 1,3
30,0 DAYS	I 131 26,2	NB 95 23,4	LA 140 19,8	ZR 95 19,2	RU 103 5,5	BA 140 1,7	CE 141 1,4	XE 133 1,4	PR 144 1,4	PM*148 1,4
57,9 DAYS	NB 95 43,5	ZR 95 30,0	LA 140 9,2	RU 103 7,2	I 131 5,0	CE 141 1,6	HA 140 1,8	PR 144 1,7	CE 144 1,7	PM*148 1,5
60,0 DAYS	NB 95 44,6	ZR 95 30,3	LA 140 8,5	RU 103 7,1	I 131 4,3	CE 141 1,6	PR 144 1,6	HA 140 1,7	CE 144 1,7	PM*148 1,5
115,7 DAYS	NR 95 57,1	ZR 95 32,1	RU 103 5,1	PR 144 1,3	CE 144 1,2	CE 141 1,9	LA 140 1,8	NH 106 1,5	PM*148 1,5	CS 134 1,2
150,0 DAYS	NR 95 59,4	ZR 95 31,2	RU 103 3,9	PR 144 1,6	CF 144 1,5	RH 106 1,7	CE 141 1,6	PM*148 1,5	CS 134 1,3	LA 140 1,2
231,5 DAYS	NR 95 60,5	ZR 95 29,0	PR 144 3,0	CE 144 2,8	RU 103 2,1	RH 106 1,3	CS 134 1,6	CE 141 1,2	PM*148 1,2	SH 125 1,1
1,0 YRS.	NR 95 54,0	ZR 95 24,6	PR 144 7,5	CE 144 7,0	RH 106 3,9	CS 134 1,8	RU 103 1,7	SR 125 1,4	PR*144 1,2	SN 123 1,1

SOURCE 1 (WATER), 200 DAYS, POWER=4000 PURE U-235

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	BR 88 10,4	I 136 7,4	BR 89 7,4	I 134 7,1	I 137 6,7	BR 87 6,3	BR 90 6,1	I 136 5,2	I 138 4,7	BR 86 4,0
1,0 SEC.	BR 88 10,9	I 136 8,0	I 134 7,7	I 137 7,1	BR 89 6,9	BR 87 6,8	I 136 5,6	I 134 4,6	HR 90 4,3	I 133 4,2
2,0 SEC.	BR 88 11,1	I 136 8,4	I 134 8,2	I 137 7,3	BR 87 7,2	BR 89 6,5	I 136 5,9	I 133 4,4	I 138 4,4	I 135 3,9
5,0 SEC.	BR 88 11,0	I 134 9,4	I 136 9,4	BR 87 7,8	I 137 7,6	I 136 6,4	I 133 5,0	BR 89 4,5	I 135 4,4	I 132 4,0
10,0 SEC.	I 134 10,7	I 136 10,2	BR 88 10,1	BR 87 8,4	I 137 7,6	I 136 6,8	I 133 5,7	I 135 5,1	I 132 4,5	HR 86 3,0
20,0 SEC.	I 134 12,5	I 136 11,1	BR 87 8,7	BR 88 7,7	I 136 6,4	I 133 6,7	I 137 6,7	I 135 5,9	I 132 5,3	HR 86 3,1
50,0 SEC.	I 134 16,0	I 136 11,1	I 133 8,7	BR 87 7,7	I 135 7,7	I 132 6,8	I 136 5,8	I 137 5,7	BR 84 5,7	BR 85 3,2
60,0 SEC.	I 134 16,9	I 136 10,8	I 133 9,2	I 135 8,1	BR 87 7,2	I 132 7,2	I 136 5,3	HR 84 5,9	BR 85 3,3	I 137 3,0
100,0 SEC.	I 134 19,8	I 133 10,9	I 135 9,6	I 136 9,2	I 132 8,5	BR 87 5,2	BR 84 4,5	I 136 3,5	BR 85 3,3	I 131 2,0
3,3 MIN.	I 134 24,0	I 133 13,4	I 135 11,8	I 132 10,4	BR 84 5,4	I 136 4,9	BR 85 2,7	I 131 2,5	BR 85 1,4	BR 83 1,9
8,3 MIN.	I 134 27,1	I 133 16,1	I 135 14,1	I 132 12,2	BR 84 5,8	I 131 3,0	Y 92 1,0	Y 94 1,0	BR 85 1,0	BR 83 1,9
16,7 MIN.	I 134 27,0	I 133 17,8	I 135 15,4	I 132 13,0	BR 84 5,4	I 131 3,3	Y 92 1,1	BR 83 1,0	Y 93 1,0	Y 94 1,8
33,3 MIN.	I 134 29,8	I 133 20,1	I 135 17,0	I 132 13,7	BR 84 4,3	I 131 3,8	Y 92 1,5	Y 93 1,1	BR 83 1,1	LA 141 1,8
60,0 MIN.	I 133 23,1	I 134 20,5	I 135 19,0	I 132 14,0	I 131 4,0	BR 84 2,8	Y 92 1,4	Y 93 1,2	KE 135 1,1	BR 83 1,1
1,4 HR.	I 133 25,4	I 135 20,3	I 134 16,9	I 132 13,9	I 131 4,0	BR 84 1,9	KE 135 1,7	Y 92 1,6	Y 93 1,3	BR 83 1,1
2,8 HR.	I 133 31,5	I 135 22,0	I 132 12,0	I 134 7,4	I 131 6,3	KE 135 3,9	Y 92 1,9	Y 93 1,5	BR 83 1,4	LA 141 1,9
5,6 HR.	I 133 37,3	I 135 22,7	I 131 8,2	KE 135 7,9	I 132 7,1	Y 92 1,8	Y 93 1,7	I 134 1,1	ZR 47 1,1	LA 140 1,0
12,0 HR.	I 133 41,3	I 135 15,4	KE 134 13,2	I 131 11,0	I 132 2,1	Y 93 1,5	LA 140 1,4	Y 91 1,4	BR 144 1,2	SH 84 1,1
13,9 HR.	I 133 41,8	KE 135 13,9	I 135 5,6	I 131 11,7	I 132 1,7	LA 140 1,5	Y 91 1,5	Y 93 1,4	BR 144 1,2	SR 64 1,2
1,0 DAYS	I 133 42,1	I 131 16,0	KE 135 13,8	I 135 6,6	LA 140 2,1	Y 91 2,1	PR 144 1,8	SR 89 1,7	KE 133 1,7	I 132 1,3
1,2 DAYS	I 133 41,5	I 131 17,6	KE 135 12,8	I 135 5,0	LA 140 2,4	Y 91 2,4	KE 133 2,1	PR 144 2,0	SH 89 1,9	PR 143 1,4
2,3 DAYS	I 133 30,1	I 134 29,2	KE 133 4,9	Y 91 4,3	LA 140 4,2	KE 135 4,1	PR 144 3,6	SR 89 3,4	PR 143 2,5	LA 140 2,1
4,0 DAYS	I 131 38,7	I 133 12,0	KE 133 7,4	Y 91 6,5	LA 140 6,1	PR 144 5,5	SR 89 5,2	PR 143 3,6	BA 140 3,0	I 132 2,0
5,8 DAYS	I 131 41,4	KE 133 8,0	Y 91 7,9	LA 140 7,0	PR 144 6,8	SR 89 6,3	PR 141 4,1	I 133 3,6	BA 140 3,4	CE 141 2,1
10,0 DAYS	I 131 38,9	Y 91 10,2	PR 144 9,1	SR 89 8,0	LA 140 7,6	KE 133 6,7	PR 143 4,5	BA 140 3,6	CE 141 2,6	ZR 95 2,1
11,6 DAYS	I 131 37,2	Y 91 11,0	PR 144 9,9	SR 89 8,6	LA 140 7,7	KE 133 6,1	PR 143 4,6	BA 140 3,6	CE 141 2,8	ZR 45 2,2
23,1 DAYS	I 131 23,5	PR 144 16,5	Y 91 16,3	SR 89 12,6	LA 140 7,0	PR 143 4,3	CE 141 3,7	ZR 95 3,4	BA 140 3,3	KE 133 2,3
30,0 DAYS	PR 144 20,4	Y 91 18,9	I 131 16,3	SR 89 14,5	LA 140 6,3	CE 141 4,0	ZR 95 4,0	PR 143 3,8	BA 140 2,9	NH 95 1,7
57,9 DAYS	PR 144 32,6	Y 91 23,3	SR 89 17,1	ZR 95 5,1	CE 141 3,8	NR 95 2,6	I 131 2,5	LA 140 2,3	BR 106 2,2	CE 144 2,1
60,0 DAYS	PR 144 33,3	Y 91 23,3	SR 89 17,1	ZR 95 5,1	CE 141 3,8	NH 95 2,7	HR 106 2,3	CE 144 2,2	I 131 2,2	LA 140 2,1
115,7 DAYS	PR 144 47,2	Y 91 19,6	SR 89 13,2	ZR 95 4,6	RM 106 3,0	CE 144 3,1	NH 95 2,9	CE 141 1,4	Y 90 1,7	NU 103 1,6
150,0 DAYS	PR 144 53,9	Y 91 16,2	SR 89 10,4	ZR 95 4,0	RM 106 3,9	CE 144 3,5	NH 95 2,7	Y 90 2,1	CE 141 1,1	PR 147 1,5
231,5 DAYS	PR 144 66,0	Y 91 9,2	SR 89 5,2	RM 106 5,0	CE 144 4,3	Y 90 3,2	ZR 95 2,5	NH 95 1,9	PM 147 1,7	SN 90 1,7
1.0 YRS.	PR 144 74,8	RM 106 6,1	Y 90 4,9	CE 144 4,9	Y 91 3,0	SR 89 1,4	SR 90 1,1	PM 147 1,0	ZR 45 1,4	LS 137 1,9

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APPENDIX C

TEN GREATEST CONTRIBUTORS TO DECAY POWER

Sources 1, 2, Power = 4000 MW, U-235 and Pu-239

SOURCE 1 (ATR), EQUILIBRIUM, POWER=8000 MW, U=235+PU=239

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0 SEC.	XF 13A 10.3	KR 89 9.8	KR 8A 8.4	KR 90 8.2	I 134 7.5	XF 137 6.3	XE 139 6.1	XE 140 5.9	I 132 4.1	KR 87 4.0
1.0 SEC.	XF 13A 10.6	KR 89 10.1	KR 8A 8.7	KR 90 8.3	I 134 7.7	XE 137 6.5	XF 139 6.2	XE 140 5.7	I 132 4.3	KR 87 4.1
2.0 SEC.	XF 13A 10.9	KR 89 10.2	KR 8A 8.9	KR 90 8.3	I 134 7.9	XE 137 6.6	XE 139 6.2	XE 140 5.6	I 132 4.4	KR 87 4.2
5.0 SEC.	XE 13A 11.3	KR 89 10.4	KR 8A 9.3	I 134 8.2	KR 90 8.1	XE 137 6.9	XE 139 6.2	XE 140 5.0	I 132 4.5	KR 87 4.4
10.0 SEC.	XE 13A 11.8	KR 89 10.8	KR 8A 9.7	I 134 8.6	KR 90 7.6	XE 137 7.1	XF 139 5.9	I 132 4.7	KR 87 4.6	I 135 4.1
20.0 SEC.	XF 13A 12.4	KR 89 11.1	KR 8A 10.3	I 134 9.0	XF 137 7.3	KR 90 6.5	XE 139 5.3	I 132 5.0	KR 87 4.8	I 135 4.3
50.0 SEC.	XE 13A 13.5	KR 88 11.5	KR 8A 11.1	I 134 10.1	XE 137 7.5	I 132 5.6	KR 87 5.4	I 135 4.9	KR 90 3.8	XE 139 3.5
60.0 SEC.	XE 13A 13.8	KR 88 11.8	KR 8A 11.0	I 134 10.3	XE 137 7.4	I 132 5.7	KR 87 5.5	I 135 5.0	XE 135 3.5	XE 133 3.4
100.0 SEC.	XF 13A 14.5	KR 8A 12.7	I 134 11.1	KR 89 10.3	XE 137 7.2	I 132 6.2	KR 87 5.9	I 135 5.4	XE 135 3.8	XE 133 3.7
3.3 MIN.	XF 13A 15.0	KR 8A 14.2	I 134 12.2	KR 89 8.0	I 132 6.9	KR 87 6.6	I 135 6.1	XE 137 5.9	XE 135 4.2	XE 133 4.2
8.3 MIN.	KR 8A 16.1	XE 13A 13.6	I 134 13.3	I 132 7.8	KR 87 7.3	I 135 7.0	CS 13A 5.3	XE 135 4.9	XE 133 4.8	I 133 3.1
16.7 MIN.	KR 8A 17.3	I 134 13.2	XE 13A 10.0	CS 13A 8.9	I 132 8.3	I 135 7.6	KR 87 7.5	XE 135 5.5	XE 133 5.3	I 133 3.5
33.3 MIN.	KR 88 18.3	I 134 12.1	CS 13A 11.5	I 132 8.7	I 135 8.4	KR 87 7.3	XE 135 6.2	XF 133 6.1	XE 13A 5.0	RA 88 4.3
60.0 MIN.	KR 8A 19.5	CS 13A 10.4	I 134 10.1	I 135 9.5	I 132 9.0	XE 135 7.2	XE 133 7.2	KR 87 6.8	PB 8A 5.8	I 133 4.6
1.4 HR.	KR 8A 20.3	I 135 10.5	I 132 9.2	I 134 8.5	XE 133 8.2	XE 135 8.1	CS 13B 8.0	WB 8A 6.5	KR 87 6.3	I 133 5.2
2.8 HR.	KP 8A 20.6	I 135 12.9	XE 133 11.7	XF 135 13.6	I 132 8.6	I 133 7.0	RA 88 7.0	I 130 5.3	KR 87 4.2	I 134 4.0
5.6 HR.	XE 133 17.9	KR 8A 15.8	I 135 14.7	XF 135 13.8	I 133 9.8	I 130 6.9	I 131 5.8	I 132 5.7	RA 88 5.4	KR 85 2.0
12.0 HR.	XE 133 30.1	XE 135 15.7	I 133 13.5	I 135 12.8	I 131 9.6	I 130 8.3	KP 88 5.5	RA 8A 1.9	I 132 1.4	KR 85 1.3
13.9 HR.	XF 133 33.2	XE 135 15.4	I 133 14.0	I 135 11.6	I 131 10.5	I 130 8.2	KR 88 3.8	RA 88 1.3	KR 85 1.0	I 132 .9
1.0 DAYS	XE 133 46.5	I 131 14.5	I 133 14.3	XE 135 11.2	I 130 6.7	I 135 5.7	KR 88 .4	KR 85 .3	RA 88 .2	KR 85 .1
1.2 DAYS	XE 133 50.4	I 131 15.7	I 133 13.8	XE 135 9.4	I 130 5.9	I 135 4.2	KR 85 .2	KR 85 .2	RA 88 .1	PB 88 .1
2.3 DAYS	XF 133 67.3	I 131 20.6	I 133 7.9	XF 135 1.9	I 130 1.8	I 135 .3	KR 85 .1	KR 85 .1	LA 140 .0	SR 91 .0
4.0 DAYS	XE 133 74.1	I 131 22.8	I 133 2.6	I 130 .2	KR 85 .1	XE 135 .1	I 135 .0	LA 140 .0	BA 140 .0	SR 91 .0
5.8 DAYS	XF 133 75.2	I 131 23.8	I 133 .8	KR 85 .2	I 130 .0	XE 135 .0	LA 140 .0	BA 140 .0	I 135 .0	I 129 .0
10.0 DAYS	XE 133 73.5	I 131 26.2	KR 85 .3	I 133 .0	LA 140 .0	BA 140 .0	I 130 .0	I 129 .0	XE 135 .0	CE 141 .0
11.6 DAYS	XF 133 72.3	I 131 27.3	KR 85 .3	I 133 .0	LA 140 .0	BA 140 .0	I 130 .0	I 129 .0	CE 141 .0	Y 91 .0
23.1 DAYS	XF 133 61.3	I 131 37.5	KP 85 1.1	LA 140 .0	RA 140 .0	I 129 .0	CE 141 .0	I 133 .0	Y 91 .0	ZR 95 .0
30.0 DAYS	XE 133 53.4	I 131 44.2	KR 85 2.4	LA 140 .0	RA 140 .0	I 129 .0	CE 141 .0	I 133 .0	Y 91 .0	ZR 95 .0
57.9 DAYS	I 131 51.4	KR 85 30.7	XE 133 17.4	LA 140 .0	BA 140 .0	I 129 .0	CE 141 .0	Y 91 .0	ZR 95 .0	NR 95 .0
60.0 DAYS	I 131 49.2	KR 85 35.3	XE 133 15.5	LA 140 .0	BA 140 .0	I 129 .0	CE 141 .0	Y 91 .0	ZR 95 .0	NR 95 .0
115.7 DAYS	KR 85 98.8	I 131 1.1	XE 133 .0	LA 140 .0	I 129 .0	BA 140 .0	CE 141 .0	Y 91 .0	NR 95 .0	ZR 95 .0
150.0 DAYS	KR 85 99.9	I 131 .1	I 129 .0	LA 140 .0	XE 133 .0	BA 140 .0	Y 91 .0	CE 141 .0	NB 95 .0	ZR 95 .0
231.5 DAYS	KR 85 100.0	I 129 .0	I 131 .0	Y 91 .0	LA 140 .0	CF 141 .0	NR 95 .0	Y 90 .0	BA 140 .0	ZR 95 .0
1.0 YRS.	KP 85 100.0	I 129 .0	Y 91 .0	Y 90 .0	CE 141 .0	NB 95 .0	ZR 95 .0	PR 144 .0	CF 144 .0	CS 135 .0

SOURCE 1 (ATR), EQUILIBRIUM, POWER=4000 MW, U=235+PU-239

GRFATST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	XE 137 44.0	XE 139 8.7	KR 91 6.4	KR 87 4.9	KR 89 4.3	XE 138 4.2	KR 90 4.1	XE 140 2.8	KR 92 2.6	XE 133 2.2
1.0 SEC.	XF 137 45.0	XE 139 8.7	KR 91 6.0	KR 87 5.1	KR 89 4.4	XE 138 4.3	KR 90 4.1	XE 140 2.7	XE 133 2.3	XE 135 2.2
2.0 SEC.	XF 137 45.8	XE 139 8.8	KR 91 5.7	KR 87 5.2	KR 89 4.5	XE 138 4.4	KR 90 4.1	XE 140 2.6	XE 133 2.3	XE 135 2.3
5.0 SEC.	XF 137 47.5	XE 139 8.7	KR 87 5.4	KR 91 4.7	KR 89 4.7	XF 138 4.6	KR 90 4.0	XE 133 2.5	XF 135 2.4	XE 140 2.4
10.0 SEC.	XE 137 49.4	XE 139 8.4	KR 87 5.7	KR 89 4.8	XE 138 4.8	KR 90 3.8	KR 91 3.3	XE 133 2.6	XE 135 2.5	XE 140 1.9
20.0 SEC.	XE 137 51.5	XE 139 7.6	KR 87 6.1	XE 138 5.1	KR 89 5.0	KR 90 3.3	XE 133 2.8	XE 135 2.7	I 134 1.8	KR 91 1.6
50.0 SEC.	XE 137 53.9	KR 87 6.9	XE 138 5.7	XE 139 5.2	KR 89 5.1	XF 133 3.2	XE 135 3.1	I 134 2.1	KR 90 2.0	I 136 1.3
60.0 SEC.	XE 137 54.2	KR 87 7.2	XE 138 5.9	KR 89 5.1	XE 139 4.6	XF 133 3.3	XF 135 3.2	I 134 2.1	KR 90 1.7	I 136 1.3
100.0 SEC.	XF 137 54.2	KR 87 8.0	XE 138 6.4	KR 89 5.0	XE 133 3.7	XE 135 3.6	XE 139 2.6	I 134 2.4	I 133 1.4	I 135 1.2
3.3 MIN.	XE 137 50.1	KR 87 9.9	XE 138 7.4	XE 133 4.6	XE 135 4.5	KR 89 4.3	I 134 2.9	I 133 1.7	RB 88 1.5	I 135 1.5
8.3 MIN.	XE 137 31.1	KR 87 14.5	XE 138 8.8	XE 133 7.1	XF 135 6.9	RB 88 5.1	I 134 4.2	CS 138 3.4	I 133 2.6	I 135 2.2
16.7 MIN.	KR 87 18.3	RB 88 11.7	XE 133 9.7	XE 137 9.5	XE 135 9.4	XE 138 8.0	CS 138 7.0	I 134 5.1	I 133 3.5	I 135 3.0
33.3 MIN.	RB 88 19.7	KR 87 18.2	XE 133 11.3	XF 135 10.9	CS 138 9.3	I 134 4.8	XE 138 4.1	I 133 4.0	I 135 3.4	KR 88 3.1
60.0 MIN.	RB 88 25.2	KR 87 16.0	XE 133 12.6	XE 135 11.9	CS 138 7.9	I 133 4.4	I 134 3.8	I 135 3.6	KR 88 3.1	I 132 3.0
1.4 HR.	RB 88 27.3	KR 87 14.3	XE 133 13.9	XF 135 12.9	CS 138 5.9	I 133 4.9	I 135 3.8	KR 88 3.1	I 134 3.1	KR* 85 2.9
2.8 HR.	RB 88 27.7	XE 133 18.9	XF 135 16.2	KR 87 9.1	I 133 6.3	I 135 4.5	KR* 85 3.2	KR 88 3.0	I 132 2.6	I 131 2.3
5.6 HR.	XE 133 27.7	RB 88 20.6	XF 135 20.2	I 133 8.4	I 135 4.9	I 131 3.4	KR 85 3.4	KR* 85 3.1	KR 87 2.9	KR 88 2.2
12.0 HR.	XF 133 42.9	XF 135 21.2	I 133 10.7	RB 88 6.5	KR 85 5.3	I 131 5.2	I 135 3.9	KR* 85 1.8	I 130 1.3	KR 88 1.7
13.9 HR.	XF 133 46.2	XE 135 20.2	I 133 10.9	KR 85 5.7	I 131 5.6	RB 88 4.4	I 135 3.5	KR* 85 1.4	I 130 1.3	KR 88 1.5
1.0 DAYS	XE 133 58.8	XF 135 13.3	I 133 10.1	KR 85 7.4	I 131 7.4	I 135 1.6	I 130 1.9	KR* 85 1.5	RB 88 1.4	KR 88 1.1
1.2 DAYS	XE 133 62.0	XF 135 11.0	I 133 9.5	KR 85 7.9	I 131 7.4	I 135 1.1	I 130 1.8	KR* 85 1.2	RB 88 1.4	KR 88 1.1
2.3 DAYS	XF 133 74.0	KR 85 10.2	I 131 8.6	I 133 4.9	XF 135 1.9	I 130 2.1	I 135 1.1	KR* 85 1.0	SR 89 1.0	LA 140 1.0
4.0 DAYS	XF 133 77.0	KR 85 12.3	I 131 9.0	I 133 1.5	XE 135 1.1	I 130 2.1	I 135 1.1	KR* 85 1.0	SR 89 1.0	LA 140 1.0
5.8 DAYS	XF 133 75.8	KR 85 14.6	I 131 9.1	I 133 1.4	XE 135 1.0	SR 89 1.0	I 130 1.0	SR 89 1.0	LA 140 1.0	LA 140 1.0
10.0 DAYS	XF 133 69.0	KR 85 21.5	I 131 4.4	I 133 1.0	SR 89 1.0	LA 140 1.0	BA 140 1.0	BA 140 1.0	Y 91 1.0	CS 137 1.0
11.6 DAYS	XF 133 65.7	KR 85 24.8	I 131 9.5	I 133 1.0	SR 89 1.0	BA 140 1.0	BA 140 1.0	Y 91 1.0	CS 137 1.0	I 129 1.0
23.1 DAYS	KR 85 75.4	XF 133 18.6	I 131 5.9	SR 89 1.0	LA 140 1.0	BA 140 1.0	Y 91 1.0	CS 137 1.0	I 129 1.0	Y 90 1.0
30.0 DAYS	KR 85 98.6	I 131 1.7	XE 133 1.5	SR 89 1.0	Y 91 1.0	CS 137 1.0	LA 140 1.0	HA 140 1.0	I 129 1.0	Y 90 1.0
57.9 DAYS	KR 85 98.9	I 131 1.6	XE 133 1.5	SR 89 1.0	Y 91 1.0	CS 137 1.0	LA 140 1.0	HA 140 1.0	I 129 1.0	Y 90 1.0
60.0 DAYS	KR 85 100.0	SR 89 1.0	I 131 1.0	CS 137 1.0	Y 91 1.0	Y 91 1.0	Y 91 1.0	Y 91 1.0	Y 91 1.0	Y 91 1.0
115.7 DAYS	KR 85 100.0	SR 89 1.0	CS 137 1.0	I 131 1.0	Y 91 1.0	I 129 1.0	Y 91 1.0	Y 91 1.0	Y 91 1.0	Y 91 1.0
150.0 DAYS	KR 85 100.0	SR 89 1.0	CS 137 1.0	I 131 1.0	Y 91 1.0	I 129 1.0	Y 91 1.0	Y 91 1.0	Y 91 1.0	Y 91 1.0
231.5 DAYS	KR 85 100.0	SR 89 1.0	CS 137 1.0	I 131 1.0	Y 91 1.0	I 129 1.0	Y 91 1.0	Y 91 1.0	Y 91 1.0	Y 91 1.0
1.0 YRS.	KR 85 100.0	CS 137 1.0	SR 89 1.0	I 129 1.0	Y 91 1.0	Y 91 1.0	Y 91 1.0	Y 91 1.0	Y 91 1.0	Y 91 1.0

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	KR 89 12.2	YE 13A 10.8	KR 90 10.4	KP AA 10.2	I 13A 7.5	XF 140 6.7	XF 139 6.7	I 132 3.4	XE 141 3.6	I 135 3.5
1.0 SEC.	KR 89 12.6	YE 13A 11.2	KR 89 10.6	KR 90 10.6	I 13A 7.7	XE 139 6.4	XE 140 6.7	I 132 4.0	I 135 3.7	KH 91 3.0
2.0 SEC.	KR 89 12.9	YE 13A 11.5	KR 89 10.9	KR 90 10.6	I 13A 8.0	XE 139 6.9	XE 140 6.5	I 132 4.1	I 135 3.8	KH 91 2.9
5.0 SEC.	KR 89 13.5	YE 13A 12.1	KR 8A 11.5	KR 90 10.5	I 13A 8.4	AE 139 6.9	XE 140 5.9	I 132 4.5	I 135 4.0	KH 87 2.9
10.0 SEC.	KR 89 13.9	YE 13A 12.7	KR 8A 12.1	KR 90 9.9	I 13A 8.8	AE 139 6.7	XF 140 4.4	I 132 4.6	I 135 4.2	KH 87 3.1
20.0 SEC.	KR 89 14.4	YE 13B 13.5	KR 8A 13.0	I 13A 9.4	KR 90 8.6	AE 139 6.0	I 132 4.9	I 135 4.5	KH 87 3.3	XE 140 3.1
50.0 SEC.	XE 13A 15.0	KR 8A 14.7	KR 89 14.7	I 13A 10.7	I 132 5.5	KR 90 5.1	I 135 5.1	XE 139 4.1	KH 87 3.7	I 136 2.4
100.0 SEC.	AE 13B 15.3	KR 8A 15.2	KR 89 14.6	I 13A 11.0	I 132 5.7	I 135 5.3	KR 90 4.3	KH 87 3.8	AE 139 3.6	KH 90 2.5
3.3 MIN.	KR 8A 16.7	YE 13A 16.3	KR 89 13.9	I 13A 12.0	I 132 6.3	I 135 5.8	KH 87 4.2	KH 90 2.9	I 133 2.8	AE 137 2.2
6.3 MIN.	KR 8A 21.4	YE 13A 17.1	I 13A 13.3	KR 89 10.9	I 132 7.0	I 135 6.5	KH 87 4.7	I 133 2.9	KH 90 2.5	CS 13A 2.5
16.7 MIN.	KR 8A 23.0	I 13A 14.5	I 13A 14.5	I 132 8.0	I 135 7.5	CS 13A 6.1	KH 87 5.2	KH 89 4.2	KH 89 4.0	I 133 3.4
33.3 MIN.	KR 8A 24.5	CS 13A 13.3	I 13A 13.3	I 135 9.1	I 132 8.9	XE 13A 5.8	RA 8A 5.8	KH 87 5.3	I 133 4.2	AE 135 3.1
50.0 MIN.	KR 8A 26.7	CS 13A 12.3	I 13A 11.3	I 135 10.6	I 132 9.5	WH 8A 8.0	I 133 5.0	KH 87 5.0	AE 135 3.7	XE 135 2.8
1.4 HR.	KR 8A 28.2	I 135 11.8	I 132 9.8	I 13A 9.7	CS 13A 9.6	RA 8A 9.1	I 133 5.8	KH 87 4.7	XE 135 4.3	XE 133 3.3
2.8 HR.	KR 8A 30.3	I 135 15.5	RA 8A 10.3	I 132 9.7	I 133 8.4	XE 135 6.1	XE 133 4.9	I 13A 4.9	KH 87 3.5	CS 13A 2.7
5.6 HR.	KR 8A 25.4	I 135 19.6	I 133 13.0	XE 135 9.2	RA 8A 8.8	XF 133 8.3	I 132 7.1	I 131 4.4	KH 85 1.3	KH 87 1.2
12.0 HR.	I 133 21.7	I 135 20.7	XE 133 16.9	XF 135 13.8	KP 8A 10.9	I 131 10.3	KH 8A 7.9	KH 88 2.7	I 132 1.4	KH 85 0.9
13.9 HR.	I 133 23.5	I 135 19.8	XE 133 16.3	XE 135 14.3	I 131 10.3	KH 8A 7.9	KH 88 2.7	I 132 1.4	KH 85 0.9	I 130 0.0
1.0 DAYS	XF 133 30.4	I 133 27.6	I 131 16.4	XF 135 12.7	I 135 11.1	KH 8A 1.1	KH 8A 1.1	KH 8A 0.4	KH 85 0.3	I 132 0.1
1.2 DAYS	XE 133 33.8	I 133 27.4	I 131 18.2	XE 135 11.2	I 135 8.4	KH 8A 0.5	KH 8A 0.5	KH 8A 0.2	KH 85 0.2	I 132 0.0
2.3 DAYS	XE 133 50.3	I 131 27.8	I 133 18.3	XF 135 11.2	I 135 8.4	KH 8A 0.5	KH 8A 0.5	KH 8A 0.2	KH 85 0.2	I 132 0.0
4.0 DAYS	XE 133 58.8	I 131 30.2	I 133 6.8	XE 135 2.1	I 135 0.0	LA 140 0.0	KH 85 0.0	BA 140 0.0	KH 85 0.0	SH 91 0.0
5.8 DAYS	XE 133 60.4	I 131 37.5	I 133 2.1	LA 140 0.0	XE 135 0.0	KH 85 0.0	BA 140 0.0	BA 140 0.0	SH 91 0.0	CF 141 0.0
10.0 DAYS	XF 133 57.6	I 131 42.3	I 133 0.0	LA 140 0.0	KH 85 0.0	BA 140 0.0	CE 141 0.0	CE 141 0.0	Y 91 0.0	I 130 0.0
11.6 DAYS	XF 133 56.0	I 131 40.0	I 133 0.0	LA 140 0.0	KH 85 0.0	BA 140 0.0	CE 141 0.0	CE 141 0.0	Y 91 0.0	I 130 0.0
23.1 DAYS	I 131 56.6	XF 133 45.4	LA 140 0.0	KH 85 0.0	BA 140 0.0	CE 141 0.0	CE 141 0.0	Y 91 0.0	XE 135 0.0	I 130 0.0
30.0 DAYS	I 131 63.8	XE 133 36.0	KH 85 0.0	LA 140 0.0	BA 140 0.0	CE 141 0.0	Y 91 0.0	I 133 0.0	ZH 95 0.0	I 129 0.0
57.9 DAYS	I 131 85.7	XF 133 13.8	KH 85 0.0	LA 140 0.0	BA 140 0.0	CE 141 0.0	Y 91 0.0	ZH 95 0.0	Y 91 0.0	I 129 0.0
60.0 DAYS	I 131 86.1	XE 133 12.7	KH 85 1.0	LA 140 0.0	BA 140 0.0	CE 141 0.0	Y 91 0.0	ZH 95 0.0	NH 95 0.0	I 129 0.0
115.7 DAYS	KR 85 58.2	I 131 40.7	LA 140 0.0	XE 133 0.0	BA 140 0.0	CE 141 0.0	Y 91 0.0	AR 95 0.0	I 129 0.0	ZH 95 0.0
150.0 DAYS	KR 85 96.3	I 131 3.5	LA 140 0.0	BA 140 0.0	Y 91 0.0	XE 133 0.0	CE 141 0.0	I 129 0.0	NH 95 0.0	ZH 95 0.0
231.5 DAYS	KR 85 100.0	Y 91 0.0	I 131 0.0	LA 140 0.0	CF 141 0.0	I 129 0.0	NH 95 0.0	Y 90 0.0	ZH 95 0.0	HA 140 0.0
1.0 YRS.	KR 85 100.0	Y 91 0.0	I 129 0.0	Y 90 0.0	CE 141 0.0	NH 95 0.0	ZH 95 0.0	PR 140 0.0	LA 140 0.0	LA 140 0.0

Source 1 (Air), 200 d, Power = 4000 MW, U-235 & Pu-239

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	XE 137 17.8	XE 139 13.3	KR 91 11.6	KR 89 7.6	KR 90 7.3	XE 138 6.2	KR 92 4.7	XE 140 4.5	KR 87 4.5	XE 141 2.6
1.0 SEC.	XF 137 18.6	XE 139 13.7	KR 91 11.2	KR 89 8.0	KR 90 7.5	XE 138 6.5	KR 87 4.7	XE 140 4.5	KR 92 3.4	XE 134 2.2
2.0 SEC.	XE 137 19.2	XE 139 14.0	KR 91 10.7	KR 89 8.2	KR 90 7.6	XE 138 6.7	KR 87 4.9	XE 140 4.4	KR 92 2.4	XE 134 2.2
5.0 SEC.	XE 137 20.6	XE 139 14.4	KR 91 9.1	KR 89 8.8	KR 90 7.7	XE 138 7.2	KR 87 5.3	XE 140 4.1	I 134 2.4	XE 136 2.3
10.0 SEC.	XE 137 22.2	XE 139 14.4	KR 89 9.4	XE 138 7.8	KR 90 7.6	KR 91 6.7	KR 87 5.8	XE 140 3.5	I 134 2.6	XE 136 2.4
20.0 SEC.	XF 137 24.2	XE 139 13.6	KR 89 10.2	XE 138 8.7	KR 90 6.8	KR 87 6.5	KR 91 3.4	I 134 3.0	I 136 2.5	XE 140 2.4
50.0 SEC.	XE 137 27.1	KR 89 11.1	XE 138 10.3	XF 139 9.9	KR 87 7.9	KR 90 4.4	I 134 3.6	XE 135 2.5	I 136 2.4	CS 140 2.4
60.0 SEC.	XF 137 27.5	KR 89 11.2	XE 138 10.7	XF 139 8.7	KR 87 8.2	I 134 3.7	XE 135 3.7	KR 90 3.2	CS 140 2.3	I 136 2.3
100.0 SEC.	XE 137 28.2	XF 138 12.0	KR 89 11.1	KR 87 9.4	XF 139 5.1	I 134 4.3	XE 135 3.0	KR 88 2.5	RB 90 2.4	I 133 2.4
3.3 MIN.	XF 137 25.9	XE 138 13.7	KR 87 11.5	KR 89 9.6	I 134 5.2	XE 135 3.7	KR 88 3.2	KR 89 3.1	I 133 2.9	XE 133 2.9
8.3 MIN.	KR 87 14.6	XE 138 14.3	XE 137 14.0	RB 88 9.5	I 134 6.5	CS 138 5.5	XE 135 4.9	KR 89 4.3	KR 88 4.0	I 133 3.9
16.7 MIN.	RB 88 18.8	KR 87 15.8	XE 138 11.1	CS 138 9.7	I 134 6.8	XE 135 5.7	I 133 4.5	KR 88 4.5	XE 133 4.5	I 135 3.9
33.3 MIN.	RB 88 29.5	KR 87 14.7	CS 138 11.9	XF 135 6.1	I 134 5.0	XE 138 5.3	I 133 4.9	XE 133 4.8	KR 88 4.6	I 135 4.1
60.0 MIN.	RB 88 37.5	KR 87 12.8	CS 138 10.1	XE 135 6.7	XE 133 5.4	I 133 5.3	I 133 4.0	KR 88 4.6	I 135 4.4	I 132 3.4
1.4 HR.	RB 88 41.1	KR 87 11.6	CS 138 7.6	XE 135 7.4	XE 133 6.0	I 133 5.9	I 135 4.7	KR 88 4.6	I 134 3.8	I 132 3.4
2.8 HR.	RB 88 44.0	XE 135 10.1	XE 133 8.6	I 133 8.1	KR 87 7.8	I 135 5.8	KR 88 4.7	I 132 3.2	KR 85 2.1	CS 138 2.0
5.6 HR.	RB 88 36.9	XE 135 14.8	XF 133 14.1	I 133 12.3	I 135 7.2	KR 88 3.7	I 131 2.9	KR 87 2.8	I 132 2.3	KR 85 2.2
12.0 HR.	XE 133 27.4	XE 135 21.2	I 133 19.6	RB 88 14.9	I 135 7.3	I 131 5.6	KR 85 1.6	KR 88 1.6	I 132 1.6	KR 85 1.2
13.9 HR.	XF 133 30.8	XE 135 21.6	I 133 20.9	RB 88 10.6	I 135 6.7	I 131 6.3	KR 85 1.4	KR 88 1.4	I 132 1.1	KR 85 1.1
1.0 DAYS	XE 133 44.8	I 133 22.6	XE 135 17.7	I 131 9.2	I 135 3.5	RB 88 1.3	KR 85 1.3	KR 85 1.3	KR 88 1.1	I 132 1.0
1.2 DAYS	XF 133 48.8	I 133 22.1	XE 135 15.4	I 131 10.0	I 135 2.6	RB 88 1.6	KR 85 1.3	KR 85 1.3	KR 88 1.1	I 132 1.0
2.3 DAYS	XE 133 67.8	I 131 14.3	I 133 13.8	XE 135 3.5	KR 85 3.1	I 135 2.2	SR 89 1.0	KR 85 1.0	I 130 1.0	LA 140 1.0
4.0 DAYS	XE 133 77.2	I 131 17.1	I 133 5.0	KR 85 1.4	XE 135 1.3	SR 89 1.0	I 135 1.0	LA 140 1.0	Y 91 1.0	Y 91 1.0
5.8 DAYS	XF 133 79.2	I 131 18.7	I 133 1.5	KR 85 1.5	SR 89 1.0	LA 140 1.0	BA 140 1.0	Y 91 1.0	CS 137 1.0	Y 90 1.0
10.0 DAYS	XF 133 77.4	I 131 21.7	KR 85 1.8	I 133 1.5	SR 89 1.0	LA 140 1.0	BA 140 1.0	Y 91 1.0	CS 137 1.0	Y 90 1.0
11.6 DAYS	XE 133 76.2	I 131 22.8	KR 85 1.0	SR 89 1.0	I 133 1.0	BA 140 1.0	Y 91 1.0	CS 137 1.0	Y 90 1.0	CE 141 1.0
23.1 DAYS	XE 133 64.2	I 131 31.9	KR 85 3.7	SR 89 1.0	LA 140 1.0	BA 140 1.0	Y 91 1.0	CS 137 1.0	Y 90 1.0	CE 141 1.0
30.0 DAYS	XE 133 54.9	I 131 37.0	KR 85 7.8	SR 89 2.2	LA 140 1.0	BA 140 1.0	Y 91 1.0	CS 137 1.0	Y 90 1.0	CE 141 1.0
57.9 DAYS	KR 85 61.2	I 131 26.3	XE 133 11.2	SR 89 1.2	Y 91 1.0	LA 140 1.0	BA 140 1.0	CS 137 1.0	Y 90 1.0	CF 141 1.0
60.0 DAYS	KR 85 65.9	I 131 23.6	XF 133 9.1	SR 89 1.3	Y 91 1.0	LA 140 1.0	BA 140 1.0	CS 137 1.0	Y 90 1.0	CE 141 1.0
115.7 DAYS	KR 85 98.7	SR 89 1.0	I 131 3.0	Y 91 1.0	CS 137 1.0	Y 90 1.0	LA 140 1.0	SR 90 1.0	BA 140 1.0	Y 90 1.0
150.0 DAYS	KR 85 99.4	SR 89 1.0	Y 91 1.0	I 131 1.0	CS 137 1.0	Y 90 1.0	SR 90 1.0	CE 141 1.0	BA 140 1.0	Y 90 1.0
231.5 DAYS	KR 85 99.8	SR 89 1.0	CS 137 1.0	Y 91 1.0	Y 90 1.0	SR 90 1.0	CE 141 1.0	I 131 1.0	I 129 1.0	PH 144 1.0
1.0 YRS.	KR 85 99.9	SR 89 1.0	CS 137 1.0	Y 90 1.0	Y 91 1.0	SR 90 1.0	I 129 1.0	CS 135 1.0	PR 144 1.0	CE 141 1.0

Source 1 (Air), 200 d, Power = 4000 MW, U-235 & Pu-239

SOURCE 1 (PLATE OUT), EQUILIBRIUM, POWER=4000 MW, U=235+P11=239

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 134 16.5	I 132 9.1	I 135 7.9	I 136 5.2	LA 140 4.9	I 137 4.7	EU 156 3.7	I 133 3.5	I *136 3.0	I 138 2.9
1.0 SEC.	I 134 16.8	I 132 9.3	I 135 8.1	I 136 5.2	LA 140 5.0	I 137 4.8	EU 156 3.8	I 133 3.6	I *136 3.0	I 130 2.9
2.0 SEC.	I 134 17.1	I 132 9.4	I 135 8.2	I 136 5.3	LA 140 5.1	I 137 4.8	EU 156 3.8	I 133 3.6	I *136 3.0	I 130 2.9
5.0 SEC.	I 134 17.5	I 132 9.7	I 135 8.4	I 136 5.3	LA 140 5.2	I 137 4.3	EU 156 3.9	I 133 3.7	I 130 3.0	I *136 3.0
10.0 SEC.	I 134 18.1	I 132 10.0	I 135 8.7	LA 140 5.4	I 136 5.2	EU 156 4.0	I 137 3.9	I 133 3.9	I 130 3.1	I *136 2.9
20.0 SEC.	I 134 18.7	I 132 10.4	I 135 9.0	LA 140 5.6	I 136 5.0	EU 156 4.2	I 133 4.0	I 130 3.2	I 137 3.0	I *136 2.6
50.0 SEC.	I 134 19.9	I 132 11.1	I 135 9.6	LA 140 6.0	EU 156 4.5	I 134 4.3	I 136 4.2	I 130 3.4	TR 160 2.5	I 131 2.1
100.0 SEC.	I 134 20.1	I 132 11.2	I 135 9.7	LA 140 6.1	EU 156 4.5	I 133 4.3	I 136 4.9	I 130 3.5	TR 160 2.6	I 131 2.2
150.0 SEC.	I 134 20.8	I 132 11.6	I 135 10.1	LA 140 6.3	EU 156 4.7	I 133 4.5	I 130 3.6	I 136 2.4	TR 160 2.7	I 131 2.3
3.3 MIN.	I 134 21.4	I 132 12.1	I 135 10.6	LA 140 6.6	EU 156 5.0	I 133 4.8	I 130 3.8	TR 160 2.8	I 131 2.4	DY 165 2.3
8.3 MIN.	I 134 21.3	I 132 12.5	I 135 11.1	LA 140 7.0	EU 156 5.3	I 133 5.0	I 130 4.0	TR 160 3.0	I 131 2.5	DY 165 2.4
16.7 MIN.	I 134 20.1	I 132 12.6	I 135 11.5	LA 140 7.3	EU 156 5.5	I 133 5.2	I 130 4.2	TR 160 3.1	I 131 2.6	DY 165 2.4
33.3 MIN.	I 134 17.5	I 132 12.5	I 135 12.0	LA 140 7.9	EU 156 5.9	I 133 5.6	I 130 4.4	TR 160 3.4	I 131 2.8	DY 165 2.4
60.0 MIN.	I 134 13.7	I 135 12.6	I 132 12.1	LA 140 8.6	EU 156 6.5	I 133 6.1	I 130 4.8	TR 160 3.7	I 131 3.1	RU 103 2.4
1.4 HR.	I 135 13.0	I 132 11.6	I 134 10.8	LA 140 9.2	EU 156 7.0	I 133 6.4	I 130 5.0	TR 160 4.0	I 131 3.3	RU 103 2.6
2.8 HR.	I 135 13.3	LA 140 10.6	I 132 9.3	EU 156 8.2	I 133 7.2	I 130 5.5	TR 160 4.7	I 134 4.4	I 131 3.9	RU 103 3.1
5.6 HR.	LA 140 12.1	I 135 11.8	EU 156 9.8	I 133 7.9	TR 160 5.6	I 130 5.6	I 132 5.3	I 131 4.8	RU 103 3.7	HO 166 2.8
12.0 HR.	LA 140 13.3	EU 156 11.7	I 133 7.7	I 135 7.3	TR 160 6.8	I 131 5.5	I 130 4.7	RU 103 4.4	NH 95 3.0	CS 134 3.0
13.9 HR.	LA 140 13.4	EU 156 12.1	I 133 7.5	TR 160 7.0	I 135 6.2	I 131 5.6	RU 103 4.6	I 130 4.4	NH 95 3.2	CS 134 3.1
1.0 DAYS	EU 156 13.8	LA 140 13.3	TR 160 8.1	I 131 6.3	I 133 6.2	RU 103 5.1	NH 95 3.7	CS 134 3.6	ZH 95 3.5	HO*166 3.3
1.2 DAYS	EU 156 14.3	LA 140 13.1	TR 160 8.5	I 131 6.5	I 133 5.7	RU 103 5.5	NH 95 3.8	CS 134 3.8	ZH 95 3.6	HO*166 3.4
2.3 DAYS	EU 156 16.6	LA 140 10.7	TR 160 10.2	I 131 7.2	RU 103 6.6	NH 95 4.7	CS 134 4.6	ZH 95 4.4	HO*166 4.2	IN 114 3.5
4.0 DAYS	EU 156 17.9	TR 160 11.7	RU 103 7.5	LA 140 7.3	I 131 7.2	NH 95 5.4	CS 134 5.2	ZH 95 5.0	HO*166 4.9	IN 114 3.9
5.8 DAYS	EU 156 18.1	TR 160 12.6	RU 103 8.0	I 131 6.8	NH 95 6.0	CS 134 5.9	ZH 95 5.4	HO*166 5.4	LA 140 5.0	IN 114 4.2
10.0 DAYS	EU 156 17.1	TR 160 14.0	RU 103 8.5	NH 95 6.8	CS 134 6.7	HO*166 6.2	ZH 95 5.9	I 131 5.4	EU 154 4.8	IN 114 4.6
11.6 DAYS	EU 156 16.6	TR 160 14.3	RU 103 8.6	NH 95 7.1	CS 134 7.0	HO*166 6.4	ZH 95 6.1	EU 154 5.0	I 131 4.9	IN 114 4.6
23.1 DAYS	TR 160 16.1	EU 156 12.3	RU 103 8.8	CS 134 8.7	NH 95 8.6	HO*166 8.0	ZH 95 6.8	EU 154 6.3	IN 114 4.9	PM*148 4.3
30.0 DAYS	TR 160 16.7	EU 154 10.0	CS 134 9.6	NH 95 9.3	HO*166 8.9	RU 103 8.7	ZH 95 7.0	EU 154 6.9	IN 114 5.0	PM*148 4.3
57.9 DAYS	TR 160 17.3	CS 134 12.7	HO*166 12.1	NH 95 10.8	EU 154 9.5	RU 103 7.2	ZH 95 7.0	CD*113 5.1	IN 114 4.6	EU 156 3.8
60.0 DAYS	TR 160 17.3	CS 134 12.9	HO*166 12.3	NH 95 10.9	EU 154 9.4	RU 103 7.1	ZH 95 7.0	CD*113 5.2	IN 114 4.5	PM*148 3.6
115.7 DAYS	HO*166 17.6	CS 134 17.5	TR 160 14.5	EU 154 13.5	NH 95 10.2	CD*113 7.4	ZH 95 5.6	RU 103 3.8	IN 114 3.0	AG 110 2.0
150.0 DAYS	HO*166 20.5	CS 134 19.7	EU 154 15.6	TR 160 12.2	NH 95 8.7	CD*113 8.6	ZH 95 4.5	RU 103 2.4	IN 114 2.1	AG 110 2.1
231.5 DAYS	HO*166 26.2	CS 134 23.4	EU 154 19.5	CD*113 10.8	TR 160 7.1	NH 95 5.1	ZH 95 2.4	AG 110 2.2	IN 114 1.9	RU 103 1.7
1.0 YRS.	HO*166 31.6	CS 134 25.0	EU 154 22.9	CD*113 12.9	TR 160 2.4	AG 110 1.8	NH 95 1.6	ZH 95 1.7	NH 106 1.3	EU 155 1.3

SOURCE 1 (PLATE OUT), EQUILIBRIUM, POWER=4000 MW, U-235+PU-239

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

C-7

TIME AFTER LNCA	1	2	3	4	5	6	7	8	9	10
0.0 SFC.	I 134 6.0	I 136 5.8	AG 110 5.1	I 137 4.8	I *136 4.2	TC 100 3.9	NH 104 3.9	IA 114 3.8	I 133 3.4	I 138 3.1
1.0 SFC.	I 134 6.2	I 136 6.0	AG 110 5.3	I 137 4.8	I *136 4.3	RM 104 3.9	IN 114 3.9	TC 100 3.9	I 133 3.5	I 132 3.0
2.0 SFC.	I 134 6.4	I 136 6.2	AG 110 5.4	I 137 4.8	I *136 4.3	IN 114 4.0	RM 104 4.0	TC 100 3.8	I 133 3.6	I 132 3.1
5.0 SFC.	I 134 6.7	I 136 6.2	AG 110 5.6	I 137 4.6	I *136 4.3	IN 114 4.2	NH 104 4.0	TC 100 3.7	I 133 3.5	I 132 3.2
10.0 SEC.	I 134 7.0	I 136 6.2	AG 110 5.9	IN 114 4.3	I 137 4.2	I *136 4.2	I 133 3.9	RM 104 3.9	I 132 3.4	I 135 3.4
20.0 SEC.	I 134 7.5	AG 110 6.4	I 136 6.1	IN 114 4.5	I 133 4.2	I *136 3.9	I 132 3.7	I 135 3.7	PM 104 3.6	I 137 3.4
50.0 SEC.	I 134 8.4	AG 110 7.1	I 136 5.4	I 133 4.7	IN 114 4.7	I 135 4.1	I 132 4.1	PR 142 3.8	BA 139 3.5	I *136 2.8
100.0 SEC.	I 134 8.6	AG 110 7.3	I 136 5.1	I 133 4.8	IN 114 4.7	I 135 4.2	I 132 4.2	PR 142 3.9	HA 139 3.6	TR 160 2.6
3.3 MIN.	I 134 9.2	AG 110 7.9	I 133 5.2	IA 114 4.7	I 135 4.9	I 132 4.9	IN 114 4.6	PR 142 4.1	I 136 3.9	BA 139 3.8
8.3 MIN.	I 134 9.8	AG 110 8.6	I 133 5.7	I 135 4.9	I 132 4.9	IN 114 4.6	PR 142 4.5	HA 139 4.1	TR 160 3.0	EU 156 2.8
16.7 MIN.	AG 110 9.8	I 134 9.4	I 133 6.1	I 135 5.3	I 132 5.1	PR 142 4.9	IN 114 4.6	HA 139 4.3	TR 160 3.3	EU 156 3.0
33.3 MIN.	AG 110 10.5	I 134 9.6	I 133 6.4	I 135 5.5	I 132 5.2	PR 142 5.1	IN 114 4.9	HA 139 4.2	TR 160 3.5	EU 156 3.2
60.0 MIN.	AG 110 11.2	I 133 9.6	I 133 6.8	I 135 5.7	PR 142 5.4	IN 114 5.2	I 132 5.1	HA 139 3.4	TR 160 3.7	EU 156 3.4
1.4 HR.	AG 110 11.8	I 133 9.4	I 133 7.2	I 135 5.8	PR 142 5.7	IN 114 5.6	I 132 4.9	TR 160 4.0	EU 156 3.6	LA 140 3.4
2.8 HR.	AG 110 13.1	I 133 9.9	IN 110 6.5	PR 142 6.3	IN 114 5.8	I 134 4.8	I 132 4.5	TR 160 4.2	EU 156 3.8	LA 140 3.6
5.6 HR.	AG 110 14.6	I 133 10.0	IN 110 7.2	PR 142 6.3	TR 160 5.1	EU 156 4.7	I 135 4.7	LA 140 3.4	PD 109 3.6	I 132 3.4
12.0 HR.	AG 110 16.6	IN 114 8.2	I 133 7.4	TR 160 5.8	PR 142 5.7	EU 156 5.3	LA 140 4.3	I 131 3.6	PD 109 3.5	I 131 3.2
13.9 HR.	AG 110 17.1	IN 114 8.4	I 133 7.1	TR 160 6.0	PP 142 5.5	EU 156 5.4	LA 140 4.3	I 131 3.7	PD 109 3.5	I 131 3.2
1.0 DAYS	AG 110 19.3	IN 114 9.3	TR 160 6.8	EU 156 6.0	I 133 5.8	PR 142 4.3	LA 140 4.2	I 131 4.0	PD 109 3.8	PD 99 3.2
1.2 DAYS	AG 110 20.1	IN 114 9.8	TR 160 7.0	EU 156 6.2	I 133 5.3	I 131 4.1	LA 140 4.1	PD 109 3.9	PD 142 3.4	PD 99 3.2
2.3 DAYS	AG 110 24.1	IN 114 11.6	TR 160 8.4	EU 156 7.4	ND 147 4.5	ND 147 4.4	LA 140 3.5	PD 142 3.1	PD 113 2.9	PD 99 2.9
4.0 DAYS	AG 110 27.3	IN 114 12.9	TR 160 9.4	EU 156 7.4	ND 147 4.5	I 131 4.1	PD 142 3.5	PD 142 3.1	PD 142 2.6	LA 140 2.2
5.8 DAY!	AG 110 29.3	IN 114 13.6	TR 160 9.9	EU 156 7.4	ND 147 4.5	I 131 4.1	PD 142 3.5	PD 142 3.1	PD 142 2.6	LA 140 2.2
10.0 DAYS	AG 110 32.1	IN 114 14.2	TR 160 10.6	EU 156 7.4	ND 147 4.5	I 131 4.1	PD 142 3.5	PD 142 3.1	PD 142 2.6	LA 140 2.2
11.6 DAYS	AG 110 32.8	IN 114 14.3	TR 160 10.7	EU 156 7.4	ND 147 4.5	I 131 4.1	PD 142 3.5	PD 142 3.1	PD 142 2.6	LA 140 2.2
23.1 DAYS	AG 110 37.1	IN 114 14.2	TR 160 11.2	EU 156 7.4	ND 147 4.5	I 131 4.1	PD 142 3.5	PD 142 3.1	PD 142 2.6	LA 140 2.2
30.0 DAYS	AG 110 39.0	IN 114 13.8	TR 160 11.2	EU 156 7.4	ND 147 4.5	I 131 4.1	PD 142 3.5	PD 142 3.1	PD 142 2.6	LA 140 2.2
57.9 DAYS	AG 110 44.0	IN 114 11.0	TR 160 10.5	EU 156 7.4	ND 147 4.5	I 131 4.1	PD 142 3.5	PD 142 3.1	PD 142 2.6	LA 140 2.2
80.0 DAYS	AG 110 44.3	IN 114 11.2	TR 160 10.4	EU 156 7.4	ND 147 4.5	I 131 4.1	PD 142 3.5	PD 142 3.1	PD 142 2.6	LA 140 2.2
115.7 DAYS	AG 110 49.0	IN 114 11.6	TR 160 10.5	EU 156 7.4	ND 147 4.5	I 131 4.1	PD 142 3.5	PD 142 3.1	PD 142 2.6	LA 140 2.2
150.0 DAYS	AG 110 50.1	IN 114 11.6	TR 160 10.5	EU 156 7.4	ND 147 4.5	I 131 4.1	PD 142 3.5	PD 142 3.1	PD 142 2.6	LA 140 2.2
231.5 DAYS	AG 110 49.8	IN 114 11.9	TR 160 11.1	EU 156 7.4	ND 147 4.5	I 131 4.1	PD 142 3.5	PD 142 3.1	PD 142 2.6	LA 140 2.2
1.0 YRS.	AG 110 44.4	IN 114 15.4	TR 160 14.1	EU 156 7.4	ND 147 4.5	I 131 4.1	PD 142 3.5	PD 142 3.1	PD 142 2.6	LA 140 2.2

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 134 23.3	I 132 12.0	I 135 11.0	I 136 7.6	I 137 7.2	I 133 4.9	I 138 4.6	I 136 4.4	I 139 1.9	I 131 1.4
0.0 SFC.	I 134 24.1	I 132 12.4	I 135 11.4	I 136 7.8	I 137 7.2	I 133 5.0	I 136 4.5	I 138 4.3	I 139 1.5	I 131 1.5
2.0 SEC.	I 134 26.6	I 132 12.7	I 135 11.6	I 136 7.9	I 137 7.2	I 133 5.2	I 136 4.5	I 138 4.0	I 131 1.5	I 139 1.1
5.0 SEC.	I 134 25.7	I 132 13.3	I 135 12.2	I 136 8.1	I 137 6.9	I 133 5.4	I 136 4.5	I 138 3.0	I 131 1.6	LA 142 .8
10.0 SFC.	I 134 26.4	I 132 13.9	I 135 12.7	I 136 8.1	I 137 6.3	I 133 5.6	I 136 4.4	I 138 1.8	I 131 1.6	LA 142 .8
20.0 SEC.	I 134 28.5	I 132 14.7	I 135 13.5	I 136 7.9	I 133 6.0	I 137 5.0	I 136 4.0	I 131 1.7	LA 142 .9	CS 138 .8
50.0 SEC.	I 134 31.3	I 132 16.2	I 135 14.9	I 136 6.8	I 133 6.6	I 136 2.9	I 137 2.4	I 131 1.9	LA 142 .9	CS 138 .9
60.0 SEC.	I 134 31.9	I 132 16.6	I 135 15.3	I 133 6.8	I 136 6.4	I 136 2.6	I 131 2.0	I 137 1.8	LA 142 1.0	CS 138 .9
160.0 SEC.	I 134 33.8	I 132 17.6	I 135 16.2	I 133 7.2	I 136 4.9	I 131 2.1	I 136 1.5	LA 142 1.0	CS 138 1.0	LA 140 1.0
3.3 MIN.	I 134 35.8	I 132 18.9	I 135 17.5	I 133 7.8	I 136 2.3	I 131 2.3	LA 142 1.1	LA 140 1.0	CS 138 1.0	RH 89 .6
8.3 MIN.	I 134 36.7	I 132 20.1	I 135 18.9	I 133 8.5	I 131 2.5	LA 142 1.2	LA 140 1.1	CS 138 1.0	SR 92 .6	RH 89 .5
16.7 MIN.	I 134 35.6	I 132 20.8	I 135 20.1	I 133 9.1	I 131 2.7	LA 142 1.3	LA 140 1.2	CS 138 .9	SR 92 .6	TE 133 .4
33.3 MIN.	I 134 32.5	I 135 22.1	I 132 21.8	I 133 10.2	I 131 3.0	LA 140 1.4	LA 142 1.3	CS 138 .7	SR 92 .6	ZR 95 .4
60.0 MIN.	I 134 27.3	I 135 24.9	I 132 22.6	I 133 11.9	I 131 3.6	LA 140 1.6	LA 142 1.3	SR 92 .6	CS 138 .5	ZR 95 .5
1.4 HR.	I 135 27.1	I 134 22.9	I 132 22.9	I 133 13.1	I 151 4.0	LA 140 1.8	LA 142 1.2	SR 92 .7	ZR 95 .5	NR 97 .5
2.8 HR.	I 135 32.7	I 132 21.7	I 133 17.7	I 134 10.9	I 131 5.6	LA 140 2.6	XF 135 1.3	LA 142 .9	ZR 95 .8	NR 97 .7
5.6 HR.	I 135 35.9	I 133 23.7	I 132 15.2	I 131 8.1	LA 140 3.8	XE 135 2.9	I 134 1.8	ZR 95 1.1	NR 95 1.0	NR 97 .9
12.0 HR.	I 133 30.1	I 135 28.7	I 131 12.5	I 132 6.8	LA 140 6.8	XE 135 5.6	ZR 95 1.8	NR 95 1.6	NR 97 1.1	RU 103 .8
13.9 HR.	I 133 31.0	I 135 25.8	I 131 13.6	LA 140 6.5	I 132 6.1	XE 135 6.0	ZR 95 1.9	NR 95 1.8	NR 97 1.2	RU 103 .9
1.0 DAYS	I 133 32.4	I 131 19.2	I 135 13.0	LA 140 9.5	XF 135 6.2	I 132 6.0	ZR 95 2.8	NR 95 2.6	RU 103 1.3	NR 97 1.1
1.2 DAYS	I 133 31.8	I 131 21.1	LA 140 10.5	I 135 9.7	I 132 6.3	XE 135 5.7	ZR 95 3.1	NR 95 2.9	RU 103 1.4	NR 97 1.1
2.3 DAYS	I 131 31.3	I 133 20.6	LA 140 16.7	I 132 8.1	ZR 95 5.0	NR 95 4.7	RU 103 2.3	XF 133 1.9	XE 135 1.7	BA 140 1.5
4.0 DAYS	I 131 37.4	LA 140 21.6	I 132 7.8	I 133 7.8	ZR 95 6.8	NR 95 6.6	RU 103 3.1	XF 133 2.5	HA 140 1.9	TF 132 .9
5.8 DAYS	I 131 38.8	LA 140 24.1	ZR 95 8.1	NR 95 7.9	I 132 6.4	RU 103 3.6	XE 133 2.7	I 133 2.1	BA 140 2.1	CF 141 .8
10.0 DAYS	I 131 36.4	LA 140 26.2	NR 95 10.8	ZR 95 10.5	RU 103 4.5	I 132 3.5	BA 140 2.2	XE 133 2.2	CF 141 1.0	TE 132 .4
11.6 DAYS	I 131 35.0	LA 140 26.5	NR 95 11.8	ZR 95 11.3	RU 103 4.8	I 132 3.8	BA 140 2.3	XE 133 2.0	CE 141 1.0	ND 147 .4
23.1 DAYS	LA 140 25.0	I 131 22.7	NR 95 20.6	ZR 95 17.7	RU 103 6.9	BA 140 2.1	CF 141 1.4	XE 133 .8	I 132 .4	ND 147 .3
30.0 DAYS	NR 95 26.1	LA 140 22.2	ZR 95 21.2	I 131 16.2	RU 103 7.9	BA 140 1.9	CF 141 1.6	XE 133 .4	PR 144 .4	RH 106 .4
57.9 DAYS	NR 95 25.5	ZR 95 29.8	LA 140 9.3	RU 103 9.2	I 131 2.8	CE 141 1.6	HA 140 .8	PR 144 .7	HM 106 .7	CF 144 .7
60.0 DAYS	NR 95 25.4	ZR 95 30.1	RU 103 9.1	LA 140 8.5	I 131 2.4	CE 141 1.6	PR 144 .8	HA 104 .7	HA 140 .7	CE 144 .7
115.7 DAYS	NR 95 25.0	ZR 95 31.4	RU 103 6.5	PR 144 1.3	RH 106 1.2	CE 141 1.2	CF 141 .9	LA 140 .8	PM 148 .2	CS 134 .1
150.0 DAYS	NR 95 25.3	ZR 95 30.6	RU 103 5.0	RH 106 1.6	PR 144 1.5	CE 141 1.5	CE 141 .6	LA 140 .2	PM 148 .2	CS 134 .1
231.5 DAYS	NR 95 25.2	ZR 95 28.4	RH 106 3.1	PR 144 2.9	CE 144 2.7	RU 103 2.6	CS 134 .3	CE 141 .2	SR 125 .2	PM 148 .1
1.0 YRS.	NR 95 25.6	ZR 95 23.5	RH 106 8.2	PR 144 7.2	CE 144 6.7	CS 134 .9	RU 103 .9	SR 125 .5	PR 144 .2	SN 123 .1

Source 1 (plate out), 200 d, Power = 4000 MW, U-235 & Pu-239

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 136 10.2	I 134 10.2	I 137 8.8	I *136 7.2	I 138 6.0	I 134 5.6	I 135 4.9	I 132 4.6	I 139 2.2	I 131 1.1
1.0 SEC.	I 134 10.7	I 136 10.7	I 137 9.1	I *136 7.6	I 133 5.9	I 138 5.7	I 135 5.2	I 132 4.9	I 139 1.8	I 131 1.2
2.0 SEC.	I 134 11.1	I 136 11.0	I 137 9.1	I *136 7.7	I 133 6.1	I 135 5.3	I 138 5.3	I 132 5.1	I 139 1.4	I 131 1.2
5.0 SEC.	I 134 12.0	I 136 11.5	I 137 9.0	I *136 7.9	I 133 6.6	I 135 5.7	I 132 5.4	I 138 4.1	I 131 1.3	Y 96 1.2
10.0 SEC.	I 134 12.9	I 136 12.0	I 137 8.5	I *136 8.0	I 133 7.1	I 135 6.2	I 132 5.9	I 138 2.6	I 131 1.4	Y 96 1.3
20.0 SEC.	I 134 14.3	I 136 12.2	I 133 7.9	I *136 7.7	I 137 7.1	I 135 6.9	I 132 6.5	I 131 1.6	Y 96 1.4	CS 139 1.2
50.0 SEC.	I 134 16.9	I 136 11.3	I 133 9.3	I 135 8.2	I 132 7.7	I *136 5.9	I 137 3.6	I 131 1.9	Y 96 1.4	CS 139 1.3
60.0 SEC.	I 134 17.5	I 136 10.4	I 133 9.7	I 135 8.5	I 132 8.0	I *136 5.3	I 137 2.8	I 131 1.9	XE 137 1.5	Y 96 1.4
100.0 SEC.	I 134 19.6	I 133 10.9	I 135 9.6	I 132 9.0	I 136 8.7	I *136 3.4	I 131 2.2	XE 137 1.7	Y 94 1.5	Y 95 1.5
3.3 MIN.	I 134 22.4	I 133 12.7	I 135 11.1	I 132 10.4	I 136 4.4	I 131 2.5	Y 94 1.7	XE 137 1.5	Y 95 1.6	CS 139 1.5
8.3 MIN.	I 134 24.6	I 133 14.8	I 135 12.9	I 132 11.9	I 131 3.0	Y 94 1.7	Y 92 1.6	Y 93 1.4	CS 138 1.4	Y 95 1.3
16.7 MIN.	I 134 24.5	I 133 16.4	I 135 14.1	I 132 12.6	I 131 3.3	Y 92 1.8	Y 93 1.6	Y 94 1.4	LA 141 1.3	CS 138 1.3
33.3 MIN.	I 134 22.7	I 133 18.6	I 135 15.6	I 132 13.3	I 131 3.7	Y 92 2.0	Y 93 1.8	LA 141 1.5	HA 139 1.3	LA 142 1.2
60.0 MIN.	I 133 21.2	I 134 18.7	I 135 17.3	I 132 13.6	I 131 4.1	Y 92 2.3	Y 93 2.0	LA 141 1.6	ZR 97 1.2	LA 142 1.2
1.4 HR.	I 133 23.1	I 135 18.3	I 134 15.3	I 132 13.4	I 131 4.8	Y 92 2.5	Y 93 2.1	LA 141 1.6	XF 135 1.5	ZR 97 1.3
2.8 HR.	I 133 27.9	I 135 20.0	I 132 11.5	I 134 6.6	I 131 6.0	XE 135 3.4	Y 92 2.9	Y 93 2.5	LA 141 1.6	ZR 97 1.6
5.6 HR.	I 133 32.5	I 135 19.1	I 131 7.6	I 132 7.0	XF 135 6.8	Y 92 2.7	Y 93 2.6	ZR 97 1.8	LA 140 1.7	Y 91 1.6
12.0 HR.	I 133 35.6	I 135 13.1	XE 135 11.3	I 131 10.1	I 132 2.7	LA 140 2.4	Y 93 2.3	Y 91 2.2	PR 144 1.4	ZR 97 1.9
13.9 HR.	I 133 35.8	XE 135 11.8	I 135 11.6	I 131 10.8	LA 140 2.5	I 132 2.4	Y 91 2.3	Y 93 2.1	PR 144 2.0	ZR 97 1.9
1.0 DAYS	I 133 35.2	I 131 14.3	XF 135 11.4	I 135 5.5	LA 140 3.5	Y 91 3.2	PR 144 2.8	SH 89 2.5	I 132 2.2	MD 99 2.0
1.2 DAYS	I 133 34.3	I 131 15.6	XE 135 10.5	I 135 4.1	LA 140 3.8	Y 91 3.5	PR 144 3.1	SW 89 2.8	I 132 2.3	PR 143 2.2
2.3 DAYS	I 131 23.8	I 133 22.9	LA 140 6.2	Y 91 5.9	PR 144 5.2	SH 89 4.6	XE 133 3.7	PR 143 3.6	XF 135 3.1	BA 140 3.1
4.0 DAYS	I 131 29.3	I 133 8.5	LA 140 8.3	Y 91 8.2	PR 144 7.4	SH 89 6.4	XF 133 5.2	PR 143 4.8	HA 140 4.0	I 132 3.0
5.8 DAYS	I 131 30.2	Y 91 9.7	LA 140 9.2	PR 144 8.8	SR 89 7.5	XE 133 5.4	PR 143 5.3	HA 140 4.4	CE 141 2.8	I 132 2.5
10.0 DAYS	I 131 27.3	Y 91 11.9	PR 144 11.3	LA 140 9.7	SR 89 9.3	PR 143 5.6	HA 140 4.6	XF 133 4.4	CE 141 3.4	ZR 95 2.6
11.6 DAYS	I 131 25.8	Y 91 12.7	PR 144 12.2	SR 89 9.8	LA 140 9.6	PR 143 5.6	HA 140 4.5	XF 133 3.9	CE 141 3.5	ZR 95 2.8
23.1 DAYS	PR 144 18.5	Y 91 17.2	I 131 14.8	SR 89 13.1	LA 140 8.0	PR 143 4.8	CE 141 4.3	ZR 95 3.8	HA 140 3.8	RH 106 3.1
30.0 DAYS	PR 144 22.0	Y 91 19.1	SR 89 14.4	I 131 9.9	LA 140 6.1	141 4.5	ZP 95 4.3	PR 143 4.1	PH 106 3.7	HA 140 3.1
57.9 DAYS	PR 144 32.6	Y 91 21.8	SR 89 15.8	RH 106 5.6	ZR 95 5.1	141 3.9	NH 95 2.7	LA 140 2.3	CE 144 2.1	PR 143 1.6
60.0 DAYS	PR 144 33.2	Y 91 21.8	SR 89 15.7	RH 106 5.7	ZR 95 5.1	CE 141 3.8	NH 95 2.7	CE 144 2.2	LA 140 2.1	PR 143 1.4
115.7 DAYS	PR 144 45.8	Y 91 17.8	SR 89 11.8	RH 106 8.1	ZR 95 4.4	CE 144 3.0	NH 95 2.8	CE 141 1.8	Y 90 1.6	RU 103 1.8
150.0 DAYS	PR 144 51.7	Y 91 14.6	RH 106 9.3	SR 89 9.2	ZR 95 3.8	CE 144 3.4	NH 95 2.6	Y 90 2.0	CE 141 1.1	RU 103 1.5
231.5 DAYS	PR 144 62.0	RH 106 11.7	Y 91 8.1	SR 89 4.5	CE 144 4.1	Y 90 2.9	ZR 95 2.3	PR 95 1.8	PR 147 1.7	SR 90 1.6
1.0 YRS.	PR 144 68.3	RH 106 14.0	CE 144 4.5	Y 90 4.3	Y 91 2.6	SR 89 1.2	PH 147 1.0	SW 90 1.4	CS 137 1.9	ZR 95 1.9

Source 1 (plate out), 200 d, Power = 4000 MW, U-235 & Pu-239

SOURCE 1 (WATER), EQUILIBRIUM, POWER=4000 MW, U=235+PU=239

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 134 17.8	I 132 9.8	I 135 8.5	I 136 5.6	I 137 5.0	I 133 3.8	I 136 3.3	I 138 3.1	I 130 3.0	BR 88 2.7
1.0 SEC.	I 134 18.3	I 132 10.1	I 135 8.8	I 136 5.7	I 137 5.1	I 133 3.9	I 136 3.3	I 130 3.1	I 138 2.9	LA 140 2.7
2.0 SEC.	I 134 18.7	I 132 10.4	I 135 9.0	I 136 5.8	I 137 5.0	I 133 4.0	I 136 3.3	I 130 3.2	LA 140 2.8	BR 88 2.6
5.0 SEC.	I 134 19.6	I 132 10.8	I 135 9.4	I 136 5.9	I 137 4.8	I 133 4.2	I 130 3.3	I 136 3.5	LA 140 2.9	BR 87 2.5
10.0 SEC.	I 134 20.4	I 132 11.3	I 135 9.8	I 136 5.9	I 137 4.4	I 133 4.4	I 130 3.5	I 136 3.2	LA 140 3.1	BR 87 2.4
20.0 SEC.	I 134 21.6	I 132 12.0	I 135 10.4	I 136 5.8	I 133 4.6	I 130 3.7	I 137 3.5	LA 140 3.2	I 136 3.0	EU 156 2.4
50.0 SEC.	I 134 23.5	I 132 13.1	I 135 11.3	I 133 5.1	I 136 4.9	I 130 4.0	LA 140 3.5	EU 156 2.6	I 131 2.5	I 136 2.1
60.0 SEC.	I 134 23.9	I 132 13.3	I 135 11.6	I 133 5.2	I 136 4.6	I 130 4.1	LA 140 3.6	EU 156 2.7	I 131 2.6	I 136 1.9
100.0 SEC.	I 134 25.1	I 132 14.0	I 135 12.2	I 133 5.4	I 130 4.4	LA 140 3.8	I 136 3.5	EU 156 2.9	I 131 2.7	TH 160 1.6
3.3 MIN.	I 134 26.2	I 132 14.9	I 135 13.0	I 133 5.8	I 130 4.6	LA 140 4.1	EU 156 3.0	I 131 2.9	TH 160 1.7	HR 84 1.6
6.3 MIN.	I 134 26.2	I 132 15.4	I 135 13.7	I 133 6.2	I 130 4.9	LA 140 4.3	EU 156 3.2	I 131 3.1	TH 160 1.8	HR 82 1.6
16.7 MIN.	I 134 24.8	I 132 15.6	I 135 14.2	I 133 6.5	I 130 5.2	LA 140 4.5	EU 156 3.4	I 131 3.2	TH 160 1.9	HR 82 1.6
33.3 MIN.	I 134 21.8	I 132 15.7	I 135 15.1	I 133 7.0	I 130 5.5	LA 140 4.9	EU 156 3.7	I 131 3.5	TH 160 2.1	HR 82 1.8
60.0 MIN.	I 134 17.3	I 135 16.2	I 132 15.4	I 133 7.7	I 130 6.1	LA 140 5.5	EU 156 4.2	I 131 4.0	TH 160 2.4	HR 82 2.0
1.4 HR.	I 135 16.9	I 132 15.0	I 134 13.9	I 133 8.3	I 130 6.5	LA 140 5.9	EU 156 4.5	I 131 4.3	TH 160 2.6	BR 82 2.1
2.8 HR.	I 135 18.0	I 132 12.3	I 133 9.8	I 130 7.4	LA 140 7.2	I 134 5.8	EU 156 5.6	I 131 5.3	TH 160 3.2	BR 82 2.6
5.6 HR.	I 135 16.8	I 133 11.2	LA 140 8.6	I 130 7.9	I 132 7.0	EU 156 7.0	I 131 6.6	TH 160 4.0	BR 82 3.0	RU 103 2.6
12.0 HR.	I 133 11.8	I 135 11.0	LA 140 10.1	EU 156 9.9	I 131 8.3	I 130 7.1	TH 160 5.1	HR 82 3.5	RU 103 3.4	HR 95 2.3
13.9 HR.	I 133 11.5	LA 140 10.3	I 135 9.5	EU 156 9.3	I 131 8.6	I 130 6.7	TH 160 5.4	RU 103 3.5	HR 82 3.5	HR 95 2.4
1.0 DAYS	EU 156 11.2	LA 140 10.8	I 131 10.2	I 133 10.0	TH 160 6.6	I 130 4.7	RU 103 4.3	I 135 4.0	BR 82 3.5	HR 95 3.0
1.2 DAYS	EU 156 11.7	LA 140 10.8	I 131 10.7	I 133 9.4	TH 160 7.0	RU 103 4.5	I 130 4.0	HR 82 3.5	HR 95 3.1	CS 134 3.1
2.3 DAYS	EU 156 14.5	I 131 12.6	LA 140 9.6	TH 160 9.0	RU 103 5.8	I 133 4.9	HR 95 4.1	CS 134 4.1	ZR 95 3.9	HO*166 3.7
4.0 DAYS	EU 156 16.2	I 131 13.1	TH 160 10.6	RU 103 6.8	LA 140 6.8	HR 95 4.9	CS 134 4.9	ZR 95 4.0	HO*166 4.4	TH 114 3.6
5.8 DAYS	EU 156 16.7	I 131 12.6	TH 160 11.7	RU 103 7.4	HR 95 5.5	CS 134 5.4	ZR 95 5.0	HO*166 5.0	LA 140 4.6	TH 114 3.9
10.0 DAYS	EU 156 16.2	TH 160 13.2	I 131 10.3	RU 103 8.0	HR 95 6.4	CS 134 6.4	HO*166 5.8	ZR 95 5.6	EU 156 4.6	TH 114 4.3
11.6 DAYS	EU 156 15.8	TH 160 13.6	I 131 9.4	RU 103 8.2	HR 95 6.7	CS 134 6.7	HO*166 6.1	ZR 95 5.8	EU 156 4.8	TH 114 4.4
23.1 DAYS	TH 160 15.7	EU 156 12.0	RU 103 8.6	CS 134 8.5	HR 95 8.4	HO*166 7.8	ZR 95 6.6	EU 156 6.1	TH 114 4.8	I 131 4.5
30.0 DAYS	TH 160 16.4	EU 156 9.8	CS 134 9.4	HR 95 9.1	HO*166 8.8	RU 103 7.5	ZR 95 6.9	EU 156 6.8	TH 114 4.9	PH*148 4.2
57.9 DAYS	TH 160 17.3	CS 134 12.6	HO*166 12.1	HR 95 10.8	EU 156 9.3	RU 103 7.2	ZR 95 7.0	CD*113 5.1	TH 114 4.6	EU 156 3.8
60.0 DAYS	TH 160 17.3	CS 134 12.8	HO*166 12.3	HR 95 10.8	EU 156 9.5	RU 103 7.1	ZR 95 7.0	CD*113 5.2	TH 114 4.5	PH*148 3.6
115.7 DAYS	HO*166 17.6	CS 134 17.5	TH 160 14.5	EU 156 13.5	HR 95 10.2	CD*113 7.4	ZR 95 5.6	RU 103 3.8	TH 114 5.0	AG 110 2.0
150.0 DAYS	HO*166 20.5	TH 160 19.7	EU 156 15.6	TH 160 12.2	HR 95 8.7	CD*113 8.6	ZR 95 4.5	RU 103 2.4	TH 114 5.1	AG 110 2.1
231.5 DAYS	HO*166 26.2	CS 134 23.4	EU 156 19.5	CD*113 10.8	TH 160 7.1	HR 95 5.1	ZR 95 2.4	AG 110 2.2	TH 114 4.9	RU 103 1.7
1.0 YRS.	HO*166 31.6	CS 134 25.0	EU 156 22.9	CD*113 12.9	TH 160 2.4	AG 110 1.8	HR 95 1.6	ZR 95 1.7	HR 106 1.5	EU 155 1.4

SOURCE 1 (WATER), EDUTITARIUM, POWER=4000 MW, U-235+PU-239

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

C-II

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 134 6.6	I 134 6.4	HP 88 6.2	I 137 5.3	I 136 4.6	RP 87 4.1	RR 89 3.9	I 133 3.7	I 138 3.4	I 132 3.2
1.0 SEC.	I 134 7.0	I 134 6.7	RP 88 6.3	I 137 5.4	I 136 4.8	RP 87 4.3	I 133 3.9	RR 89 3.6	I 132 3.4	I 135 3.4
2.0 SEC.	I 134 7.2	I 134 6.9	RP 88 6.2	I 137 5.4	I 136 4.9	RP 87 4.4	I 133 4.0	I 132 3.5	I 135 3.5	RR 89 3.2
5.0 SEC.	I 134 7.8	I 134 7.2	RP 88 5.9	I 137 5.4	I 136 5.0	RP 87 4.6	I 133 4.4	I 132 3.8	I 135 3.8	AG 110 3.3
10.0 SEC.	I 134 8.5	I 134 7.6	RP 88 5.2	I 137 5.1	I 136 5.1	I 133 4.8	RR 87 4.7	I 132 4.1	I 135 4.1	AG 110 3.6
20.0 SEC.	I 134 9.4	I 134 7.7	I 133 5.3	I 136 4.9	I 132 4.6	I 133 4.6	RR 87 4.5	I 137 4.3	AG 110 4.0	RR 88 3.7
50.0 SEC.	I 134 11.1	I 134 7.1	I 133 6.2	I 135 5.4	I 132 5.4	AG 110 4.7	I 136 3.8	RR 87 3.7	IN 114 3.1	PR 142 2.5
60.0 SEC.	I 134 11.5	I 134 7.2	I 133 6.5	I 135 5.6	I 132 5.4	AG 110 4.9	RR 87 3.4	I 136 3.4	IN 114 3.1	PR 142 2.6
100.0 SEC.	I 134 12.6	I 133 7.2	I 133 6.2	I 132 6.2	AG 110 5.4	I 136 5.4	IN 114 3.2	PR 142 2.4	BA 139 2.8	I 131 2.4
3.3 MIN.	I 134 14.0	I 133 8.1	I 133 7.0	I 132 7.0	AG 110 6.1	IN 114 3.3	PR 142 3.2	BA 139 2.9	I 131 2.8	I 136 2.6
8.3 MIN.	I 134 14.6	I 133 9.0	I 133 7.7	I 132 7.5	AG 110 6.8	RR 142 3.6	IN 114 3.4	BA 139 3.1	I 131 3.1	TH 160 2.4
18.7 MIN.	I 134 15.9	I 133 9.5	I 133 8.1	I 132 7.7	AG 110 7.3	PR 142 3.8	IN 114 3.6	I 131 3.3	BA 139 3.1	TH 160 2.6
33.3 MIN.	I 134 12.2	I 133 10.2	I 133 8.5	AG 110 7.9	I 132 7.7	PR 142 4.1	IN 114 3.9	I 131 3.5	BA 139 3.0	TH 160 2.8
60.0 MIN.	I 133 11.0	I 134 9.4	I 133 8.0	AG 110 8.6	I 132 7.4	PR 142 4.4	IN 114 4.3	I 131 3.9	TH 160 3.0	EU 156 2.8
1.4 HR.	I 133 11.5	AG 110 9.1	I 133 8.1	I 134 7.4	I 132 7.0	PR 142 4.6	IN 114 4.5	I 131 4.1	TH 160 3.2	EU 156 3.0
2.8 HR.	I 133 12.6	AG 110 10.5	I 133 9.0	I 132 5.3	IN 114 5.2	PR 142 5.0	I 131 4.7	TR 160 3.7	EU 156 3.4	LA 140 3.1
5.6 HR.	I 133 13.2	AG 110 12.0	I 133 7.7	IN 114 5.9	I 131 5.3	PR 142 5.2	TH 160 4.2	EU 156 3.9	LA 140 3.4	PD 109 2.9
12.0 HR.	AG 110 14.1	I 133 12.5	IN 114 7.0	I 131 6.1	TR 160 5.0	PR 142 4.8	I 135 4.6	EU 156 4.5	XF 135 3.9	LA 140 3.6
13.9 HR.	AG 110 14.6	I 133 12.2	IN 114 7.2	I 131 6.0	TH 160 5.1	PR 142 4.7	EU 156 4.6	XF 135 4.0	I 135 3.9	LA 140 3.7
1.0 DAYS	AG 110 17.0	I 133 10.1	IN 114 4.3	I 131 7.0	TH 160 6.0	EU 156 5.3	PR 142 3.8	LA 140 3.7	ND 147 3.4	XE 135 3.3
2.0 DAYS	AG 110 17.8	I 133 9.4	IN 114 4.7	I 131 7.3	TR 160 6.2	EU 156 5.5	LA 140 3.6	ND 147 3.5	PP 142 3.5	AF 135 2.8
4.0 DAYS	AG 110 22.3	IN 114 10.8	I 131 8.3	TR 160 7.7	EU 156 6.5	I 133 4.7	ND 147 4.1	LA 140 3.0	ND 147 3.0	ND 113 2.7
6.0 DAYS	AG 110 25.8	IN 114 12.2	TR 160 8.9	I 131 8.3	EU 156 7.0	ND 147 4.3	ND 147 4.1	LA 140 3.3	CD 113 3.2	CE 141 2.5
5.8 DAYS	AG 110 27.9	IN 114 13.0	TR 160 9.5	I 131 7.8	EU 156 7.1	ND 147 4.2	ND 147 4.1	LA 140 3.6	CD 113 3.5	CE 141 2.6
10.0 DAYS	AG 110 31.2	IN 114 13.7	TR 160 10.2	EU 156 6.5	I 131 6.1	ND 147 4.0	CD 113 3.9	ND 147 3.6	CF 141 2.7	PP 144 1.7
11.6 DAYS	AG 110 31.9	IN 114 13.9	TR 160 10.4	EU 156 6.0	I 131 5.5	ND 147 4.2	CD 113 4.0	ND 147 3.5	CE 141 2.7	PP 144 1.7
23.1 DAYS	AG 110 36.6	IN 114 14.0	TR 160 11.0	ND 166 5.3	CD 113 4.7	EU 156 4.4	CF 141 2.5	I 131 2.4	PP 144 2.0	ND 147 1.9
30.0 DAYS	AG 110 38.7	IN 114 13.7	TR 160 11.1	ND 166 5.3	CD 113 5.1	EU 156 3.5	CF 141 2.3	PR 144 2.1	PP 147 1.8	EU 154 1.5
57.9 DAYS	AG 110 40.0	IN 114 11.4	TR 160 10.5	ND 166 5.3	CD 113 6.2	PR 144 2.4	PM 147 2.2	EU 154 1.8	CS 137 1.8	Y 90 1.8
60.0 DAYS	AG 110 40.3	IN 114 11.2	TR 160 10.4	ND 166 6.4	CD 113 6.3	PR 144 2.4	PM 147 2.2	EU 154 1.8	CS 137 1.8	Y 90 1.8
115.7 DAYS	AG 110 49.0	ND 166 8.5	CD 113 8.1	TR 160 7.8	IN 114 6.6	PR 144 2.8	PM 147 2.7	CS 137 2.3	EU 154 2.3	Y 90 2.3
150.0 DAYS	AG 110 50.1	ND 166 9.6	CD 113 9.0	TR 160 6.3	IN 114 6.6	PM 147 3.0	PR 144 2.8	CS 137 2.6	EU 154 2.6	Y 90 2.6
231.5 DAYS	AG 110 49.8	ND 166 11.9	CD 113 11.1	TR 160 3.6	PM 147 3.5	CS 137 3.2	Y 90 3.2	EU 154 3.1	PR 144 2.9	LS 134 1.9
1.0 YRS.	AG 110 44.4	ND 166 15.4	CD 113 14.1	CS 137 4.1	PM 147 4.1	Y 90 4.0	EU 154 3.9	PR 144 2.1	CS 134 2.2	RM 106 1.9

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCAL

	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 134 20.8	I 132 10.7	I 135 9.8	I 136 6.8	I 137 6.4	I 133 6.4	I 134 4.1	BR 88	4.1 I *136	3.9 HR 87
1.0 SEC.	I 134 21.8	I 132 11.2	I 135 10.3	I 136 7.1	I 137 6.6	I 133 6.6	BR 88	4.1 I *136	4.1 I 134	3.9 HR 87
2.0 SEC.	I 134 22.5	I 132 11.6	I 135 10.6	I 136 7.2	I 137 6.6	I 133 4.7	I *136	4.1 HR 88	4.1 I 134	3.6 HR 87
5.0 SEC.	I 134 24.0	I 132 12.4	I 135 11.4	I 136 7.5	I 137 6.5	I 133 5.0	I *136	4.2 HR 88	3.4 HR 87	3.7 HR 86
10.0 SEC.	I 134 25.6	I 132 13.2	I 135 12.1	I 136 7.7	I 137 6.0	I 133 5.4	I *136	4.2 HR 87	3.7 HR 88	3.7 HR 86
20.0 SEC.	I 134 27.7	I 132 14.3	I 135 13.1	I 136 7.7	I 133 5.8	I 137 4.9	I *136	3.9 HR 87	3.5 HR 88	3.0 HR 86
50.0 SEC.	I 134 31.2	I 132 16.2	I 135 14.9	I 136 6.8	I 133 6.6	I *136	2.9 BR 87	2.4 I 137	2.4 HR 84	2.3 HR 88
60.0 SEC.	I 134 32.1	I 132 16.7	I 135 15.3	I 133 6.8	I 136 6.4	I *136	2.6 BR 87	2.5 BR 84	2.4 BR 86	2.3 HR 86
100.0 SEC.	I 134 34.5	I 132 18.0	I 135 16.6	I 133 7.0	I 136 5.0	HR 84	2.5 I 131	2.1 BR 87	1.7 I *136	1.3 HR 86
3.3 MIN.	I 134 37.1	I 132 19.6	I 135 18.2	I 133 8.1	RR 84	2.7 I 131	2.4 I 131	2.4 LA 102	.6 CS 138	.5 LA 100
8.3 MIN.	I 134 38.1	I 132 20.9	I 135 19.7	I 133 8.8	RR 84	2.6 I 131	2.6 LA 102	.6 LA 100	.6 CS 138	.5 HR 89
16.7 MIN.	I 134 36.8	I 132 21.6	I 135 20.9	I 133 9.4	I 131 2.8	HR 84	2.4 LA 102	.6 LA 100	.6 CS 138	.5 SW 92
33.3 MIN.	I 134 33.5	I 135 22.9	I 132 22.5	I 133 10.6	I 131 3.1	BR 84	1.9 LA 100	.7 LA 102	.7 CS 138	.4 SW 92
60.0 MIN.	I 134 28.1	I 135 25.9	I 132 23.4	I 133 12.3	I 131 3.7	HR 84	1.2 LA 100	.8 LA 102	.7 XE 135	.3 SR 92
1.4 HR.	I 135 28.3	I 132 23.7	I 134 23.6	I 133 13.9	I 131 4.2	LA 100	1.0 HR 86	.6 LA 102	.6 XE 135	.5 SW 92
2.8 HR.	I 135 34.7	I 132 22.4	I 133 18.8	I 134 11.3	I 131 5.9	LA 100	1.4 XE 135	1.3 LA 102	.5 ZR 95	.4 NR 97
5.6 HR.	I 135 38.7	I 133 25.6	I 132 15.2	I 131 8.8	XE 135	3.2 LA 100	2.0 I 134	1.9 ZR 95	.6 NR 95	.6 NR 97
12.0 HR.	I 133 33.4	I 135 31.8	I 131 13.9	XE 135	6.2 I 132	5.4 LA 100	3.3 ZR 95	1.0 NR 95	.9 NR 97	.6 RU 103
13.9 HR.	I 133 34.7	I 135 28.9	I 131 15.2	XE 135	6.7 I 132	5.4 LA 100	3.7 ZR 95	1.1 NR 95	1.0 NR 97	.6 RU 103
1.0 DAYS	I 133 37.7	I 131 22.4	I 135 15.1	XE 135	7.2 LA 100	5.5 I 132	3.5 ZR 95	1.6 NR 95	1.5 XE 135	.8 RU 103
1.2 DAYS	I 133 37.5	I 131 24.9	I 135 11.5	XE 135	6.7 LA 100	6.2 I 132	3.8 ZR 95	1.8 NR 95	1.7 XE 135	1.0 RU 103
2.3 DAYS	I 131 40.0	I 133 26.4	LA 140 10.7	I 132 5.2	ZR 95	3.2 NR 95	3.0 XE 133	2.4 XE 135	2.1 RU 101	1.5 I 135
4.0 DAYS	I 131 50.7	LA 140 14.7	I 133 10.1	I 132 5.1	ZR 95	4.6 NR 95	4.4 XE 133	3.4 RU 103	2.1 BA 140	1.3 TE 132
5.8 DAYS	I 131 54.0	LA 140 16.8	ZR 95 5.7	NR 95 5.5	I 132 4.5	XE 133 3.7	I 133 3.0	RU 103 2.5	HA 140 1.5	CE 141 .5
10.0 DAYS	I 131 52.5	LA 140 18.9	NR 95 7.8	ZR 95 7.6	RU 103 3.7	XE 133 3.2	I 132 2.5	HA 140 1.6	CE 141 .7	TE 132 .3
11.6 DAYS	I 131 51.0	LA 140 19.4	NR 95 8.6	ZR 95 8.3	RU 103 3.5	XE 133 3.0	I 132 2.0	HA 140 1.7	CE 141 .7	ND 147 .3
23.1 DAYS	I 131 36.8	LA 140 20.3	NR 95 16.7	ZR 95 14.3	RU 103 5.6	BA 140 1.7	XE 133 1.3	CE 141 1.1	I 132 .3	ND 147 .3
30.0 DAYS	I 131 27.8	NR 95 22.3	LA 140 19.1	ZR 95 18.2	RU 103 6.8	BA 140 1.6	CE 141 1.3	XE 133 .7	PH 144 .4	HM 106 .3
57.9 DAYS	NR 95 42.3	ZR 95 29.0	LA 140 9.0	RU 103 8.9	I 131 5.4	CF 141 1.6	HA 140 .8	PH 144 .7	RM 106 .7	CE 144 .7
60.0 DAYS	NR 95 43.4	ZR 95 29.4	RU 103 8.3	LA 140 8.3	I 131 4.7	CF 141 1.6	PR 144 .7	RM 106 .7	BA 140 .7	CE 144 .7
115.7 DAYS	NR 95 56.0	ZR 95 31.4	RU 103 6.5	PR 144 1.3	PH 106 1.2	CE 144 1.2	CF 141 .9	LA 106 .8	PM*148 .2	CS 134 .1
150.0 DAYS	NR 95 58.3	ZR 95 30.6	RU 103 5.0	RM 106 1.6	PR 144 1.6	CE 144 1.5	CF 141 .6	LA 106 .2	PM*148 .2	CS 134 .1
231.5 DAYS	NR 95 59.2	ZR 95 28.4	RM 106 3.1	PR 144 2.9	CF 144 2.7	RU 103 2.6	CS 134 .3	CE 141 .2	SB 125 .2	PM*148 .1
1.0 YRS.	NR 95 51.6	ZR 95 23.5	RM 106 8.2	PR 144 7.2	CF 144 6.7	CS 134 .9	RU 103 .9	SR 125 .5	PR*144 .2	SW 123 .1

Source 1 (water), 200 d, Power = 4000 MW, U-235 & Pu-239

GREATEST CONTRIBUTORS TO RETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	BR 88 9.4	I 136 7.8	I 134 7.8	I 137 6.8	RR 89 6.4	BR 87 5.9	I *136 5.6	BR 90 5.2	I 138 4.6	I 133 4.3
1.0 SEC.	BR 88 9.8	I 134 8.5	I 136 8.4	I 137 7.1	RR 87 6.3	BR 89 6.0	I *136 5.9	I 133 4.6	I 138 4.5	I 135 4.1
2.0 SEC.	BR 88 9.9	I 134 9.0	I 136 8.8	I 137 7.3	RR 87 6.6	I *136 6.2	BR 89 5.4	I 133 4.9	I 135 4.3	I 138 4.2
5.0 SEC.	I 134 10.0	RR 88 9.8	I 136 9.7	I 137 7.6	RR 87 7.1	I *136 6.7	I 133 5.5	I 135 4.8	I 132 4.6	BR 89 3.8
10.0 SEC.	I 134 11.3	I 136 10.5	RR 88 8.9	RR 87 7.6	I 137 7.4	I *136 7.0	I 133 6.2	I 135 5.4	I 132 5.1	RR 86 2.7
20.0 SEC.	I 134 13.1	I 136 11.2	RR 87 7.8	I 133 7.2	I *136 7.0	BR 88 6.7	I 137 6.5	I 135 6.3	I 132 6.0	RR 86 2.4
50.0 SEC.	I 134 16.5	I 136 11.1	I 133 9.1	I 135 8.0	I 132 7.6	BR 87 6.8	I *136 5.8	I 137 3.5	HR 84 3.3	BR 85 2.9
60.0 SEC.	I 134 17.4	I 136 10.7	I 133 9.6	I 135 8.4	I 132 8.0	BR 87 6.3	I *136 5.3	BR 84 3.5	BR 85 2.9	I 137 2.8
100.0 SEC.	I 134 20.2	I 133 11.3	I 135 9.9	I 132 9.3	I 136 9.0	RR 87 4.5	HR 84 4.0	I *136 3.5	BR 85 2.9	I 131 2.2
3.3 MIN.	I 134 24.1	I 133 13.7	I 135 12.0	I 132 11.2	I 136 4.8	HR 84 4.7	I 131 2.7	HR 85 2.4	HR 137 1.7	BR 87 1.6
8.3 MIN.	I 134 27.1	I 133 16.4	I 135 14.2	I 132 13.1	RR 84 5.1	I 131 3.3	Y 94 .9	Y 92 .9	HR 85 .9	HR 83 .8
16.7 MIN.	I 134 26.9	I 133 18.0	I 135 15.5	I 132 13.9	RR 84 4.7	I 131 3.6	Y 92 1.0	HR 83 .9	Y 93 .9	Y 94 .8
33.3 MIN.	I 134 24.6	I 133 20.3	I 135 17.1	I 132 14.5	I 131 4.1	BR 84 3.7	Y 92 1.1	Y 93 1.0	BR 83 .9	LA 141 .8
60.0 MIN.	I 133 23.3	I 134 20.3	I 135 19.0	I 132 14.8	I 131 4.8	HR 84 2.4	Y 92 1.3	HR 135 1.1	Y 93 1.1	HR 83 1.0
1.4 HR.	I 133 25.1	I 135 20.3	I 134 16.6	I 132 14.7	I 131 5.3	HR 84 1.6	Y 92 1.4	Y 93 1.4	Y 93 1.2	HR 83 1.0
2.8 HR.	I 133 31.5	I 135 22.6	I 134 12.6	I 134 7.2	I 131 6.8	HR 135 3.8	Y 92 1.6	Y 93 1.4	LA 141 .4	ZR 97 .9
5.6 HR.	I 133 37.3	I 135 21.9	I 131 8.7	HR 135 7.8	I 132 7.5	Y 92 1.6	Y 93 1.5	I 134 1.1	ZR 97 1.0	LA 140 1.0
12.0 HR.	I 133 41.3	I 135 15.3	HR 135 13.1	I 131 11.7	I 132 2.3	LA 140 1.4	Y 93 1.3	Y 91 1.3	PR 144 1.1	ZR 97 1.1
13.9 HR.	I 133 41.8	HR 135 13.8	I 135 13.5	I 131 12.5	I 132 1.8	LA 140 1.5	Y 91 1.4	Y 93 1.3	PR 144 1.2	ZR 97 1.1
1.0 DAYS	I 133 41.9	I 131 17.0	HR 135 13.6	I 135 6.5	LA 140 2.1	Y 91 1.9	HR 133 1.7	PR 144 1.7	SR 89 1.5	I 132 1.3
1.2 DAYS	I 133 41.3	I 131 18.7	HR 135 12.6	I 135 4.9	LA 140 2.1	Y 91 3.8	HR 133 2.0	PR 144 1.9	SR 89 1.7	I 132 1.4
2.3 DAYS	I 131 30.9	I 133 20.8	HR 133 4.8	LA 140 4.1	HR 135 4.1	Y 91 3.8	PR 144 3.4	SR 89 3.0	PR 143 2.3	BA 140 2.0
4.0 DAYS	I 131 40.9	I 133 11.8	HR 133 7.3	LA 140 5.8	Y 91 5.7	PR 144 5.1	SR 89 4.5	PR 143 3.3	BA 140 2.8	I 132 2.1
5.8 DAYS	I 131 43.8	HR 133 7.9	Y 91 7.0	LA 140 6.7	PR 144 6.4	SR 89 5.5	PR 143 3.8	I 133 3.5	BA 140 3.2	CE 141 2.1
10.0 DAYS	I 131 41.4	Y 91 9.0	PR 144 8.6	LA 140 7.3	SR 89 7.0	HR 133 6.7	PR 143 4.2	BA 140 3.5	CE 141 2.6	ZR 95 2.0
11.6 DAYS	I 131 39.7	Y 91 9.8	PR 144 9.4	SR 89 7.6	LA 140 7.4	HR 133 6.0	PR 143 4.3	BA 140 3.5	CE 141 2.7	ZR 95 2.1
23.1 DAYS	I 131 25.5	PR 144 15.9	Y 91 14.8	SR 89 11.3	LA 140 6.9	PR 143 4.1	CE 141 3.7	HR 140 3.3	HA 140 3.3	HR 106 2.7
30.0 DAYS	PR 144 19.9	I 131 17.9	Y 91 17.3	SR 89 13.0	LA 140 6.0	CE 141 4.0	ZR 95 3.9	PR 143 3.7	HR 106 3.3	HA 140 2.8
57.0 DAYS	PR 144 32.1	Y 91 21.5	SR 89 15.6	HR 106 5.5	ZR 95 5.0	CE 141 3.9	I 131 2.8	HR 95 2.6	LA 140 2.5	CF 144 2.1
60.0 DAYS	PR 144 32.8	Y 91 21.6	SR 89 15.5	HR 106 5.6	ZR 95 5.0	CE 141 3.8	HR 95 2.7	I 131 2.4	CE 140 2.2	LA 140 2.1
115.7 DAYS	PR 144 45.8	Y 91 17.8	SR 89 11.8	HR 106 8.1	ZR 95 4.4	CE 140 3.0	HR 95 2.8	CE 141 1.8	Y 90 1.6	HR 103 .8
150.0 DAYS	PR 144 51.7	Y 91 14.6	SR 104 9.3	HR 89 9.2	ZR 95 3.8	CE 144 3.4	HR 95 2.6	Y 90 2.0	CE 141 1.1	HU 103 .5
231.5 DAYS	PR 144 62.0	HR 106 11.7	Y 91 8.1	SR 89 4.5	CE 144 4.1	Y 90 2.9	ZR 95 2.3	HR 95 1.8	PM 147 .7	SR 90 .6
1.0 YRS.	PR 144 68.8	HR 106 14.0	CE 144 4.5	Y 90 4.3	Y 91 2.6	SR 89 1.2	PM 147 1.0	SR 90 .9	CS 137 .9	ZR 95 .9

Source 1 (water), 200 d, Power = 4000 MW, U-235 & Pu-239

SOURCE 2 (AIR), EQUILIBRIUM, POWER=4000 MW, U-235+PU-239

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	I 134 11.7	XE 13A 8.1	KR 89 7.6	KR 88 6.6	I 132 6.4	KR 90 6.4	I 135 5.6	XE 137 5.0	XE 139 4.8	XE 140 4.6
1.0 SEC.	I 134 12.0	XE 13A 8.3	KR 89 7.8	KR 88 6.8	I 132 6.6	KR 90 6.6	I 135 5.7	XE 137 5.1	XE 139 4.8	XE 140 4.5
2.0 SEC.	I 134 12.2	XE 13A 8.4	KR 89 8.0	KR 88 6.9	I 132 6.8	KR 90 6.8	I 135 5.9	XE 137 5.2	XE 139 4.8	XE 140 4.3
5.0 SEC.	I 134 12.7	XE 13A 8.8	KR 89 8.2	KR 88 7.2	I 132 7.0	KR 90 6.3	I 135 6.1	XE 137 5.3	XE 139 4.8	XE 140 3.9
10.0 SEC.	I 134 13.2	XE 13A 9.1	KR 89 8.4	KR 88 7.5	I 132 7.3	I 135 6.3	KR 90 5.9	XE 137 5.5	XE 139 4.6	I 133 3.8
20.0 SEC.	I 134 13.9	YE-13A 9.5	KR 89 8.5	KR 88 7.9	I 132 7.7	I 135 6.7	XE 137 5.6	KR 90 5.0	XE 139 4.1	KR 87 3.7
50.0 SEC.	I 134 15.3	XE 13A 10.3	KR 89 8.7	I 132 8.5	KR 89 8.5	I 135 7.4	XE 137 5.7	KR 87 4.1	I 133 3.3	I 134 3.2
60.0 SEC.	I 134 15.7	XE 13A 10.5	KR 89 8.9	I 132 8.7	KR 89 8.4	I 135 7.6	XE 137 5.7	KR 87 4.2	I 133 3.4	I 134 3.0
100.0 SEC.	I 134 16.7	XE 13A 10.9	KR 89 9.6	I 132 9.4	I 135 8.2	KR 89 7.8	XE 137 5.4	KR 87 4.5	I 133 3.6	I 130 2.9
3.3 MIN.	I 134 18.1	XE 13A 11.1	KR 88 10.5	I 132 10.3	I 135 9.0	KR 89 6.0	KR 87 4.9	XE 137 4.4	I 133 3.0	I 130 3.2
8.3 MIN.	I 134 19.2	KR 88 11.7	I 132 11.3	I 135 10.1	XE 13A 9.8	KR 87 5.3	I 133 4.5	CS 13B 3.9	I 130 3.4	XE 135 3.6
16.7 MIN.	I 134 18.9	KR 88 12.4	I 132 11.9	I 135 10.9	XE 13B 7.2	CS 13B 6.3	KR 87 5.3	I 133 4.9	I 130 3.9	XE 135 3.9
33.3 MIN.	I 134 17.1	KR 88 13.0	I 132 12.3	I 135 11.9	CS 13B 8.2	I 133 5.5	KR 87 5.2	XE 135 4.4	I 130 4.4	XE 133 4.3
60.0 MIN.	I 134 14.2	KR 88 13.7	I 135 13.4	I 132 12.7	CS 13B 7.3	I 133 6.4	XE 135 5.1	XE 133 5.1	I 130 5.0	KR 87 4.8
1.4 HR.	I 135 14.6	KR 88 14.1	I 132 12.8	I 134 11.8	I 133 7.2	XE 135 5.8	XE 133 5.7	I 130 5.6	CS 13B 5.6	HB 88 4.5
2.8 HR.	I 135 17.7	KR 88 14.0	I 132 11.8	I 133 9.6	XE 133 8.0	XE 135 7.6	I 130 7.3	I 134 5.5	I 131 5.2	HB 88 4.8
5.6 HR.	I 135 19.8	I 133 13.2	XE 133 12.0	KR 88 10.6	XE 135 10.1	I 130 9.3	I 131 7.7	I 132 7.6	KR* 85 4.1	RB 88 3.6
12.0 HR.	XE 133 20.1	I 133 17.9	I 135 16.9	I 131 12.7	XE 135 12.1	I 130 11.0	KR 88 3.6	KR* 85 2.5	I 132 1.8	RB 88 1.2
13.9 HR.	XE 133 22.2	I 133 18.7	I 135 15.4	I 131 14.0	XE 135 12.0	I 130 11.0	KR 88 2.5	KR* 85 2.1	I 132 1.1	RB 88 .9
1.0 DAYS	XE 133 32.3	I 131 20.0	I 133 19.7	XE 135 9.6	I 130 9.2	I 135 7.9	KR* 85 .6	KR 88 .3	KR 85 .1	HB 88 .1
1.2 DAYS	XE 133 35.5	I 131 21.9	I 133 19.3	XE 135 8.3	I 130 8.3	I 135 5.9	KR* 85 .4	KR 85 .1	KR 85 .1	HB 88 .0
2.3 DAYS	XE 133 51.5	I 131 31.2	I 133 12.0	I 130 2.8	XE 135 1.9	I 135 .5	KR 85 .2	KR* 85 .0	LA 140 .0	SR 91 .0
4.0 DAYS	XE 133 59.1	I 131 35.9	I 133 4.2	I 130 .4	KR 85 .3	XE 135 .1	I 135 .0	LA 140 .0	BA 140 .0	KR* 85 .0
5.8 DAYS	XE 133 60.5	I 131 37.8	I 133 1.2	KR 85 .4	I 130 .0	XE 135 .0	LA 140 .0	BA 140 .0	I 135 .0	I 129 .0
10.0 DAYS	XE 133 58.3	I 131 41.1	KR 85 .6	I 133 .0	LA 140 .0	BA 140 .0	I 130 .0	I 129 .0	XE 135 .0	CE 141 .0
11.6 DAYS	XE 133 56.8	I 131 42.4	KR 85 .7	I 133 .0	LA 140 .0	BA 140 .0	I 130 .0	I 129 .0	CE 141 .0	Y 91 .0
23.1 DAYS	I 131 53.4	XE 133 44.2	KR 85 2.4	LA 140 .0	BA 140 .0	I 129 .0	CE 141 .0	I 133 .0	Y 91 .0	ZR 95 .0
30.0 DAYS	I 131 50.1	XE 133 36.1	KR 85 4.8	LA 140 .0	BA 140 .0	I 129 .0	CE 141 .0	I 133 .0	Y 91 .0	ZR 95 .0
57.9 DAYS	I 131 48.3	KR 85 43.3	XF 133 8.5	LA 140 .0	BA 140 .0	I 129 .0	CE 141 .0	Y 91 .0	ZR 95 .0	NR 95 .0
60.0 DAYS	KR 85 48.1	I 131 44.7	XE 133 7.1	LA 140 .0	BA 140 .0	I 129 .0	CE 141 .0	Y 91 .0	ZR 95 .0	NR 95 .0
115.7 DAYS	KR 85 99.2	I 131 .8	XE 133 .0	I 129 .0	LA 140 .0	BA 140 .0	I 129 .0	CE 141 .0	Y 91 .0	ZR 95 .0
150.0 DAYS	KR 85100.0	I 131 .0	I 129 .0	LA 140 .0	XE 133 .0	BA 140 .0	Y 91 .0	CE 141 .0	NR 95 .0	ZR 95 .0
231.5 DAYS	KR 85100.0	I 129 .0	I 131 .0	Y 91 .0	LA 140 .0	CE 141 .0	NR 95 .0	Y 90 .0	BA 140 .0	ZR 95 .0
1.0 YRS.	KR 85100.0	I 129 .0	Y 91 .0	Y 90 .0	CF 141 .0	NR 95 .0	ZR 95 .0	PR 144 .0	CE 144 .0	CS 135 .0

SOURCE 2 (ATW), EQUILIBRIUM, POWER=4000 MW, U-235+Pu-239

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

C-15

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	XE 137 39.7	XF 130 7.8	KR 91 5.7	KR 87 4.4	KR 89 3.4	XF 13A 3.8	KR 90 3.7	I 134 2.6	I 136 2.5	XF 140 2.5
1.0 SEC.	XF 137 40.7	XF 139 7.9	KR 91 5.4	KR 87 4.5	KR 89 3.4	XF 13A 3.9	KR 90 3.7	I 134 2.7	I 136 2.6	XE 140 2.5
2.0 SEC.	XF 137 41.4	XF 149 7.9	KR 91 5.1	KR 87 4.7	KR 89 4.1	XF 13A 3.9	KR 90 3.7	I 134 2.8	I 136 2.6	XE 140 2.4
5.0 SEC.	XF 137 42.9	XE 139 7.9	KR 87 4.9	KR 91 4.7	KR 89 4.2	XE 13A 3.4	KR 90 3.6	I 134 2.9	I 136 2.7	XE 133 2.2
10.0 SEC.	XF 137 44.4	XE 139 7.6	KR 87 5.1	KR 89 4.4	XF 13A 4.3	KR 90 3.4	I 134 3.0	KR 91 3.0	I 136 2.7	XE 133 2.3
20.0 SEC.	XF 137 46.5	XF 139 6.9	KR 87 5.5	XE 13A 4.6	KR 89 4.5	I 134 3.5	KR 90 3.0	I 136 2.7	XF 133 2.5	XE 135 2.4
50.0 SEC.	XF 137 48.7	KR 87 6.2	XF 13A 5.1	XF 139 4.7	KR 89 4.4	I 134 3.7	XF 133 2.9	XF 135 2.8	I 136 2.4	KR 85 2.2
100.0 SEC.	XF 137 48.7	KR 87 6.5	XF 13A 5.3	KR 89 4.6	XF 139 4.1	I 134 3.8	XF 133 3.0	XF 135 2.9	KR 85 2.3	I 136 2.3
3.3 MIN.	XF 137 44.5	KR 87 8.7	XF 13A 6.5	I 134 5.1	XE 133 4.1	XE 135 4.0	KR 89 3.5	KR 85 3.2	I 133 3.0	XE 139 2.3
8.3 MIN.	XF 137 26.4	KR 87 12.2	XE 13A 7.4	I 134 7.1	XE 133 6.0	XE 135 5.8	KR 85 4.6	I 133 4.4	KR 88 4.3	I 135 3.8
16.7 MIN.	KR 87 14.8	KR 87 14.5	XF 133 9.0	XF 135 8.7	I 134 7.6	CS 13A 7.4	KR 85 6.4	I 133 6.4	I 135 5.4	I 132 4.8
33.3 MIN.	KR 88 15.7	KR 87 12.7	XF 133 10.0	XE 135 9.6	I 133 7.0	KR 85 6.7	CS 13A 6.3	I 134 6.0	I 135 5.7	I 132 4.7
60.0 MIN.	KR 88 20.0	KR 87 11.3	XE 133 11.0	XE 135 10.5	I 133 7.7	KR 85 6.9	I 135 6.0	I 134 4.6	CS 13A 4.6	I 132 4.6
1.4 HR.	KR 88 21.5	XF 133 14.6	XF 135 13.1	I 133 9.7	KR 85 7.4	KR 87 7.0	I 135 6.9	KR 85 6.4	I 131 5.0	I 132 4.0
2.8 HR.	KR 88 21.4	XF 133 14.6	XF 135 13.1	I 133 9.7	KR 85 7.4	KR 87 7.0	I 135 6.9	KR 85 6.4	I 131 5.0	I 132 4.0
5.6 HR.	XE 133 20.6	XF 135 16.3	KR 88 15.3	I 133 12.6	KR 85 7.5	I 135 7.3	KR 85 6.8	KR 85 6.4	I 131 5.0	I 132 4.0
12.0 HR.	XE 133 31.0	XF 135 17.4	I 133 15.4	KR 85 11.4	I 131 7.5	I 135 5.6	KR 88 4.7	KR 85 3.8	I 130 3.8	I 132 1.9
13.9 HR.	XF 133 33.3	XE 135 17.1	I 133 15.6	KR 85 12.2	I 131 8.0	I 135 5.0	KR 88 3.2	KR 85 3.1	I 130 3.8	I 132 1.8
1.0 DAYS	XE 133 42.6	KR 85 16.0	I 133 14.4	XF 135 12.0	I 131 10.1	I 135 2.2	I 130 1.4	KR 85 1.4	KR 88 1.4	I 132 0.3
1.2 DAYS	XF 133 45.1	KR 85 17.1	I 133 13.7	I 131 10.6	XE 135 10.0	I 135 1.6	I 130 1.2	KR 85 1.2	KR 88 1.2	I 132 0.3
2.3 DAYS	XF 133 55.1	KR 85 22.6	I 131 12.7	I 133 7.2	XE 135 1.9	I 130 1.3	I 135 1.1	KR 85 1.0	SR 89 1.0	LA 140 0.0
4.0 DAYS	XF 133 57.2	KR 85 27.2	I 131 13.2	I 133 2.2	XF 135 1.1	I 130 1.0	SR 89 1.0	LA 140 0.0	BA 140 0.0	Y 91 0.0
5.8 DAYS	XF 133 55.0	KR 85 31.3	I 131 13.1	I 133 1.6	XF 135 1.0	I 130 1.0	SR 89 1.0	LA 140 0.0	BA 140 0.0	Y 91 0.0
10.0 DAYS	XF 133 45.6	KR 85 42.1	I 131 12.2	I 133 1.0	SR 89 1.0	LA 140 0.0	BA 140 0.0	Y 91 0.0	CS 137 0.0	I 130 0.0
11.6 DAYS	KR 85 46.6	XF 133 41.6	I 131 11.8	I 133 1.0	SR 89 1.0	LA 140 0.0	BA 140 0.0	Y 91 0.0	CS 137 0.0	I 130 0.0
23.1 DAYS	KR 85 77.1	XF 133 15.7	I 131 7.2	SR 89 1.0	LA 140 0.0	BA 140 0.0	Y 91 0.0	CS 137 0.0	I 130 0.0	I 129 0.0
30.0 DAYS	KR 85 88.1	XF 133 7.3	I 131 4.5	SR 89 1.0	LA 140 0.0	BA 140 0.0	Y 91 0.0	CS 137 0.0	I 130 0.0	I 129 0.0
57.9 DAYS	KR 85 99.3	I 131 5.5	XE 133 2.2	SR 89 1.0	Y 91 0.0	CS 137 0.0	LA 140 0.0	HA 140 0.0	I 129 0.0	Y 90 0.0
60.0 DAYS	KR 85 99.4	I 131 4.4	XF 133 2.2	SR 89 1.0	Y 91 0.0	CS 137 0.0	LA 140 0.0	HA 140 0.0	I 129 0.0	Y 90 0.0
115.7 DAYS	KR 85 100.0	I 131 4.0	SR 89 1.0	CS 137 0.0	XE 133 0.0	Y 91 0.0	I 129 0.0	Y 90 0.0	LA 140 0.0	SP 90 0.0
150.0 DAYS	KR 85 100.0	SR 89 1.0	I 131 4.0	CS 137 0.0	Y 91 0.0	Y 90 0.0	I 129 0.0	SR 90 0.0	CE 141 0.0	CS 135 0.0
231.5 DAYS	KR 85 100.0	SR 89 1.0	CS 137 0.0	I 129 0.0	Y 91 0.0	Y 90 0.0	SR 90 0.0	CE 141 0.0	CS 135 0.0	CE 141 0.0
1.0 YRS.	KR 85 100.0	FS 137 0.0	SR 89 1.0	I 129 0.0	Y 90 0.0	Y 91 0.0	SR 90 0.0	CE 141 0.0	CS 135 0.0	CE 141 0.0

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 134 11.8	KR 89 9.7	XF 134 8.6	KR 90 8.2	KR 88 8.1	I 132 6.1	I 135 5.6	XE 140 5.4	XE 139 5.3	I 136 3.4
1.0 SEC.	I 134 12.3	KR 89 10.0	XE 134 8.9	KR 88 8.4	KR 90 8.4	I 132 6.3	I 135 5.8	XE 139 5.4	XE 140 5.3	I 136 4.0
2.0 SEC.	I 134 12.6	KR 89 10.2	XF 134 9.1	KR 88 8.6	KR 90 8.4	I 132 6.5	I 135 5.9	XE 139 5.4	XE 140 5.1	I 136 4.0
5.0 SEC.	I 134 13.2	KR 89 10.6	XE 134 9.5	KR 88 9.1	KR 90 8.2	I 132 6.8	I 135 6.2	XE 139 5.4	XE 140 4.6	I 136 4.1
10.0 SEC.	I 134 13.8	KR 89 10.9	XE 134 9.9	KR 88 9.5	KR 90 7.8	I 132 7.1	I 135 6.5	XE 139 5.2	I 136 4.2	XE 140 3.6
20.0 SEC.	I 134 14.7	KR 89 11.2	XE 134 10.5	KR 88 10.1	I 132 7.6	I 135 7.0	KR 90 6.7	XE 139 4.7	I 136 4.1	I 133 3.1
50.0 SEC.	I 134 16.5	XE 134 11.6	KR 88 11.4	KR 89 11.4	I 132 8.6	I 135 7.9	KR 90 4.0	I 134 3.6	I 133 3.5	XE 139 3.2
60.0 SEC.	I 134 16.9	XE 134 11.8	KR 88 11.7	KR 89 11.3	I 132 8.8	I 135 8.1	I 133 3.6	I 134 3.4	KR 90 3.3	KR 87 3.0
100.0 SEC.	I 134 18.3	KR 88 12.7	XE 134 12.5	KR 89 10.6	I 132 9.6	I 135 8.8	I 133 3.9	KR 87 3.2	I 136 2.6	KR 90 2.2
3.3 MIN.	I 134 20.1	KR 88 14.2	XF 134 12.9	I 132 10.6	I 135 9.8	KR 89 8.2	I 133 4.4	KR 87 3.5	RB 90 1.4	CS 138 1.9
8.3 MIN.	I 134 21.4	KR 88 15.7	I 132 11.7	XE 134 11.4	I 135 11.1	I 133 4.9	CS 138 4.5	KR 87 3.8	KR 89 3.1	KR 88 3.0
16.7 MIN.	I 134 21.0	KR 88 16.7	I 132 12.4	I 135 12.0	XE 134 8.4	CS 138 7.4	I 133 5.4	KR 87 3.9	RB 89 2.7	KR 88 2.5
33.3 MIN.	I 134 19.2	KR 88 17.7	I 135 13.2	I 132 12.9	CS 138 9.6	I 133 6.1	XF 134 4.2	RB 88 4.2	KR 87 3.8	XE 135 2.3
60.0 MIN.	KR 88 19.1	I 134 16.2	I 135 15.1	I 132 13.5	CS 138 8.8	I 133 7.2	RB 88 5.7	KR 87 3.0	XE 135 2.8	I 131 2.2
1.4 HR.	KR 88 20.0	I 135 16.8	I 132 13.9	I 134 13.8	I 133 8.2	CS 138 6.8	RB 88 6.4	KR 87 3.3	XE 135 3.2	I 131 2.5
2.8 HR.	I 135 21.5	KR 88 21.0	I 132 13.5	I 133 11.6	RB 88 7.1	I 134 6.8	XE 135 4.7	I 131 3.7	XE 133 3.4	KR 85 2.5
5.6 HR.	I 135 26.3	I 133 17.3	KR 88 17.3	I 132 9.5	XF 135 7.2	I 131 5.9	RB 88 5.9	XE 133 5.6	KR 85 2.7	I 134 1.2
12.0 HR.	I 133 27.2	I 135 25.9	I 131 11.3	XE 135 11.1	XF 133 10.7	KR 88 6.8	I 132 2.5	RB 88 2.3	KR 85 1.9	I 130 1.1
13.9 HR.	I 133 29.2	I 135 24.3	I 132 12.8	XF 133 12.1	XE 135 11.7	KR 88 4.9	I 132 1.7	RB 88 1.7	KR 85 1.6	I 130 1.1
1.0 DAYS	I 133 34.1	I 131 20.2	XF 133 19.2	I 135 15.7	XF 135 11.1	KR 88 4.7	KR 85 0.6	RB 88 0.2	I 132 0.1	I 130 0.1
2.3 DAYS	I 133 34.3	I 131 22.7	XE 133 21.6	I 135 10.5	XF 135 10.1	KR 85 4.4	KR 85 0.3	RB 88 0.1	I 132 0.0	I 130 0.0
4.0 DAYS	I 131 37.1	XF 133 34.6	I 133 24.4	XE 135 2.8	I 135 1.0	I 130 0.4	KR 85 0.0	LA 140 0.0	SR 91 0.0	
5.8 DAYS	I 131 47.7	XF 133 42.6	I 133 9.5	XE 135 2.1	I 135 0.0	LA 140 0.0	KR 85 0.0	RA 140 0.0	SR 91 0.0	
10.0 DAYS	I 131 52.8	XE 133 44.3	I 133 2.9	XF 135 0.0	LA 140 0.0	RA 140 0.0	HA 140 0.0	I 130 0.0	CE 141 0.0	
11.6 DAYS	I 131 58.1	XE 133 41.5	I 133 0.2	KR 85 0.0	LA 140 0.0	RA 140 0.0	CF 141 0.0	Y 91 0.0	I 130 0.0	
23.1 DAYS	I 131 71.1	XE 133 28.6	KR 85 0.1	LA 140 0.0	RA 140 0.0	HA 140 0.0	CF 141 0.0	Y 91 0.0	CF 141 0.0	
30.0 DAYS	I 131 77.1	XE 133 22.8	KR 85 0.1	LA 140 0.0	RA 140 0.0	HA 140 0.0	CF 141 0.0	Y 91 0.0	I 129 0.0	
57.9 DAYS	I 131 90.9	XE 133 7.7	KR 85 1.3	LA 140 0.0	RA 140 0.0	HA 140 0.0	CF 141 0.0	Y 91 0.0	I 129 0.0	
60.0 DAYS	I 131 91.2	XE 133 7.0	KR 85 1.6	LA 140 0.0	RA 140 0.0	HA 140 0.0	CF 141 0.0	Y 91 0.0	I 129 0.0	
115.7 DAYS	KR 85 67.9	I 131 31.7	LA 140 0.2	XF 133 0.0	RA 140 0.0	HA 140 0.0	CF 141 0.0	Y 91 0.0	I 129 0.0	
150.0 DAYS	KR 85 97.5	I 131 2.4	LA 140 0.0	RA 140 0.0	Y 91 0.0	CE 141 0.0	HA 140 0.0	Y 91 0.0	I 129 0.0	
231.5 DAYS	KR 85100.0	I 131 0.0	Y 91 0.0	LA 140 0.0	I 129 0.0	CE 141 0.0	HA 140 0.0	Y 91 0.0	I 129 0.0	
1.0 YRS.	KR 85100.0	I 129 0.0	Y 91 0.0	Y 90 0.0	CE 141 0.0	NR 95 0.0	ZR 95 0.0	PR 140 0.0	CE 122 0.0	LA 140 0.0

Source 2 (air), 200 d, Power 4000 MW, U-235 & Pu-239

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	XE 137 15.7	XE 139 11.8	KR 91 10.3	KR 89 6.7	KR 90 6.5	XE 138 5.4	KR 92 4.2	XE 140 4.0	KR 87 4.0	I 136 3.7
1.0 SEC.	XF 137 16.4	XF 139 12.1	KR 91 9.9	KR 89 7.0	KR 90 6.6	XE 138 5.7	KR 87 4.3	XE 140 4.3	I 136 3.8	I 136 3.8
2.0 SEC.	XF 137 16.9	XE 139 12.3	KR 91 9.5	KR 89 7.2	KR 90 6.7	XE 138 5.9	KR 87 4.3	I 136 3.9	XE 140 3.9	I 136 3.9
5.0 SEC.	XE 137 18.1	XE 139 12.6	KR 91 8.0	KR 89 7.7	KR 90 6.8	XE 138 6.3	KR 87 4.7	I 134 4.2	I 136 4.1	XE 140 3.6
10.0 SEC.	XE 137 19.5	XE 139 12.6	KR 89 8.2	XF 138 6.9	KR 90 6.6	KR 91 5.9	KR 87 5.1	I 134 4.6	I 136 4.3	XE 140 3.1
20.0 SEC.	XE 137 21.2	XE 139 11.9	KR 89 8.9	XF 138 7.6	KR 90 6.0	KR 87 5.7	I 134 5.1	I 136 4.8	KR 91 3.0	I 133 2.8
50.0 SEC.	XE 137 23.7	KR 89 9.6	XE 138 9.0	XE 139 8.6	KR 87 6.8	I 134 6.2	I 136 4.1	KR 90 3.8	I 133 3.4	I 135 3.0
60.0 SEC.	XE 137 24.1	KR 89 9.7	XE 138 9.3	XE 139 7.6	KR 87 7.1	I 134 6.5	I 136 4.0	I 133 3.6	KR 90 3.2	I 135 3.1
100.0 SEC.	XF 137 24.6	XF 138 10.3	KR 89 9.6	KR 87 8.1	I 134 7.3	XE 139 4.4	I 133 4.1	I 135 3.6	I 132 3.4	I 136 3.3
3.3 MIN.	XF 137 22.4	XE 138 11.7	KR 87 9.8	I 134 8.8	KR 89 8.2	I 133 5.0	I 135 4.4	I 132 4.1	XF 135 3.1	RB 88 2.7
8.3 MIN.	KR 87 12.1	XF 138 11.8	XE 137 11.7	I 134 10.7	KR 88 7.9	I 133 6.5	I 135 5.0	I 132 5.2	CS 138 4.6	XF 135 4.1
16.7 MIN.	RB 88 15.3	KR 87 12.9	I 134 11.0	XE 138 9.0	CS 138 7.9	I 133 7.4	I 135 6.4	I 132 5.7	XF 135 4.7	KR 85 3.8
33.3 MIN.	RB 88 24.0	KR 87 11.9	CS 138 9.7	I 134 9.6	I 133 7.9	I 135 6.7	I 132 5.7	XE 135 5.1	XE 138 4.3	KR 85 4.0
60.0 MIN.	RB 88 30.6	KR 87 10.5	I 133 8.7	CS 138 8.3	I 134 7.5	I 135 7.1	XE 135 5.7	I 132 5.5	XE 133 4.9	KR 85 4.1
1.4 HR.	RB 88 33.4	I 133 9.6	KR 87 9.4	I 135 7.6	XF 135 6.3	CS 138 6.2	I 134 6.2	I 132 5.5	XE 133 4.9	KR 85 4.3
2.8 HR.	RB 88 35.0	I 133 12.8	I 135 9.2	XF 135 8.8	XE 133 6.8	KR 87 6.2	I 132 5.0	KR 85 4.9	KR 88 3.7	I 134 2.9
5.6 HR.	RB 88 27.9	I 133 18.5	XE 135 13.2	I 135 10.9	XE 133 10.8	KR 85 5.1	I 131 4.3	I 132 3.4	KR 88 3.0	KR 87 2.1
12.0 HR.	I 133 27.4	XE 133 19.4	XE 135 19.1	HR 88 10.4	I 135 10.1	I 131 7.8	KR 85 3.4	KR 88 1.1	I 132 3.9	KR 85 2.2
13.9 HR.	I 133 28.9	XE 133 21.6	XE 135 19.7	I 135 9.3	I 131 8.7	RB 88 7.3	KR 85 2.9	KR 88 1.8	I 132 3.6	KR 85 2.2
1.0 DAYS	XE 133 31.6	I 133 31.2	XE 135 17.3	I 131 12.7	I 135 4.9	KR 85 3.7	KR 85 3.7	KR 88 3.3	KR 88 3.1	I 132 3.0
1.2 DAYS	XE 133 34.8	I 133 30.8	XE 135 15.4	I 131 14.0	I 135 3.7	KR 85 3.7	KR 85 3.7	KR 88 3.3	KR 88 3.1	I 132 3.0
2.3 DAYS	XE 133 52.7	I 131 21.5	I 133 20.7	XF 135 4.1	KR 85 3.9	XE 135 3.3	SR 89 3.1	SR 89 3.1	SR 89 3.1	SR 89 3.1
4.0 DAYS	XE 133 63.7	I 131 27.2	I 133 7.9	KR 85 1.2	XE 135 1.2	SR 89 0.0	LA 140 0.0	BA 140 0.0	BA 140 0.0	BA 140 0.0
5.8 DAYS	XE 133 66.3	I 131 30.1	I 133 2.4	KR 85 1.2	XE 135 1.2	SR 89 0.0	LA 140 0.0	BA 140 0.0	BA 140 0.0	BA 140 0.0
10.0 DAYS	XE 133 63.7	I 131 34.2	KR 85 1.9	I 133 1.3	SR 89 0.0	LA 140 0.0	BA 140 0.0	BA 140 0.0	BA 140 0.0	BA 140 0.0
11.6 DAYS	XE 133 62.1	I 131 35.5	KR 85 2.3	I 133 1.3	SR 89 0.0	LA 140 0.0	BA 140 0.0	BA 140 0.0	BA 140 0.0	BA 140 0.0
23.1 DAYS	XE 133 47.2	I 131 44.8	KR 85 7.9	SR 89 0.1	LA 140 0.0	BA 140 0.0	BA 140 0.0	BA 140 0.0	BA 140 0.0	BA 140 0.0
30.0 DAYS	I 131 47.7	XE 133 37.0	KR 85 15.1	SR 89 0.1	LA 140 0.0	BA 140 0.0	BA 140 0.0	BA 140 0.0	BA 140 0.0	BA 140 0.0
57.9 DAYS	KR 85 73.6	I 131 21.1	XE 133 4.7	SR 89 0.5	Y 91 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0	CE 141 0.0	CE 141 0.0
60.0 DAYS	KR 85 77.3	I 131 18.5	XE 133 3.7	SR 89 0.5	Y 91 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0	CE 141 0.0	CE 141 0.0
115.7 DAYS	KR 85 99.5	SR 89 0.3	I 131 2.2	Y 91 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0	CE 141 0.0	CE 141 0.0	CE 141 0.0
150.0 DAYS	KR 85 99.8	SR 89 0.2	I 131 0.0	Y 91 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0	CE 141 0.0	CE 141 0.0	CE 141 0.0
231.5 DAYS	KR 85 99.9	SR 89 0.1	CS 137 0.0	Y 91 0.0	Y 90 0.0	SR 90 0.0	CE 141 0.0	I 131 0.0	I 129 0.0	CS 135 0.0
1.0 YRS.	KR 85 100.0	SR 89 0.0	CS 137 0.0	Y 90 0.0	Y 91 0.0	SR 90 0.0	I 129 0.0	CS 135 0.0	PH 144 0.0	CE 141 0.0

Source 2 (air), 200 d, Power = 4000 MW, U-235 & Pu-239

SOURCE 2 (PLATE OUT), EQUILIBRIUM, POWER=4000 MW, U=2354PI=210

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 134 27.8	I 132 15.4	I 135 13.3	I 136 8.7	I 137 7.9	I 133 5.9	I +136 5.1	I 138 4.8	I 130 4.8	I 131 3.0
1.0 SEC.	I 134 28.3	I 132 15.7	I 135 13.6	I 136 8.8	I 137 7.8	I 133 6.0	I +136 5.1	I 138 4.8	I 130 4.8	I 131 3.0
2.0 SEC.	I 134 28.7	I 132 15.9	I 135 13.8	I 136 8.9	I 137 7.7	I 133 6.1	I +136 5.1	I 138 4.9	I 130 4.9	I 131 3.0
5.0 SEC.	I 134 29.5	I 132 16.4	I 135 14.2	I 136 8.9	I 137 7.3	I 133 6.3	I 130 5.0	I +136 5.0	I 131 3.1	I 138 3.0
10.0 SEC.	I 134 30.5	I 132 16.9	I 135 14.7	I 136 8.8	I 137 6.5	I 133 6.5	I 130 5.2	I +136 4.8	I 131 3.2	I 138 1.8
20.0 SEC.	I 134 31.9	I 132 17.7	I 135 15.3	I 136 8.5	I 133 6.8	I 130 5.5	I 137 5.2	I +136 4.0	I 131 3.4	I 138 .7
50.0 SEC.	I 134 34.2	I 132 19.0	I 135 16.5	I 133 7.4	I 136 7.1	I 130 5.9	I 131 3.7	I +136 3.2	I 137 2.4	I +130 .5
40.0 SEC.	I 134 34.7	I 132 19.3	I 135 16.8	I 133 7.5	I 136 6.7	I 130 6.0	I 131 3.7	I +136 2.7	I 137 1.8	I +130 .5
1.0 SEC.	I 134 36.1	I 132 20.2	I 135 17.6	I 133 7.9	I 130 6.3	I 136 5.0	I 131 3.9	I +136 1.6	I 137 .3	I +130 .5
3.3 MIN.	I 134 37.5	I 132 21.3	I 135 18.6	I 133 8.3	I 130 6.7	I 131 4.1	I 136 2.3	I +136 .5	I +136 .4	I 128 .2
8.3 MIN.	I 134 37.4	I 132 22.0	I 135 19.6	I 133 8.8	I 130 7.0	I 131 4.4	I +130 .3	I 128 .2	I 136 .2	XF 135 .0
16.7 MIN.	I 134 35.5	I 132 22.3	I 135 20.4	I 133 9.3	I 130 7.4	I 131 4.7	I +130 .2	I 128 .2	XF 135 .1	XF 138 .0
33.3 MIN.	I 134 31.6	I 132 22.7	I 135 22.0	I 133 10.2	I 130 8.1	I 131 5.2	XF 135 .3	I 128 .1	CS 138 .0	I +130 .0
60.0 MIN.	I 134 25.7	I 135 24.2	I 132 23.0	I 133 11.6	I 130 9.1	I 131 6.0	XF 135 .5	I 128 .1	CS 138 .0	CS 138 .0
1.4 HR.	I 135 26.0	I 132 22.8	I 134 21.1	I 133 12.6	I 130 10.0	I 131 6.0	XF 135 .5	I 128 .1	CS 138 .0	CS 138 .0
2.8 HR.	I 135 30.6	I 132 20.4	I 133 16.7	I 130 12.6	I 134 9.6	I 131 9.0	XF 135 1.2	XF 133 .0	I 128 .0	CS 138 .0
5.6 HR.	I 135 32.9	I 131 21.9	I 130 15.5	I 131 12.8	I 132 12.6	XF 135 2.7	I 134 1.5	XF 133 .1	CS 138 .0	I 128 .0
12.0 HR.	I 133 28.0	I 135 26.5	I 131 19.0	I 130 17.2	XF 135 5.2	I 132 2.8	XF 133 .3	I 134 .0	I 129 .0	LA 140 .0
13.9 HR.	I 133 28.2	I 135 24.1	I 131 21.9	I 130 17.1	XF 135 5.6	I 132 1.8	XF 133 .3	I 134 .0	I 129 .0	LA 140 .0
1.0 DAYS	I 131 32.8	I 133 32.3	I 130 15.1	I 135 12.9	XF 135 6.1	XF 133 .7	I 132 .1	I 129 .0	I 134 .0	LA 140 .0
1.2 DAYS	I 131 36.9	I 133 32.5	I 130 13.9	I 135 9.9	XF 135 5.8	XF 133 .9	I 132 .0	I 129 .0	LA 140 .0	HA 140 .0
2.3 DAYS	I 131 61.3	I 133 24.8	I 130 5.7	XF 133 2.2	XF 135 2.0	I 135 1.0	I 132 .0	I 129 .0	LA 140 .0	HA 140 .0
4.0 DAYS	I 131 85.6	I 133 9.0	XF 133 3.4	I 130 .9	XF 135 .2	I 135 .0	I 129 .0	LA 140 .0	HA 140 .0	CE 141 .0
5.8 DAYS	I 131 91.1	XF 133 3.7	I 133 3.0	I 130 .1	XF 135 .0	I 135 .0	I 129 .0	LA 140 .0	HA 140 .0	CE 141 .0
10.0 DAYS	I 131 96.4	XF 133 3.4	I 133 .2	I 130 .0	I 129 .0	LA 140 .0	XF 135 .0	RA 140 .0	CF 141 .0	I 135 .0
11.6 DAYS	I 131 96.7	XF 133 3.3	I 133 .1	I 130 .0	I 129 .0	LA 140 .0	BA 140 .0	XF 135 .0	CF 141 .0	I 135 .0
23.1 DAYS	I 131 98.0	XF 133 2.0	I 129 .0	LA 140 .0	I 133 .0	BA 140 .0	CF 141 .0	CS 135 .0	I 130 .0	CF 143 .0
30.0 DAYS	I 131 98.5	XF 133 1.4	I 129 .0	LA 140 .0	BA 140 .0	CE 141 .0	CS 135 .0	PR 144 .0	CF 144 .0	PR+144 .0
57.9 DAYS	I 131 99.6	XF 133 .4	I 129 .0	LA 140 .0	RA 140 .0	CE 141 .0	CS 135 .0	PR 144 .0	CF 144 .0	PR+144 .0
60.0 DAYS	I 131 99.6	XF 133 .4	I 129 .0	LA 140 .0	RA 140 .0	CE 141 .0	CS 135 .0	PR 144 .0	CF 144 .0	PR+144 .0
115.7 DAYS	I 131 99.4	I 129 .3	XF 133 .0	LA 140 .0	RA 140 .0	CE 141 .0	CS 135 .0	PR 144 .0	CF 144 .0	PR+144 .0
150.0 DAYS	I 131 93.7	I 129 6.2	XF 133 .0	LA 140 .0	CF 141 .0	HA 140 .0	CS 135 .0	PR 144 .0	CF 144 .0	PR+144 .0
231.5 DAYS	I 129 98.7	I 131 1.3	CF 141 .0	LA 140 .0	CS 135 .0	HA 140 .0	CF 133 .0	PR 144 .0	CF 144 .0	PR+144 .0
1.0 YRS.	I 129 100.0	CS 135 .0	CF 141 .0	I 131 .0	LA 140 .0	PR 144 .0	CF 144 .0	HA 140 .0	PR+144 .0	XF 135 .0

SOURCE: 2 (PLATE OUT), EQUILIBRIUM, POWER=4000 MW, U=235+PU=239

GREATS: CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 134 16.3	I 136 15.7	I 137 12.9	I *136 11.3	I 133 9.1	I 138 8.3	I 132 7.9	I 135 7.9	I 131 5.1	I 139 3.0
1.0 SEC.	I 134 16.7	I 136 16.0	I 137 12.9	I *136 11.4	I 133 9.3	I 132 8.1	I 135 8.1	I 138 7.7	I 131 5.2	I 139 2.3
2.0 SEC.	I 134 17.1	I 136 16.2	I 137 12.8	I *136 11.5	I 133 9.5	I 132 8.3	I 135 8.3	I 138 7.0	I 131 3.2	I 128 1.9
5.0 SFC.	I 134 17.9	I 136 16.6	I 137 12.4	I *136 11.6	I 133 10.0	I 132 8.7	I 135 8.7	I 138 5.4	I 131 3.4	I 128 2.0
10.0 SFC.	I 134 19.0	I 136 16.9	I 137 11.4	I *136 11.4	I 133 10.6	I 132 9.3	I 135 9.3	I 131 3.6	I 138 3.3	I 128 2.1
20.0 SFC.	I 134 20.6	I 136 16.9	I 133 11.5	I *136 10.7	I 132 10.1	I 135 10.0	I 137 9.4	I 131 3.4	I 128 2.3	I 130 1.8
50.0 SFC.	I 134 23.7	I 136 15.2	I 133 13.4	I 135 11.6	I 132 11.6	I *136 8.1	I 137 4.7	I 131 4.6	I 128 2.6	I 130 2.1
60.0 SFC.	I 134 24.5	I 136 14.5	I 133 13.9	I 135 12.0	I 132 12.0	I *136 7.2	I 131 4.7	I 137 3.6	I 128 2.7	I 130 2.2
100.0 SEC.	I 134 27.1	I 133 15.4	I 135 13.4	I 132 13.3	I 136 11.5	I 131 5.2	I *136 4.5	I 128 2.4	I 130 2.5	XE 137 2.2
3.3 MIN.	I 134 30.3	I 133 17.6	I 135 15.3	I 132 15.1	I 131 6.0	I 136 5.7	I 128 3.2	I 130 2.0	XE 137 2.0	I *136 1.2
8.3 MIN.	I 134 31.9	I 133 19.7	I 135 16.9	I 132 16.5	I 131 6.7	I 130 3.1	I 126 3.1	XF 137 0.9	I 136 0.5	I *130 0.4
16.7 MIN.	I 134 30.5	I 133 20.9	I 135 17.8	I 132 16.9	I 131 7.2	I 130 3.3	I 128 2.6	XF 135 0.3	I *130 0.2	XE 137 0.2
33.3 MIN.	I 134 27.0	I 133 22.4	I 135 19.1	I 132 17.1	I 131 7.9	I 130 3.6	I 128 1.8	XF 135 0.0	I *130 0.1	CS 138 0.0
60.0 MIN.	I 133 25.5	I 134 21.6	I 135 20.7	I 132 17.0	I 131 8.9	I 130 4.0	XE 135 1.2	I 128 1.0	XE 133 0.0	CS 138 0.0
1.4 HR.	I 133 27.7	I 135 21.8	I 134 17.4	I 132 16.6	I 131 9.8	I 130 4.3	XE 135 1.8	I 128 0.6	XF 133 0.0	CS 138 0.0
2.8 HR.	I 133 33.4	I 135 23.8	I 132 13.8	I 131 12.4	I 134 7.4	I 130 5.0	XE 135 4.0	XE 133 0.1	I 128 0.1	CS 138 0.0
5.6 HR.	I 133 39.0	I 135 22.8	I 131 15.7	XE 135 8.1	I 132 7.6	I 130 5.5	I 134 1.0	XF 133 0.3	I 128 0.0	HA 139 0.0
12.0 HR.	I 133 42.7	I 131 20.8	I 135 15.7	XE 135 13.5	I 130 5.2	I 132 1.5	XE 133 0.7	I 134 0.0	HA 139 0.0	I 129 0.0
13.9 HR.	I 133 43.1	I 131 22.2	XE 135 14.1	I 135 13.8	I 130 5.1	I 132 0.9	XF 133 0.4	I 134 0.0	I 129 0.0	HA 139 0.0
1.0 DAYS	I 133 43.3	I 131 30.1	XF 135 14.0	I 135 6.7	I 130 4.0	XE 133 1.7	I 132 0.1	I 129 0.0	I 134 0.0	HA 140 0.0
1.2 DAYS	I 133 42.8	I 131 33.3	XF 135 13.0	I 135 5.1	I 130 3.7	XF 133 2.1	I 132 0.0	I 129 0.0	BA 140 0.0	LA 140 0.0
2.3 DAYS	I 131 56.6	I 133 31.9	XF 133 5.2	XE 135 4.3	I 130 1.5	I 135 0.5	I 129 0.0	I 132 0.0	LA 140 0.0	HA 140 0.0
4.0 DAYS	I 131 78.0	I 133 13.2	XE 133 8.1	XE 135 0.4	I 130 0.2	I 135 0.0	I 129 0.0	LA 140 0.0	HA 140 0.0	CS 137 0.0
5.8 DAYS	I 131 86.7	XE 133 9.1	I 133 4.1	I 130 0.0	XF 135 0.0	I 135 0.0	I 129 0.0	LA 140 0.0	HA 140 0.0	CS 137 0.0
10.0 DAYS	I 131 91.2	XE 133 8.6	I 133 0.2	I 130 0.0	I 129 0.0	XE 135 0.0	LA 140 0.0	HA 140 0.0	CS 137 0.0	CE 141 0.0
11.6 DAYS	I 131 91.8	XE 133 8.1	I 133 0.1	I 129 0.0	I 130 0.0	LA 140 0.0	BA 140 0.0	CS 137 0.0	XE 135 0.0	CE 141 0.0
23.1 DAYS	I 131 94.8	XF 133 5.2	I 129 0.0	I 133 0.0	LA 140 0.0	CS 137 0.0	BA 140 0.0	CF 141 0.0	CS 135 0.0	PR 143 0.0
30.0 DAYS	I 131 96.1	XF 133 3.9	I 129 0.0	LA 140 0.0	CS 137 0.0	HA 140 0.0	CF 141 0.0	CS 135 0.0	I 133 0.0	PR 143 0.0
57.9 DAYS	I 131 98.8	XF 133 1.1	I 129 0.0	CS 137 0.0	LA 140 0.0	HA 140 0.0	CS 135 0.0	CE 141 0.0	PR 143 0.0	PR 144 0.0
60.0 DAYS	I 131 98.9	XE 133 1.0	I 129 0.0	CS 137 0.0	LA 140 0.0	HA 140 0.0	CS 135 0.0	CE 141 0.0	PR 143 0.0	PR 144 0.0
115.7 DAYS	I 131 98.8	I 129 1.1	XE 133 0.1	CS 137 0.0	CS 135 0.0	LA 140 0.0	HA 140 0.0	CF 141 0.0	PR 143 0.0	PR 144 0.0
150.0 DAYS	I 131 81.7	I 129 17.8	CS 137 0.4	XE 133 0.0	CS 135 0.0	LA 140 0.0	CE 141 0.0	BA 140 0.0	PR 144 0.0	CE 144 0.0
231.5 DAYS	I 129 97.3	CS 137 2.3	I 131 0.4	CS 135 0.0	CE 141 0.0	LA 140 0.0	BA 140 0.0	XE 133 0.0	PR 144 0.0	CE 144 0.0
1.0 YRS.	I 129 97.7	CS 137 2.3	CS 135 0.0	CE 141 0.0	I 131 0.0	PR 144 0.0	CE 144 0.0	LA 140 0.0	HA 140 0.0	PR 143 0.0

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0 SEC.	I 130 29.4	I 132 15.2	I 135 13.9	I 136 9.6	I 137 9.1	I 133 6.2	I 138 5.9	I 13A 5.6	I 130 2.4	I 131 1.8
1.0 SEC.	I 130 30.1	I 132 15.5	I 135 14.2	I 136 9.7	I 137 9.0	I 133 6.3	I 138 5.6	I 13A 5.4	I 130 1.8	I 131 1.8
2.0 SEC.	I 130 30.6	I 132 15.8	I 135 14.5	I 136 9.8	I 137 8.5	I 133 6.4	I 138 5.6	I 13A 5.4	I 130 1.9	I 131 1.9
5.0 SEC.	I 130 31.7	I 132 16.3	I 135 15.0	I 136 9.9	I 137 8.5	I 133 6.6	I 138 5.6	I 13A 5.4	I 130 1.9	I 131 1.9
10.0 SEC.	I 130 32.9	I 132 17.0	I 135 15.6	I 136 9.9	I 137 7.7	I 133 6.9	I 138 5.4	I 13A 5.4	I 130 2.3	I 131 2.0
20.0 SEC.	I 130 34.6	I 132 17.9	I 135 16.4	I 136 9.6	I 137 7.3	I 133 6.1	I 138 4.9	I 13A 5.4	I 130 2.1	I 131 1.8
50.0 SEC.	I 130 37.6	I 132 19.5	I 135 17.9	I 136 8.2	I 137 7.9	I 133 3.5	I 138 2.9	I 13A 2.3	I 130 2.3	I 131 2.3
100.0 SEC.	I 130 38.2	I 132 19.9	I 135 18.3	I 133 8.1	I 134 7.7	I 133 3.1	I 138 2.4	I 13A 2.2	I 130 2.2	I 131 2.2
3.3 MIN.	I 130 40.1	I 132 20.9	I 135 19.3	I 133 8.6	I 136 5.8	I 131 2.5	I 138 1.8	I 13A 1.8	I 130 2.7	I 131 2.7
8.3 MIN.	I 130 42.0	I 132 22.2	I 135 20.6	I 133 9.2	I 136 2.7	I 131 2.7	I 138 1.5	I 13A 1.5	I 130 2.7	I 131 2.7
16.7 MIN.	I 130 42.1	I 132 23.1	I 135 21.8	I 133 9.7	I 131 2.8	I 136 2.2	I 138 1.5	I 13A 1.5	I 130 2.7	I 131 2.7
33.3 MIN.	I 130 46.0	I 135 24.8	I 132 24.2	I 133 10.3	I 131 3.0	I 136 1.1	I 138 1.1	I 13A 1.1	I 130 2.7	I 131 2.7
60.0 MIN.	I 130 49.8	I 135 27.8	I 132 24.9	I 133 11.0	I 131 3.4	I 136 1.1	I 138 1.1	I 13A 1.1	I 130 2.7	I 131 2.7
1.0 HR.	I 135 30.2	I 132 25.0	I 134 24.8	I 133 14.8	I 131 4.0	I 136 1.1	I 138 1.1	I 13A 1.1	I 130 2.7	I 131 2.7
2.0 HR.	I 135 37.1	I 132 25.3	I 133 20.0	I 134 11.7	I 131 6.3	I 136 1.4	I 138 1.1	I 13A 1.1	I 130 2.7	I 131 2.7
5.6 HR.	I 135 42.0	I 133 27.7	I 132 15.2	I 131 9.5	I 135 3.4	I 134 2.0	I 138 1.1	I 13A 1.1	I 130 2.7	I 131 2.7
12.0 HR.	I 133 37.6	I 135 35.8	I 131 15.6	I 135 7.0	I 132 3.6	I 133 1.3	I 138 1.1	I 13A 1.1	I 130 2.7	I 131 2.7
13.0 HR.	I 133 39.4	I 135 32.8	I 131 17.3	I 135 7.7	I 132 2.3	I 133 1.4	I 138 1.1	I 13A 1.1	I 130 2.7	I 131 2.7
1.0 DAYS	I 133 45.2	I 131 26.8	I 135 18.1	I 135 8.6	I 131 1.0	I 132 2.1	I 138 1.1	I 13A 1.1	I 130 2.7	I 131 2.7
1.2 DAYS	I 133 45.9	I 131 30.5	I 135 14.0	I 135 8.2	I 131 1.5	I 132 1.1	I 138 1.1	I 13A 1.1	I 130 2.7	I 131 2.7
2.3 DAYS	I 131 55.6	I 133 36.6	I 133 3.3	I 135 2.0	I 135 1.5	I 132 0.1	I 138 1.1	I 13A 1.1	I 130 2.7	I 131 2.7
4.0 DAYS	I 131 78.7	I 133 15.6	I 133 5.4	I 135 3.1	I 135 0.1	I 132 0.1	I 138 1.1	I 13A 1.1	I 130 2.7	I 131 2.7
5.8 DAYS	I 131 89.0	I 133 6.1	I 133 0.9	I 135 0.1	I 135 0.1	I 132 0.1	I 138 1.1	I 13A 1.1	I 130 2.7	I 131 2.7
10.0 DAYS	I 131 94.0	I 133 5.8	I 133 0.3	I 135 0.1	I 135 0.1	I 132 0.1	I 138 1.1	I 13A 1.1	I 130 2.7	I 131 2.7
11.6 DAYS	I 131 94.5	I 133 5.5	I 133 0.1	I 135 0.1	I 135 0.1	I 132 0.1	I 138 1.1	I 13A 1.1	I 130 2.7	I 131 2.7
23.1 DAYS	I 131 96.6	I 133 3.4	I 133 0.1	I 135 0.1	I 135 0.1	I 132 0.1	I 138 1.1	I 13A 1.1	I 130 2.7	I 131 2.7
30.0 DAYS	I 131 97.4	I 133 2.5	I 133 0.1	I 135 0.1	I 135 0.1	I 132 0.1	I 138 1.1	I 13A 1.1	I 130 2.7	I 131 2.7
57.9 DAYS	I 131 99.3	I 133 1.7	I 133 0.1	I 135 0.1	I 135 0.1	I 132 0.1	I 138 1.1	I 13A 1.1	I 130 2.7	I 131 2.7
60.0 DAYS	I 131 99.3	I 133 1.7	I 133 0.1	I 135 0.1	I 135 0.1	I 132 0.1	I 138 1.1	I 13A 1.1	I 130 2.7	I 131 2.7
115.7 DAYS	I 131 99.9	I 133 1.1	I 133 0.1	I 135 0.1	I 135 0.1	I 132 0.1	I 138 1.1	I 13A 1.1	I 130 2.7	I 131 2.7
150.0 DAYS	I 131 100.0	I 129 0.0	I 133 0.1	I 135 0.1	I 135 0.1	I 132 0.1	I 138 1.1	I 13A 1.1	I 130 2.7	I 131 2.7
231.5 DAYS	I 131 78.8	I 129 21.1	I 133 0.1	I 135 0.1	I 135 0.1	I 132 0.1	I 138 1.1	I 13A 1.1	I 130 2.7	I 131 2.7
1.0 YRS.	I 129 99.9	I 135 0.0	I 133 0.1	I 131 0.1	I 135 0.1	I 132 0.1	I 138 1.1	I 13A 1.1	I 130 2.7	I 131 2.7

Source 2 (plate out), 200 d, Power = 4000 MW, U-237 & Pu-239

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	I 136 16.5	I 134 16.5	I 137 14.3	I 136 11.8	I 138 9.7	I 133 9.0	I 135 7.9	I 132 7.5	I 139 3.6	I 131 1.8
1.0 SEC.	I 134 17.1	I 136 17.0	I 137 14.4	I 136 12.0	I 133 9.3	I 138 9.0	I 135 8.2	I 132 7.7	I 139 2.6	I 131 1.9
2.0 SEC.	I 134 17.5	I 136 17.3	I 137 14.5	I 136 12.1	I 133 9.6	I 135 8.4	I 138 8.3	I 132 7.9	I 139 2.1	I 131 1.9
5.0 SEC.	I 134 18.5	I 136 17.8	I 137 14.0	I 136 12.3	I 133 10.2	I 135 8.9	I 132 8.4	I 138 8.4	I 131 2.0	I 139 1.0
10.0 SEC.	I 134 19.8	I 136 18.3	I 137 13.0	I 136 12.3	I 133 10.9	I 135 9.5	I 132 9.0	I 138 8.0	I 131 2.2	XE 137 1.5
20.0 SEC.	I 134 21.7	I 136 18.5	I 133 11.9	I 136 11.6	I 137 10.7	I 135 10.4	I 132 9.9	I 131 2.4	I 138 1.5	XE 137 1.0
50.0 SEC.	I 134 25.5	I 136 17.0	I 133 14.1	I 135 12.3	I 132 11.6	I 136 8.9	I 137 5.5	I 131 2.8	XE 137 2.0	XE 139 0.2
60.0 SEC.	I 134 26.5	I 136 16.3	I 133 14.7	I 135 12.8	I 132 12.1	I 136 8.0	I 137 4.3	I 131 2.9	XE 137 2.2	XE 139 0.1
100.0 SEC.	I 134 29.6	I 133 16.5	I 135 14.5	I 132 13.6	I 136 13.1	I 136 5.1	I 131 3.4	XF 137 2.4	I 137 1.6	XE 139 0.1
3.3 MIN.	I 134 33.8	I 133 19.2	I 135 16.8	I 132 15.7	I 136 8.6	I 131 3.8	XE 137 2.4	I 136 1.4	I 137 1.1	XE 135 0.0
8.3 MIN.	I 134 35.8	I 133 21.7	I 135 18.8	I 132 17.3	I 131 4.3	XE 137 1.1	I 136 0.4	XF 135 1.1	XF 138 0.0	CS 139 0.0
16.7 MIN.	I 134 38.3	I 133 23.0	I 135 19.8	I 132 17.7	I 131 4.6	XE 135 0.3	XE 137 0.3	XE 138 0.0	CS 138 0.0	CS 139 0.0
33.3 MIN.	I 134 40.2	I 133 25.0	I 135 21.1	I 132 17.9	I 131 5.1	XF 135 0.7	CS 138 0.0	XE 133 0.0	XF 137 0.0	XE 138 0.0
60.0 MIN.	I 133 48.0	I 134 24.2	I 135 22.9	I 132 17.8	I 131 5.7	XE 135 1.3	XE 133 0.0	CS 138 0.0	I 130 0.0	XE 138 0.0
1.4 HR.	I 133 50.5	I 135 24.2	I 134 19.6	I 132 17.4	I 131 6.3	XE 135 2.0	XE 133 0.0	CS 138 0.0	I 130 0.0	BA 139 0.0
2.6 HR.	I 133 57.4	I 135 26.8	I 132 14.6	I 134 8.4	I 131 6.1	XE 135 4.6	XF 133 0.1	I 130 0.0	CS 138 0.0	BA 139 0.0
5.6 HR.	I 133 64.4	I 135 26.1	I 131 10.4	XF 135 9.3	I 132 8.2	I 134 1.2	XE 133 0.3	I 130 0.0	BA 139 0.0	CS 138 0.0
12.0 HR.	I 133 69.5	I 135 18.3	XE 135 15.7	I 131 14.1	I 132 1.6	XE 133 0.8	I 130 0.0	I 134 0.0	RA 140 0.0	LA 141 0.0
13.9 HR.	I 133 50.2	XE 135 16.6	I 135 16.2	I 131 15.1	XE 133 1.0	I 132 1.0	I 130 0.0	I 134 0.0	HA 140 0.0	LA 141 0.0
1.0 DAYS	I 133 51.8	I 131 21.0	XF 135 16.9	I 135 8.1	XF 133 2.1	I 132 1.1	I 130 0.0	BA 140 0.0	I 134 0.0	LA 140 0.0
1.2 DAYS	I 131 51.8	I 131 23.5	XF 135 15.9	I 135 6.2	XE 133 2.6	I 132 0.0	I 130 0.0	HA 140 0.0	LA 140 0.0	CS 137 0.0
2.3 DAYS	I 131 44.1	I 134 42.5	XE 133 6.9	XF 135 5.4	I 135 0.7	I 130 0.0	I 132 0.0	LA 140 0.0	BA 140 0.0	CS 137 0.0
4.0 DAYS	I 131 67.7	I 133 19.6	XE 133 12.1	XE 135 0.6	I 135 0.0	I 130 0.0	LA 140 0.0	HA 140 0.0	CS 137 0.0	I 129 0.0
5.4 DAYS	I 131 79.3	XF 133 14.3	I 133 6.4	XF 135 0.0	I 135 0.0	I 130 0.0	LA 140 0.0	HA 140 0.0	CS 137 0.0	I 129 0.0
10.0 DAYS	I 131 85.9	XE 133 13.8	I 133 0.3	XE 135 0.0	I 135 0.0	I 130 0.0	LA 140 0.0	HA 140 0.0	CS 137 0.0	I 129 0.0
11.6 DAYS	I 131 86.7	XE 133 13.2	I 133 0.1	LA 140 0.0	HA 140 0.0	CS 137 0.0	I 130 0.0	I 129 0.0	CE 141 0.0	I 130 0.0
23.1 DAYS	I 131 91.4	XE 133 8.6	I 133 0.1	LA 140 0.0	HA 140 0.0	CS 137 0.0	XF 139 0.0	I 129 0.0	CE 141 0.0	I 130 0.0
30.0 DAYS	I 131 93.5	XE 133 6.5	LA 140 0.0	CS 137 0.0	BA 140 0.0	I 129 0.0	CE 141 0.0	CS 135 0.0	I 133 0.0	PR 143 0.0
57.9 DAYS	I 131 98.1	XF 133 1.9	CS 137 0.0	LA 140 0.0	BA 140 0.0	I 129 0.0	CE 141 0.0	CS 135 0.0	PR 143 0.0	PR 144 0.0
60.0 DAYS	I 131 98.2	XE 133 1.8	CS 137 0.0	LA 140 0.0	BA 140 0.0	I 129 0.0	CE 141 0.0	CS 135 0.0	PR 143 0.0	PR 144 0.0
115.7 DAYS	I 131 99.8	XE 133 0.1	CS 137 0.0	I 129 0.0	LA 140 0.0	CS 135 0.0	BA 140 0.0	CE 141 0.0	PR 143 0.0	PR 144 0.0
150.0 DAYS	I 131 98.9	CS 137 1.0	I 129 0.0	XE 133 0.0	CS 135 0.0	LA 140 0.0	CE 141 0.0	HA 140 0.0	PR 144 0.0	PR 143 0.0
231.5 DAYS	CS 137 84.4	I 131 7.8	I 129 0.0	CS 135 0.0	CF 141 0.0	LA 140 0.0	BA 140 0.0	XE 133 0.0	PR 144 0.0	CE 144 0.0
1.0 YRS.	CS 137 91.5	I 129 7.5	CS 135 1.0	CE 141 0.0	I 131 0.0	PR 144 0.0	CF 144 0.0	LA 140 0.0	RA 140 0.0	PR 143 0.0

Source 2 (plate out), 200 d, Power = 4000 MW, U-235 & Pu-239

SOURCE 2 (WATER), EQUILIBRIUM, POWER=8000 MW, U-235+PU-239

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

C-72

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC	I 134 22.8	I 132 12.6	I 135 10.9	I 136 7.1	I 137 6.5	I 133 4.0	I 136 4.2	I 138 3.9	I 130 3.9	HR 88 3.5
1.0 SEC	I 134 23.5	I 132 13.0	I 135 11.3	I 136 7.3	I 137 6.5	I 133 5.0	I 136 4.2	I 138 4.0	I 138 3.7	HR 88 3.5
2.0 SEC	I 134 24.1	I 132 13.5	I 135 11.5	I 136 7.4	I 137 6.5	I 133 5.1	I 136 4.3	I 138 4.1	UR 88 3.4	I 138 3.4
5.0 SEC	I 134 25.3	I 132 14.0	I 135 12.1	I 136 7.6	I 137 6.7	I 133 5.4	I 136 4.3	I 138 4.3	HR 87 3.2	HR 88 3.1
10.0 SEC	I 134 26.6	I 132 14.7	I 135 12.8	I 136 7.7	I 137 5.7	I 133 5.7	I 136 4.5	I 138 4.2	HR 87 3.1	I 131 2.8
20.0 SEC	I 134 28.3	I 132 15.7	I 135 13.6	I 136 7.5	I 133 6.1	I 130 4.8	I 137 4.6	I 136 3.9	I 131 3.0	HR 87 3.0
50.0 SEC	I 134 31.2	I 132 17.4	I 135 15.1	I 133 6.7	I 136 6.5	I 130 5.4	I 131 3.3	I 136 2.8	HR 87 2.3	I 137 2.2
60.0 SEC	I 134 31.8	I 132 17.7	I 135 15.4	I 133 6.9	I 136 6.1	I 130 5.5	I 131 3.4	I 136 2.5	HR 87 2.0	HR 84 2.0
100.0 SEC	I 134 33.7	I 132 18.8	I 135 16.4	I 133 7.3	I 130 5.9	I 136 4.7	I 131 3.6	HR 84 2.1	HR 82 1.8	I 136 1.5
3.3 MIN	I 134 35.5	I 132 20.1	I 135 17.6	I 133 7.9	I 130 6.3	I 131 3.9	HR 84 2.2	I 136 2.2	HR 87 2.0	I 130 1.4
8.3 MIN	I 134 35.7	I 132 21.0	I 135 18.7	I 133 8.4	I 130 6.7	I 131 4.2	HR 82 2.1	HR 84 2.1	I 130 1.3	I 128 1.2
16.7 MIN	I 134 34.0	I 132 21.4	I 135 19.5	I 133 8.9	I 130 7.1	I 131 4.5	HR 82 2.2	HR 84 1.9	I 130 1.2	I 128 1.2
33.3 MIN	I 134 30.3	I 132 21.8	I 135 21.1	I 133 9.8	I 130 7.8	I 131 4.9	HR 82 2.5	HR 84 1.4	HR 135 1.1	I 128 1.1
60.0 MIN	I 134 24.7	I 135 23.3	I 132 22.1	I 133 11.2	I 130 8.8	I 131 5.7	HR 82 2.8	HR 84 1.9	HR 135 1.3	I 127 1.1
1.4 HR	I 135 25.0	I 132 22.0	I 134 20.3	I 133 12.3	I 130 9.6	I 131 6.4	HR 82 3.2	HR 84 1.6	HR 135 1.5	I 127 1.0
2.8 HR	I 135 29.3	I 132 19.5	I 133 15.9	I 130 12.0	I 134 9.2	I 131 8.6	HR 82 4.2	HR 135 1.1	HR 84 1.1	HR 133 1.0
5.6 HR	I 135 31.0	I 131 20.6	I 130 14.6	I 131 12.1	I 132 11.9	HR 82 5.6	HR 135 2.5	I 134 1.4	HR 133 1.4	I 88 1.0
12.0 HR	I 133 25.9	I 135 24.5	I 131 14.4	I 130 15.9	HR 82 7.7	HR 135 4.4	I 132 2.6	HR 133 1.2	I 134 1.0	HR 85 1.0
13.0 HR	I 133 26.8	I 135 22.1	I 131 20.1	I 130 15.7	HR 82 8.2	HR 135 5.2	I 132 1.6	HR 133 1.3	I 134 1.0	HR 85 1.0
1.0 DAYS	I 131 29.4	I 133 29.0	I 130 13.6	I 135 11.6	HR 82 10.1	HR 135 5.5	HR 133 1.6	I 132 1.1	HR 85 1.0	HR 84 1.0
1.2 DAYS	I 131 33.0	I 133 29.0	I 130 12.5	HR 82 10.7	I 135 8.8	HR 135 5.2	HR 133 1.1	I 132 1.0	HR 85 1.0	HR 84 1.0
2.3 DAYS	I 131 56.7	I 133 21.9	HR 82 11.8	I 130 5.0	HR 133 2.0	HR 135 1.7	I 135 1.9	I 132 1.0	HR 85 1.0	I 129 1.0
4.0 DAYS	I 131 78.3	I 133 9.1	HR 82 8.5	HR 133 3.1	I 130 1.8	HR 135 1.1	HR 133 1.2	I 132 1.0	LA 140 1.0	HA 140 1.0
5.8 DAYS	I 131 88.6	HR 82 4.9	HR 133 3.5	I 133 2.9	I 130 1.1	HR 135 1.1	I 135 1.0	I 132 1.0	LA 140 1.0	HA 140 1.0
10.0 DAYS	I 131 95.4	HR 133 3.4	HR 82 1.0	I 133 1.2	I 130 0.0	I 129 1.0	LA 140 1.0	HR 135 1.0	HA 140 1.0	HR 85 1.0
11.6 DAYS	I 131 98.1	HR 133 3.2	HR 82 1.0	I 133 1.1	I 130 0.0	I 129 1.0	LA 140 1.0	HR 135 1.0	HA 140 1.0	HR 85 1.0
23.1 DAYS	I 131 98.0	HR 133 2.0	HR 82 1.0	I 129 0.0	LA 140 1.0	I 133 0.0	HA 140 1.0	HR 85 1.0	CE 141 1.0	Y 91 1.0
30.0 DAYS	I 131 98.5	HR 133 1.5	HR 82 1.0	I 129 0.0	LA 140 1.0	HR 85 1.0	HA 140 1.0	HR 85 1.0	CE 141 1.0	Y 91 1.0
57.9 DAYS	I 131 99.6	HR 133 1.4	I 129 0.0	LA 140 1.0	HR 85 1.0	HR 85 1.0	CF 141 1.0	Y 91 1.0	HR 82 1.0	Y 90 1.0
60.0 DAYS	I 131 99.6	HR 133 1.4	I 129 0.0	LA 140 1.0	HR 85 1.0	HR 85 1.0	CF 141 1.0	Y 91 1.0	HR 82 1.0	Y 90 1.0
115.7 DAYS	I 131 99.6	I 129 1.3	HR 133 1.0	LA 140 1.0	HR 85 1.0	HA 140 1.0	Y 91 1.0	CE 141 1.0	Y 90 1.0	CS 135 1.0
150.0 DAYS	I 131 99.7	I 129 1.2	HR 133 1.0	LA 140 1.0	HR 85 1.0	Y 91 1.0	CF 141 1.0	HA 140 1.0	Y 90 1.0	CS 135 1.0
231.5 DAYS	I 129 94.6	I 131 1.3	HR 85 1.1	Y 91 1.0	CE 141 1.0	LA 140 1.0	Y 90 1.0	CS 135 1.0	HA 140 1.0	HR 133 1.0
1.0 YRS	I 129 99.9	HR 85 1.1	Y 91 1.0	Y 90 1.0	CS 135 1.0	CE 141 1.0	I 131 1.0	HR 95 1.0	ZR 95 1.0	LA 140 1.0

SOURCE 2 (WATER), EQUILIBRIUM, POWER=4000 U-235+Pu-239

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0 SEC.	I 134 10.1	I 136 9.7	HR 8A 9.5	I 137 8.7	I *136 7.0	BR 87 6.2	HR 84 6.0	I 133 5.6	I 138 5.1	I 132 4.9
1.0 SEC.	I 134 10.7	I 136 10.2	BR 8A 9.7	I 137 8.3	I *136 7.3	BR 87 6.6	I 133 6.0	HR 89 5.5	I 132 5.2	I 135 5.2
2.0 SEC.	I 134 11.2	I 136 10.7	AR 8A 9.7	I 137 8.5	I *136 7.6	BR 87 6.8	I 133 6.3	I 132 5.5	I 135 5.5	HR 89 4.9
5.0 SEC.	I 134 12.4	I 136 11.5	AR 8A 9.4	I 137 8.6	I *136 8.0	BR 87 7.2	I 133 6.9	I 132 6.1	I 135 6.0	I 138 3.7
10.0 SEC.	I 134 13.8	I 136 12.2	HR 8A 8.4	I 137 8.3	I *136 8.3	I 133 7.7	BR 87 7.6	I 132 6.7	I 135 6.7	BR 86 2.7
20.0 SEC.	I 134 15.7	I 136 12.9	I 133 8.8	I *136 8.2	I 132 7.7	I 135 7.7	BR 87 7.6	I 137 7.1	HR 8A 6.2	I 131 3.0
50.0 SEC.	I 134 19.4	I 136 12.4	I 133 10.9	I 135 9.5	I 132 9.5	I *136 6.6	HR 87 6.5	I 137 3.8	I 131 3.7	HR 84 3.3
60.0 SEC.	I 134 20.3	I 136 12.0	I 133 11.4	I 135 10.0	I 132 9.9	HR 87 6.0	I *136 6.0	I 131 3.9	BR 84 3.5	I 137 3.0
100.0 SEC.	I 134 23.2	I 133 13.2	I 135 11.5	I 132 11.4	I 136 9.9	I 131 4.5	BR 87 4.2	HR 84 3.9	I *136 3.9	BR 85 2.8
3.3 MIN.	I 134 27.1	I 133 15.7	I 135 13.6	I 132 13.5	I 131 5.4	I 136 5.1	BR 84 4.5	I 128 2.8	I 130 2.5	BR 85 2.3
8.3 MIN.	I 134 29.5	I 133 18.2	I 135 15.7	I 132 15.3	I 131 6.2	BR 84 4.7	I 130 2.9	I 128 2.9	BR 83 1.4	HR 137 0.8
16.7 MIN.	I 134 28.6	I 133 19.5	I 135 16.7	I 132 15.8	I 131 6.7	BR 84 4.2	I 130 3.1	I 128 2.5	HR 83 1.4	BR 82 0.4
33.3 MIN.	I 134 25.6	I 133 21.6	I 135 18.0	I 132 16.2	I 131 7.5	I 130 3.4	BR 84 3.3	I 128 1.7	BR 83 1.5	HR 135 0.6
60.0 MIN.	I 133 24.4	I 134 20.7	I 135 19.8	I 132 16.3	I 131 8.2	I 130 3.8	HR 84 2.1	HR 83 1.5	HR 135 1.1	I 128 0.9
1.4 HR.	I 133 26.7	I 135 21.0	I 134 16.8	I 132 16.0	I 131 9.5	I 130 4.1	HR 135 1.7	HR 83 1.5	BR 84 1.4	I 128 0.5
2.8 HR.	I 133 32.6	I 135 23.3	I 132 13.5	I 12.1	I 134 7.2	I 130 4.9	HR 135 3.9	HR 83 1.3	HR 82 0.6	BR 84 0.3
5.6 HR.	I 133 38.4	I 135 22.4	I 131 15.4	HR 13.6	I 132 7.5	I 130 5.4	I 134 1.0	HR 82 0.8	HR 83 0.7	HR 133 0.3
12.0 HR.	I 133 42.2	I 131 20.5	I 135 15.5	HR 13.3	I 130 5.2	I 132 1.4	HR 82 1.0	HR 133 0.7	HR 83 0.2	I 134 0.0
13.9 HR.	I 133 42.6	I 131 21.9	HR 13.4	I 135 13.7	I 130 5.0	HR 82 1.0	I 132 0.9	HR 133 0.8	HR 83 0.1	HR 85 0.0
1.0 DAYS	I 133 42.8	I 131 29.8	HR 13.9	I 135 6.2	I 130 4.0	HR 133 1.7	HR 82 1.1	I 132 0.1	HR 83 0.0	HR 85 0.0
1.2 DAYS	I 133 42.3	I 131 12.9	HR 13.9	I 135 5.0	I 130 3.6	HR 133 2.1	HR 82 1.2	I 132 0.1	HR 83 0.0	HR 85 0.0
2.3 DAYS	I 131 55.9	I 133 11.5	HR 13.5	I 135 4.3	I 130 1.4	HR 82 1.3	I 135 0.5	SR 89 0.0	I 129 0.0	HR 85 0.0
4.0 DAYS	I 131 77.3	I 133 13.1	HR 13.1	HR 82 0.4	HR 135 0.4	I 130 0.2	I 135 0.0	SR 89 0.0	I 129 0.0	LA 140 0.0
5.8 DAYS	I 131 86.3	HR 13.3	I 133 4.1	HR 82 0.5	I 130 0.0	HR 135 0.0	I 135 0.0	SR 89 0.0	I 129 0.0	LA 140 0.0
10.0 DAYS	I 131 91.7	HR 13.3	I 133 4.2	HR 82 0.1	I 130 0.0	HR 89 0.0	I 129 0.0	HR 135 0.0	LA 140 0.0	HR 85 0.0
11.6 DAYS	I 131 91.7	HR 13.3	I 133 4.1	HR 82 0.1	SR 89 0.0	I 129 0.0	I 130 0.0	LA 140 0.0	HR 85 0.0	HR 140 0.0
23.1 DAYS	I 131 94.8	HR 13.3	I 133 4.2	HR 82 0.1	SR 89 0.0	I 129 0.0	I 130 0.0	LA 140 0.0	HR 85 0.0	HR 140 0.0
30.0 DAYS	I 131 95.1	HR 13.3	I 129 0.0	SR 89 0.0	SR 89 0.0	I 129 0.0	I 130 0.0	LA 140 0.0	HR 85 0.0	HR 140 0.0
57.0 DAYS	I 131 98.8	HR 13.3	I 129 0.0	SR 89 0.0	SR 89 0.0	I 129 0.0	I 130 0.0	LA 140 0.0	HR 85 0.0	HR 140 0.0
60.0 DAYS	I 131 98.9	HR 13.3	I 129 0.0	SR 89 0.0	SR 89 0.0	I 129 0.0	I 130 0.0	LA 140 0.0	HR 85 0.0	HR 140 0.0
115.7 DAYS	I 131 98.4	I 129 1.1	SR 89 0.3	HR 13.3	I 129 0.0	SR 89 0.0	I 130 0.0	LA 140 0.0	HR 85 0.0	HR 140 0.0
150.0 DAYS	I 131 78.6	I 129 17.1	SR 89 2.9	HR 85 0.8	CS 137 4.1	Y 91 0.0	I 130 0.0	HR 133 0.0	SR 90 0.0	CS 135 0.0
231.5 DAYS	I 129 88.1	SR 89 5.0	HR 85 4.1	CS 137 2.0	I 131 0.4	Y 90 0.2	Y 91 0.2	SR 90 0.0	CS 135 0.0	LF 141 0.0
1.0 YRS.	I 129 92.5	HR 85 4.2	CS 137 2.1	SR 89 0.9	Y 90 0.2	SR 90 0.0	Y 91 0.0	CS 135 0.0	LF 141 0.0	I 131 0.0

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 134 22.9	I 132 11.8	I 135 10.8	I 136 7.5	I 137 7.1	I 133 4.8	I 138 4.6	HR 88 4.5	I *136 4.3	HR 87 3.7
1.0 SEC.	I 134 23.9	I 132 12.4	I 135 11.3	I 136 7.8	I 137 7.2	I 133 5.0	BR 88 4.5	I *136 4.5	I 138 4.3	BR 87 3.9
2.0 SEC.	I 134 24.7	I 132 12.7	I 135 11.7	I 136 7.9	I 137 7.2	I 133 5.2	I *136 4.5	HR 88 4.5	I 138 4.0	HR 87 3.9
5.0 SEC.	I 134 26.3	I 132 13.6	I 135 12.4	I 136 8.2	I 137 7.1	I 133 5.5	I *136 4.6	HR 88 4.2	HR 87 4.0	HR 86 3.3
10.0 SEC.	I 134 28.0	I 132 14.5	I 135 13.3	I 136 8.4	I 137 6.6	I 133 5.9	I *136 4.6	HR 87 4.0	HR 88 3.6	HR 86 3.3
20.0 SEC.	I 134 30.3	I 132 15.7	I 135 14.4	I 136 8.4	I 133 6.4	I 137 5.4	I *136 4.3	HR 87 3.9	HR 86 3.2	HR 88 2.5
50.0 SEC.	I 134 34.1	I 132 17.7	I 135 16.3	I 136 7.4	I 133 7.2	I *136 3.2	BR 87 3.0	I 137 2.6	HR 84 2.5	HR 86 2.5
60.0 SEC.	I 134 35.0	I 132 18.2	I 135 16.7	I 133 7.4	I 136 7.0	I *136 2.8	BR 87 2.7	HR 84 2.6	HR 86 2.2	I 131 2.2
100.0 SEC.	I 134 37.5	I 132 19.6	I 135 18.0	I 133 8.0	I 136 5.4	RR 84 2.8	I 131 2.3	HR 87 1.8	I *136 1.7	BR 86 1.5
3.3 MIN.	I 134 40.2	I 132 21.3	I 135 19.7	I 133 8.8	BR 84 2.9	I 136 2.6	I 131 2.6	BR 87 .6	BR 86 .5	I *136 .4
8.3 MIN.	I 134 40.8	I 132 22.4	I 135 21.1	I 133 9.4	RR 84 2.8	I 131 2.8	I 136 .2	RR 84 .1	KR 87 .0	XE 137 .0
16.7 MIN.	I 134 39.1	I 132 22.9	I 135 22.2	I 133 10.0	I 131 2.9	BR 84 2.5	XE 135 .1	KR 87 .0	I 130 .0	HR 84 .0
33.3 MIN.	I 134 35.4	I 135 24.3	I 132 23.7	I 133 11.2	I 131 3.3	HR 84 2.0	XE 135 .2	KR 87 .0	I 130 .0	KR 88 .0
60.0 MIN.	I 134 29.4	I 135 27.0	I 132 24.5	I 133 13.0	I 131 3.9	RR 84 1.5	XE 135 .4	KR 87 .0	I 130 .0	KR 88 .0
1.4 HR.	I 135 29.9	I 132 24.8	I 134 24.6	I 133 14.6	I 131 4.4	HR 84 .9	XE 135 .6	I 130 .0	KR 87 .0	KR 84 .0
2.8 HR.	I 135 37.0	I 132 23.2	I 133 20.0	I 134 11.7	I 131 6.3	XE 135 1.4	BR 84 .2	I 130 .0	XE 133 .0	KR 87 .0
5.6 HR.	I 135 41.9	I 133 27.7	I 132 15.2	I 131 9.5	XE 135 3.4	I 134 2.0	XE 133 .1	I 130 .1	HR 82 .0	KR 88 .0
12.0 HR.	I 133 37.5	I 135 35.8	I 131 15.6	XE 135 7.0	I 132 3.6	XF 133 .3	I 130 .1	HR 82 .0	I 134 .0	KR 88 .0
13.9 HR.	I 133 39.4	I 135 32.8	I 131 17.3	XE 135 7.7	I 132 2.3	XE 133 .4	I 130 .1	HR 82 .0	I 134 .0	KR 85 .0
1.0 DAYS	I 133 45.1	I 131 26.8	I 135 18.1	XE 135 8.6	XE 133 1.0	I 132 .2	I 130 .1	RR 82 .0	KR 85 .0	KR 88 .0
1.2 DAYS	I 133 45.8	I 131 30.4	I 135 14.0	XF 135 8.2	XF 133 1.3	I 132 .1	I 130 .1	RR 82 .1	KR 85 .0	KR 88 .0
2.3 DAYS	I 131 55.5	I 133 36.6	XE 133 3.3	XF 135 2.9	I 135 1.5	HR 82 .1	I 130 .0	I 132 .0	KR 85 .0	LA 140 .0
4.0 DAYS	I 131 78.7	I 133 15.6	XE 133 5.4	XE 135 .3	HR 82 .0	I 135 .0	I 130 .0	LA 140 .0	HA 140 .0	SR 91 .0
5.8 DAYS	I 131 88.9	XF 133 6.1	I 133 4.9	BR 82 .0	XF 135 .0	I 130 .0	I 135 .0	LA 140 .0	BA 140 .0	I 129 .0
10.0 DAYS	I 131 94.0	XE 133 5.8	I 133 .3	RR 82 .0	LA 140 .0	XE 135 .0	BA 140 .0	I 130 .0	I 129 .0	KR 85 .0
11.6 DAYS	I 131 94.4	XF 133 5.5	I 133 .1	RR 82 .0	LA 140 .0	BA 140 .0	XF 135 .0	I 130 .0	I 129 .0	KR 85 .0
23.1 DAYS	I 131 96.6	XE 133 3.4	LA 140 .0	RR 82 .0	I 133 .0	BA 140 .0	I 129 .0	KR 85 .0	CE 141 .0	Y 91 .0
30.0 DAYS	I 131 97.4	XE 133 2.6	LA 140 .0	RA 140 .0	HR 82 .0	I 129 .0	KR 85 .0	CF 141 .0	I 133 .0	CE 141 .0
57.9 DAYS	I 131 99.3	XE 133 .7	LA 140 .0	AA 140 .0	I 129 .0	KR 85 .0	CF 141 .0	Y 91 .0	Y 90 .0	CS 135 .0
40.0 DAYS	I 131 99.3	XE 133 .7	LA 140 .0	BA 140 .0	I 129 .0	KR 85 .0	CE 141 .0	Y 91 .0	Y 90 .0	CS 135 .0
115.7 DAYS	I 131 99.9	XF 133 .1	I 129 .0	LA 140 .0	KR 85 .0	BA 140 .0	Y 91 .0	CE 141 .0	Y 90 .0	CS 135 .0
150.0 DAYS	I 131 100.0	I 129 .0	XE 133 .0	KR 85 .0	LA 140 .0	Y 91 .0	CF 141 .0	BA 140 .0	Y 90 .0	CS 135 .0
231.5 DAYS	I 131 72.9	I 129 19.5	HR 85 7.3	Y 91 .2	CE 141 .1	LA 140 .0	Y 90 .0	CS 135 .0	BA 140 .0	KR 95 .0
2.0 YRS.	I 129 73.1	KR 85 26.7	Y 91 .1	Y 90 .1	CS 135 .1	CE 141 .0	I 131 .0	NB 95 .0	ZR 95 .0	LA 140 .0

Source 2 (water), 200 d, Power = 4000 MW, U-235 & Pu-239

GREATEST CONTRIBUTORS TO RFIA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC	BR 88 11.1	I 136 9.2	I 134 9.2	I 137 8.0	RR A9 7.5	BR 87 6.9	I *136 6.5	HR 90 6.1	I 138 5.4	I 133 5.0
1.0 SEC	BR 88 11.4	I 134 9.9	I 136 9.8	I 137 8.3	HR 87 7.4	HR 89 7.0	I *136 7.0	I 133 5.4	I 138 5.2	I 135 4.8
2.0 SEC	BR 88 11.6	I 134 10.5	I 136 10.3	I 137 8.6	BR 87 7.7	I *136 7.3	HR 89 6.3	I 133 5.7	I 135 5.0	I 138 5.0
5.0 SEC	I 134 11.8	BR 88 11.5	I 136 11.4	I 137 8.9	HR 87 8.4	I *136 7.8	I 133 6.5	I 135 5.7	I 132 5.4	BR 89 4.5
10.0 SEC	I 134 13.4	I 136 12.3	BR 88 10.4	HR 87 8.9	I 137 8.8	I *136 8.3	I 133 7.3	I 135 6.4	I 132 6.1	HR 86 3.2
20.0 SEC	I 134 15.5	I 136 13.2	BR 87 9.2	I 133 8.5	I *136 8.3	BR 88 7.9	I 137 7.7	I 135 7.5	I 132 7.1	HR 86 3.3
50.0 SEC	I 134 19.8	I 136 13.7	I 133 11.0	I 135 9.6	I 132 9.0	BR 87 8.1	I *136 6.9	I 137 4.2	HR 84 4.0	BR 85 3.5
60.0 SEC	I 134 20.9	I 136 12.9	I 133 11.6	I 135 10.1	I 132 9.6	BR 87 7.6	I *136 6.5	HR 84 4.2	BR 85 3.5	I 137 3.4
100.0 SEC	I 134 24.5	I 133 13.7	I 135 11.9	I 132 11.2	I 136 10.9	BR 87 5.4	BR 84 4.9	I *136 4.2	BR 85 3.5	I 131 2.7
3.3 MIN	I 134 29.5	I 133 16.8	I 135 14.7	I 132 13.7	I 136 5.8	HR 84 5.8	I 131 3.3	HR 85 2.9	HR 87 2.1	HR 87 1.9
8.3 MIN	I 134 32.7	I 133 19.8	I 135 17.2	I 132 15.8	BR 84 6.1	I 131 4.0	BR 85 1.0	HR 83 1.0	HR 83 1.0	I 136 0.6
16.7 MIN	I 134 31.8	I 133 21.4	I 135 18.4	I 132 16.4	HR 84 5.5	I 131 4.3	BR 83 1.1	HR 83 1.1	HR 83 1.1	HR 87 0.2
33.3 MIN	I 134 38.5	I 133 23.6	I 135 19.9	I 132 16.9	I 131 4.8	BR 84 4.3	BR 83 1.1	HR 83 1.1	HR 83 1.1	HR 87 0.2
60.0 MIN	I 133 26.9	I 134 23.2	I 135 21.9	I 132 17.0	I 131 5.5	BR 84 2.8	HR 83 1.4	HR 83 1.4	HR 83 1.4	HR 87 0.2
1.4 HR	I 133 29.5	I 135 23.4	I 134 18.9	I 132 16.8	I 131 6.1	HR 84 1.9	HR 83 1.9	HR 83 1.9	HR 83 1.9	HR 87 0.2
2.8 HR	I 133 36.8	I 135 26.4	I 132 14.4	I 134 8.3	I 131 7.9	HR 83 4.5	HR 83 1.0	HR 84 0.4	HR 83 1.1	HR 87 0.1
5.6 HR	I 133 44.1	I 135 25.9	I 131 10.3	HR 83 9.3	I 132 8.2	I 134 1.2	HR 83 0.6	HR 83 0.6	HR 83 0.6	HR 87 0.0
12.0 HR	I 133 49.4	I 135 18.3	HR 83 15.7	I 131 14.0	I 132 1.6	HR 83 0.6	HR 83 0.6	HR 83 0.6	HR 83 0.6	HR 87 0.0
13.9 HR	I 133 50.1	HR 83 16.6	I 135 16.2	I 131 15.1	HR 83 1.0	I 132 1.0	HR 83 0.1	I 130 0.0	HR 83 0.0	HR 87 0.0
1.0 DAYS	I 133 51.8	I 131 21.0	HR 83 16.9	I 135 8.1	HR 83 2.1	I 132 0.1	I 130 0.0	HR 83 0.0	HR 83 0.0	HR 87 0.0
1.2 DAYS	I 133 51.8	I 131 23.5	HR 83 15.9	I 135 6.2	HR 83 2.6	I 132 0.1	I 130 0.0	HR 83 0.0	HR 83 0.0	HR 87 0.0
2.3 DAYS	I 131 44.1	I 133 42.5	HR 83 6.9	HR 83 5.4	I 135 0.7	I 130 0.0	HR 82 0.0	HR 82 0.0	HR 82 0.0	HR 87 0.0
4.0 DAYS	I 131 67.7	I 133 19.6	HR 83 12.1	HR 83 1.1	I 135 0.0	HR 82 0.0	I 130 0.0	HR 82 0.0	HR 82 0.0	HR 87 0.0
5.8 DAYS	I 131 79.3	HR 83 14.3	I 133 6.4	HR 83 1.1	HR 82 0.0	HR 82 0.0	HR 82 0.0	HR 82 0.0	HR 82 0.0	HR 87 0.0
10.0 DAYS	I 131 85.9	HR 83 13.8	I 133 3.3	HR 82 0.0	HR 82 0.0	HR 82 0.0	HR 82 0.0	HR 82 0.0	HR 82 0.0	HR 87 0.0
11.6 DAYS	I 131 86.7	HR 83 13.2	I 133 1.1	HR 82 0.0	HR 82 0.0	HR 82 0.0	HR 82 0.0	HR 82 0.0	HR 82 0.0	HR 87 0.0
23.1 DAYS	I 131 91.4	HR 83 8.6	HR 82 0.0	HR 82 0.0	I 133 0.0	LA 140 0.0	LA 140 0.0	LA 140 0.0	LA 140 0.0	HR 82 0.0
30.0 DAYS	I 131 93.5	HR 83 6.5	HR 82 0.0	HR 82 0.0	LA 140 0.0	Y 91 0.0	CS 137 0.0	HA 140 0.0	Y 90 0.0	I 129 0.0
57.9 DAYS	I 131 98.0	HR 83 1.9	HR 82 0.0	HR 82 0.0	CS 137 0.0	Y 91 0.0	LA 140 0.0	BA 140 0.0	Y 90 0.0	I 129 0.0
60.0 DAYS	I 131 98.2	HR 83 1.8	HR 82 0.0	HR 82 0.0	CS 137 0.0	Y 91 0.0	LA 140 0.0	Y 90 0.0	Y 90 0.0	I 129 0.0
115.7 DAYS	I 131 98.7	HR 83 0.7	HR 82 0.0	HR 82 0.0	CS 137 0.0	Y 91 0.0	Y 91 0.0	I 129 0.0	SR 90 0.0	LA 140 0.0
150.0 DAYS	I 131 99.0	HR 83 0.7	HR 82 0.0	HR 82 0.0	CS 137 0.0	Y 91 0.0	I 129 0.0	Y 91 0.0	SR 90 0.0	LA 140 0.0
231.5 DAYS	SR 89 45.7	HR 85 32.5	CS 137 15.0	Y 90 1.9	Y 91 1.7	I 131 1.4	I 129 1.2	SR 90 0.4	CS 135 0.2	CE 141 0.0
1.0 YRS	HR 85 54.5	CS 137 25.5	SR 89 13.1	Y 90 3.3	I 129 2.1	SR 90 0.7	Y 91 0.6	CS 135 0.3	CE 141 0.0	I 131 0.0

Source 2 (water), 200 d, Power = 4000 MW, U-235 & Pu-239

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APPENDIX D

TEN GREATEST CONTRIBUTORS TO DECAY POWER

Sources 1, 2, Power = 4000 MW, U-235 and Pu-239 (Realistic)

SOURCE 1 (ATR), 200 DAYS, POWER=4000 MW, II-235+PU-239

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	KR 89 12.7	KR 90 10.9	KR 88 10.6	XF 138 10.5	I 134 7.1	XE 140 6.8	XF 139 6.6	XE 141 3.7	I 132 3.5	KR 91 3.3
1.0 SEC.	KR 89 13.2	KR 90 11.1	KR 88 11.0	XE 138 10.9	I 134 7.4	XE 140 6.8	XE 139 6.8	I 132 3.7	I 135 3.5	KR 91 3.2
2.0 SEC.	KR 89 13.5	KR 88 11.3	XF 138 11.2	KR 90 11.2	I 134 7.6	XE 139 6.6	XF 140 6.6	I 132 3.8	I 135 3.6	KR 91 3.0
5.0 SEC.	KR 89 14.1	KR 88 12.0	XF 138 11.8	KR 90 11.1	I 134 8.0	XE 139 6.9	XF 140 6.0	I 132 4.0	I 135 3.8	KR 87 3.0
10.0 SEC.	KR 89 14.6	KR 88 12.6	XE 138 12.4	KR 90 10.5	I 134 8.4	XE 139 6.6	XE 140 4.9	I 132 4.2	I 135 4.0	KR 87 3.2
20.0 SEC.	KR 89 15.1	KR 88 13.5	XE 138 13.2	KR 90 9.1	I 134 9.0	XF 139 6.0	I 132 4.5	I 135 4.2	KR 87 3.4	XE 140 3.2
50.0 SEC.	KR 89 15.5	KR 88 15.4	XE 138 14.7	I 134 10.2	KR 90 5.5	I 132 5.1	I 135 4.9	XE 139 4.1	KR 87 3.9	KR 90 2.4
60.0 SEC.	KR 88 15.9	KR 89 15.5	XE 138 15.1	I 134 10.6	I 132 5.3	I 135 5.0	KR 90 4.5	KR 87 4.0	XF 139 3.6	KR 90 2.6
100.0 SEC.	KR 88 17.5	XE 138 16.1	KR 89 14.7	I 134 11.5	I 132 5.8	I 135 5.5	KR 87 4.4	KR 90 3.1	I 133 2.4	XE 137 2.2
3.3 MIN.	KR 88 19.8	XE 138 16.9	I 134 12.9	KR 89 11.6	I 132 6.6	I 135 6.3	KR 87 4.9	I 133 2.6	KR 90 2.7	KR 89 2.7
8.3 MIN.	KR 88 22.7	XE 138 15.5	I 134 14.1	I 132 7.5	I 135 7.3	CS 138 6.1	KR 87 5.5	KR 89 4.5	KR 88 4.3	I 133 3.2
16.7 MIN.	KR 88 24.4	I 134 14.1	XF 138 11.5	CS 138 10.2	I 132 8.0	I 135 8.0	KR 87 5.7	XE 89 4.1	KR 88 3.7	I 135 3.6
33.3 MIN.	KR 88 26.1	CS 138 13.3	I 134 13.0	I 135 8.9	I 132 8.4	KR 88 8.1	XF 138 5.4	KR 87 5.6	I 133 4.1	KR 89 2.3
60.0 MIN.	KR 88 28.4	CS 138 12.3	I 134 11.1	I 135 10.3	I 132 8.9	KR 88 8.5	KR 87 5.3	I 133 4.9	XE 133 2.7	XF 135 2.3
1.4 HR.	KR 88 30.1	I 135 11.5	KR 88 9.7	CS 138 9.6	I 134 9.5	I 132 9.3	I 133 5.6	KR 87 5.0	XE 133 3.2	XE 135 2.7
2.8 HR.	KR 88 32.5	I 135 15.2	KR 88 11.1	I 132 9.3	I 133 8.2	I 134 4.8	XE 133 4.8	XE 135 4.0	KR 87 3.0	CS 138 2.7
5.6 HR.	KR 88 28.3	I 135 19.6	I 133 12.9	KR 88 9.6	XF 133 8.3	I 132 6.9	XF 135 6.4	I 4.3	KR 85 1.4	KR 87 1.4
12.0 HR.	I 133 22.3	I 135 21.3	XE 133 17.3	KR 88 12.3	XE 135 10.4	I 131 8.9	KR 88 4.2	I 132 2.1	KR 85 1.1	KR 87 1.1
13.9 HR.	I 133 24.2	I 135 20.2	XE 133 19.9	XF 135 11.0	I 131 10.3	KR 88 8.9	KR 88 3.0	I 132 1.4	KR 85 1.0	I 130 1.1
1.0 DAYS	XE 133 31.3	I 133 28.5	I 131 16.3	I 135 11.5	XE 135 10.3	KR 88 1.2	KR 88 4.4	KR 85 3.2	I 132 1.1	I 130 1.1
1.2 DAYS	XE 133 34.7	I 133 28.3	I 131 18.1	XE 135 9.2	I 135 8.7	KR 88 1.5	KR 85 2.2	KR 85 2.1	I 130 1.1	I 132 1.0
2.3 DAYS	XF 133 51.0	I 131 27.3	I 133 18.6	XF 135 2.3	I 135 8.8	I 130 0.0	LA 140 0.0	KR 85 0.0	KR 85 0.0	SR 91 0.0
4.0 DAYS	XF 133 59.4	I 131 33.5	I 133 6.9	XE 135 2.1	I 135 0.0	LA 140 0.0	KR 85 0.0	KR 85 0.0	BA 140 0.0	SW 91 0.0
5.8 DAYS	XF 133 61.1	I 131 36.7	I 133 2.1	LA 140 0.0	XE 135 0.0	KR 85 0.0	BA 140 0.0	I 130 0.0	I 135 0.0	CE 141 0.0
10.0 DAYS	XF 133 58.4	I 131 41.5	I 133 1.1	LA 140 0.0	KR 85 0.0	BA 140 0.0	CE 141 0.0	Y 91 0.0	Y 91 0.0	I 130 0.0
11.6 DAYS	XF 133 56.8	I 131 43.1	I 133 1.1	LA 140 0.0	KR 85 0.0	BA 140 0.0	CE 141 0.0	Y 91 0.0	Y 91 0.0	CE 135 0.0
23.1 DAYS	I 131 55.7	XF 133 44.2	I 140 0.0	KR 85 0.0	HA 140 0.0	CE 141 0.0	Y 91 0.0	I 133 0.0	ZR 95 0.0	I 129 0.0
30.0 DAYS	I 131 63.1	XE 133 36.8	LA 140 0.0	KR 85 0.0	BA 140 0.0	CE 141 0.0	Y 91 0.0	ZR 95 0.0	HA 95 0.0	I 129 0.0
47.9 DAYS	I 131 84.7	XE 133 14.2	KR 85 0.0	LA 140 0.0	BA 140 0.0	CE 141 0.0	Y 91 0.0	ZR 95 0.0	HA 95 0.0	I 129 0.0
60.0 DAYS	I 131 85.6	XE 133 13.0	KR 85 0.0	LA 140 0.0	BA 140 0.0	CE 141 0.0	Y 91 0.0	ZR 95 0.0	HA 95 0.0	I 129 0.0
115.7 DAYS	KR 85 60.0	I 131 38.9	LA 140 0.0	XF 133 0.0	HA 140 0.0	CE 141 0.0	Y 91 0.0	ZR 95 0.0	HA 95 0.0	I 129 0.0
150.0 DAYS	KR 85 96.5	I 131 3.3	LA 140 0.0	HA 140 0.0	Y 91 0.0	CE 141 0.0	Y 91 0.0	HA 95 0.0	I 129 0.0	ZR 95 0.0
231.5 DAYS	KR 85 100.0	Y 91 0.0	I 131 0.0	LA 140 0.0	CE 141 0.0	I 129 0.0	HA 95 0.0	Y 90 0.0	ZR 95 0.0	BA 140 0.0
1.0 YRS.	KR 85 100.0	Y 91 0.0	I 129 0.0	Y 90 0.0	HA 95 0.0	CE 141 0.0	ZR 95 0.0	PR 144 0.0	CE 144 0.0	LA 140 0.0

SOURCE 1 (ATR), 200 DAYS, POWER=4000 MW, U-235+PU-239

GREATEST CONTRIBUTORS TO REACTOR DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	XE 137 16.9	XE 139 13.2	KR 91 12.3	KR 89 8.0	KR 90 7.7	XE 138 6.0	KR 92 5.0	KR 87 4.7	XE 140 4.6	XE 141 2.7
1.0 SEC.	XF 137 17.7	XF 139 13.6	KR 91 11.9	KR 89 8.3	KR 90 7.9	XE 138 6.3	KR 87 4.9	XE 140 4.6	KR 92 3.6	I 136 2.1
2.0 SEC.	XF 137 18.3	XE 139 13.9	KR 91 11.4	KR 89 8.6	KR 90 8.0	XE 138 6.5	KR 87 5.1	XE 140 4.5	KR 92 2.6	I 136 2.1
5.0 SFC.	XF 137 19.7	XE 139 14.3	KR 91 9.8	KR 89 9.2	KR 90 8.2	XE 138 7.0	KR 87 5.5	XE 140 4.2	I 134 2.3	I 136 2.3
10.0 SEC.	XE 137 21.3	XE 139 14.4	KR 89 9.9	KR 90 8.0	XE 138 7.7	KR 91 7.2	KR 87 6.1	XE 140 3.6	I 134 2.5	I 136 2.4
20.0 SEC.	XF 137 23.4	XE 139 13.7	KR 89 10.8	XE 138 8.6	KR 90 7.3	KR 91 6.8	KR 91 3.7	I 134 2.9	I 136 2.5	XE 140 2.4
50.0 SFC.	XF 137 26.3	KR 89 11.9	XE 138 10.3	XE 139 10.0	KR 87 6.3	KR 90 4.7	I 134 3.5	CS 140 2.5	I 136 2.4	KR 88 2.2
60.0 SFC.	XF 137 26.7	KR 89 12.0	XF 138 10.7	XF 139 8.9	KR 87 6.7	KR 90 4.0	I 134 3.6	CS 140 2.4	KR 88 2.3	I 136 2.3
100.0 SFC.	XF 137 27.5	KR 89 12.0	XE 138 12.0	KR 87 10.0	XE 139 5.2	I 134 4.2	KR 88 2.7	RB 90 2.6	I 133 2.3	XE 133 2.2
3.3 MIN.	XF 137 25.3	XE 138 13.7	KR 87 12.3	KR 89 10.3	I 134 5.1	RB 88 3.4	KR 88 3.3	I 133 2.9	XE 133 2.8	I 135 2.5
4.3 MIN.	KR 87 15.6	XF 138 14.4	XE 137 13.7	RB 88 10.2	I 134 6.3	CS 138 5.6	KR 89 4.6	KR 88 4.3	I 133 3.8	XE 133 3.7
16.7 MIN.	RB 88 20.0	KR 87 16.9	XE 138 11.1	CS 138 9.7	I 134 6.6	KR 88 4.8	I 133 4.4	XE 133 4.3	I 135 3.8	XE 137 3.5
33.3 MIN.	RB 88 31.3	KR 87 15.6	CS 138 11.9	I 134 5.7	XF 138 5.3	KR 88 4.9	I 133 4.7	XE 133 4.7	I 135 4.0	XE 135 3.8
60.0 MIN.	RB 88 39.8	KR 87 13.6	CS 138 10.1	XE 133 5.2	I 133 5.2	KR 88 4.8	I 134 4.5	I 135 4.2	XE 133 4.2	I 132 3.2
1.4 HR.	RB 88 43.6	KR 87 12.3	CS 138 7.6	XE 133 5.8	I 133 5.7	KR 88 4.9	XE 135 4.6	I 135 4.5	I 134 3.7	I 132 3.2
2.8 HR.	RB 88 47.3	XE 133 8.4	KR 87 8.4	I 133 7.9	XE 135 6.5	I 135 5.7	KR 88 5.1	I 132 3.0	KR 88 2.2	CS 138 2.0
5.8 HR.	RB 88 40.7	XE 133 14.1	I 133 12.3	XE 135 10.3	I 135 7.2	KR 88 4.3	KR 87 3.1	I 131 2.8	KR 88 2.4	I 132 2.2
12.0 HR.	XE 133 28.0	I 133 20.8	RB 88 17.0	XE 135 16.3	I 135 7.6	I 131 5.6	KR 88 1.9	KR 88 1.8	I 132 1.6	KR 87 1.2
13.9 HR.	XE 133 32.2	I 133 21.8	XF 135 16.9	RB 88 12.2	I 135 7.1	I 131 6.3	KR 88 1.6	KR 88 1.3	I 132 1.4	KR 85 1.1
1.0 DAYS	XF 133 46.6	I 133 23.6	XE 135 14.5	I 131 9.2	I 135 3.7	RB 88 1.5	KR 88 1.5	2.2	KR 88 1.2	I 132 1.0
1.2 DAYS	XE 133 50.5	I 133 22.9	XE 135 12.6	I 131 10.0	I 135 2.7	RB 88 1.6	KR 88 1.3	2.2	KR 88 1.1	I 132 1.0
2.3 DAYS	XE 133 48.6	I 131 14.0	I 133 14.0	XF 135 3.0	KR 85 1.3	I 135 1.3	SR 89 1.2	SR 89 1.0	LA 140 1.0	0.0
4.0 DAYS	XF 133 77.7	I 131 16.7	I 133 5.0	KR 85 4.4	XF 135 1.2	SR 89 1.0	I 135 1.0	LA 140 1.0	BA 140 1.0	0.0
5.8 DAYS	XE 133 79.7	I 131 18.2	I 133 1.5	KR 85 5.5	SR 89 1.0	XF 135 1.0	LA 140 1.0	BA 140 1.0	Y 91 1.0	I 135 1.0
10.0 DAYS	XE 133 77.9	I 131 21.1	KR 85 9.1	I 133 1.1	SR 89 1.0	LA 140 1.0	BA 140 1.0	Y 91 1.0	CS 137 1.0	Y 90 1.0
11.6 DAYS	XE 133 76.7	I 131 22.2	KR 85 1.0	SR 89 1.0	I 133 1.0	LA 140 1.0	BA 140 1.0	Y 91 1.0	CS 137 1.0	Y 90 1.0
23.1 DAYS	XE 133 44.8	I 131 31.1	KR 85 3.9	SR 89 1.1	LA 140 1.0	BA 140 1.0	Y 91 1.0	CS 137 1.0	Y 90 1.0	CE 141 1.0
30.0 DAYS	XE 133 55.4	I 131 36.1	KR 85 8.2	SR 89 1.2	LA 140 1.0	BA 140 1.0	Y 91 1.0	CS 137 1.0	Y 90 1.0	CE 141 1.0
57.9 DAYS	KR 85 62.6	I 131 25.0	XE 133 11.0	SR 89 1.3	Y 91 1.0	LA 140 1.0	BA 140 1.0	Y 91 1.0	CS 137 1.0	Y 90 1.0
60.0 DAYS	KR 85 67.3	I 131 22.3	XE 133 8.9	SR 89 1.4	Y 91 1.0	LA 140 1.0	BA 140 1.0	Y 91 1.0	CS 137 1.0	Y 90 1.0
115.7 DAYS	KR 85 98.7	SR 89 1.0	I 131 1.3	Y 91 1.0	CS 137 1.0	Y 90 1.0	LA 140 1.0	Y 90 1.0	SR 90 1.0	BA 140 1.0
150.0 DAYS	KR 85 99.3	SR 89 1.6	Y 91 1.0	I 131 1.0	CS 137 1.0	Y 90 1.0	SR 90 1.0	LA 140 1.0	CE 141 1.0	BA 140 1.0
231.5 DAYS	KR 85 99.8	SR 89 1.2	CS 137 1.0	Y 91 1.0	Y 90 1.0	SR 90 1.0	CE 141 1.0	I 131 1.0	I 129 1.0	PR 144 1.0
1.0 YRS.	KR 85 99.9	SR 89 1.0	CS 137 1.0	Y 90 1.0	Y 91 1.0	SR 90 1.0	I 129 1.0	PR 144 1.0	CS 135 1.0	CE 141 1.0

SOURCE 1 (PLATE OUT), 200 DAYS, POWER=0000 MW, U=235+PU=239

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 134 23.1	I 132 11.5	I 135 10.9	I 136 7.7	I 137 7.5	I 138 4.9	I 133 4.8	I *136 4.6	I 139 2.0	I 131 1.3
1.0 SEC.	I 134 23.9	I 132 11.9	I 135 11.3	I 136 7.9	I 137 7.5	I 138 5.0	I 133 4.6	I *136 4.5	I 139 1.6	I 131 1.4
2.0 SEC.	I 134 24.5	I 132 12.2	I 135 11.5	I 136 8.0	I 137 7.5	I 138 5.1	I *136 4.6	I 138 4.2	I 131 1.4	I 139 1.2
5.0 SEC.	I 134 25.6	I 132 12.7	I 135 12.0	I 136 8.2	I 137 7.2	I 133 5.3	I *136 4.6	I 138 3.2	I 131 1.5	LA 142 .8
10.0 SEC.	I 134 26.9	I 132 13.0	I 135 12.5	I 136 8.3	I 137 6.6	I 133 5.6	I *136 4.5	I 138 2.0	I 131 1.6	LA 142 .9
20.0 SEC.	I 134 28.5	I 132 14.2	I 135 13.0	I 136 8.1	I 133 5.9	I 137 5.3	I *136 4.1	I 131 1.7	LA 142 .9	CS 138 .9
50.0 SEC.	I 134 31.4	I 132 15.7	I 135 14.9	I 136 7.0	I 133 6.6	I *136 2.9	I 137 2.5	I 131 1.8	LA 142 1.0	CS 138 .9
60.0 SEC.	I 134 32.1	I 132 16.1	I 135 15.2	I 133 6.7	I 136 6.6	I *136 2.6	I 137 1.9	I 131 1.9	LA 142 1.0	CS 138 1.0
100.0 SEC.	I 134 34.0	I 132 17.1	I 135 16.2	I 133 7.2	I 136 5.0	I 131 2.0	I *136 1.6	LA 142 1.1	CS 138 1.0	LA 140 1.0
3.3 MIN.	I 134 36.1	I 132 18.4	I 135 17.6	I 133 7.8	I 136 2.4	I 131 2.2	LA 142 1.1	CS 138 1.1	LA 140 1.1	NR 89 .6
8.3 MIN.	I 134 37.0	I 132 19.6	I 135 19.0	I 133 8.5	I 131 2.4	LA 142 1.2	LA 140 1.2	CS 138 1.0	SH 92 .6	NR 89 .6
16.7 MIN.	I 134 38.0	I 132 20.3	I 135 20.2	I 133 9.1	I 131 2.6	LA 142 1.3	LA 140 1.2	CS 138 1.0	SH 92 .6	NR 89 .4
33.3 MIN.	I 134 32.9	I 135 22.2	I 132 21.2	I 133 10.2	I 131 2.9	LA 142 1.4	LA 142 1.3	CS 138 .8	SH 92 .7	ZR 95 .4
60.0 MIN.	I 134 27.7	I 135 25.1	I 132 22.1	I 133 11.9	I 131 3.4	LA 140 1.7	LA 142 1.5	SR 92 .7	CS 136 .5	ZR 95 .5
1.0 HR.	I 135 27.3	I 134 23.2	I 132 22.4	I 133 13.3	I 131 3.9	LA 140 1.9	LA 142 1.2	SH 92 .9	ZR 95 .8	NR 97 .7
2.0 HR.	I 135 33.0	I 132 21.2	I 133 17.8	I 134 11.1	I 131 5.4	LA 140 2.6	XE 135 1.3	LA 142 .9	NR 95 1.0	NR 97 1.0
5.6 HR.	I 135 36.2	I 133 23.8	I 132 14.9	I 131 7.9	LA 140 3.9	XE 135 3.0	I 134 1.9	ZR 95 1.2	NR 95 1.0	RU 103 .7
12.0 HR.	I 133 30.2	I 135 28.9	I 131 12.1	I 132 6.7	LA 140 6.1	XE 135 5.6	ZR 95 1.8	NR 95 1.8	NR 97 1.2	RU 103 .8
13.9 HR.	I 133 31.2	I 135 28.0	I 131 13.0	LA 140 6.7	XE 135 6.2	I 132 5.9	ZR 95 2.0	NR 95 3.0	RU 103 1.3	NR 97 1.1
1.0 DAYS	I 133 32.6	I 131 18.6	I 135 13.1	LA 140 9.7	XE 135 6.2	I 132 5.9	ZR 95 3.2	NR 95 3.0	RU 103 1.3	NR 97 1.1
1.2 DAYS	I 133 32.0	I 131 20.5	LA 140 10.8	I 135 9.8	I 132 6.2	XE 135 5.8	ZR 95 2.1	NR 95 1.9	XE 133 2.0	BA 140 2.0
2.3 DAYS	I 131 30.5	I 133 20.9	LA 140 17.2	I 132 7.9	ZR 95 5.2	NR 95 4.9	RU 103 2.6	XE 133 2.6	BA 140 2.2	BA 140 2.2
4.0 DAYS	I 131 36.6	LA 140 22.3	I 132 7.7	I 133 7.5	ZR 95 6.2	NR 95 6.8	RU 103 3.3	XE 133 2.7	I 133 2.2	BA 140 2.2
5.8 DAYS	I 131 37.9	LA 140 24.8	ZR 95 8.4	NR 95 8.2	I 132 6.3	RU 103 3.5	BA 140 2.3	XE 133 2.2	CE 141 1.0	NR 147 .4
10.0 DAYS	I 131 35.5	LA 140 26.9	NR 95 11.1	ZR 95 10.8	RU 103 4.1	I 132 3.5	BA 140 2.7	XE 133 2.0	CE 141 1.0	NR 147 .4
11.6 DAYS	I 131 34.0	LA 140 27.2	NR 95 12.2	ZR 95 11.7	RU 103 4.4	I 132 2.7	BA 140 2.3	XE 133 2.0	CE 141 1.0	NR 147 .4
23.1 DAYS	LA 140 25.5	I 131 22.0	NR 95 21.1	ZR 95 18.1	RU 103 6.2	BA 140 2.2	CE 141 1.4	XE 133 .3	I 132 .4	PM 148 .4
30.0 DAYS	NR 95 26.6	LA 140 22.5	ZR 95 21.7	I 131 15.6	RU 103 7.1	BA 140 1.9	CF 141 1.6	PR 144 .4	PM 148 .4	XE 133 .4
57.9 DAYS	NR 95 40.0	ZR 95 30.3	LA 140 9.3	RU 103 4.2	I 131 2.7	CE 141 1.6	BA 140 .8	PR 144 .8	CF 144 .7	PM 148 .5
60.0 DAYS	NR 95 45.0	ZR 95 30.4	LA 140 8.6	RU 103 6.1	I 131 2.3	CE 141 1.6	PM 144 .4	BA 140 .7	CE 144 .7	NR 106 .5
115.7 DAYS	NR 95 56.5	ZR 95 31.7	RU 103 5.8	PR 144 1.3	CE 144 1.2	CE 141 .9	NR 106 .9	LA 140 .8	PM 148 .4	CS 134 .2
150.0 DAYS	NR 95 58.8	ZR 95 30.8	RU 103 4.4	PR 144 1.6	CF 144 1.5	RM 106 1.1	CE 141 .6	PM 148 .3	CS 134 .3	LA 140 .2
231.5 DAYS	NR 95 59.7	ZR 95 28.7	PR 144 2.4	CE 144 2.7	RU 103 2.3	RM 106 2.1	CS 134 .6	CF 141 .2	PM 148 .2	SR 125 .1
1.0 YRS.	NR 95 52.6	ZR 95 24.0	PR 144 7.3	CE 144 6.8	RM 106 5.6	CS 134 1.8	RU 103 .8	SR 125 .5	PR 144 .2	SN 125 .1

SOURCE 1 (PLATE OUT), 200 DAYS, POWER=4000 MA, U-235+PU-239

GREATEST CONTRIBUTORS TO RETA DECAY POWER (PERCENT OF TOTAL)

D-5

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 136 10.2	I 134 10.0	I 137 9.1	I *136 7.2	I 138 6.3	I 133 5.4	I 135 4.8	I 132 4.4	I 139 2.4	RB 92 1.2
1.0 SEC.	I 136 10.8	I 134 10.6	I 137 9.3	I *136 7.6	I 138 6.0	I 133 5.8	I 135 5.1	I 132 4.6	I 139 1.9	Y 96 1.1
2.0 SEC.	I 136 11.1	I 134 11.0	I 137 9.4	I *136 7.7	I 138 6.0	I 133 5.6	I 135 5.3	I 132 4.8	I 139 1.5	Y 96 1.2
5.0 SEC.	I 134 11.9	I 136 11.7	I 137 9.3	I *136 8.0	I 133 6.4	I 135 5.7	I 132 5.2	I 136 4.4	Y 96 1.3	I 131 1.2
10.0 SEC.	I 134 12.9	I 136 12.1	I 137 8.8	I *136 8.1	I 133 7.0	I 135 6.1	I 132 5.6	I 138 2.8	I 131 1.3	Y 96 1.3
20.0 SEC.	I 134 14.3	I 136 12.4	I *136 7.8	I 133 7.8	I 137 7.4	I 135 6.8	I 132 6.3	I 131 1.5	Y 96 1.4	CS 139 1.2
50.0 SEC.	I 134 16.9	I 136 11.6	I 133 9.2	I 135 8.1	I 132 7.4	I *136 6.0	I 137 3.8	I 131 1.8	Y 96 1.5	XE 137 1.4
100.0 SEC.	I 134 17.5	I 136 11.1	I 133 9.6	I 135 8.4	I 132 7.7	I *136 5.4	I 137 3.0	I 131 1.8	XE 137 1.5	Y 96 1.4
3.3 MIN.	I 134 19.6	I 133 10.8	I 135 9.5	I 136 8.9	I 132 8.7	I *136 3.4	I 131 2.1	XE 137 1.8	Y 94 1.6	Y 95 1.5
8.3 MIN.	I 134 22.5	I 133 12.7	I 135 11.1	I 132 10.1	I 136 4.5	I 131 2.4	Y 94 1.8	XE 137 1.7	Y 95 1.6	CS 139 1.6
16.7 MIN.	I 134 24.7	I 133 14.8	I 135 12.9	I 132 11.5	I 131 2.8	Y 94 1.7	Y 92 1.7	Y 93 1.5	CS 138 1.4	Y 95 1.4
33.3 MIN.	I 134 26.8	I 133 16.3	I 135 14.1	I 132 12.3	I 131 3.2	Y 92 1.9	Y 93 1.7	Y 94 1.4	CS 138 1.3	LA 141 1.3
60.0 MIN.	I 133 21.1	I 133 18.5	I 135 15.6	I 132 12.9	I 131 3.6	Y 92 2.2	Y 93 1.9	LA 141 1.5	BA 139 1.3	LA 142 1.3
1.4 HR.	I 133 23.0	I 135 18.3	I 134 15.4	I 132 13.0	I 131 4.2	Y 92 2.5	Y 93 2.1	LA 141 1.6	ZR 97 1.2	LA 142 1.2
2.8 HR.	I 133 27.8	I 135 20.0	I 132 11.1	I 134 6.6	I 131 5.8	XE 135 3.4	Y 92 3.1	Y 93 2.6	LA 141 1.6	ZR 97 1.6
5.6 HR.	I 133 32.4	I 135 19.1	I 131 7.3	XE 135 6.8	I 132 6.8	Y 92 2.9	Y 93 2.7	ZR 97 1.8	LA 140 1.8	Y 91 1.7
12.0 HR.	I 133 35.5	I 135 13.1	XE 135 11.3	I 131 9.7	I 132 2.6	LA 140 2.4	Y 93 2.4	Y 91 2.3	PR 144 1.9	ZR 97 1.9
13.9 HR.	I 133 35.7	YE 135 11.8	I 135 11.6	I 131 10.4	LA 140 2.6	Y 91 2.5	I 132 2.3	Y 93 2.3	PR 144 2.1	SR 89 2.0
1.0 DAYS	I 133 35.1	I 131 13.8	XE 135 11.5	I 135 5.5	LA 140 3.5	Y 91 3.4	PR 144 2.9	SR 89 2.7	I 132 2.1	PR 143 2.0
1.2 DAYS	I 133 34.3	I 131 15.0	XE 135 10.5	I 135 4.1	LA 140 3.9	Y 91 3.7	PR 144 3.2	SR 89 3.0	PR 143 2.3	I 132 2.2
2.3 DAYS	I 131 23.0	I 133 22.9	LA 140 6.4	Y 91 6.2	PR 144 5.3	SR 89 4.9	XE 133 3.7	PR 143 3.7	BA 140 3.2	XE 135 3.1
4.0 DAYS	I 131 28.3	Y 91 8.7	I 133 8.5	LA 140 8.5	PR 144 7.6	SR 89 6.9	XE 133 5.2	PR 143 4.9	BA 140 4.1	I 132 2.9
5.8 DAYS	I 131 29.2	Y 91 10.2	LA 140 9.4	PR 144 9.0	SR 89 8.1	PR 143 5.4	XE 133 5.4	BA 140 4.5	CE 141 2.9	I 133 2.4
10.0 DAYS	I 131 26.2	Y 91 12.6	PP 144 11.6	SR 89 9.9	LA 140 9.8	PR 143 5.7	BA 140 4.6	XE 133 4.4	CE 141 3.4	ZR 95 2.7
11.6 DAYS	I 131 24.7	Y 91 13.4	PR 144 12.4	SR 89 10.4	LA 140 9.7	PR 143 5.7	BA 140 4.6	XE 133 3.9	CE 141 3.5	ZR 95 2.8
23.1 DAYS	PR 144 18.7	Y 91 18.0	I 131 14.1	SR 89 13.9	LA 140 8.0	PR 143 4.9	CE 141 4.3	ZR 95 3.9	BA 140 3.8	RH 106 2.1
30.0 DAYS	PR 144 22.2	Y 91 20.0	SR 89 15.2	I 131 9.4	LA 140 6.7	CE 141 4.5	ZR 95 4.3	PR 143 4.1	BA 140 3.1	RH 106 2.5
57.9 DAYS	PR 144 32.8	Y 91 22.8	SR 89 16.6	ZR 95 5.1	CE 141 3.9	RH 106 3.8	NR 95 2.7	LA 140 2.3	CE 144 2.2	PR 143 1.6
100.0 DAYS	PR 144 33.4	Y 91 22.8	SR 89 16.6	ZR 95 5.1	RH 106 3.9	CE 141 3.8	NR 95 2.7	CE 144 2.2	LA 140 2.1	PR 143 1.5
115.7 DAYS	PR 144 46.5	Y 91 18.8	SR 89 12.6	RH 106 5.6	ZR 95 4.5	CE 144 3.1	NR 95 2.9	CE 141 1.9	Y 90 1.7	RU 103 1.7
150.0 DAYS	PR 144 52.9	Y 91 15.5	SR 89 9.8	RH 106 6.4	ZR 95 3.9	CE 144 3.5	NR 95 2.7	Y 90 2.1	CE 141 1.1	PM 147 1.5
231.5 DAYS	PR 144 64.1	Y 91 8.7	RH 106 8.2	SR 89 4.9	CE 144 4.2	Y 90 3.0	ZR 95 2.4	NR 95 1.8	PM 147 1.7	SR 90 1.6
1.0 YRS.	PR 144 71.9	RH 106 9.9	CE 144 8.7	Y 90 4.7	Y 91 2.8	SR 89 1.3	SR 90 1.0	PM 147 1.0	ZR 95 0.9	CS 137 1.0

SOURCE 1 (WATER), 200 DAYS, POWER=4000 MW, U=235+PU=239

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	I 134 20,2	I 132 10,1	I 135 9,5	I 134 6,7	I 137 6,5	BR 8A 4,4	I 13A 4,3	I 133 4,2	I *136 3,9	BR 87 3,0
1,0 SEC.	I 134 21,3	I 132 10,6	I 135 10,0	I 134 7,0	I 137 6,7	AP 8A 4,5	I 133 4,4	I 13R 4,1	I *136 4,0	BR 87 3,7
2,0 SEC.	I 134 22,0	I 132 11,0	I 135 10,4	I 134 7,2	I 137 6,7	I 133 4,6	BR 8A 4,4	I *136 4,1	RR 87 3,8	I 13R 3,8
5,0 SEC.	I 134 23,6	I 132 11,7	I 135 11,1	I 134 7,5	I 137 6,6	I 133 4,9	I *136 4,2	RR 88 4,0	RR 87 3,9	BR 86 3,3
10,0 SEC.	I 134 25,2	I 132 12,6	I 135 11,9	I 134 7,8	I 137 6,2	I 133 5,2	I *136 4,2	RR 87 4,0	RR 8A 3,6	BR 86 3,3
20,0 SEC.	I 134 27,4	I 132 13,7	I 135 12,9	I 134 7,8	I 133 5,7	I 137 5,1	I *136 3,9	RR 87 3,8	RR 86 3,2	BR 86 2,5
40,0 SEC.	I 134 31,2	I 132 15,6	I 135 14,8	I 134 6,9	I 133 6,5	RR 87 3,0	I *136 2,9	RR 84 2,5	I 137 2,5	RR 86 2,5
60,0 SEC.	I 134 32,0	I 132 16,0	I 135 15,2	I 133 6,7	I 136 6,6	BR 87 2,7	I *136 2,6	RR 84 2,6	RR 86 2,2	I 137 1,9
100,0 SEC.	I 134 34,5	I 132 17,4	I 135 16,5	I 133 7,3	I 136 5,1	RR 84 2,7	I 131 2,1	RR 87 1,8	I *136 1,6	BP 86 1,5
3,3 MIN.	I 134 37,4	I 132 19,0	I 135 18,2	I 133 8,1	RR 84 2,9	I 136 2,4	I 131 2,3	LA 142 1,6	BR 87 1,6	CS 138 1,6
8,3 MIN.	I 134 38,4	I 132 20,3	I 135 19,7	I 133 8,4	RR 84 2,9	I 131 2,5	LA 142 1,6	LA 140 1,5	CS 138 1,5	RR 89 1,3
16,7 MIN.	I 134 37,1	I 132 21,0	I 135 20,9	I 133 9,4	I 131 2,7	BR 84 2,6	LA 142 1,7	LA 140 1,6	CS 138 1,5	SR 92 1,3
33,3 MIN.	I 134 33,8	I 135 23,0	I 132 21,9	I 133 10,6	I 131 3,0	RR 84 2,0	LA 140 1,7	LA 142 1,7	CS 138 1,4	SR 92 1,3
60,0 MIN.	I 134 28,4	I 135 26,1	I 132 22,8	I 133 12,4	I 131 3,4	RR 84 1,3	LA 140 1,9	LA 142 1,7	SR 92 1,4	XE 135 1,3
1,4 HR.	I 135 28,5	I 134 23,9	I 132 23,1	I 133 13,9	I 131 4,1	LA 140 1,0	RR 84 1,9	LA 142 1,6	XE 135 1,5	SR 92 1,4
2,8 HR.	I 135 35,0	I 132 21,9	I 133 18,8	I 134 11,5	I 131 5,7	LA 140 1,4	XE 135 1,4	LA 142 1,5	ZR 95 1,4	NR 97 1,4
5,6 HR.	I 135 39,0	I 133 25,7	I 132 18,9	I 131 8,5	XE 135 3,2	LA 140 2,1	I 134 1,9	ZR 95 1,9	NR 95 1,6	NR 97 1,5
12,0 HR.	I 133 33,5	I 135 32,1	I 131 13,4	XE 135 6,3	I 132 5,3	LA 140 3,4	ZR 95 1,0	NR 95 1,0	NR 97 1,0	RU 103 1,4
13,9 HR.	I 133 36,4	I 135 29,1	I 131 14,8	XE 135 6,8	I 132 4,3	LA 140 3,7	ZR 95 1,1	NR 95 1,0	NR 97 1,0	RU 103 1,4
1,0 DAYS	I 133 37,9	I 131 21,7	I 135 15,3	YE 135 7,3	LA 140 5,7	I 132 3,5	ZR 95 1,7	NR 95 1,5	XE 133 1,7	RU 103 1,7
1,2 DAYS	I 133 37,8	I 131 24,2	I 135 11,6	KF 135 6,8	LA 140 6,4	I 132 3,7	ZR 95 1,9	NR 95 1,7	XE 133 1,0	RU 103 1,8
2,3 DAYS	I 131 39,2	I 133 26,8	LA 140 11,0	I 132 5,1	ZR 95 3,3	NR 95 3,1	AF 133 2,4	XE 135 2,1	RU 103 1,3	I 135 1,1
4,0 DAYS	I 131 49,8	LA 140 15,2	I 133 10,2	I 132 5,2	ZR 95 4,8	NR 95 4,6	XE 133 3,5	RU 103 1,9	HA 140 1,3	TF 132 1,6
5,8 DAYS	I 131 53,1	LA 140 17,4	ZR 95 5,9	NR 95 5,7	I 132 4,4	XE 133 3,8	I 133 3,0	RU 103 2,3	HA 140 1,5	CE 141 1,6
10,0 DAYS	I 131 51,5	LA 140 19,5	NR 95 8,0	ZR 95 7,9	XE 133 3,3	RU 103 3,0	I 132 2,5	HA 140 1,7	CE 141 1,7	ND 147 1,3
11,6 DAYS	I 131 50,0	LA 140 20,0	NR 95 8,9	ZR 95 8,6	RU 103 3,2	XE 133 3,0	I 132 2,6	HA 140 1,7	CE 141 1,6	ND 147 1,3
23,1 DAYS	I 131 35,8	LA 140 20,7	NR 95 17,2	ZR 95 14,8	RU 103 5,1	HA 140 1,8	XE 133 1,3	CE 141 1,2	I 132 1,3	PM*148 1,3
30,0 DAYS	I 131 26,9	NR 95 22,9	LA 140 19,4	ZR 95 18,7	RU 103 6,1	HA 140 1,7	CE 141 1,4	XE 133 1,7	PR 144 1,4	PM*148 1,4
57,9 DAYS	NR 95 42,9	ZR 95 29,5	LA 140 9,1	RU 103 8,0	I 131 5,2	CE 141 1,6	HA 140 1,8	PR 144 1,7	CE 140 1,7	PM*148 1,5
60,0 DAYS	NR 95 43,9	ZR 95 29,9	LA 140 8,4	RU 103 8,0	I 131 4,5	CE 141 1,6	PR 144 1,8	BA 140 1,7	CE 140 1,7	HM 106 1,5
115,7 DAYS	NR 95 56,5	ZR 95 31,7	RU 103 5,6	PR 144 1,5	CE 144 1,2	CE 141 1,9	RM 106 1,9	LA 140 1,5	PM*148 1,4	CS 134 1,2
150,0 DAYS	NR 95 58,8	ZR 95 30,8	RU 103 4,6	PR 144 1,4	CE 144 1,5	CE 141 1,1	CE 141 1,1	PM*148 1,3	CS 134 1,3	LA 140 1,2
231,5 DAYS	NR 95 59,7	ZR 95 28,7	PR 144 2,9	CE 144 2,7	RU 103 2,3	RM 106 2,1	CS 134 1,6	CE 141 1,2	PM*148 1,2	SB 125 1,1
1,0 YRS.	NR 95 52,6	ZR 95 24,0	PR 144 7,3	CE 144 6,8	RM 106 5,6	CS 134 1,8	RU 103 1,8	CR 125 1,5	PP*144 1,2	SN 123 1,1

SOURCE 1 (WATER), 200 DAYS, POWER=2000 MW, H=235+PU=239

GREATEST CONTRIBUTORS TO HEAT DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	AP BA 10.0	I 134 7.6	I 134 7.4	HR A0 6.9	I 137 6.7	RR A7 6.1	BR 90 5.7	I *136 5.4	I 138 4.6	I 133 4.0
1.0 SEC.	BR BA 10.4	I 136 8.2	I 134 8.1	I 137 7.1	RR A7 6.6	RR A9 6.5	I *136 5.8	I 138 4.5	I 133 4.4	BR 90 4.0
2.0 SEC.	BR BA 10.5	I 136 8.6	I 134 8.6	I 137 7.3	RR A7 6.9	I *136 6.0	BR 89 5.9	I 133 4.6	I 138 4.3	I 135 4.1
5.0 SEC.	BR BA 10.5	I 134 9.7	I 136 9.5	I 137 7.6	RR A7 7.5	I *136 6.5	I 133 5.2	I 135 4.6	I 132 4.2	BR 89 4.2
10.0 SEC.	I 134 11.0	I 136 10.4	AP AA 9.6	BR A7 8.0	I 137 7.5	I *136 6.9	I 133 6.0	I 135 5.2	I 132 4.8	BR 86 2.9
20.0 SEC.	I 134 12.8	I 136 11.1	RR A7 8.3	RR A8 7.2	I *136 7.0	I 133 7.0	I 137 6.6	I 135 6.1	I 132 5.6	HR 86 3.7
50.0 SEC.	I 134 16.3	I 136 11.1	I 133 8.9	I 135 7.6	HR A7 7.3	I 132 7.2	I *136 5.8	I 137 3.6	BR 84 3.5	BR 85 3.1
60.0 SEC.	I 134 17.2	I 136 10.8	I 133 9.4	I 135 8.3	I 132 7.6	RR A7 6.6	I *136 5.3	HR 84 3.7	BR 85 3.1	I 137 2.9
100.0 SEC.	I 134 20.0	I 133 11.0	I 135 9.7	I 136 9.1	I 132 9.9	RR A7 4.9	BR 84 4.3	I *136 3.5	RR 85 3.1	I 131 2.1
3.3 MIN.	I 134 24.0	I 133 13.5	I 135 11.9	I 132 10.8	RR A4 5.1	I 136 4.8	I 131 2.6	HR 85 2.6	HR 85 2.9	BR 87 1.7
8.3 MIN.	I 134 27.1	I 133 16.2	I 135 14.1	I 132 12.6	RR A4 5.5	I 131 3.1	Y 94 1.0	Y 92 1.0	Y 93 0.9	Y 94 0.8
16.7 MIN.	I 134 27.0	I 133 17.9	I 135 15.4	I 132 13.4	RR A4 5.0	I 131 3.5	Y 92 1.0	HR 83 1.0	Y 93 0.9	Y 94 0.8
33.3 MIN.	I 134 24.7	I 133 20.2	I 135 17.1	I 132 14.1	RR A4 4.0	I 131 3.9	Y 92 1.2	Y 93 1.2	Y 93 1.2	Y 94 1.0
60.0 MIN.	I 133 23.2	I 134 20.4	I 135 19.0	I 132 14.4	I 131 4.6	RR 84 2.6	Y 92 1.4	Y 93 1.2	Y 93 1.2	Y 94 1.0
1.4 HR.	I 133 25.5	I 135 20.3	I 134 16.8	I 132 14.3	I 131 5.1	BR 84 1.7	XF 135 1.7	Y 92 1.5	Y 93 1.5	Y 94 1.0
2.8 HR.	I 133 31.5	I 135 22.7	I 132 12.3	I 134 7.3	I 131 6.6	XF 135 3.8	Y 92 1.7	Y 93 1.5	LA 141 1.9	Y 94 1.0
5.6 HR.	I 133 37.3	I 135 22.0	I 131 8.4	XF 135 7.9	I 132 7.3	Y 92 1.7	Y 93 1.6	I 134 1.1	Y 93 1.3	Y 94 1.0
12.0 HR.	I 133 41.3	I 135 15.3	XF 135 13.1	I 131 11.3	I 132 2.2	LA 140 1.4	Y 93 1.4	Y 91 1.3	PR 144 1.1	Y 94 1.0
13.9 HR.	I 133 41.8	XE 135 13.8	I 135 13.5	I 131 12.1	I 132 1.7	LA 140 1.5	Y 91 1.4	Y 93 1.3	PR 144 1.2	Y 94 1.0
1.0 DAYS	I 133 42.0	I 131 16.5	XF 135 13.7	I 135 6.6	LA 140 2.1	Y 91 2.0	PR 144 1.7	XE 133 1.7	SR 89 1.6	I 132 1.3
1.7 DAYS	I 133 41.4	I 131 18.1	XF 135 12.7	I 135 4.9	LA 140 2.3	Y 91 2.3	XF 133 2.1	PR 144 1.9	SR 89 1.8	I 132 1.4
2.3 DAYS	I 131 30.0	I 133 29.9	XF 133 4.8	LA 140 4.1	XF 135 4.1	Y 91 4.1	PR 144 3.5	SR 89 3.2	PR 143 3.5	BA 140 2.1
4.0 DAYS	I 131 39.8	I 133 11.9	XE 133 7.3	Y 91 6.1	LA 140 6.0	PR 144 5.3	SR 89 4.8	PR 143 3.5	BA 140 2.9	I 132 2.1
5.8 DAYS	I 131 42.5	XE 133 7.9	Y 91 7.5	LA 140 6.9	PR 144 6.6	SR 89 5.9	PR 143 4.0	I 133 3.6	BA 140 3.3	CE 141 2.1
10.0 DAYS	I 131 40.1	Y 91 9.6	PR 144 8.9	SR 89 7.6	LA 140 7.5	XE 133 6.7	PR 143 4.4	HA 140 3.5	CE 141 2.6	ZR 95 2.0
11.6 DAYS	I 131 38.4	Y 91 10.4	PR 144 9.7	SR 89 8.1	LA 140 7.6	XE 133 6.0	PR 143 4.4	HA 140 3.6	CE 141 2.8	ZR 95 2.2
23.1 DAYS	I 131 24.4	PR 144 16.2	Y 91 15.6	SR 89 12.0	LA 140 7.0	PR 143 4.2	CF 141 3.7	ZR 95 3.3	BA 140 3.3	XE 133 2.4
30.0 DAYS	PR 144 20.1	Y 91 18.2	I 131 17.1	SR 89 13.8	LA 140 6.1	CF 141 4.0	ZR 95 3.9	PR 143 3.8	RA 140 2.9	HM 106 2.3
57.9 DAYS	PR 144 32.4	Y 91 22.5	SR 89 16.4	ZR 95 5.0	CE 141 3.8	HM 106 3.7	I 131 2.7	AR 95 2.7	Y 90 1.9	Y 90 1.7
60.0 DAYS	PR 144 33.1	Y 91 22.5	SR 89 16.4	ZR 95 5.0	RM 106 3.8	CE 141 3.8	NR 95 2.7	I 131 2.6	CE 144 2.2	LA 140 2.1
115.7 DAYS	PR 144 46.5	Y 91 18.8	SR 89 12.5	RM 106 5.5	ZR 95 4.5	CE 144 3.1	NR 95 2.9	CE 141 1.9	Y 90 1.7	RM 103 0.7
150.0 DAYS	PR 144 52.9	Y 91 15.5	SR 89 9.8	RM 106 6.4	ZR 95 3.9	CE 144 3.5	NR 95 2.7	Y 90 2.1	CE 141 1.1	PM 147 0.5
231.5 DAYS	PR 144 64.1	Y 91 8.7	RM 106 8.2	SR 89 4.9	CF 144 4.2	Y 90 3.0	ZR 95 2.4	NR 95 1.8	PM 147 0.7	SR 90 0.6
1.0 YRS.	PR 144 71.9	RM 106 9.9	CE 144 4.7	Y 90 4.7	Y 91 2.8	SR 89 1.3	SR 90 1.0	PM 147 1.0	ZH 95 0.9	CS 137 0.9

SOURCE 2 (AIR), 200 DAYS, POWER=0000

U-235+PU-239

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER
LOCA

	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 134 11.3	KR 89 10.2	KR 90 8.7	KR 88 8.5	XE 138 8.4	I 132 5.6	XE 140 5.5	I 135 5.3	XE 139 5.3	I 136 3.8
1.0 SEC.	I 134 11.8	KR 89 10.5	KR 90 8.9	KR 88 8.8	XE 138 8.7	I 132 5.8	I 135 5.5	XE 140 5.4	XE 139 5.4	I 136 3.9
2.0 SEC.	I 134 12.1	KR 89 10.8	KR 88 9.0	XE 138 8.9	KR 90 8.9	I 132 6.0	I 135 5.7	XE 139 5.4	XE 140 5.3	I 136 3.9
5.0 SEC.	I 134 12.7	KR 89 11.2	KR 88 9.5	XE 138 9.4	KR 90 8.8	I 132 6.3	I 135 6.0	XE 139 5.5	XE 140 4.8	I 136 4.1
10.0 SEC.	I 134 13.3	KR 89 11.6	KR 88 10.0	XE 138 9.8	KR 90 8.3	I 132 6.6	I 135 6.3	XE 139 5.3	I 136 4.1	XE 140 3.9
20.0 SEC.	I 134 14.2	KR 89 11.9	KR 88 10.7	XE 138 10.4	KR 90 7.2	I 132 7.1	I 135 6.7	XE 139 4.7	I 136 4.0	I 133 3.0
50.0 SEC.	I 134 16.0	KR 89 12.1	KR 88 12.0	XE 138 11.5	I 132 8.0	I 135 7.6	KR 90 4.3	I 136 3.5	I 133 3.3	XE 139 3.2
100.0 SEC.	I 134 16.4	KR 88 12.4	KR 89 12.0	XE 138 11.7	I 132 8.2	I 135 7.8	KR 90 3.5	I 133 3.4	I 136 3.4	KR 87 3.1
3.3 MIN.	I 134 17.8	KR 88 13.5	XE 138 12.4	KR 89 11.4	I 132 9.0	I 135 8.5	I 133 3.8	KR 87 3.4	I 136 2.6	KR 90 2.4
8.3 MIN.	I 134 19.6	KR 88 15.1	XE 138 12.9	I 132 10.0	I 135 9.5	KR 89 8.9	I 133 4.2	KR 87 3.8	KR 90 2.1	KR 89 2.0
16.7 MIN.	I 134 20.7	KR 88 17.9	I 132 11.7	I 135 11.7	XE 138 8.4	CS 138 7.5	I 133 5.3	KR 87 4.2	KR 89 3.0	KR 88 2.7
33.3 MIN.	KR 88 19.0	I 134 18.9	I 135 12.9	I 132 12.3	CS 138 9.7	I 133 5.9	KR 88 4.5	XE 138 4.3	KR 87 4.1	KR 85 1.8
60.0 MIN.	KR 88 20.5	I 134 16.0	I 135 14.9	I 132 12.9	CS 138 8.9	I 133 7.0	KR 88 6.1	KR 87 3.8	KR 85 2.1	I 131 2.0
1.4 HR.	KR 88 21.5	I 135 16.5	I 134 13.6	I 132 13.2	I 133 8.0	KR 88 6.9	CS 138 6.9	KR 87 3.4	I 131 2.3	XE 133 2.3
2.8 HR.	KR 88 22.7	I 135 21.2	I 132 12.9	I 133 11.4	KR 88 7.7	I 134 6.8	I 131 3.5	XE 133 3.6	XE 135 3.2	KR 85 2.7
5.6 HR.	I 135 26.3	KR 88 19.0	I 133 17.3	I 132 9.2	KR 88 6.5	I 131 5.7	XE 133 5.8	XE 135 5.3	KR 85 2.9	I 134 1.2
12.0 HR.	I 133 27.6	I 135 26.4	I 131 11.1	XE 133 10.8	XE 135 9.0	KR 88 7.6	KR 88 2.8	I 132 2.6	KR 85 2.1	I 130 .1
13.9 HR.	I 133 29.7	I 135 24.8	I 131 12.6	XE 133 12.3	XE 135 9.6	KR 88 5.5	KR 88 1.9	KR 85 1.8	I 132 1.7	I 130 .1
1.0 DAYS	I 133 34.9	I 131 20.0	XE 133 19.6	I 135 14.1	XE 135 9.7	KR 88 .7	KR 85 .6	KR 88 .3	I 132 .1	I 130 .1
1.2 DAYS	I 133 35.0	I 131 22.4	XE 133 22.0	I 135 10.8	XE 135 8.8	KR 85 .4	KR 88 .3	KR 88 .1	I 130 .1	I 132 .0
2.3 DAYS	I 131 36.4	XE 133 35.1	I 133 24.9	XF 135 2.6	I 135 1.0	I 130 .0	KR 85 .0	KR 85 .0	LA 140 .0	SR 91 .0
4.0 DAYS	I 131 46.9	XE 133 43.3	I 133 9.6	XE 135 .2	I 135 .0	LA 140 .0	KR 85 .0	I 130 .0	BA 140 .0	SR 91 .0
5.8 DAYS	I 131 51.9	XE 133 45.1	I 133 3.0	XF 135 .0	LA 140 .0	KR 85 .0	BA 140 .0	I 130 .0	I 135 .0	CE 141 .0
10.0 DAYS	I 131 57.5	XE 133 42.3	I 133 .2	KR 85 .0	LA 140 .0	KR 85 .0	CE 141 .0	XF 135 .0	Y 91 .0	I 130 .0
11.6 DAYS	I 131 59.2	XE 133 40.7	I 133 .1	KR 85 .0	LA 140 .0	BA 140 .0	CE 141 .0	Y 91 .0	CE 135 .0	I 130 .0
23.1 DAYS	I 131 70.6	XE 133 29.3	KR 85 .1	LA 140 .0	BA 140 .0	CE 141 .0	I 133 .0	Y 91 .0	CE 135 .0	I 129 .0
30.0 DAYS	I 131 76.5	XF 133 23.4	KR 85 .1	LA 140 .0	BA 140 .0	CE 141 .0	Y 91 .0	Y 91 .0	CE 135 .0	I 129 .0
57.9 DAYS	I 131 90.5	XE 133 7.9	KR 85 1.4	LA 140 .1	BA 140 .0	CE 141 .0	Y 91 .0	I 129 .0	CE 135 .0	I 129 .0
60.0 DAYS	I 131 90.9	XE 133 7.7	KR 85 1.7	LA 140 .1	BA 140 .0	CE 141 .0	Y 91 .0	I 129 .0	CE 135 .0	I 129 .0
115.7 DAYS	KR 85 69.5	I 131 30.0	LA 140 .2	XE 133 .2	BA 140 .0	CE 141 .0	Y 91 .0	I 129 .0	CE 135 .0	I 129 .0
150.0 DAYS	KR 85 47.7	I 131 2.2	LA 140 .1	BA 140 .0	Y 91 .0	CE 141 .0	CE 135 .0	I 129 .0	CE 135 .0	I 129 .0
231.5 DAYS	KR 85 100.0	I 131 .0	Y 91 .0	LA 140 .0	CE 141 .0	I 129 .0	BA 140 .0	Y 90 .0	CE 135 .0	BA 140 .0
1.0 YRS.	KR 85 100.0	I 129 .0	Y 91 .0	Y 90 .0	BA 140 .0	CE 141 .0	ZR 95 .0	PR 144 .0	CE 144 .0	LA 140 .0

SOURCE 2 (AIR), 200 DAYS, POWER=4000 MW, U-235+PU-239

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	XE 137 15.0	XE 130 11.7	KR 91 10.9	KR 89 7.1	KR 90 6.8	XE 138 5.3	KR 92 4.5	KR 87 4.2	XE 140 4.1	I 136 3.5
1.0 SEC.	XE 137 15.6	XE 130 12.1	KR 91 10.6	KR 89 7.4	KR 90 7.0	XE 138 5.6	KR 87 4.4	XE 140 4.1	I 136 3.7	I 134 3.6
2.0 SEC.	XE 137 16.1	XE 130 12.3	KR 91 10.1	KR 89 7.6	KR 90 7.1	XE 138 5.7	KR 87 4.5	XE 140 4.0	I 136 3.8	I 134 3.8
5.0 SEC.	XF 137 17.4	XE 130 12.6	KR 91 8.6	KR 89 8.1	KR 90 7.2	XE 138 6.2	KR 87 4.9	I 134 4.1	I 136 4.0	XE 140 3.7
10.0 SEC.	XF 137 18.7	XE 130 12.7	KR 89 8.7	KR 90 7.1	XE 138 6.8	KR 91 6.3	KR 87 5.3	I 134 4.4	I 136 4.2	XE 140 3.1
20.0 SEC.	XE 137 20.5	XE 130 12.0	KR 89 9.5	XE 138 7.5	KR 90 6.4	KR 87 6.0	I 134 5.0	I 136 4.3	KR 91 3.2	I 136 2.7
50.0 SEC.	XE 137 23.1	KR 89 10.3	XE 138 8.9	XE 139 8.7	KR 87 7.2	I 134 6.0	I 136 4.1	KR 91 4.1	I 133 3.3	I 135 2.9
80.0 SEC.	XE 137 23.5	KR 89 10.4	XE 138 9.3	XE 139 7.7	KR 87 7.6	I 134 6.3	I 136 3.9	KR 90 3.5	I 133 3.5	I 135 3.0
100.0 SEC.	XF 137 24.0	XE 138 10.3	KR 89 10.3	KR 87 8.6	I 134 7.2	XE 139 4.5	I 133 4.0	I 135 3.5	I 126 3.3	I 132 3.2
3.3 MIN.	XE 137 21.9	XE 138 11.7	KR 87 10.5	KR 89 8.8	I 134 8.7	I 133 4.9	I 135 4.3	I 132 3.9	RB 88 2.9	KR 85 2.8
8.3 MIN.	KR 87 13.0	XE 138 11.9	XE 137 11.6	I 134 10.5	WB 88 8.5	I 133 6.3	I 135 5.5	I 132 4.9	CS 138 4.6	KR 89 3.8
16.7 MIN.	RR 88 16.4	KR 87 13.8	I 134 10.8	XE 138 9.1	CS 138 7.9	I 133 7.2	I 135 6.2	I 132 5.4	KR 85 4.1	KR 88 3.9
33.3 MIN.	RR 88 25.6	KR 87 12.8	CS 138 9.8	I 134 9.4	I 133 7.7	I 135 6.5	I 132 5.3	XE 138 4.3	KR 85 4.2	KR 88 4.0
60.0 MIN.	RR 88 32.7	KR 87 11.2	I 133 8.5	CS 138 8.3	I 134 7.4	I 135 6.9	I 132 5.2	KR 85 4.4	XE 133 4.3	KR 88 4.0
1.4 HR.	RR 88 35.6	KR 87 10.1	I 133 9.3	I 135 7.4	CS 138 8.2	I 134 6.0	I 132 5.2	XE 133 4.7	KR 85 4.6	XE 135 4.1
2.8 HR.	RB 88 37.7	I 133 12.6	I 135 9.1	XE 133 6.7	KR 87 6.7	XE 135 6.0	KR 85 5.2	I 132 4.8	KR 88 4.0	I 134 2.8
5.6 HR.	RR 88 39.7	I 133 18.5	I 135 10.9	XE 133 10.7	XE 135 9.7	KR 85 5.5	I 131 4.2	I 132 3.3	KR 88 3.3	KR 87 2.4
12.0 HR.	I 133 28.2	XE 133 19.8	XE 135 15.7	RR 88 11.7	I 135 10.5	I 131 7.7	KR 85 3.8	KR 88 1.3	I 132 0.9	KR 85 0.2
13.9 HR.	I 133 29.8	XE 133 22.2	XE 135 16.5	I 135 9.6	I 131 8.6	WB 88 8.3	KR 85 3.2	KR 88 0.9	I 132 0.6	KR 85 0.2
1.0 DAYS	XE 133 32.5	I 133 32.2	XE 135 15.1	I 131 12.6	I 135 5.0	WB 88 1.0	KR 85 1.0	KR 85 0.4	KR 86 0.1	I 132 0.0
1.2 DAYS	XE 133 35.7	I 133 31.6	I 131 13.4	XE 135 13.6	I 135 3.8	KR 85 0.6	KR 88 0.4	KR 85 0.4	KR 86 0.0	I 132 0.0
2.3 DAYS	XE 133 53.3	I 131 21.0	I 133 21.0	XE 135 3.7	KR 85 0.7	I 135 0.3	KR 85 0.0	SR 89 0.0	I 130 0.0	LA 140 0.0
4.0 DAYS	XE 133 64.2	I 131 26.5	I 133 8.0	KR 85 1.0	XE 135 0.3	SR 89 0.0	I 135 0.0	LA 140 0.0	BA 140 0.0	I 130 0.0
5.8 DAYS	XF 133 66.9	I 131 29.4	I 133 2.5	KR 85 1.3	SR 89 0.0	XE 135 0.0	LA 140 0.0	BA 140 0.0	Y 91 0.0	I 135 0.0
10.0 DAYS	XF 133 64.4	I 131 33.4	KR 85 2.0	I 133 0.1	SR 89 0.0	LA 140 0.0	BA 140 0.0	Y 91 0.0	CS 137 0.0	Y 90 0.0
11.6 DAYS	XE 133 62.8	I 131 34.7	KR 85 2.4	I 133 0.0	SR 89 0.0	LA 140 0.0	BA 140 0.0	Y 91 0.0	CS 137 0.0	Y 90 0.0
23.1 DAYS	XF 133 47.7	I 131 43.8	KR 85 8.3	SR 89 0.1	LA 140 0.0	BA 140 0.0	Y 91 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0
30.0 DAYS	I 131 46.6	XE 133 37.3	KR 85 15.9	SR 89 0.2	LA 140 0.0	BA 140 0.0	Y 91 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0
57.9 DAYS	KR 85 74.9	I 131 19.9	XE 133 4.6	SR 89 0.5	Y 91 0.0	LA 140 0.0	BA 140 0.0	CS 137 0.0	Y 90 0.0	CE 141 0.0
60.0 DAYS	KR 85 78.4	I 131 17.4	XE 133 3.6	SR 89 0.5	Y 91 0.0	LA 140 0.0	BA 140 0.0	CS 137 0.0	Y 90 0.0	SR 90 0.0
115.7 DAYS	KR 85 90.5	SR 89 0.3	I 131 0.2	Y 91 0.0	CS 137 0.0	XE 133 0.0	Y 90 0.0	LA 140 0.0	SH 90 0.0	BA 140 0.0
150.0 DAYS	KR 85 99.6	SR 89 0.2	I 131 0.0	Y 91 0.0	CS 137 0.0	Y 90 0.0	SR 90 0.0	LA 140 0.0	CE 141 0.0	BA 140 0.0
231.5 DAYS	KR 85 99.9	SR 89 0.1	CS 137 0.0	Y 91 0.0	Y 90 0.0	SK 90 0.0	CE 141 0.0	I 131 0.0	I 129 0.0	PR 144 0.0
1.0 YRS.	KR 85 100.0	SR 89 0.0	CS 137 0.0	Y 90 0.0	Y 91 0.0	SR 90 0.0	I 129 0.0	CS 135 0.0	PR 144 0.0	CE 141 0.0

SOURCE 2 (PLATE OUT), 200 DAYS, POWER=4000 MW, II=235+PU-239

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

D-10

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0.0 SEC.	I 134 29.3	I 132 14.6	I 135 13.8	I 136 9.7	I 137 9.4	I 138 6.2	I 133 6.1	I *136 5.6	I 139 2.6	I 131 1.7
1.0 SEC.	I 134 29.0	I 132 14.9	I 135 14.1	I 136 9.9	I 137 9.4	I 133 6.2	I 138 5.7	I *136 5.7	I 139 2.6	I 131 1.7
2.0 SEC.	I 134 30.5	I 132 15.2	I 135 14.3	I 136 10.0	I 137 9.3	I 133 6.3	I *136 5.7	I 138 5.2	I 131 1.8	I 139 1.5
5.0 SEC.	I 134 31.6	I 132 15.7	I 135 14.9	I 136 10.1	I 137 8.9	I 133 6.6	I *136 5.6	I 138 3.9	I 131 1.8	I 139 .7
10.0 SEC.	I 134 33.0	I 132 16.4	I 135 15.5	I 136 10.1	I 137 8.6	I 133 6.8	I *136 5.5	I 138 2.4	I 131 1.9	I 139 .2
20.0 SEC.	I 134 34.7	I 132 17.3	I 135 16.4	I 136 9.8	I 137 7.2	I 133 6.4	I *136 5.0	I 131 2.0	I 138 .9	XE 139 .1
50.0 SEC.	I 134 37.8	I 132 18.9	I 135 17.9	I 136 8.4	I 133 7.0	I *136 3.6	I 137 3.0	I 131 2.2	XE 137 .1	I 138 .0
60.0 SEC.	I 134 38.5	I 132 19.3	I 135 18.3	I 133 8.1	I 136 7.9	I *136 3.1	I 137 2.3	I 131 2.3	XE 137 .1	XE 139 .0
100.0 SEC.	I 134 40.5	I 132 20.4	I 135 19.4	I 133 8.6	I 136 6.0	I 131 2.4	I *136 1.9	I 137 .8	XE 137 .1	I 130 .0
3.3 MIN.	I 134 42.5	I 132 21.6	I 135 20.7	I 133 9.2	I 136 2.8	I 131 2.6	I *136 .5	XF 137 .1	I 137 .1	I 130 .0
8.3 MIN.	I 134 42.6	I 132 22.6	I 135 21.9	I 133 9.8	I 131 2.8	I 136 .2	XE 137 .0	XF 135 .0	I 130 .0	XE 138 .0
16.7 MIN.	I 134 40.6	I 132 23.0	I 135 23.0	I 133 10.3	I 131 2.9	XE 135 .1	I 130 .0	XE 138 .0	CS 138 .0	XE 137 .0
33.3 MIN.	I 134 36.4	I 135 24.9	I 132 23.6	I 133 11.5	I 131 3.3	XE 135 .2	I 130 .0	CS 138 .0	XE 138 .0	XE 133 .0
60.0 MIN.	I 134 30.2	I 135 28.0	I 132 24.3	I 133 13.3	I 131 3.8	XE 135 .6	I 130 .0	CS 138 .0	XE 133 .0	XE 138 .0
1.4 HR.	I 135 30.5	I 134 25.2	I 132 24.5	I 133 14.9	I 131 4.3	XE 135 .6	I 130 .1	XE 133 .0	CS 138 .0	XE 138 .0
2.8 HR.	I 135 37.4	I 132 26.8	I 133 20.2	I 134 11.9	I 131 6.1	XF 135 1.4	I 130 .1	XE 133 .0	CS 138 .0	BA 139 .0
5.6 HR.	I 135 42.3	I 133 27.9	I 132 14.9	I 131 9.2	XE 135 3.5	I 134 2.0	XE 133 .1	I 130 .1	CS 138 .0	HA 139 .0
12.0 HR.	I 133 37.7	I 135 36.1	I 131 15.1	XE 135 7.1	I 132 3.5	XE 133 .3	I 130 .1	I 134 .0	LA 140 .0	BA 139 .0
13.9 HR.	I 133 39.6	I 135 33.1	I 131 16.8	XE 135 7.7	I 132 2.2	XE 133 .4	I 130 .1	I 134 .0	LA 140 .0	HA 140 .0
1.0 DAYS	I 133 45.5	I 131 26.1	I 135 18.4	XE 135 8.7	XE 133 1.0	I 132 .2	I 130 .1	LA 140 .0	I 134 .0	BA 140 .0
1.2 DAYS	I 133 46.3	I 131 29.7	I 135 14.2	XE 135 8.4	XF 133 1.3	I 130 .1	I 132 .1	LA 140 .0	BA 140 .0	I 134 .0
2.3 DAYS	I 131 54.7	I 133 37.3	XE 133 3.4	XE 135 3.0	I 135 1.6	I 130 .0	I 132 .0	LA 140 .0	BA 140 .0	I 129 .0
4.0 DAYS	I 131 78.1	I 133 14.0	XE 133 5.5	XE 135 .3	I 135 .0	I 130 .0	LA 140 .0	HA 140 .0	I 129 .0	CE 141 .0
5.8 DAYS	I 131 88.6	XE 133 6.3	I 133 5.1	XE 135 .0	I 130 .0	I 135 .0	LA 140 .0	HA 140 .0	I 129 .0	CE 141 .0
10.0 DAYS	I 131 93.8	XE 133 5.9	I 133 .3	LA 140 .0	XE 135 .0	I 130 .0	HA 140 .0	I 129 .0	CE 141 .0	I 135 .0
11.6 DAYS	I 131 94.3	XE 133 5.6	I 133 .1	LA 140 .0	HA 140 .0	XE 135 .0	I 130 .0	I 129 .0	CE 141 .0	I 135 .0
23.1 DAYS	I 131 96.4	XE 133 3.6	LA 140 .0	I 133 .0	HA 140 .0	I 129 .0	CE 141 .0	CS 135 .0	CF 143 .0	I 130 .0
30.0 DAYS	I 131 97.8	XF 133 2.6	LA 140 .0	HA 140 .0	I 129 .0	CE 141 .0	I 133 .0	CS 135 .0	PR 144 .0	CE 144 .0
57.9 DAYS	I 131 99.2	XE 133 .8	LA 140 .0	RA 140 .0	I 129 .0	CE 141 .0	CS 135 .0	PR 144 .0	CE 144 .0	PR 144 .0
60.0 DAYS	I 131 99.3	XF 133 .7	LA 140 .0	RA 140 .0	I 129 .0	CE 141 .0	CS 135 .0	PR 144 .0	CE 144 .0	PR 144 .0
115.7 DAYS	I 131 99.9	XF 133 .1	LA 140 .0	RA 140 .0	I 129 .0	CE 141 .0	CS 135 .0	PR 144 .0	CE 144 .0	PR 144 .0
150.0 DAYS	I 131 100.0	I 129 .0	XE 133 .0	LA 140 .0	CE 141 .0	HA 140 .0	CS 135 .0	PR 144 .0	CE 144 .0	PR 144 .0
231.5 DAYS	I 131 79.5	I 129 20.4	CF 141 .0	LA 140 .0	CS 135 .0	BA 140 .0	XF 133 .0	PR 144 .0	CE 144 .0	PR 144 .0
1.0 YRS.	I 129 99.9	CS 135 .0	CE 141 .0	I 131 .0	LA 140 .0	PR 144 .0	CE 144 .0	HA 140 .0	PR 144 .0	XE 133 .0

SOURCE 2 (PLATE OUT), 200 DAYS, POWER=4000 MW, U=235+PU=239

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	I 136 16.6	I 134 16.2	I 137 14.7	I 136 11.7	I 138 10.1	I 133 8.8	I 135 7.7	I 132 7.1	I 139 3.8	I 131 1.7
1.0 SEC.	I 136 17.0	I 134 16.8	I 137 14.8	I 136 12.0	I 138 9.4	I 133 9.1	I 135 8.0	I 132 7.3	I 139 3.0	I 131 1.7
2.0 SEC.	I 136 17.4	I 134 17.3	I 137 14.7	I 136 12.1	I 138 9.4	I 133 8.7	I 135 8.2	I 132 7.6	I 139 2.3	I 131 1.8
5.0 S.	I 134 18.3	I 136 18.0	I 137 14.4	I 136 12.3	I 133 9.9	I 135 8.7	I 132 8.0	I 138 6.7	I 131 1.4	I 139 1.0
10.0 S C.	I 134 19.6	I 136 18.5	I 137 13.4	I 136 12.3	I 133 10.7	I 135 9.4	I 132 8.6	I 138 4.2	I 131 2.0	XE 137 0.8
20.0 SFC.	I 134 21.6	I 136 18.4	I 136 11.7	I 133 11.7	I 137 11.1	I 135 10.3	I 132 9.5	I 131 2.3	I 138 1.6	XE 137 1.1
50.0 SEC.	I 134 25.5	I 136 17.3	I 133 13.9	I 135 12.2	I 132 11.2	I 136 9.0	I 137 5.7	I 131 2.7	XE 137 2.1	XE 139 0.2
40.0 SEC.	I 134 26.5	I 136 16.6	I 133 14.5	I 135 12.8	I 132 11.7	I 136 8.2	I 137 4.5	I 131 2.8	XE 137 2.3	XE 139 0.1
100.0 SEC.	I 134 29.7	I 133 16.4	I 135 14.4	I 136 13.5	I 132 13.2	I 136 5.2	I 131 3.2	XE 137 2.7	I 137 1.6	XE 139 0.1
3.3 MIN.	I 134 34.0	I 133 19.2	I 135 16.8	I 132 15.3	I 134 6.8	I 131 3.7	XE 137 2.5	I 136 1.4	I 137 0.1	XE 135 0.0
8.3 MIN.	I 134 36.2	I 133 21.7	I 135 18.9	I 132 16.9	I 131 4.2	XE 137 1.2	I 136 0.6	XE 135 0.1	XE 138 0.0	CS 139 0.0
16.7 MIN.	I 134 34.6	I 133 23.1	I 135 19.9	I 132 17.3	I 131 4.5	XE 135 0.3	XE 137 0.3	XE 138 0.0	CS 138 0.0	I 130 0.0
33.3 MIN.	I 134 30.6	I 133 25.1	I 135 21.2	I 132 17.4	I 131 4.9	XE 135 0.7	CS 138 0.0	I 130 0.0	XE 133 0.0	XE 137 0.0
60.0 MIN.	I 133 28.1	I 134 24.5	I 135 23.0	I 132 17.3	I 131 5.6	XE 135 1.3	XE 133 0.0	CS 138 0.0	I 130 0.0	XE 138 0.0
1.4 HR.	I 133 30.6	I 135 24.4	I 134 19.8	I 132 17.0	I 131 6.1	XE 135 2.0	XE 133 0.0	I 130 0.0	CS 138 0.0	BA 139 0.0
2.8 HR.	I 133 37.6	I 135 27.1	I 132 14.3	I 134 8.5	I 131 7.4	XE 135 4.6	XE 133 0.1	I 130 0.0	CS 138 0.0	LA 139 0.0
5.6 HR.	I 133 44.6	I 135 26.3	I 131 10.1	XE 135 9.4	I 132 8.0	I 134 1.2	XE 133 0.3	I 130 0.0	BA 139 0.0	CS 138 0.0
12.0 HR.	I 133 49.7	I 135 18.4	XE 135 15.8	I 131 13.6	I 132 1.6	XE 133 0.8	I 130 0.0	I 134 0.0	BA 139 0.0	LA 141 0.0
13.9 HR.	I 133 50.4	XE 135 16.7	I 135 16.3	I 131 14.6	XE 133 1.0	I 132 1.0	I 130 0.0	I 134 0.0	BA 139 0.0	LA 141 0.0
1.0 DAYS	I 133 52.2	I 131 20.4	XE 135 17.0	I 135 8.2	XE 133 2.1	I 132 0.1	I 130 0.0	BA 140 0.0	I 134 0.0	LA 140 0.0
2.0 DAYS	I 133 52.2	I 131 22.9	XE 135 16.0	I 135 8.2	XE 133 2.6	I 132 0.0	I 130 0.0	BA 140 0.0	LA 140 0.0	CS 137 0.0
2.3 DAYS	I 131 43.2	I 133 43.2	XE 133 7.0	XE 135 5.9	I 135 0.7	I 130 0.0	I 132 0.0	LA 140 0.0	BA 140 0.0	CS 137 0.0
4.0 DAYS	I 131 66.9	I 133 20.1	XE 133 12.4	XE 135 0.6	I 135 0.0	I 130 0.0	LA 140 0.0	BA 140 0.0	CS 137 0.0	I 129 0.0
5.8 DAYS	I 131 78.7	XE 133 14.7	I 133 6.6	XE 135 0.6	I 135 0.0	I 130 0.0	LA 140 0.0	BA 140 0.0	CS 137 0.0	I 129 0.0
10.0 DAYS	I 131 85.4	XE 133 14.2	I 133 0.0	XE 135 0.0	LA 140 0.0	HA 140 0.0	CS 137 0.0	I 130 0.0	CE 141 0.0	I 130 0.0
11.6 DAYS	I 131 86.3	XE 133 13.6	I 133 0.0	LA 140 0.0	HA 140 0.0	CS 137 0.0	CE 135 0.0	I 129 0.0	CE 141 0.0	I 130 0.0
23.1 DAYS	I 131 91.2	XE 133 8.8	LA 140 0.0	I 133 0.0	CS 137 0.0	HA 140 0.0	CE 141 0.0	CF 141 0.0	CS 135 0.0	PR 143 0.0
30.0 DAYS	I 131 93.3	XE 133 6.7	LA 140 0.0	CS 137 0.0	HA 140 0.0	I 129 0.0	CF 141 0.0	CS 135 0.0	I 133 0.0	PR 143 0.0
57.9 DAYS	I 131 98.0	XE 133 2.0	CS 137 0.0	LA 140 0.0	HA 140 0.0	I 129 0.0	CE 141 0.0	CS 135 0.0	PR 143 0.0	PR 144 0.0
60.0 DAYS	I 131 98.2	XE 133 1.4	CS 137 0.0	LA 140 0.0	HA 140 0.0	I 129 0.0	CE 141 0.0	CS 135 0.0	PR 143 0.0	PR 144 0.0
115.7 DAYS	I 131 99.8	XE 133 0.2	CS 137 0.1	I 129 0.0	LA 140 0.0	CS 135 0.0	HA 140 0.0	CF 141 0.0	PR 143 0.0	PR 144 0.0
150.0 DAYS	I 131 99.8	CS 137 1.0	I 129 0.0	I 129 0.0	CS 135 0.0	LA 140 0.0	CE 141 0.0	PR 144 0.0	PR 143 0.0	PR 144 0.0
231.5 DAYS	CS 137 85.7	I 131 7.3	I 129 0.1	CS 135 0.9	CF 141 0.0	LA 140 0.0	HA 140 0.0	PR 144 0.0	XE 133 0.0	CF 144 0.0
1.0 YRS.	CS 137 92.4	I 129 6.6	CS 135 1.0	CE 141 0.0	I 131 0.0	PR 144 0.0	CE 144 0.0	LA 140 0.0	BA 140 0.0	PR 143 0.0

SOURCE 2 (WATER), 200 DAYS, POWER=4000 MW, U=235+PU-239

GREATEST CONTRIBUTORS TO GAMMA DECAY POWER (PERCENT OF TOTAL)

D-12

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC	I 134 22.3	I 132 11.1	I 135 10.5	I 136 7.4	I 137 7.2	BR 88 4.9	I 138 4.7	I 133 4.6	I *136 4.3	BR 87 4.0
1.0 SEC	I 134 23.4	I 132 11.6	I 135 11.0	I 136 7.7	I 137 7.3	BR 88 4.9	I 133 4.6	I 138 4.5	I *136 4.4	BR 87 4.1
2.0 SEC	I 134 24.1	I 132 12.0	I 135 11.4	I 136 7.9	I 137 7.4	I 133 5.0	BP 88 4.9	I *136 4.5	BR 87 4.2	I 138 4.1
5.0 SEC	I 134 25.8	I 132 12.8	I 135 12.1	I 136 8.3	I 137 7.2	I 133 5.4	I *136 4.6	RR 88 4.6	RR 87 4.3	BR 86 3.6
10.0 SEC	I 134 27.7	I 132 13.8	I 135 13.0	I 136 8.5	I 137 6.7	I 133 5.7	I *136 4.6	RR 87 4.4	RR 88 3.9	BR 86 3.6
20.0 SEC	I 134 30.0	I 132 15.0	I 135 14.2	I 136 8.5	I 133 6.2	I 133 5.5	I *136 4.3	RR 87 4.2	RR 86 3.4	BR 88 2.8
50.0 SEC	I 134 34.0	I 132 17.0	I 135 16.1	I 136 7.5	I 133 7.1	HR 87 3.3	I *136 3.2	RR 84 2.7	I 137 2.7	BR 86 2.7
60.0 SEC	I 134 34.9	I 132 17.5	I 135 16.6	I 133 7.3	I 136 7.1	HR 87 3.0	I *136 2.8	RR 84 2.8	BR 86 2.4	I 137 2.1
100.0 SEC	I 134 37.4	I 132 18.9	I 135 18.0	I 133 7.9	I 136 5.5	BR 84 3.0	I 131 2.2	RR 87 2.0	I *136 1.7	BR 86 1.6
3.3 MIN	I 134 40.5	I 132 20.6	I 135 19.7	I 133 8.7	AP 84 3.2	I 136 2.6	I 131 2.5	RR 87 1.6	RR 86 1.5	I *136 1.4
8.3 MIN	I 134 41.2	I 132 21.8	I 135 21.2	I 133 9.4	RR 84 3.1	I 131 2.7	I 136 2.2	RR 84 1.1	RR 87 1.0	RR 137 1.0
16.7 MIN	I 134 39.4	I 132 22.3	I 135 22.1	I 133 10.0	I 131 2.8	BR 84 2.7	XF 135 1.1	RR 87 0.0	I 130 0.0	RR 89 0.0
33.3 MIN	I 134 35.6	I 135 24.4	I 132 23.1	I 133 11.2	I 131 3.2	BR 84 2.1	XF 135 1.2	RR 87 0.0	I 130 0.0	RR 88 0.0
60.0 MIN	I 134 29.7	I 135 27.6	I 132 23.9	I 133 13.1	I 131 3.8	RR 84 1.4	XF 135 1.4	I 130 0.0	RR 87 0.0	RR 88 0.0
1.4 HR	I 135 30.2	I 134 24.0	I 132 24.2	I 133 14.7	I 131 4.3	RR 84 1.0	XF 135 1.5	I 130 0.1	RR 87 0.0	RR 88 0.0
2.8 HR	I 135 37.3	I 132 27.8	I 133 20.1	I 134 11.9	I 131 6.1	XE 135 1.4	RR 84 1.0	RR 84 1.1	RR 88 0.0	RR 87 0.0
5.6 HR	I 135 42.3	I 133 27.8	I 132 14.9	I 131 9.2	XF 135 3.5	I 134 2.0	XF 133 1.1	I 130 0.1	RR 88 0.0	RR 82 0.0
12.0 HR	I 133 37.7	I 135 36.1	I 131 15.1	XE 135 7.1	I 132 3.5	XF 133 1.3	I 130 0.1	RR 82 0.1	I 134 0.0	RR 88 0.0
13.9 HR	I 133 39.6	I 135 33.1	I 131 16.8	XE 135 7.7	I 132 2.2	XF 133 1.4	I 130 0.1	RR 82 0.1	I 134 0.0	RR 85 0.0
1.0 DAYS	I 133 45.5	I 131 26.1	I 135 18.4	XF 135 8.7	XE 133 1.0	I 132 2.7	I 130 0.1	RR 82 0.0	RR 85 0.0	RR 88 0.0
1.2 DAYS	I 133 46.3	I 131 29.7	I 135 14.2	XF 135 8.4	XE 133 1.3	I 130 0.1	I 132 1.1	RR 82 0.0	RR 85 0.0	RR 88 0.0
2.3 DAYS	I 131 50.7	I 133 37.3	XE 133 3.4	XF 135 3.0	I 135 1.6	RR 82 0.0	I 130 0.0	RR 85 0.0	RR 85 0.0	LA 140 0.0
4.0 DAYS	I 131 78.1	I 133 16.0	XF 133 5.5	XF 135 3.3	I 135 0.0	RR 82 0.0	I 130 0.0	RR 85 0.0	RR 85 0.0	SP 91 0.0
5.8 DAYS	I 131 88.6	XE 133 6.3	I 133 5.1	BR 82 0.0	XF 135 0.0	I 130 0.0	I 135 0.0	LA 140 0.0	BA 140 0.0	I 129 0.0
10.0 DAYS	I 131 93.8	XF 133 5.9	I 133 3.3	HR 82 0.0	LA 140 0.0	XF 135 0.0	I 130 0.0	BA 140 0.0	I 129 0.0	RR 85 0.0
11.6 DAYS	I 131 90.3	XF 133 5.6	I 133 3.3	HR 82 0.0	LA 140 0.0	BA 140 0.0	XE 135 0.0	I 130 0.0	I 129 0.0	RR 85 0.0
23.1 DAYS	I 131 96.4	XF 133 3.6	LA 140 0.0	HR 82 0.0	I 133 0.0	BA 140 0.0	I 129 0.0	RR 85 0.0	CE 141 0.0	Y 91 0.0
30.0 DAYS	I 131 97.4	XE 133 2.8	LA 140 0.0	BA 140 0.0	RR 82 0.0	I 129 0.0	RR 85 0.0	CE 141 0.0	I 133 0.0	Y 91 0.0
57.9 DAYS	I 131 99.2	XE 133 2.8	LA 140 0.0	BA 140 0.0	I 129 0.0	RR 85 0.0	CE 141 0.0	Y 91 0.0	Y 90 0.0	CS 135 0.0
60.0 DAYS	I 131 99.3	XF 133 2.7	LA 140 0.0	BA 140 0.0	I 129 0.0	RR 85 0.0	CE 141 0.0	Y 91 0.0	Y 90 0.0	CS 135 0.0
115.7 DAYS	I 131 99.9	XF 133 2.1	LA 140 0.0	I 129 0.0	RR 85 0.0	BA 140 0.0	Y 91 0.0	CE 141 0.0	Y 90 0.0	CS 135 0.0
150.0 DAYS	I 131 99.9	I 129 0.0	XE 133 0.0	KR 85 0.0	LA 140 0.0	Y 91 0.0	CE 141 0.0	Y 90 0.0	Y 90 0.0	CS 135 0.0
231.5 DAYS	I 131 72.8	I 129 18.7	KR 85 6.2	Y 91 2.0	CF 141 1.1	LA 140 0.0	Y 90 0.0	CS 135 0.0	BA 140 0.0	NH 95 0.0
1.0 YRS.	I 129 69.8	KR 85 30.0	Y 91 2.2	Y 90 0.1	CS 135 0.0	CE 141 0.0	I 131 0.0	RR 95 0.0	ZR 95 0.0	LA 140 0.0

SOURCE 2 (WATER), 200 DAYS, P0WFW=4000 MA, U=235+PU=239

GREATEST CONTRIBUTORS TO BETA DECAY POWER (PERCENT OF TOTAL)

D-13

TIME AFTER LOCA	1	2	3	4	5	6	7	8	9	10
0 SEC.	BR 8A 11.6	I 136 8.8	I 134 8.6	RR 89 8.1	I 137 7.8	BR 87 7.1	HR 90 6.6	I 136 6.3	I 138 5.4	I 133 4.7
1.0 SEC.	BR 8A 12.1	I 136 9.5	I 134 9.4	I 137 8.2	BR 87 7.7	BR 89 7.5	I 136 6.7	I 138 5.3	I 133 5.1	BR 90 4.7
2.0 SEC.	BR 8A 12.3	I 136 10.0	I 134 10.0	I 137 8.5	BR 87 8.0	I 136 7.0	BR 89 6.8	I 133 5.4	I 138 5.0	I 135 4.4
5.0 SEC.	BR 8A 12.2	I 134 11.3	I 136 11.1	I 137 8.9	HR 87 8.4	I 136 7.6	I 133 6.1	I 135 5.4	I 132 4.9	BR 89 4.9
10.0 SEC.	I 134 12.9	I 136 12.1	BR 87 11.2	BR 87 9.4	I 137 8.8	I 136 8.1	I 133 7.0	I 135 6.1	I 132 5.6	BR 86 5.4
20.0 SEC.	I 134 15.1	I 136 13.1	HR 87 9.8	BR 87 8.5	I 136 8.2	I 133 7.8	I 135 7.2	I 132 6.6	HR 86 6.6	BR 85 6.5
40.0 SEC.	I 134 19.4	I 136 13.2	I 133 10.6	I 135 9.3	HR 87 8.7	I 132 8.0	I 136 6.9	I 137 4.3	BR 84 4.2	BR 85 3.7
60.0 SEC.	I 134 20.6	I 136 12.9	I 133 11.3	I 135 9.9	I 132 9.1	BR 87 8.2	I 136 6.3	HR 84 4.4	BR 85 3.7	I 137 3.5
100.0 SEC.	I 134 24.2	I 133 13.4	I 135 11.7	I 136 11.0	I 132 10.7	BR 87 5.9	BR 84 5.2	I 136 4.2	BR 85 3.8	I 131 2.6
3.3 MIN.	I 134 29.4	I 133 16.6	I 135 14.5	I 132 13.2	HR 84 6.2	I 136 5.9	I 131 3.2	BR 85 3.1	HR 87 2.2	BR 87 2.1
8.3 MIN.	I 134 32.8	I 133 19.7	I 145 17.2	I 132 15.3	HR 84 6.6	I 131 3.8	BR 85 1.1	HR 83 1.1	HR 87 1.1	I 136 0.6
16.7 MIN.	I 134 32.0	I 133 21.3	I 136 18.4	I 132 16.0	HR 84 6.0	I 131 4.1	BR 83 1.1	HR 85 1.1	HR 87 1.1	I 137 0.2
33.3 MIN.	I 134 28.7	I 133 23.6	I 135 19.9	I 132 16.4	HR 84 4.6	I 131 4.6	HR 83 1.2	HR 85 1.2	HR 87 1.2	HR 88 0.0
60.0 MIN.	I 133 26.9	I 134 23.4	I 135 22.0	I 132 16.6	I 131 5.3	HR 84 3.0	HR 83 1.3	HR 85 1.2	HR 87 1.2	HR 88 0.1
1.4 HR.	I 133 29.5	I 135 23.5	I 134 19.1	I 132 16.4	I 131 5.9	HR 84 2.0	HR 83 1.9	HR 85 1.2	HR 87 1.2	HR 88 0.1
2.8 HR.	I 133 36.9	I 135 26.4	I 132 14.1	I 134 14.4	I 131 7.7	HR 83 4.5	HR 85 1.0	HR 84 1.0	HR 87 1.0	HR 88 0.1
5.6 HR.	I 133 44.3	I 135 26.1	I 131 10.0	HR 83 9.3	I 132 8.0	I 134 1.2	HR 83 1.0	HR 84 1.0	HR 87 1.0	HR 88 0.1
12.0 HR.	I 133 49.6	I 135 18.4	HR 83 15.8	I 131 13.6	I 132 1.6	HR 83 1.8	HR 85 1.1	HR 84 1.1	HR 87 1.1	HR 88 0.0
13.9 HR.	I 133 50.3	HR 83 15.6	I 135 16.3	I 131 14.6	HR 83 1.0	I 132 1.0	HR 85 1.1	HR 84 1.1	HR 87 1.1	HR 88 0.0
1.0 DAYS	I 133 52.2	I 131 20.4	HR 83 17.0	I 135 14.2	HR 83 2.1	I 132 1.1	HR 85 1.1	HR 84 1.1	HR 87 1.1	HR 88 0.0
1.2 DAYS	I 133 52.2	I 131 22.9	HR 83 16.0	I 135 6.2	HR 83 2.6	I 132 1.0	HR 85 1.1	HR 84 1.1	HR 87 1.1	HR 88 0.0
2.3 DAYS	I 131 43.2	I 133 43.2	HR 83 7.0	HR 83 5.9	I 135 7.1	I 130 0.0	HR 85 1.0	HR 84 1.0	HR 87 1.0	HR 88 0.0
4.0 DAYS	I 131 46.9	I 133 20.1	HR 83 12.4	HR 83 5.6	I 135 0.0	HR 82 0.0	HR 85 1.0	HR 84 1.0	HR 87 1.0	HR 88 0.0
5.8 DAYS	I 131 78.7	HR 83 14.7	I 133 6.6	HR 83 13.5	HR 82 0.0	I 135 0.0	HR 85 1.0	HR 84 1.0	HR 87 1.0	HR 88 0.0
10.0 DAYS	I 131 85.4	HR 83 14.2	I 133 4.4	HR 82 0.0	HR 82 0.0	HR 83 0.0	HR 85 1.0	HR 84 1.0	HR 87 1.0	HR 88 0.0
11.6 DAYS	I 131 86.3	HR 83 13.6	I 133 1.1	HR 82 0.0	HR 82 0.0	HR 83 0.0	HR 85 1.0	HR 84 1.0	HR 87 1.0	HR 88 0.0
23.1 DAYS	I 131 91.2	HR 83 8.8	HR 82 0.0	HR 85 0.0	HR 82 0.0	HR 83 0.0	HR 85 1.0	HR 84 1.0	HR 87 1.0	HR 88 0.0
30.0 DAYS	I 131 93.3	HR 83 6.0	HR 82 0.0	HR 85 0.0	HR 82 0.0	HR 83 0.0	HR 85 1.0	HR 84 1.0	HR 87 1.0	HR 88 0.0
57.9 DAYS	I 131 98.0	HR 83 2.0	HR 82 0.0	HR 85 0.0	HR 82 0.0	HR 83 0.0	HR 85 1.0	HR 84 1.0	HR 87 1.0	HR 88 0.0
60.0 DAYS	I 131 98.2	HR 83 1.8	HR 82 0.0	HR 85 0.0	HR 82 0.0	HR 83 0.0	HR 85 1.0	HR 84 1.0	HR 87 1.0	HR 88 0.0
115.7 DAYS	I 131 98.8	HR 83 0.9	HR 82 0.0	HR 85 0.0	HR 82 0.0	HR 83 0.0	HR 85 1.0	HR 84 1.0	HR 87 1.0	HR 88 0.0
150.0 DAYS	I 131 87.3	HR 83 9.1	HR 82 0.0	HR 85 0.0	HR 82 0.0	HR 83 0.0	HR 85 1.0	HR 84 1.0	HR 87 1.0	HR 88 0.0
231.5 DAYS	SR 89 47.3	HR 85 11.4	HR 82 0.0	HR 85 0.0	HR 82 0.0	HR 83 0.0	HR 85 1.0	HR 84 1.0	HR 87 1.0	HR 88 0.0
1.0 YRS.	SR 85 54.6	HR 85 24.6	HR 82 13.9	HR 85 3.5	HR 82 1.2	HR 83 0.7	HR 85 1.0	HR 84 1.0	HR 87 1.0	HR 88 0.0