

Isotopic Details of the Spent Catawba-1 MOX Fuel Rods at ORNL

April 10, 2015

**Prepared by
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Reactor and Nuclear Systems Division

**ISOTOPIC DETAILS OF THE SPENT CATAWBA-1 MOX
FUEL RODS AT ORNL**

Ronald J. Ellis

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1. INTRODUCTION

The United States Department of Energy funded Shaw/AREVA MOX Services LLC to fabricate four MOX Lead Test Assemblies (LTA) from weapons-grade plutonium. A total of four MOX LTAs (including MX03) were irradiated in the Catawba Nuclear Station (Unit 1) “Catawba-1” PWR which operated at a total thermal power of 3411 MW_t and had a core with 193 total fuel assemblies. The MOX LTAs were irradiated along with Duke Energy’s irradiation of eight Westinghouse Next Generation Fuel (NGF) LEU LTAs (ref.1) and the remaining 181 LEU fuel assemblies. The MX03 LTA was irradiated in the Catawba-1 PWR core (refs.2,3) during cycles C-16 and C-17. C-16 began on June 5, 2005, and ended on November 11, 2006, after 499 effective full power days (EFPDs). C-17 started on December 29, 2006, (after a shutdown of 48 days) and continued for 485 EFPDs. The MX03 and three other MOX LTAs (and other fuel assemblies) were discharged at the end of C-17 on May 3, 2008. The design of the MOX LTAs was based on the (Framatome ANP, Inc.) Mark-BW/MOX1 17×17 fuel assembly design (refs. 4,5,6) for use in Westinghouse PWRs, but with MOX fuel rods with three Pu loading ranges: the nominal Pu loadings are 4.94 wt%, 3.30 wt%, and 2.40 wt%, respectively, for high, medium, and low Pu content. The Mark-BW/MOX1 (MOX LTA) fuel assembly design is the same as the Advanced Mark-BW fuel assembly design but with the LEU fuel rods replaced by MOX fuel rods (ref. 5). The fabrication of the fuel pellets and fuel rods for the MOX LTAs was performed at the Cadarache facility in France, with the fabrication of the LTAs performed at the MELOX facility, also in France.

Five MOX fuel rods were selected from MX03 LTA and sent to Oak Ridge National Laboratory, arriving on January 22, 2009. These MOX fuel rods encompassed fuel rods B4, B14, and K5 (all high Pu loading), fuel rod C1 (medium Pu loading), and fuel rod A1 (low Pu loading). Table 1 presents details and parameters of the five MOX fuel rods that were transported to ORNL after irradiation in the MX03 LTA and is a summary of important initial and operational details of the five MOX fuel rods. The discharge burnups for each MOX fuel rod were not made public by Duke-Energy or AREVA, but the range in burnup levels was documented as shown in the last column (ref. 5,6). The exact as-built details (from Melox) of the fuel rods were used in the models and burnup simulations considered in this work.

Table 1. Summary of the MOX Fuel Rods that came to ORNL

MOX Fuel Rod	Pu Loading Category	Nominal Amount of Pu (Pu+Am)/HM	Mass of initial heavy metal (IHM) (g)	Exit Burnup GWd/MTIHM
B4	high	4.94 wt%	1772.37	Range of 39.7 to 47.3
A1	low	2.40 wt%	1773.90	
C1	Medium	3.30 wt%	1760.50	
B14	High	4.94 wt%	1765.39	
K5	High	4.94 wt%	1763.11	

The MX03 LTA underwent two cycles of irradiation (C-16 and C-17) in the Catawba-1 PWR core. The fuel assembly average burnup for MX03 LTA for the total of cycles C-16 and C-17 was published by AREVA to be 41.8 GWd/MTIHM, with the average burnup in cycle C-16 for the MOX LTA was 22.0 GWd/MTIHM, and for C-17, it was 19.8 GWd/MTIHM. The burnup of the five individual selected MOX fuel rods range from 39.7 to 47.3 GWd/MTIHM, in the given discharge burnup determinations (ref. 5,6). All five MOX fuel rods were examined nondestructively, with four chosen for destructive examination; MOX fuel rod B14 (similar to B4) was not subjected to destructive examination (ref. 6). This report tabulates the nuclides in the calculated isotopic compositions of the irradiated and depleted fuel rods following the irradiation in Catawba-1 and the subsequent cooling (decay) time since discharge.

2. MODELS AND SIMULATIONS

The depletion calculations were performed with the SCALE 6.1 (ref.7) scientific code package (using TRITON in t-depl mode, and ORIGEN, both as part of the TRITON sequence, and in stand-alone operation). The models used were based on existing Westinghouse W17×17 PWR fuel assembly models updated with the as-built (at the MELOX facility – AREVA/Cogema) MOX LTA and fuel rod initial compositions, and any new dimensions and other details appropriate for the FCF (AREVA) (Framatome ANP, Inc.) Mark-BW/MOX1 17×17 fuel assembly design (ref. 5,6,7) used for the MOX LTAs, in conjunction with actual assembly operational data for the Catawba-1 irradiation in cycles C-16 and C-17.

As mentioned above, the Catawba-1 PWR core during cycles C-16 and C-17 had four MOX LTAs (including MX03 from which the five MOX fuel rods were selected) in addition to the remaining LEU fuel assemblies, but information about the neighboring LEU assemblies was not available to allow for a core model simulation. Consequently, the simulations in this work involved performing TRITON t-depl calculations for a single MOX LTA with appropriate boundary conditions, with the burnup and power history for the case normalized to the given burnup level and operational history information for each of the five MOX fuel rods provided by AREVA/Duke Energy. Five individual cases were completed, each one focused on maintaining the given power history for one of the selected MOX fuel rods.

Appendix A lists the input file used with SCALE 6.1.3/TRITON for fuel rod B4. The proprietary data for this fuel rod composition is not shown. The other four selected MOX fuel rods are modeled with similar TRITON input files, with the actual input initial fuel composition, the fuel rod location in the LTA, and the burnup history of the selected fuel rod being different for each case. The fuel rods in the MOX LTAs had cladding made from M5 represented by an approximate composition specified in the Appendix A input case. The guide tube and instrument tube dimensions and materials are used in the TRITON input cases for the MOX LTAs.

Figure 1 (ref. 6) indicates the location of the five chosen MOX fuel rods, using the AREVA numbering system, for the MX03 LTA rod position in the matrix schematic diagram. The positions of the guide thimbles and instrument tubes are shown, in addition to the three classes (Pu loading) of fuel rods, as well as the specific locations of the selected fuel rods. The high Pu content fuel rods are loaded into the central region of the MOX LTA. The low Pu content fuel rods are positioned at the corners of the LTA. The medium Pu loaded fuel rods are positioned along the outer sides of the assembly.

The initial five TRITON cases simulated the power history of each of the selected MOX fuel rods during the two Catawba-1 PWR cycles (C-16 and C-17) with the appropriate cycle full power days and the downtime between cycles. Furthermore, the cooling time (decay) for the discharged MOX fuel rods from the end of C-17 until shipment to ORNL was modeled. The material information and fuel compositions for the MOX fuel rods are stored in the SCALE-created ft71 output binary file, organized by material number and burnup/decay steps. The details of the MOX fuel rod compositions presented in Appendix C are obtained in ORIGEN calculations that start with the appropriate data in the ft71 files, and further decay the compositions to the necessary times and dates. The raw output results of these five SCALE/ORIGEN cases are listed in Appendix B in subsections B1-B5. These results were then normalized in terms of a basis of 1 MTIHM, to determine the data to put into the tables in this report.

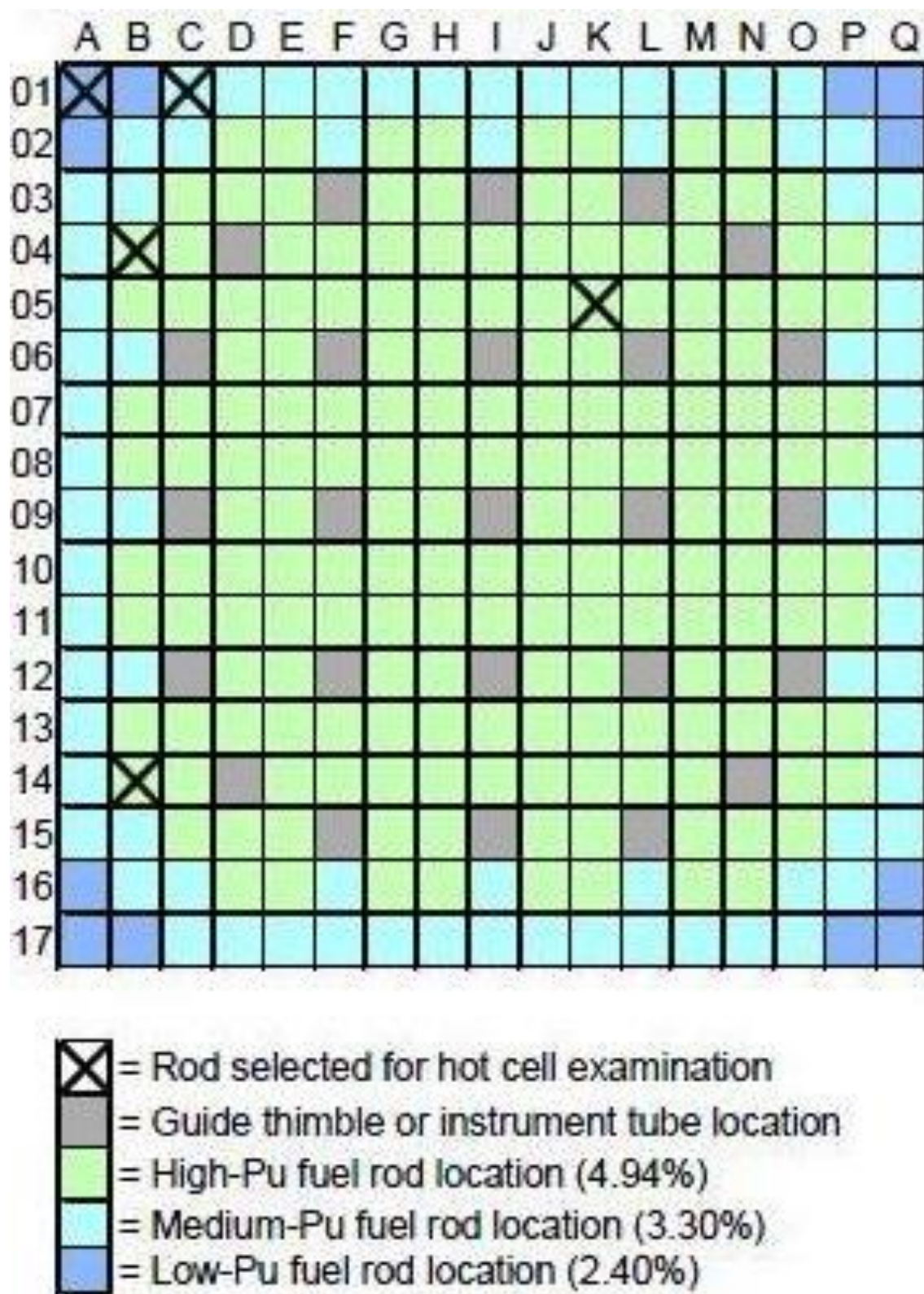


Fig. 1. Location of the MOX fuel rods in the MX03 LTA irradiated in Catawba-1.

Figure 2 is a depiction of the SCALE/TRITON model representing the MX03 LTA. The diagram is a quarter-view of the MOX LTA. Please see the legend in Figure 1 which identifies the various features and fuel rods. Fuel Rod A1 is specifically indicated as yellow within a yellow square at the upper right of the diagram; (it is a low-Pu content rod). The rest of the high Pu, medium Pu, and low Pu MOX fuel rods are indicated. The specific selected MOX fuel pin placements are indicated in Figure 1.

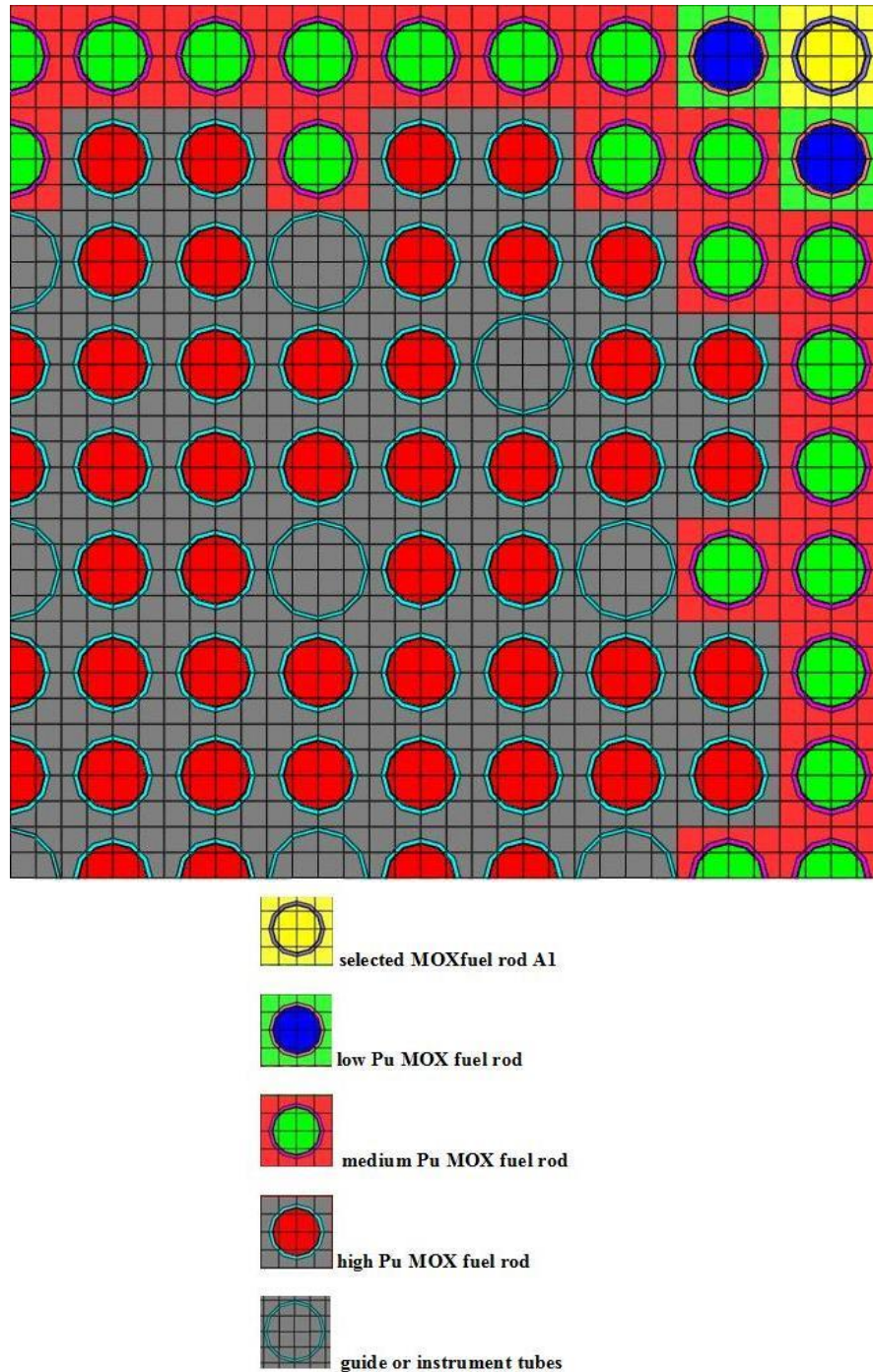


Fig. 2. Representative quarter-assembly (LTA based on the AREVA Mark-BW/MOX1 17×17 fuel assembly) view of the TRITON model for the MOX Fuel Rod irradiation/depletion calculations. Legend identifies the major components.

3. RESULTS AND DISCUSSION

In this report, calculated the isotopic compositions for each of the spent MOX fuel rods sent to ORNL are tabulated. The results presented in this report are shown in terms of mass (g), activities (Ci), and decay heat (W) normalized per 1 MT of initial heavy metal (MTIHM) for the individual MOX fuel rods. The various tables in this report show details of the fuel compositions for at least five representative dates. As mentioned above, the five selected MX03 LTA fuel rods were removed from the Catawba-1 reactor core on May 3, 2008. These fuel rods were shipped to ORNL arriving on January 22, 2009. This date corresponds to the first column of data in all of the tables in this report. The other columns of results in the tables represent the MOX fuel rod compositions on October 21, 2013, the date of the first draft version of this report, and on the January 22 anniversary in each of the years 2014, 2015, and 2016.

The isotopic compositions for the five MOX fuel rods depend on the initial fuel composition (Pu loading, nuclide weight fractions, total mass, location of the rod in the LTA, neighboring rods and regions, etc), the location of the fuel rod in the assembly (assembly central zone, on the periphery, near a corner, next to a guide tube, etc.), the discharge burnup level for the rods (and the associated power history), and the cooling time following removal from irradiation in the Catawba-1 core. The range in discharge burnup levels is about 20% according to the given data on burnup from Duke Energy/AREVA.

The main results for the fuel composition (weight fractions) and activities, by nuclide, are presented in Tables C1-C5, and Tables C6-C10, respectively. The data are tabulated by relevant dates. The fuel rods were discharged from Catawba-1 on May 3, 2008, and shipped to ORNL, arriving on January 22, 2009; this was 264 days (of cooling) after discharge. The other dates for which the data are listed are October 21, 2013, which is 1997 days after discharge, and on the January 22 anniversary for each of 2014, 2015, and 2016 (2090, 2455, and 2820 days of cooling after discharge). As seen in the output listings for each MOX fuel rod listed in Appendix B, the SCALE isotopic results were calculated for many additional time steps, starting with the compositions at 240 days of cooling (from the TRITON case output material libraries), for each fuel rod, designated “initial” in the output tables in Appendix B.

For convenience and usefulness for the readers, the weight fractions for each non-negligible nuclide is given in terms of grams per metric ton of initial heavy metal in each of the fuel rods. The fuel nuclide libraries in SCALE (with over 2300 nuclides) were available in the TRITON and ORIGEN calculations; about 530+ active and non-active nuclides were non-negligible ($> 1.0 \times 10^{-20}$ g/MTIHM) for inclusion in these mass-fraction tables. For the tables of calculated activities for the radionuclides in the fuel materials, about 350+ non-negligible ($> 1.0 \times 10^{-32}$ Ci/MTIHM) radioactive nuclides are listed for each MOX fuel rod. The active nuclides are listed in terms of Ci for each nuclide based on a total normalization of 1 metric ton of initial heavy metal, for each fuel rod. To consider these activities in terms of SI units, the following conversion would be used: 1 Ci = 3.7×10^{10} Becquerel (disintegrations per second).

3.1 TABLES OF THE CALCULATED MOX FUEL ROD COMPOSITION RESULTS

Appendix B includes files added to this report that present the raw output of ORIGEN calculations for the subsequent decay of the irradiated MOX fuel rod compositions, spanning a total of about eight years of cooling time. These ORIGEN case outputs, in sections B1 to B5 in Appendix B, used the output nuclide libraries (files ft71f001) from the appropriate TRITON t-depl case runs (see Appendix A) and performed the decay for the specified cooling time duration arranged to tabulate data for specific dates of interest. Appendix C includes 10 large tables that present the weight fractions for a large list of nuclides (in grams per MTIHM) for the compositions of the MOX fuel rods B4, A1, C1, B14, and K5 (Tables C1-C5).

respectively). Nuclide activities (in Ci per MTIHM) are presented for the MOX fuel rods in Tables C6-C10. These 10 tables represent the main calculated results for the isotopics of the five decayed and cooled MOX fuel rods that were received at ORNL from Catawba-1.

3.2 DETAILS OF ISOTOPIC RESULTS

Spreadsheets containing the information presented in Tables C1-C10 were prepared and distributed to ORNL and other staff involved in the handling and disposition of the MOX fuel rods.

Table 2 below presents the decay heat (in W per MTIHM) for the five MOX fuel rods as a function of the time after removal (cooling time) from irradiation in the Catawba-1 PWR core. The total decay heat is the sum of the heat energy rate from all α , β , and γ decay emissions. The results are listed in the Appendix B output files under the three groupings of the nuclides: light elements (LE) [activation products], actinides (Act), and fission products (FP).

Table 2 presents the actinide and fission product contributions separately as well as the total decay heat (the decay heat from the light element activation products is very small). Note that the total decay heat is an upper limit to what is manifested in the spent fuel rod material: a sizeable portion of the gamma ray emissions can escape the material sample and containers and thus not contribute to the heating, but all the decay heat from the α - and β -radiation is captured because of the short-range of these particles.

Table 2. Total decay heat (W per MTIHM) for Irradiated MOX Fuel Rods as function of cooling time

Date:		1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
Days after removal on 5/03/2008:		264	1997	2090	2455	2820
B4 (high Pu)	Act	3.391E+03	7.661E+02	7.675E+02	7.741E+02	7.807E+02
	FP	1.855E+04	1.931E+03	1.819E+03	1.501E+03	1.304E+03
	Total	2.194E+04	2.697E+03	2.586E+03	2.275E+03	2.085E+03
A1 (low Pu)	Act	2.880E+03	7.712E+02	7.698E+02	7.652E+02	7.612E+02
	FP	1.505E+04	1.634E+03	1.540E+03	1.273E+03	1.106E+03
	Total	1.793E+04	2.405E+03	2.310E+03	2.039E+03	1.867E+03
C1 (medium Pu)	Act	3.075E+03	7.511E+02	7.511E+02	7.511E+02	7.518E+02
	FP	1.619E+04	1.725E+03	1.626E+03	1.343E+03	1.166E+03
	Total	1.926E+04	2.476E+03	2.377E+03	2.094E+03	1.918E+03
B14 (high Pu)	Act	3.403E+03	7.695E+02	7.708E+02	7.768E+02	7.827E+02
	FP	1.855E+04	1.931E+03	1.820E+03	1.502E+03	1.305E+03
	Total	2.195E+04	2.701E+03	2.591E+03	2.279E+03	2.088E+03
K5 (high Pu)	Act	2.709E+03	5.940E+02	5.966E+02	6.074E+02	6.182E+02
	FP	1.643E+04	1.635E+03	1.540E+03	1.271E+03	1.106E+03
	Total	1.914E+04	2.229E+03	2.136E+03	1.878E+03	1.725E+03

The decay heat contributions presented in Table 2 and plotted in detail in Figures 3 and 4 show that the total decay heat drops off quickly at shorter cooling times then declines steadily with time. Figure 3 shows the time behavior of the decay heat (W/MTIHM) for the five MOX fuel rods from the time the rods were transported to ORNL until January 2016.

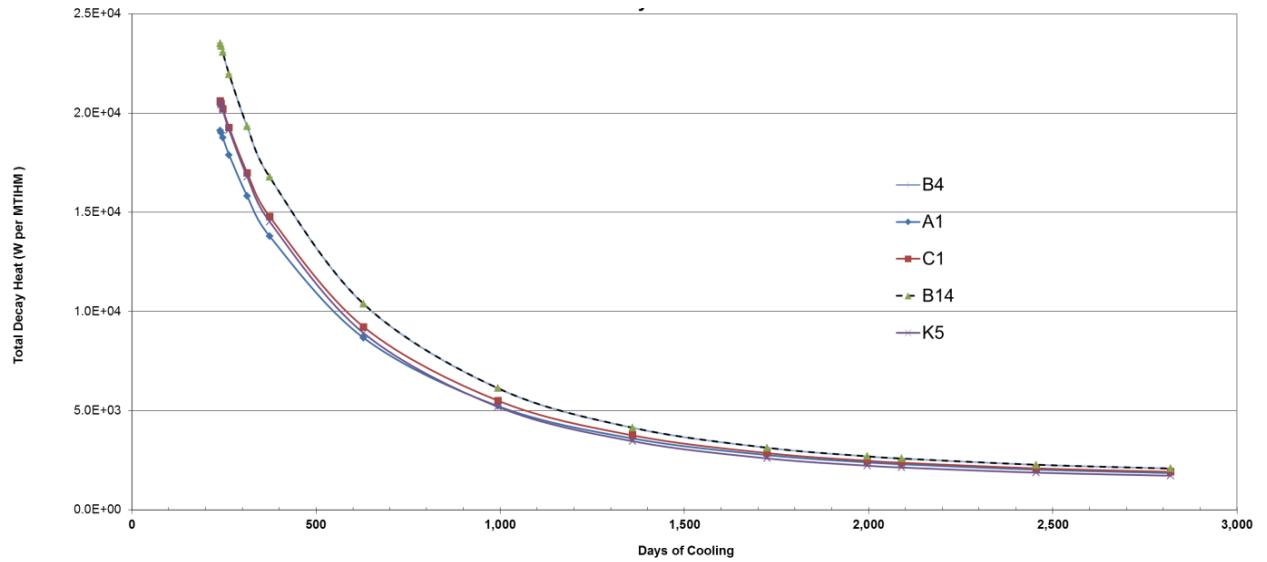


Fig. 3. Decay heat for the MOX fuel rods as function of cooling time.

Figure 4 show the time dependence of the decay power for the MOX fuel rods for recent and future dates when the curves are flatter. Figure 4 concentrates on the shallower declining stage of the decay heat curves from about the start of 2012 until January 2016. The trend is that the higher the initial Pu content in the MOX fuel rods, the greater the total decay heat at each time step; however, the location of the fuel rod in the LTA has a bearing on the decay heat behavior.

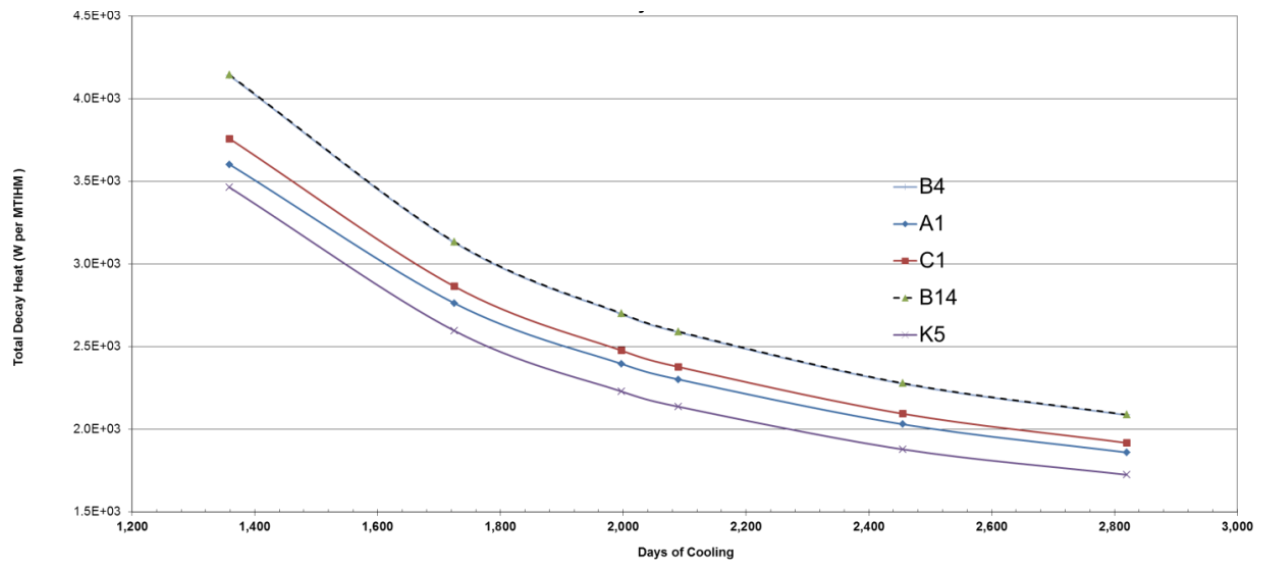


Fig. 4. Decay heat for the MOX fuel rods.

Figure 5 shows the decay heat for the high-Pu MOX fuel rod B4 which had one of the highest reported burnup levels at discharge. The total decay heat is shown as well as the contributions from fission products (initially quite large) and the contributions from actinide nuclides.

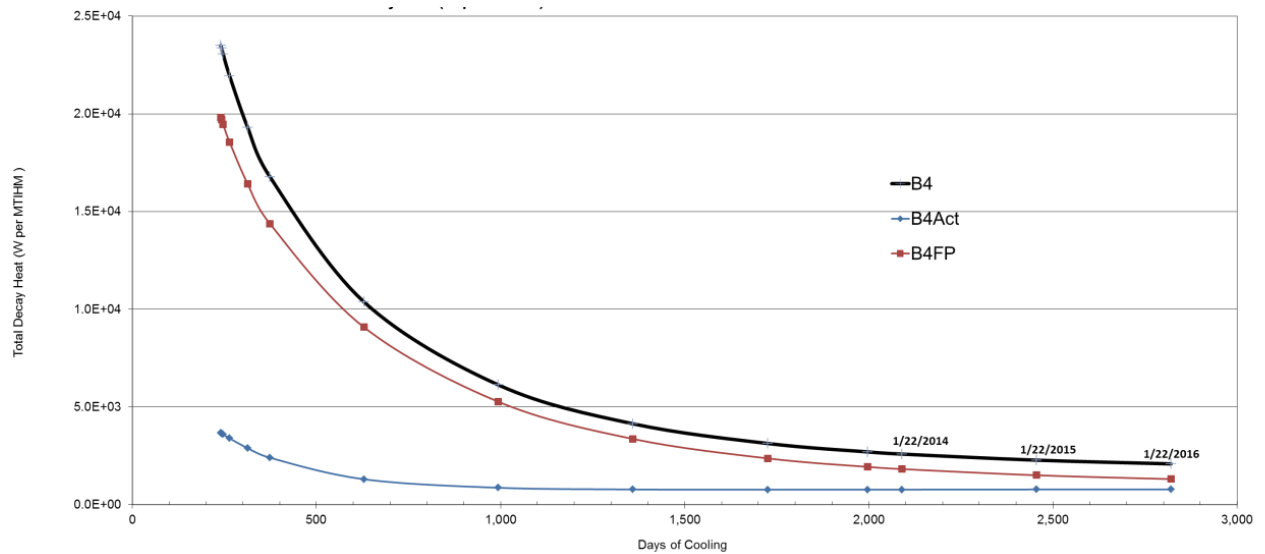


Fig. 5. Decay heat (total, actinide, fission product) for the higher burnup MOX fuel rod B4.

Figure 5 shows the decay heat curves from actinide and fission product nuclides, in high Pu content, high burnup, MOX fuel rod B4, in addition to the total decay heat curve. The initial fission product contribution to the decay heat is considerably greater than the actinide component, with the two components nearing in magnitude by 2016 and should be equal in 2017 or 2018, after which the actinide decay heat will generally dominate.

Table 3 presents details of the activity of the MOX fuel rods for a range of milestone dates, from January 2009 until January 2016. The very high activities in the eight months from discharge (May 2008) until they arrived at ORNL, are not shown in Table 3. However, for example, at the time of discharge, the activity of the material in MOX fuel rod B4 is high: the actinide component is 49.45 MCi/MTIHM and the fission product component is 203.24 MCi/MTIHM, for a total activity of 252.27 MCi/MTIHM. By the time MOX fuel rod B4 arrived at ORNL, the total activity had dropped substantially, by a factor of nearly 52. On January 22, 2009 (after a cooling time of 264 days), the total activity was 4.863 MCi/MTIHM, with the actinide component being 0.635 MCi/MTIHM and the fission product component being 4.228 MCi/MTIHM.

Table 3. Activity (Ci per MTIHM) for Irradiated MOX Fuel Rods as function of cooling time

Date:		1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
Days after removal on 5/03/2008:		264	1997	2090	2455	2820
B4 (high Pu)	Act	6.347E+05	4.525E+05	4.473E+05	4.275E+05	4.085E+05
	FP	4.228E+06	5.625E+05	5.385E+05	4.690E+05	4.246E+05
	Total	4.863E+06	1.015E+06	9.858E+05	8.964E+05	8.331E+05
A1 (low Pu)	Act	4.451E+05	3.129E+05	3.093E+05	2.957E+05	2.826E+05
	FP	3.406E+06	4.683E+05	4.486E+05	3.918E+05	3.553E+05
	Total	3.851E+06	7.812E+05	7.580E+05	6.875E+05	6.379E+05
C1 (medium Pu)	Act	5.163E+05	3.648E+05	3.606E+05	3.446E+05	3.294E+05
	FP	3.669E+06	4.971E+05	4.761E+05	4.153E+05	3.764E+05
	Total	4.186E+06	8.619E+05	8.367E+05	7.599E+05	7.057E+05
B14 (high Pu)	Act	6.331E+05	4.511E+05	4.458E+05	4.260E+05	4.072E+05
	FP	4.227E+06	5.624E+05	5.383E+05	4.688E+05	4.244E+05
	Total	4.860E+06	1.013E+06	9.842E+05	8.949E+05	8.316E+05
K5 (high Pu)	Act	5.892E+05	4.264E+05	4.215E+05	4.027E+05	3.848E+05
	FP	3.789E+06	4.883E+05	4.671E+05	4.061E+05	3.673E+05
	Total	4.378E+06	9.147E+05	8.886E+05	8.088E+05	7.521E+05

Figure 6 presents the curves of the time-dependence of activity for the five MOX fuel rods from early 2009 until 2016. The large spikes in activity at discharge and in the early cooling stages are not shown in the table above nor shown in the curves, but are discussed in the next section.

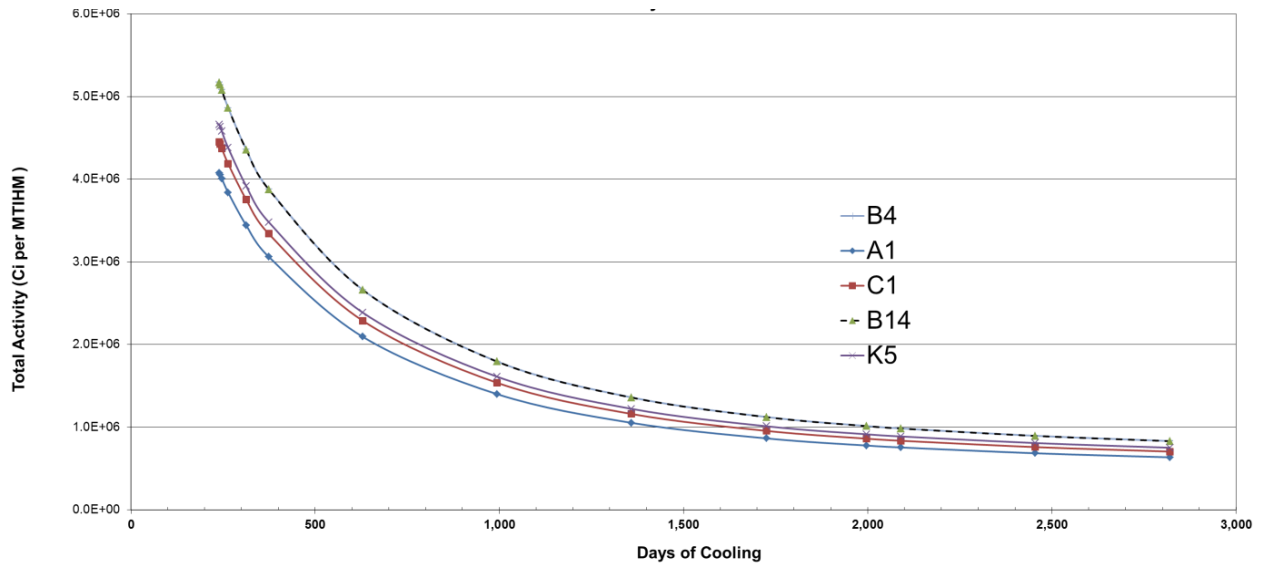


Fig. 6. Activity of the MOX fuel rods as function of cooling time.

Figure 7 shows the total activity curves for the five MOX fuel rods for the last few years from early 2012 until January 2016.

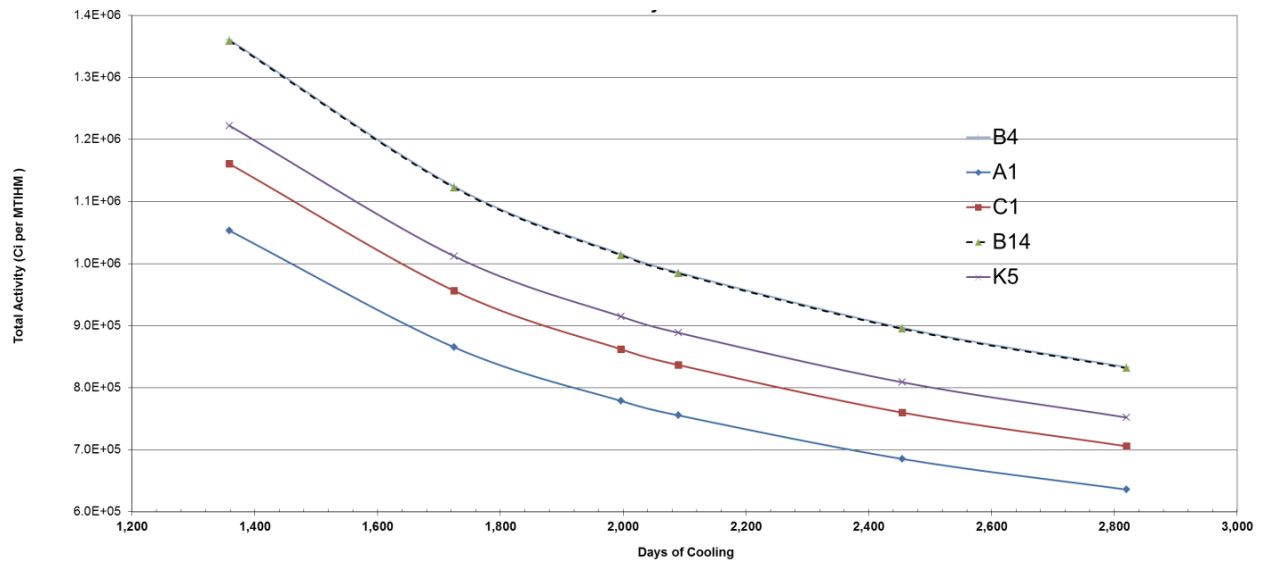


Fig. 7. Activity of the MOX fuel rods.

Table 3 and Figures 6 and 7 present the data and curves for the activity (in Ci per MTIHM) for the five MOX fuel rods. The time behavior and dependencies of the radioactivities is similar to that of the decay heat. The fission product activity comes very close to equaling the actinide activity by 2016. Figure 7, like Figure 5 for decay heat, shows the time behavior of the activity from 2012 until early 2016. As with the decay heat curves, the activity curves are similar in shape for the various fuel rods, with the relative magnitude of the curves ranging from the highest (high-Pu content B4 and B14) to the lowest (low-Pu A1).

Figure 8 compares the fission product and actinide activities for the high activity fuel rod B4 (very similar to B14), with the total activity also shown

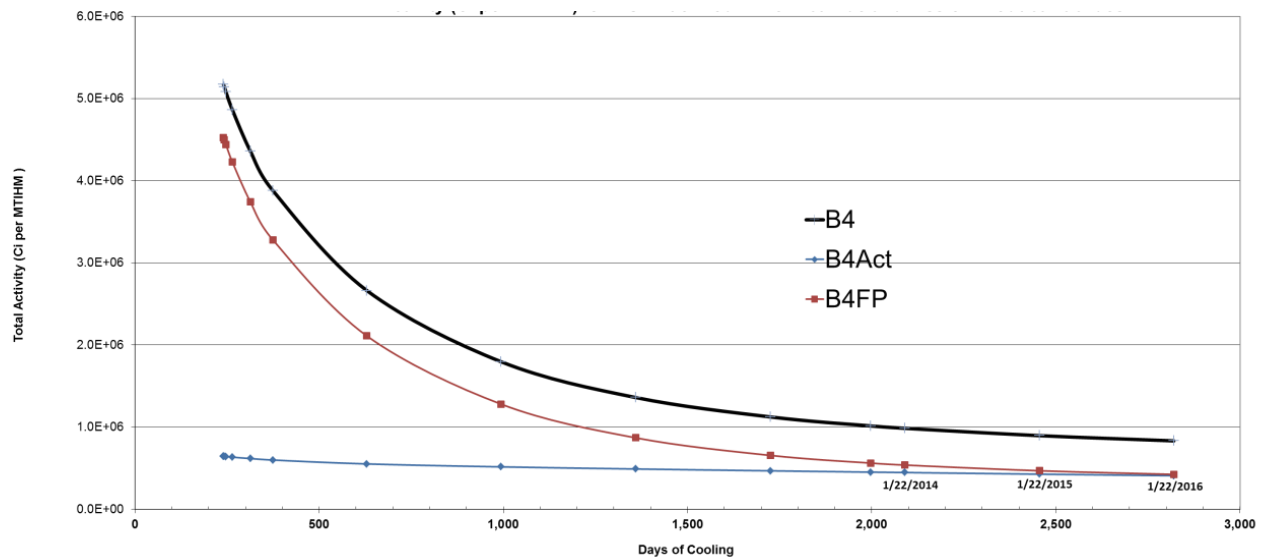


Fig. 8. Activity (total, actinide, fission product) for the higher burnup MOX fuel rod B4.

As evident in this figure, the fission product and actinide activities are very similar in magnitude by 2016. The activities due to the fission product radionuclides and due to the actinide nuclides are shown, as well as the total activity. Some of the current and latter important milestone dates are shown on the curves.

Table 4 presents the dose equivalent rates (rem/hr) for the five MOX fuel rods, which span a range in initial Pu loading and in discharge burnup levels. The dose equivalent values were determined using the SCALE/MAVRIC code with the gamma source information from the appropriate ORIGEN case output results. For convenience, the specific dose equivalent rates in rem/hr per gram of discharged fuel material are tabulated.

Table 4. Dose Equivalent Rates (rem/hr) at one-foot from a one-gram sample of the oxide fuel

Cooling Days:	2090	2455	2820
Date:	1/22/2014	1/22/2015	1/22/2016
MOX Fuel Rod B4 (high Pu loading)	1.242	1.042	0.909
MOX Fuel Rod A1 (low Pu loading)	1.050	0.880	0.770
MOX Fuel Rod C1 (medium Pu loading)	1.108	0.930	0.811
MOX Fuel Rod B14 (high Pu loading)	1.237	1.038	0.906
MOX Fuel Rod K5 (high Pu loading)	1.030	0.865	0.755

The discharge burnup levels for MOX fuel rods B14 and B4, both high Pu-loaded rods, are greater than for A1, a low Pu-loaded fuel rod, but they are also higher than the other high Pu-loaded fuel rod K5. The specific dose equivalent rates are shown for convenient milestone dates for the MOX fuel rod compositions. The MOX fuel rods were removed from irradiation in the Catawba-1 core in May 2008 and have been cooling since then; the fuel rods arrived at ORNL on January 22, 2009. Of interest in regards to comparison to the dose equivalent rates presented in Table 4, at the time of discharge from Catawba-1 in May 2008, after a simulated 1-second of cooling, the dose equivalent rate at a distance of 1 foot from a sample was calculated to have been 1322.3 rem/hr per gram of fuel material from MOX fuel rod B4. This high specific 1-foot dose equivalent rate has thus dropped by a factor of nearly 1200 from the time of discharge until mid-2014. As of mid-2014, the dose equivalent rate at 1-foot distance for the five irradiated and cooled MOX fuel rods range from about 1.10 to 0.90 rem/hr per gram of the discharged MOX fuel material.

4. RECOMMENDATIONS FOR FUTURE MODELING OF THE MOX FUEL RODS

As discussed above, the five MOX fuel rods analyzed in this work were modeled as components of a TRITON t-depl model representing the MX03 LTA fuel assembly. The fuel rods were individually modeled, in the environment of the full MOX LTA assembly normalized to the MOX pin power and burnup history based on given AREVA/Duke Energy exit rod burnup values.

An independent assessment and calculation of the burnup compositions for the five MOX fuel rods would require details and specifics of the neighboring LEU fuel assemblies in the Catawba-1 reactor core, and added details for any burnable poisons and other aspects of the MOX LTAs. It is likely that the surrounding LEU assemblies were specialized in terms of WABA or IFBA burnable poisons, especially in the LEU assembly peripheries, such that the neutron flux in the MOX to LEU assembly interface regions is controlled so that the MOX fuel rods in the outer row of the LTA are not over-powered.

The selected MOX fuel rods, especially A1 (low Pu) and C1 (medium Pu), may have attained higher burnup levels than estimated in the given data. Preliminary assay measurements of the MOX fuel rod compositions at ORNL suggest that there are trends and biases in the measured results not reflected in the calculations discussed in this report, that was based on the available modeling, material, and power history data.

5. SUMMARY AND CONCLUSIONS

This report presents the results calculated for the nuclide compositions of the MOX fuel rods (B4, A1, C1, B14, and K5) from MX03 LTA irradiated in Catawba-1 PWR core, discharged in May 2008 and shipped to ORNL on January 22, 2009. The calculations were performed with the SCALE 6.1.3 scientific code package with models based on as much information about the MX03 LTA design and the Catawba-1 core details that were available, and the simulated power histories used in the calculations were contingent on considering the discharge burnup levels provided by AREVA/Duke Energy.

This report presents details on the nuclide weight fraction and activity (by radionuclide) for a range of useful time steps (dates) for the five selected MOX fuel rods. In addition, results are provided for the decay heat and dose equivalent rates for the discharged MOX fuel rod material.

MOX fuel rods B4, B14, and K5 were all high initial Pu content, and were located in the interior of the MX03 LTA. MOX fuel rods C1 (medium Pu) and A1 (low Pu) were irradiated on the outer periphery of the LTA, and with fuel rod A1 located at a vertex location. These two fuel rods are most susceptible to the thermal neutron flux and influence of the neighboring LEU fuel assemblies in the Catawba-1 core, for cycles C-16 and C-17. To determine accurately the compositions of these pins, in particular, details and information about the nearby LEU assemblies, the inter-assembly gaps, burnable poisons in the LEU assemblies and in the MX03 LTA are required. These would allow for fuel rod burnup levels to be determined based on a detailed core model. Preliminary assay measurements conducted at ORNL for the MOX fuel rods suggest that there are differences in isotopics and estimated burnup levels.

The MOX fuel rods were removed from irradiation in the Catawba-1 core in May 2008 and have been cooling since then; the fuel rods arrived at ORNL on January 22, 2009. The ultimate fuel burnup and sample dose equivalent rates for the various MOX fuel rods are dependent on the initial Pu loading of the initial rod fuel material and on the location of the fuel rod within the MOX LTA (MX03).

6. REFERENCES

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APPENDIX A.

**SAMPLE TRITON IRRADIATION/DEPLETION CASE
MOXB4X.INP FOR MOX FUEL ROD B4**

APPENDIX A. SAMPLE TRITON IRRADIATION/DEPLETION CASE MOXB4X.INP FOR MOX FUEL ROD B4

The following is a sample SCALE 6.1.3/TRITON input case used in t-depl mode to model the irradiation of the B4 fuel rod in the MX03 LTA, during cycles C-16 and C-17 in the Catawba-1 PWR core. In the following input file listing, proprietary and non-published details and material specifications are redacted for protection. The simulation calculates the depletion and generation of the fuel composition nuclides during the two cycles of operation, with appropriate down times, and some post-discharge decay time. The materials (for this fuel rod, and the other four) are further decayed with ORIGEN in cases discussed in Appendix B.

```
=t-depl  parm=(centrm, addnux=4)
MOX, Westinghouse 17x17 PWR, Catawba c16, c17  for AREVA nom b4 pin
V7-238
read alias
$clad 410-417 end
$cool 430-437 end
$gas 450-457 end
end alias
read comp
'
'
' high pu (generic)
uo2 301 den=10.4545 .95014 924 92235 0.25 92238 99.7471 92234 .00172101 92236 .00115 end
puo2 301 den=10.4545 .04985 924 94239 94.02451308 94240 5.83741696 94241 .0984597 94242 .027161 94238 .01244893 end
'am-241 301 den=10.4545 .000004514 924 end
atomam241 301 10.4545 2 95241 1 8016 2 0.000004514 924 end
'
' medium pu (generic)
uo2 302 den=10.3845 .966773 924 92235 0.25 92238 99.7471 92234 .00172101 92236 .00115 end
puo2 302 den=10.3845 .033225 924 94239 94.31204 94240 5.56486 94241 .08377 94242 .02735 94238 .01197 end
'am-241 302 den=10.3845 .000002272 924 end
atomam241 302 10.3845 2 95241 1 8016 2 0.000002272 924 end
'
' low pu (generic)
uo2 303 den=10.4635 .975817 924 92235 0.25 92238 99.7471 92234 .00172101 92236 .00115 end
puo2 303 den=10.4635 .02418 924 94239 94.26247 94240 5.61164 94241 .09092 94242 .02098 94238 .01399 end
'am-241 303 den=10.4635 .000002819 924 end
atomam241 303 10.4635 2 95241 1 8016 2 0.000002819 924 end
'
'
'
'Note: below, the actual initial isotopic compositions of the b4, a1, c1, b14, and k5 MOX fuel rods are redacted to
' protect proprietary information.
'
' b4
uo2
puo2

'
'
' a1
uo2
puo2

'
'
' c1
uo2
puo2

'
'
' b14
uo2
puo2

'
'
' k5
uo2
puo2

'
'
' below is an approximate recipe for M5 advanced cladding material
'
arbmzirc 6.553 2 0 0 1 40000 98.80 41000 1.20
$clad 1 628 end
'
```

```

,
h2o $cool den=0.72 1 581.32 end
arbm-bormod 0.72 1 1 0 0 5000 100 $cool 600.0-6 581.32 end
,
n $gas den=0.00125 1 650 end
end comp
,
,
,
,
, -----
, fuel-pin-cell geometry
,
read celldata
, high pu
latticecell squarepitch pitch=1.26 430 fuelr=0.409575 301 cladr=0.47498 410 gapr=0.4178 450 end
,
latticecell squarepitch pitch=1.26 431 fuelr=0.409575 302 cladr=0.47498 411 gapr=0.4178 451 end
,
latticecell squarepitch pitch=1.26 432 fuelr=0.409575 303 cladr=0.47498 412 gapr=0.4178 452 end
,
latticecell squarepitch pitch=1.26 433 fuelr=0.409575 311 cladr=0.47498 413 gapr=0.4178 453 end
,
latticecell squarepitch pitch=1.26 434 fuelr=0.409575 312 cladr=0.47498 414 gapr=0.4178 454 end
,
latticecell squarepitch pitch=1.26 435 fuelr=0.409575 313 cladr=0.47498 415 gapr=0.4178 455 end
,
latticecell squarepitch pitch=1.26 436 fuelr=0.409575 314 cladr=0.47498 416 gapr=0.4178 456 end
,
latticecell squarepitch pitch=1.26 437 fuelr=0.409575 315 cladr=0.47498 417 gapr=0.4178 457 end
,
end celldata
,
read depletion -311 301 302 303 end depletion
,
read burndata
,
power= 52.302878 burn=499 down=48 nlib=4 end
power= 43.709860 burn=485 down=240 nlib=4 end
,
end burndata
,
,
read keep
couple newt opus origen
end keep
,
read model
mox, Westinghouse 17x17 PWR catawba c16, c17
read parm
drawit=yes run=yes fillmix=3 epsilon=5e-3
cmfd=yes xycmfd=2 echo=yes outers=400
timed=yes epsilon=.005
end parm
read materials
301 1 ! mox 1 high ! end
302 1 ! mox 2 medium ! end
303 1 ! mox 3 low ! end
311 1 ! mox 1 ! end
410 1 ! clad ! end
411 1 ! clad ! end
412 1 ! clad ! end
413 1 ! clad ! end
414 1 ! clad ! end
415 1 ! clad ! end
416 1 ! clad ! end
417 1 ! clad ! end
430 2 ! water ! end
431 2 ! water ! end
432 2 ! water ! end
433 2 ! water ! end
434 2 ! water ! end
435 2 ! water ! end
436 2 ! water ! end
437 2 ! water ! end
450 0 ! gap ! end
451 0 ! gap ! end
452 0 ! gap ! end
453 0 ! gap ! end
454 0 ! gap ! end
455 0 ! gap ! end
456 0 ! gap ! end
457 0 ! gap ! end
end materials
read geom
,
unit 1
com='regular fuel rod'
cylinder 10 .409575
cylinder 20 .4178
cylinder 30 .47498
cuboid 40 4p0.63
media 301 1 10
media 450 1 20 -10

```

```

media 410 1 30 -20
media 430 1 40 -30
boundary 40 4 4
,
unit 2
com='regular fuel rod'
cylinder 10 .409575
cylinder 20 .4178
cylinder 30 .47498
cuboid 40 4p0.63
media 302 1 10
media 451 1 20 -10
media 411 1 30 -20
media 431 1 40 -30
boundary 40 4 4
,
unit 3
com='regular fuel rod'
cylinder 10 .409575
cylinder 20 .4178
cylinder 30 .47498
cuboid 40 4p0.63
media 303 1 10
media 452 1 20 -10
media 412 1 30 -20
media 432 1 40 -30
boundary 40 4 4
,
unit 311
com='regular fuel rod'
cylinder 10 .409575
cylinder 20 .4178
cylinder 30 .47498
cuboid 40 4p0.63
media 311 1 10
media 454 1 20 -10
media 414 1 30 -20
media 434 1 40 -30
boundary 40 4 4
,
,
unit 5
com='guide tube'
cylinder 10 .56135
cylinder 20 .6050
cuboid 40 4p0.63
media 430 1 10
media 410 1 20 -10
media 430 1 40 -20
boundary 40 4 4
,
unit 11
com='right half of high fuel rod'
cylinder 10 .409575 chord +x=0
cylinder 20 .4178 chord +x=0
cylinder 30 .47498 chord +x=0
cuboid 40 0.63 0.0 2p0.63
media 301 1 10
media 450 1 20 -10
media 410 1 30 -20
media 430 1 40 -30
boundary 40 2 4
,
unit 21
com='right half of medium fuel rod'
cylinder 10 .409575 chord +x=0
cylinder 20 .4178 chord +x=0
cylinder 30 .47498 chord +x=0
cuboid 40 0.63 0.0 2p0.63
media 302 1 10
media 451 1 20 -10
media 411 1 30 -20
media 431 1 40 -30
boundary 40 2 4
,
unit 12
com='top half of high fuel rod'
cylinder 10 .409575 chord +y=0
cylinder 20 .4178 chord +y=0
cylinder 30 .47498 chord +y=0
cuboid 40 2p0.63 0.63 0.0
media 301 1 10
media 450 1 20 -10
media 410 1 30 -20
media 430 1 40 -30
boundary 40 4 2
,
unit 22
com='top half of medium fuel rod'
cylinder 10 .409575 chord +y=0
cylinder 20 .4178 chord +y=0
cylinder 30 .47498 chord +y=0
cuboid 40 2p0.63 0.63 0.0
media 302 1 10
media 451 1 20 -10

```

```

media 411 1 30 -20
media 431 1 40 -30
boundary 40 4 2
,
unit 51
com='right half of guide tube'
cylinder 10 .56135 chord +x=0
cylinder 20 .6050 chord +x=0
cuboid 40 0.63 0.0 2p0.63
media 430 1 10
media 410 1 20 -10
media 430 1 40 -20
boundary 40 2 4
,
unit 52
com='top half of guide tube'
cylinder 10 .56135 chord +y=0
cylinder 20 .6050 chord +y=0
cuboid 40 2p0.63 0.63 0.0
media 430 1 10
media 410 1 20 -10
media 430 1 40 -20
boundary 40 4 2
,
unit 53
com='1/4 instrument tube'
cylinder 10 .56135 chord +x=0 chord +y=0
cylinder 20 .6050 chord +x=0 chord +y=0
cuboid 40 0.63 0.0 0.63 0.0
media 430 1 10
media 410 1 20 -10
media 430 1 40 -20
boundary 40 2 2
,
global unit 10
cuboid 10 10.71 0.0 10.71 0.0
array 1 10 place 1 1 0 0
media 430 1 10
boundary 10 36 36
,
end geom
read array
ara=1 nux=9 nuy=9 typ=cuboidal fill
53 12 12 12 52 12 12 52 22 22
11 1 1 1 1 1 1 1 1 2
11 1 1 1 1 1 1 1 1 2
51 1 1 5 1 1 5 2 2
11 1 1 1 1 1 1 1 1 2
11 1 1 1 1 5 1 311 2
51 1 1 5 1 1 1 2 2
21 1 1 2 1 1 2 2 3
21 2 2 2 2 2 2 3 3 end fill
end array
read bounds all=refl end bounds
end model
end
=shell
cp ft71f001 $RTNDIR/ft71_mox_b4x
end

```

APPENDIX B.

ORIGEN DECAY CASES FOR THE FIVE SELECTED MOX FUEL RODS

APPENDIX B. ORIGEN RESULTS FOR COOLING MOX FUEL RODS

B.1 ORIGEN RESULTS FOR COOLING MOX FUEL ROD B4

[illegible]

```
568$ a2 13 a6 1 a10 0 a13 -43 a15 3 a17 2 e
57** 0 a3 0.0 e
95$ $ t
5 more years for cooling used fuel material
-15.1 kgIHM (nrm'd IHM 1/4-ass. at 1 MT)
,
,
,      14      365      365      366      272      93
,
,      240+2xxx   xxx   1/22/09 3/12/09 5/12/09 1/22/10 1/22/11 1/22/12 1/      22/13 10
, 60** 2      6.5 24      73      134      389      754      1119      14      85      17
60** 2 6.5 24 73 134 389 754 1119 1485 1757 1850 2215 2580
'61** le=8 le=20 5rle=8
61** le=20 le=20 5rle=20
65$
'Gram-Atoms      Grams      Curies      Watts-All      Watts-Gamma
0 0 0      1 1 0      1 1 0      1 1 0      3z 6z
0 0 0      1 1 0      1 1 0      1 1 0      3z 6z
0 0 0      1 1 0      1 1 0      1 1 0      3z 6z
t
568$ 0 t
Owhen job "fails", make sure no fido input..... is out here!

      0$ array      12 entries read

      0t

      3$ array      33 entries read

      0t

library information...
      cross-section data taken from position number      1 of library on unit 21.
      *****
      *      ENDF/B-VII.1 decay data      *
      *      compiled August 30, 2012      *
      *      i.c. gauld, g. ilas, m. pigni      *
      *      reactor and nuclear systems division      *
      *      oak ridge national laboratory      *
      *      *****
      0      .other identification and sizes of library.
      0      data set name: /scale/scale6.1/data/origen.rev03.end7dec
      0      8/31/2012      date library was produced in library
      0      2237      total number of nuclides in library
      0      910      number of light-element nuclides
      0      176      number of actinide nuclides
      0      1151      number of fission product nuclides
      0      2636      number of nonzero off-diagonal matrix elements
      0      *****

      35$ array      1 entries read

      0t

      54$ array      12 entries read

      56$ array      20 entries read

      57* array      5 entries read

      95$ array      1 entries read

      0t

      240+2xxx   xxx   1/22/09 3/12/09 5/12/09 1/22/10 1/22/11 1/22/12 1/22/13 10
      60** 2      6.5 24      73      134      389      754      1119      1485      17

      61** le=8 le=20 5rle=8

      60* array      13 entries read

      61* array      7 entries read

      gram-atoms      grams      curies      watts-all      watts-gamma

      65$ array      63 entries read

      0t

0 obtaining data from position no.      43 on unit no.      71
1
0      5 more years for cooling used fuel material
                                basis --15.1 kgIHM (nrm'd IHM 1/4-ass. at 1 MT)
                                light elements      page      1
                                *****
                                initial      2.0 d      6.5 d      24.0 d      73.0 d      134.0 d      389.0 d      754.0 d      1119.0 d      1485.0 d      1757.0 d      1850.0 d      2215.0 d      2580.0 d
h 1      9.708E-05      9.708E-05      9.708E-05      9.708E-05      9.708E-05      9.708E-05      9.708E-05      9.708E-05      9.708E-05      9.708E-05      9.708E-05      9.708E-05      9.708E-05      9.708E-05
h 2      2.075E-05      2.075E-05      2.075E-05      2.075E-05      2.075E-05      2.075E-05      2.075E-05      2.075E-05      2.075E-05      2.075E-05      2.075E-05      2.075E-05      2.075E-05      2.075E-05
h 3      8.405E-07      8.403E-07      8.397E-07      8.374E-07      8.311E-07      8.234E-07      7.917E-07      7.484E-07      7.075E-07      6.687E-07      6.412E-07      6.321E-07      5.976E-07      5.649E-07
he 3      1.957E-07      1.960E-07      1.965E-07      1.988E-07      2.051E-07      2.129E-07      2.446E-07      2.879E-07      3.288E-07      3.676E-07      3.950E-07      4.041E-07      4.387E-07      4.714E-07
he 4      5.673E-02      5.673E-02      5.673E-02      5.673E-02      5.673E-02      5.673E-02      5.673E-02      5.673E-02      5.673E-02      5.673E-02      5.673E-02      5.673E-02      5.673E-02      5.673E-02
ll 6      3.856E-12      3.856E-12      3.856E-12      3.856E-12      3.856E-12      3.856E-12      3.856E-12      3.856E-12      3.856E-12      3.856E-12      3.856E-12      3.856E-12      3.856E-12      3.856E-12
ll 7      3.658E-13      3.658E-13      3.658E-13      3.658E-13      3.658E-13      3.658E-13      3.658E-13      3.658E-13      3.658E-13      3.658E-13      3.658E-13      3.658E-13      3.658E-13      3.658E-13
be 9      3.589E-08      3.589E-08      3.589E-08      3.589E-08      3.589E-08      3.589E-08      3.589E-08      3.589E-08      3.589E-08      3.589E-08      3.589E-08      3.589E-08      3.589E-08      3.589E-08
b10      1.856E-06      1.856E-06      1.856E-06      1.856E-06      1.856E-06      1.856E-06      1.856E-06      1.856E-06      1.856E-06      1.856E-06      1.856E-06      1.856E-06      1.856E-06      1.856E-06
b10      8.711E-13      8.758E-13      8.863E-13      9.271E-13      1.041E-12      1.184E-12      1.779E-12      2.630E-12      3.482E-12      4.336E-12      4.971E-12      5.187E-12      6.039E-12      6.891E-12
b11      1.054E-09      1.054E-09      1.054E-09      1.054E-09      1.054E-09      1.054E-09      1.054E-09      1.054E-09      1.054E-09      1.054E-09      1.054E-09      1.054E-09      1.054E-09      1.054E-09
c12      1.159E-03      1.159E-03      1.159E-03      1.159E-03      1.159E-03      1.159E-03      1.159E-03      1.159E-03      1.159E-03      1.159E-03      1.159E-03      1.159E-03      1.159E-03      1.159E-03
c13      1.831E-01      1.831E-01      1.831E-01      1.831E-01      1.831E-01      1.831E-01      1.831E-01      1.831E-01      1.831E-01      1.831E-01      1.831E-01      1.831E-01      1.831E-01      1.831E-01
c14      5.612E-06      5.612E-06      5.612E-06      5.612E-06      5.612E-06      5.612E-06      5.612E-06      5.611E-06      5.610E-06      5.610E-06      5.609E-06      5.609E-06      5.608E-06      5.608E-06
n14      7.111E-08      7.112E-08      7.112E-08      7.116E-08      7.125E-08      7.136E-08      7.184E-08      7.252E-08      7.320E-08      7.389E-08      7.439E-08      7.457E-08      7.525E-08      7.593E-08
n15      1.710E-04      1.710E-04      1.710E-04      1.710E-04      1.710E-04      1.710E-04      1.710E-04      1.710E-04      1.710E-04      1.710E-04      1.710E-04      1.710E-04      1.710E-04      1.710E-04
o16      2.035E+03      2.035E+03      2.035E+03      2.035E+03      2.035E+03      2.035E+03      2.035E+03      2.035E+03      2.035E+03      2.035E+03      2.035E+03      2.035E+03      2.035E+03      2.035E+03
o17      4.797E-04      4.797E-04      4.797E-04      4.797E-04      4.797E-04      4.797E-04      4.797E-04      4.797E-04      4.797E-04      4.797E-04      4.797E-04      4.797E-04      4.797E-04      4.797E-04
o18      1.859E-09      1.859E-09      1.859E-09      1.859E-09      1.859E-09      1.859E-09      1.859E-09      1.859E-09      1.859E-09      1.859E-09      1.859E-09      1.859E-09      1.859E-09      1.859E-09
f19      1.388E-15      1.388E-15      1.388E-15      1.388E-15      1.388E-15      1.388E-15      1.388E-15      1.388E-15      1.388E-15      1.388E-15      1.388E-15      1.388E-15      1.388E-15      1.388E-15
na23      6.286E-16      6.286E-16      6.286E-16      6.286E-16      6.286E-16      6.286E-16      6.286E-16      6.286E-16      6.286E-16      6.286E-16      6.286E-16      6.286E-16      6.286E-16      6.286E-16
mg24      6.568E-16      6.568E-16      6.568E-16      6.568E-16      6.568E-16      6.568E-16      6.568E-16      6.568E-16      6.568E-16      6.568E-16      6.568E-16      6.568E-16      6.568E-16      6.568E-16
mg25      6.836E-16      6.836E-16      6.836E-16      6.836E-16      6.836E-16      6.836E-16      6.836E-16      6.836E-16      6.836E-16      6.836E-16      6.836E-16      6.836E-16      6.836E-16      6.836E-16
mg26      7.114E-16      7.114E-16      7.114E-16      7.114E-16      7.114E-16      7.114E-16      7.114E-16      7.114E-16      7.114E-16      7.114E-16      7.114E-16      7.114E-16      7.114E-16      7.114E-16
al27      7.383E-16      7.383E-16      7.383E-16      7.383E-16      7.383E-16      7.383E-16      7.383E-16      7.383E-16      7.383E-16      7.383E-16      7.383E-16      7.383E-16      7.383E-16      7.383E-16
el28      7.659E-16      7.659E-16      7.659E-16      7.659E-16      7.659E-16      7.659E-16      7.659E-16      7.659E-16      7.659E-16      7.659E-16      7.659E-16      7.659E-16      7.659E-16      7.659E-16
el29      7.941E-16      7.941E-16      7.941E-16      7.941E-16      7.941E-16      7.941E-16      7.941E-16      7.941E-16      7.941E-16      7.941E-16      7.941E-16      7.941E-16      7.941E-16      7.941E-16
sl30      8.251E-16      8.251E-16      8.251E-16      8.251E-16      8.251E-16      8.251E-16      8.251E-16      8.251E-16      8.251E-16      8.251E-16      8.251E-16      8.251E-16      8.251E-16      8.251E-16
p31      8.483E-16      8.483E-16      8.483E-16      8.483E-16      8.483E-16      8.483E-16      8.483E-16      8.483E-16      8.483E-16      8.483E-16      8.483E-16      8.483E-16      8.483E-16      8.483E-16
s32      8.742E-16      8.742E-16      8.742E-16      8.742E-16      8.742E-16      8.742E-16      8.742E-16      8.742E-16      8.742E-16      8.742E-16      8.742E-16      8.742E-16      8.742E-16      8.742E-16
s33      8.983E-16      8.983E-16      8.983E-16      8.983E-16      8.983E-16      8.983E-16      8.983E-16      8.983E-16      8.983E-16      8.983E-16      8.983E-16      8.983E-16      8.983E-16      8.983E-16
s34      9.307E-16      9.307E-16      9.307E-16      9.307E-16      9.307E-16      9.307E-16      9.307E-16      9.307E-16      9.307E-16      9.307E-16      9.307E-16      9.307E-16      9.307E-16      9.307E-16
sc35      9.844E-16      9.844E-16      9.844E-16      9.844E-16      9.844E-16      9.844E-16      9.844E-16      9.844E-16      9.844E-16      9.844E-16      9.844E-16      9.844E-16      9.844E-16      9.844E-16
sl36      9.114E-16      9.114E-16      9.114E-16      9.114E-16      9.114E-16      9.114E-16      9.114E-16      9.114E-16      9.114E-16      9.114E-16      9.114E-16      9.114E-16      9.114E-16      9.114E-16
cl36      4.942E-17      4.942E-17      4.942E-17      4.942E-17      4.942E-17      4.942E-17      4.942E-17      4.942E-17      4.942E-17      4.942E-17      4.942E-17      4.942E-17      4.942E-17      4.942E-17
cl37      1.021E-15      1.021E-15      1.021E-15      1.021E-15      1.021E-15      1.021E-15      1.021E-15      1.021E-15      1.021E-15      1.021E-15      1.021E-15      1.021E-15      1.021E-15      1.021E-15
ar36      9.758E-16      9.758E-16      9.758E-16      9.758E-16      9.758E-16      9.758E-16      9.758E-16      9.758E-16      9.758E-16      9.758E-16      9.758E-16      9.758E-16      9.758E-16      9.758E-16
ar38      1.039E-15      1.039E-15      1.039E-15      1.039E-15      1.039E-15      1.039E-15      1.039E-15      1.039E-15      1.039E-15      1.039E-15      1.039E-15      1.039E-15      1.039E-15      1.039E-15
s39      1.820E-19      1.820E-19      1.820E-19      1.820E-19      1.820E-19      1.820E-19      1.820E-19      1.820E-19      1.820E-19      1.820E-19      1.820E-19      1.820E-19      1.820E-19      1.820E-19
ar40      1.099E-15      1.099E-15      1.099E-15      1.099E-15      1.099E-15      1.099E-15      1.099E-15      1.099E-15      1.099E-15      1.099E-15      1.099E-15      1.099E-15      1.099E-15      1.099E-15
k39      1.062E-15      1.062E-15      1.062E-15      1.062E-15      1.062E-15      1.062E-15      1.062E-15      1.062E-15      1.062E-15      1.062E-15      1.062E-15      1.062E-15      1.062E-15      1.062E-15
k40      1.053E-15      1.053E-15      1.053E-15      1.053E-15      1.053E-15      1.053E-15      1.053E-15      1.053E-15      1.053E-15      1.053E-15      1.053E-15      1.053E-15      1.053E-15      1.053E-15
k41      1.157E-15      1.157E-15      1.157E-15      1.157E-15      1.157E-15      1.157E-15      1.157E-15      1.157E-15      1.157E-15      1.157E-15      1.157E-15      1.157E-15      1.157E-15      1.157E-15
ca40      1.091E-15      1.091E-15      1.091E-15      1.091E-15      1.091E-15      1.091E-15      1.091E-15      1.091E-15      1.091E-15      1.091E-15      1.091E-15      1.091E-15      1.091E-15      1.091E-15
ca41      6.069E-19      6.069E-19      6.069E-19      6.069E-19      6.069E-19      6.069E-19      6.069E-19      6.069E-19      6.069E-19      6.069E-19      6.069E-19      6.069E-19      6.069E-19      6.069E-19
ca42      1.151E-15      1.151E-15      1.151E-15      1.151E-15      1.151E-15      1.151E-15      1.151E-15      1.151E-15      1.151E-15      1.151E-15      1.151E-15      1.151E-15      1.151E-15      1.151E-15
ca43      1.160E-15      1.160E-15      1.160E-15      1.160E-15      1.160E-15      1.160E-15      1.160E-15      1.160E-15      1.160E-15      1.160E-15      1.160E-15      1.160E-15      1.160E-15      1.160E-15
ca44      1.220E-15      1.220E-15      1.220E-15      1.220E-15      1.220E-15      1.220E-15      1.220E-15      1.220E-15      1.220E-15      1.220E-15      1.220E-15      1.220E-15      1.220E-15      1.220E-15
ca46      1.257E-15      1.257E-15      1.257E-15      1.257E-15      1.257E-15      1.257E-15      1.257E-15      1.257E-15      1.257E-15      1.257E-15      1.257E-15      1.257E-15      1.257E-15      1.257E-15
ca48      1.311E-15      1.311E-15      1.311E-15      1.311E-15      1.311E-15      1.311E-15      1.311E-15      1.311E-15      1.311E-15      1.311E-15      1.311E-15      1.311E-15      1.311E-15      1.311E-15
sc45      1.193E-15      1.193E-15      1.193E-15      1.193E-15      1.194E-15      1.194E-15      1.194E-15      1.194E-15      1.194E-15      1.194E-15      1.194E-15      1.194E-15      1.194E-15      1.194E-15
sc46      7.434E-19      7.312E-19      7.045E-19      6.095E-19      4.064E-19      2.453E-19      2.976E-20      1.453E-21      7.095E-23      3.436E-24      3.621E-25      1.678E-25      8.192E-27      4.000E-28
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[illegible]B-5

yl	1.931E-18	1.931E-18	1.932E-18	1.933E-18	1.935E-18	1.939E-18	1.940E-18	2.031E-18	2.062E-18	2.085E-18	2.099E-18	2.103E-18	2.117E-18	2.128E-18
bu	4.598E-15	4.599E-15	4.600E-15	4.602E-15	4.608E-15	4.612E-15	4.616E-15	4.617E-15	4.617E-15	4.617E-15	4.617E-15	4.617E-15	4.617E-15	4.617E-15
hf	3.348E-14	3.348E-14	3.348E-14	3.348E-14	3.348E-14	3.347E-14	3.347E-14	3.347E-14	3.347E-14	3.347E-14	3.347E-14	3.347E-14	3.347E-14	3.347E-14
ta	2.755E-15	2.755E-15	2.754E-15	2.753E-15	2.751E-15	2.749E-15	2.744E-15	2.743E-15	2.743E-15	2.743E-15	2.743E-15	2.743E-15	2.743E-15	2.743E-15
w	2.564E-14	2.564E-14	2.564E-14	2.564E-14	2.564E-14	2.564E-14	2.565E-14	2.565E-14	2.565E-14	2.565E-14	2.565E-14	2.565E-14	2.565E-14	2.565E-14
re	6.379E-15	6.379E-15	6.379E-15	6.380E-15	6.380E-15	6.381E-15	6.381E-15	6.381E-15	6.381E-15	6.381E-15	6.381E-15	6.381E-15	6.381E-15	6.381E-15
os	5.992E-15	5.992E-15	5.992E-15	5.992E-15	5.992E-15	5.992E-15	5.993E-15	5.993E-15	5.993E-15	5.993E-15	5.993E-15	5.993E-15	5.993E-15	5.993E-15
ir	2.835E-15	2.835E-15	2.835E-15	2.834E-15	2.833E-15	2.833E-15	2.833E-15	2.839E-15	2.843E-15	2.847E-15	2.850E-15	2.851E-15	2.855E-15	2.858E-15
pt	7.579E-15	7.579E-15	7.580E-15	7.580E-15	7.581E-15	7.579E-15	7.579E-15	7.571E-15	7.567E-15	7.564E-15	7.563E-15	7.559E-15	7.556E-15	
au	3.466E-15	3.466E-15	3.466E-15	3.466E-15	3.466E-15	3.466E-15	3.466E-15	3.466E-15	3.466E-15	3.466E-15	3.466E-15	3.466E-15	3.466E-15	3.466E-15
hg	4.027E-14	4.027E-14	4.027E-14	4.027E-14	4.027E-14	4.027E-14	4.027E-14	4.027E-14	4.027E-14	4.027E-14	4.027E-14	4.027E-14	4.027E-14	4.027E-14
tl	6.235E-17	6.235E-17	6.236E-17	6.237E-17	6.239E-17	6.238E-17	6.230E-17	6.219E-17	6.210E-17	6.202E-17	6.197E-17	6.196E-17	6.191E-17	6.186E-17
p	2.545E-19	2.553E-19	2.571E-19	2.639E-19	2.827E-19	3.055E-19	3.935E-19	5.014E-19	5.913E-19	6.663E-19	7.138E-19	7.865E-19	7.805E-19	8.236E-19
totals	2.036E+03	2.036E+03	2.036E+03	2.036E+03	2.036E+03	2.036E+03	2.036E+03	2.036E+03	2.036E+03	2.036E+03	2.036E+03	2.036E+03	2.036E+03	2.036E+03

1	5 more years for cooling used fuel material	light elements	page	5											
0	nuclide radioactivity, curies														
	basis --15.1 kgHM (nm/d IHM 1/4-ass. at 1 MF)														
	initial 2.0 d 6.5 d	281.0 d 72.0 d 134.0 d 385.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d													
h	3	8.134E+03	8.131E+03	8.126E+03	8.104E+03	8.043E+03	7.968E+03	7.661E+03	7.242E+03	6.846E+03	6.471E+03	6.205E+03	6.117E+03	5.782E+03	5.466E+03
be	10	4.397E-08	4.397E-08	4.397E-08	4.397E-08	4.397E-08	4.397E-08	4.397E-08	4.397E-08	4.397E-08	4.397E-08	4.397E-08	4.397E-08	4.397E-08	4.397E-08
c	14	2.515E-05	2.515E-05	2.515E-05	2.515E-05	2.515E-05	2.515E-05	2.515E-05	2.515E-05	2.514E-05	2.514E-05	2.514E-05	2.514E-05	2.514E-05	2.513E-05
si	32	5.523E-21	5.523E-21	5.522E-21	5.521E-21	5.518E-21	5.514E-21	5.496E-21	5.471E-21	5.447E-21	5.422E-21	5.404E-21	5.398E-21	5.373E-21	5.349E-21
p	32	7.703E-20	7.704E-20	7.766E-20	7.780E-20	7.578E-21	5.621E-21	5.498E-21	5.473E-21	5.448E-21	5.423E-21	5.405E-21	5.399E-21	5.375E-21	5.350E-21
p	33	6.259E-18	5.926E-18	5.239E-18	3.246E-18	8.497E-19	1.602E-19	1.497E-22	6.905E-27	3.185E-31	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
u	5	2.275E-15	2.240E-15	2.161E-15	1.822E-15	1.615E-15	1.405E-15	1.219E-15	1.045E-15	8.799E-16	7.372E-16	6.173E-16	5.189E-16	4.362E-16	3.630E-16
cl	36	1.631E-18	1.631E-18	1.631E-18	1.631E-18	1.631E-18	1.631E-18	1.631E-18	1.631E-18	1.631E-18	1.631E-18	1.631E-18	1.631E-18	1.631E-18	1.631E-18
ar	37	2.979E-16	2.864E-16	2.620E-16	1.853E-16	7.030E-17	2.103E-17	1.356E-19	9.917E-23	7.255E-26	5.203E-29	2.396E-31	0.000E+00	0.000E+00	0.000E+00
ar	39	6.206E-17	6.206E-17	6.205E-17	6.205E-17	6.202E-17	6.200E-17	6.189E-17	6.173E-17	6.157E-17	6.141E-17	6.129E-17	6.125E-17	6.109E-17	6.094E-17
k	42	1.020E-22	1.020E-22	1.016E-22	1.016E-22	1.012E-22	1.012E-22	9.978E-23	9.768E-23	9.619E-23	9.418E-23	9.218E-23	9.069E-23	8.978E-23	8.791E-23
ar	40	7.543E-21	7.543E-21	7.543E-21	7.543E-21	7.543E-21	7.543E-21	7.543E-21	7.543E-21	7.543E-21	7.543E-21	7.543E-21	7.543E-21	7.543E-21	7.543E-21
k	42	1.020E-22	1.020E-22	1.020E-22	1.019E-22	1.016E-22	1.012E-22	9.976E-23	9.768E-23	9.564E-23	9.365E-23	9.219E-23	9.170E-23	8.979E-23	8.791E-23
ca	41	5.190E-20	5.190E-20	5.190E-20	5.190E-20	5.190E-20	5.190E-20	5.190E-20	5.190E-20	5.190E-20	5.190E-20	5.190E-20	5.190E-20	5.190E-20	5.190E-20
ca	45	2.759E-15	2.759E-15	2.759E-15	2.759E-15	2.759E-15	2.759E-15	2.759E-15	2.759E-15	2.759E-15	2.759E-15	2.759E-15	2.759E-15	2.759E-15	2.759E-15
ac	45m	5.243E-20	5.198E-20	5.099E-20	4.733E-20	3.841E-20	2.961E-20	9.986E-21	2.107E-21	4.446E-22	9.342E-23	9.930E-24	9.971E-24	4.159E-24	8.776E-25
ac	46	2.519E-14	2.478E-14	2.388E-14	2.066E-14	1.377E-14	8.315E-15	1.009E-15	4.925E-17	2.405E-18	1.165E-19	1.227E-20	5.686E-21	2.776E-22	1.356E-23
v	49	6.721E-18	6.693E-18	6.630E-18	6.391E-18	5.766E-18	5.072E-18	2.969E-18	1.379E-18	6.407E-19	2.970E-19	1.678E-19	1.380E-19	6.410E-20	2.978E-20
si	51	2.855E-16	2.716E-17	1.631E-18	1.631E-18	1.631E-18	1.631E-18	1.631E-18	1.631E-18	1.631E-18	1.631E-18	1.631E-18	1.631E-18	1.631E-18	1.631E-18
si	53	9.946E-24	9.946E-24	9.946E-24	9.946E-24	9.946E-24	9.946E-24	9.946E-24	9.946E-24	9.946E-24	9.946E-24	9.946E-24	9.946E-24	9.946E-24	9.946E-24
mn	54	2.775E-15	2.763E-15	2.735E-15	2.631E-15	2.360E-15	2.061E-15	1.170E-15	5.199E-16	2.311E-16	1.025E-16	5.602E-17	4.556E-17	2.025E-17	9.003E-18
fe	55	6.764E-15	6.755E-15	6.734E-15	6.653E-15	6.431E-15	6.165E-15	5.169E-15	4.015E-15	3.120E-15	2.422E-15	2.007E-15	1.882E-15	1.462E-15	1.136E-15
fe	59	1.045E-15	1.013E-15	9.443E-16	7.189E-16	3.351E-16	1.296E-16	2.439E-18	8.277E-21	2.808E-23	9.381E-26	1.355E-27	3.183E-28	1.080E-30	0.000E+00
fe	60	4.678E-23	4.678E-23	4.678E-23	4.678E-23	4.678E-23	4.678E-23	4.678E-23	4.678E-23	4.678E-23	4.678E-23	4.678E-23	4.678E-23	4.678E-23	4.678E-23
co	56	7.521E-23	7.387E-23	7.094E-23	6.063E-23	3.906E-23	2.259E-23	2.291E-24	8.657E-26	3.271E-27	1.225E-28	1.066E-29	4.629E-30	1.749E-31	0.000E+00
co	58	1.489E-17	1.481E-17	1.464E-17	1.400E-17	1.236E-17	1.058E-17	5.519E-18	2.175E-18	8.573E-19	3.371E-19	1.684E-19	1.328E-19	5.236E-20	2.064E-20
co	59	3.700E-16	3.629E-16	3.472E-16	2.926E-16	1.812E-16	9.977E-18	8.733E-18	2.318E-19	6.523E-21	1.818E-22	1.271E-23	5.117E-24	1.440E-25	4.053E-27
co	60	1.699E-13	1.698E-13	1.698E-13	1.698E-13	1.698E-13	1.698E-13	1.698E-13	1.698E-13	1.698E-13	1.698E-13	1.698E-13	1.698E-13	1.698E-13	1.698E-13
co	60m	4.675E-23	4.675E-23	4.675E-23	4.675E-23	4.675E-23	4.675E-23	4.675E-23	4.675E-23	4.675E-23	4.675E-23	4.675E-23	4.675E-23	4.675E-23	4.675E-23
ni	59	1.021E-16	1.021E-16	1.021E-16	1.021E-16	1.021E-16	1.021E-16	1.021E-16	1.021E-16	1.021E-16	1.021E-16	1.021E-16	1.021E-16	1.021E-16	1.021E-16
ni	63	1.566E-15	1.566E-15	1.566E-15	1.566E-15	1.566E-15	1.566E-15	1.566E-15	1.566E-15	1.566E-15	1.566E-15	1.566E-15	1.566E-15	1.566E-15	1.566E-15
zn	65	1.547E-17	1.539E-17	1.539E-17	1.548E-17	1.548E-17	1.548E-17	1.548E-17	1.548E-17	1.548E-17	1.548E-17	1.548E-17	1.548E-17	1.548E-17	1.548E-17
ni19m	26	2.677E-22	2.654E-22	2.622E-22	2.519E-22	2.244E-22	1.942E-22	1.062E-22	4.889E-23	7.947E-24	4.176E-24	3.351E-24	1.413E-24	5.960E-25	
ni21	51	5.121E-21	5.121E-21	5.120E-21	5.116E-21	5.105E-21	5.092E-21	5.036E-21	4.957E-21	4.880E-21	4.803E-21	4.747E-21	4.728E-21	4.654E-21	4.581E-21
ni21m	6	6.599E-21	6.599E-21	6.597E-21	6.592E-21	6.578E-21	6.561E-21	6.489E-21	6.388E-21	6.288E-21	6.189E-21	6.117E-21	6.092E-21	5.997E-21	5.903E-21
ni23	1	1.962E-24	1.941E-24	1.895E-24	1.725E-24	1.326E-24	9.560E-25	2.434E-25	6.847E-25	6.803E-25	1.581E-25	9.599E-25	1.355E-25	6.710E-25	
sb124	2	2.774E-20	2.711E-20	2.574E-20	2.105E-20	1.197E-20	5.931E-21	3.148E-22	4.707E-24	7.040E-26	1.041E-27	4.542E-29	1.557E-29	2.328E-31	0.000E+00
sb125	2	2.635E-21	2.631E-21	2.623E-21	2.592E-21	2.506E-21	2.403E-21	2.016E-21	1.569E-21	1.220E-21	9.497E-22	7.868E-22	7.380E-22	5.741E-22	4.466E-22
te121	4	4.026E-22	3.992E-22	3.916E-22	3.636E-22	2.956E-22	2.285E-22	7.789E-23	1.668E-23	3.573E-24	7.621E-25	2.418E-25	1.633E-25	3.028E-31	0.000E+00
te121m	4	4.010E-22	3.977E-22	3.902E-22	3.602E-22	2.922E-22	2.251E-22	7.789E-23	1.668E-23	3.573E-24	7.621E-25	2.418E-25	1.633E-25	3.028E-31	0.000E+00
te123m	3	3.052E-17	3.017E-17	2.937E-17	2.655E-17	1.966E-17	1.400E-17	3.178E-18	3.806E-19	4.654E-21	5.542E-21	1.115E-21	6.494E-22	7.776E-23	9.310E-24
te125m	4	4.735E-17	4.622E-17	4.378E-17	3.544E-17	1.961E-17	9.389E-18	4.323E-19	5.645E-21	6.299E-22	2.331E-22	1.927E-22	1.807E-22	1.406E-22	1.094E-22
te127	8	3.970E-20	3.891E-20	3.860E-20	3.709E-20	3.279E-20	3.581E-20	7.076E-21	6.946E-22	6.819E-23	6.631E-24	1.180E-24	6.529E-25	0.000E+00	0.000E+

5 more years for cooling used fuel material

1 2.490E+16 2.444E+16 2.343E+16 1.988E+16 1.255E+16 7.077E+17 6.458E+18 2.098E+19 6.815E+21 2.193E+22 1.706E+23 7.125E+24 2.315E+25 7.519E+27
1r193m 3.394E+24 2.976E+24 2.213E+24 6.992E+25 2.778E+26 5.011E+28 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00

5 more years for cooling used fuel material													light elements													page 10		
													nuclide thermal power, watts															
													basis --15.1kgIHM (nm rd IHM 1/4-ass. at 1 MT)															
													24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d															
													initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d															
1r194	1.213E+22	1.212E+22	1.211E+22	1.204E+22	1.185E+22	1.163E+22	1.073E+22	9.557E+21	8.514E+21	7.584E+21	6.958E+21	6.575E+21	6.020E+21	5.364E+21	4.785E+21	4.255E+21	3.785E+21	3.365E+21	2.995E+21	2.675E+21	2.405E+21	2.185E+21	1.965E+21	1.745E+21	1.525E+21	1.305E+21	1.085E+21	8.65E+20
pt193	5.856E+19	5.855E+19	5.854E+19	5.851E+19	5.846E+19	5.839E+19	5.770E+19	5.691E+19	5.612E+19	5.533E+19	5.478E+19	5.459E+19	5.384E+19	5.310E+19	5.236E+19	5.162E+19	5.088E+19	5.014E+19	4.940E+19	4.866E+19	4.792E+19	4.718E+19	4.644E+19	4.570E+19	4.496E+19	4.422E+19	4.348E+19	4.274E+19
au194	8.255E+25	8.255E+25	8.255E+25	8.258E+25	8.258E+25	8.258E+25	8.241E+25	8.228E+25	8.215E+25	8.203E+25	8.193E+25	8.190E+25	8.177E+25	8.164E+25	8.151E+25	8.138E+25	8.125E+25	8.112E+25	8.099E+25	8.086E+25	8.073E+25	8.060E+25	8.047E+25	8.034E+25	8.021E+25	8.008E+25	7.995E+25	7.982E+25
au195	1.114E+20	1.106E+20	1.087E+20	1.098E+20	1.098E+20	1.087E+20	1.082E+20	1.072E+20	1.062E+20	1.052E+20	1.042E+20	1.032E+20	1.022E+20	1.012E+20	1.002E+20	9.92E+19	9.84E+19	9.76E+19	9.68E+19	9.60E+19	9.52E+19	9.44E+19	9.36E+19	9.28E+19	9.20E+19	9.12E+19	9.04E+19	8.96E+19
hg194	7.194E+27	7.194E+27	7.193E+27	7.193E+27	7.191E+27	7.190E+27	7.182E+27	7.170E+27	7.159E+27	7.148E+27	7.140E+27	7.137E+27	7.126E+27	7.115E+27	7.104E+27	7.093E+27	7.082E+27	7.071E+27	7.060E+27	7.049E+27	7.038E+27	7.027E+27	7.016E+27	7.005E+27	6.994E+27	6.983E+27	6.972E+27	6.961E+27
hg203	2.692E+18	2.613E+18	2.444E+18	1.884E+18	9.088E+18	3.668E+19	8.258E+21	3.620E+23	1.587E+25	6.853E+28	1.198E+29	3.004E+30	1.317E+32	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
l1202	8.928E+27	7.977E+27	6.191E+27	2.311E+27	1.465E+28	4.771E+30	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
l1204	5.290E+19	5.285E+19	5.273E+19	5.257E+19	5.207E+19	5.100E+19	4.946E+19	4.352E+19	3.624E+19	3.018E+19	2.511E+19	2.191E+19	2.091E+19	1.741E+19	1.450E+19	1.159E+19	8.68E+18	5.76E+18	2.84E+18	1.32E+18	6.04E+17	2.84E+17	1.32E+17	6.04E+16	2.84E+16	1.32E+16	6.04E+15	2.84E+15
total	2.818E+07	2.817E+07	2.815E+07	2.808E+07	2.787E+07	2.762E+07	2.658E+07	2.517E+07	2.383E+07	2.257E+07	2.167E+07	2.137E+07	2.025E+07	1.918E+07	1.801E+07	1.684E+07	1.567E+07	1.450E+07	1.333E+07	1.216E+07	1.100E+07	9.83E+06	8.66E+06	7.49E+06	6.32E+06	5.15E+06	3.98E+06	2.81E+06

5 more years for cooling used fuel material										light elements										page 11										
										element thermal power, watts																				
										basis --15.1 kgIHM (nm^d IHM 1/4-ass. at 1 MT)																				
										24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d																				
										initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d																				
h	2.743E+27	2.743E+27	2.741E+27	2.733E+27	2.713E+27	2.687E+27	2.584E+27	2.443E+27	2.309E+27	2.182E+27	2.093E+27	2.063E+27	1.950E+27	1.844E+27	1.738E+27	1.632E+27	1.526E+27	1.420E+27	1.314E+27	1.208E+27	1.102E+27	9.96E+26	8.90E+26	7.84E+26	6.78E+26	5.72E+26	4.66E+26	3.60E+26		
be	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11	5.280E+11		
c	7.376E+09	7.376E+09	7.376E+09	7.376E+09	7.376E+09	7.376E+09	7.375E+09	7.375E+09	7.375E+09	7.375E+09	7.375E+09	7.375E+09	7.375E+09	7.375E+09	7.375E+09	7.375E+09	7.375E+09	7.375E+09	7.375E+09	7.375E+09	7.375E+09	7.375E+09	7.375E+09	7.375E+09	7.375E+09	7.375E+09	7.375E+09	7.375E+09		
na	1.169E+22	1.167E+22	1.164E+22	1.149E+22	1.106E+22	1.060E+22	8.803E+23	6.746E+23	5.170E+23	3.959E+23	3.275E+23	3.034E+23	2.325E+23	1.782E+23	1.239E+23	8.94E+22	6.54E+22	4.74E+22	3.34E+22	2.35E+22	1.64E+22	1.15E+22	8.14E+21	5.74E+21	4.04E+21	2.85E+21	2.00E+21	1.41E+21		
al	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26	1.078E+26		
si	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25	2.240E+25		
p	3.153E+21	2.975E+21	2.611E+21	1.585E+21	4.162E+22	9.572E+23	2.271E+23	2.254E+23	2.244E+23	2.234E+23	2.226E+23	2.224E+23	2.214E+23	2.204E+23	2.194E+23	2.184E+23	2.174E+23	2.164E+23	2.154E+23	2.144E+23	2.134E+23	2.124E+23	2.114E+23	2.104E+23	2.094E+23	2.084E+23	2.074E+23	2.064E+23		
s	6.576E+19	6.473E+19	6.247E+19	5.438E+19	3.689E+19	2.275E+19	3.019E+20	1.676E+21	9.304E+23	5.124E+24	5.942E+25	2.845E+25	1.579E+26	8.767E+28	4.832E+30	2.613E+32	1.415E+34	7.842E+35	4.398E+36	2.444E+37	1.374E+38	7.642E+39	4.298E+40	2.444E+41	1.374E+42	7.642E+43	4.298E+44	2.444E+45		
cl	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21	2.878E+21		
kr	8.431E+20	8.416E+20	8.388E+20	8.360E+20	8.332E+20	8.304E+20	8.276E+20	8.248E+20	8.220E+20	8.192E+20	8.164E+20	8.136E+20	8.108E+20	8.080E+20	8.052E+20	8.024E+20	7.996E+20	7.968E+20	7.940E+20	7.912E+20	7.884E+20	7.856E+20	7.828E+20	7.800E+20	7.772E+20	7.744E+20	7.716E+20	7.688E+20		
ca	3.034E+23	3.034E+23	3.034E+23	3.033E+23	3.033E+23	3.033E+23	3.031E+23	3.029E+23	3.027E+23	3.025E+23	3.024E+23	3.023E+23	3.021E+23	3.019E+23	3.017E+23	3.015E+23	3.013E+23	3.011E+23	3.009E+23	3.007E+23	3.005E+23	3.003E+23	3.001E+23	2.999E+23	2.997E+23	2.995E+23	2.993E+23	2.991E+23		
sc	1.257E+18	1.246E+18	1.223E+18	1.135E+18	9.209E+17	7.101E+17	2.395E+19	5.053E+20	2.241E+21	7.036E+22	4.736E+23	3.043E+24	2.325E+25	1.782E+26	1.239E+27	8.94E+28	6.54E+29	4.74E+30	3.34E+31	2.35E+32	1.64E+33	1.15E+34	8.14E+35	5.74E+36	4.04E+37	2.85E+38	2.00E+39	1.41E+40		
cs	3.168E+16	3.116E+16	3.002E+16	2.598E+16	1.732E+16	1.046E+16	1.268E+17	6.193E+19	3.024E+20	1.464E+21	1.543E+22	1.750E+23	3.492E+24	1.705E+25	8.617E+26	4.298E+27	2.167E+28	1.109E+29	5.72E+29	3.00E+30	1.57E+31	8.14E+32	4.29E+33	2.17E+34	1.11E+35	5.72E+36	3.00E+37	1.57E+38		
tr	1.774E+22	1.768E+22	1.762E+22	1.756E+22	1.750E+22	1.744E+22	1.738E																							

5 more years for cooling used fuel material										actinides									
element concentrations, grams										page 14									
basis =15.1 kgHM (nm ²) HM 1/4-ass. at 1 MT																			
	initial	2.0	6.5	24.0	73.0	134.0	240	389.0	754.0	1119.0	1485.0	1757.0	1850.0	2215.0	2580.0				
he	1.367E-02	3.975E-02	3.989E-02	0.403E-02	4.179E-02	4.321E-02	4.720E-02	5.061E-02	5.334E-02	5.596E-02	5.790E-02	5.857E-02	6.121E-02	6.387E-02					
li	3.476E-16	3.476E-16	3.476E-16	3.476E-16	3.476E-16	3.476E-16	3.476E-16	3.476E-16	3.476E-16	3.476E-16	3.476E-16	3.476E-16	3.476E-16	3.476E-16	3.476E-16				
la	4.652E-16	4.652E-16	4.652E-16	4.652E-16	4.652E-16	4.652E-16	4.652E-16	4.652E-16	4.652E-16	4.652E-16	4.652E-16	4.652E-16	4.652E-16	4.652E-16	4.652E-16				
pb	1.189E-08	1.197E-08	1.217E-08	1.296E-08	1.530E-08	1.863E-08	3.792E-08	8.174E-08	1.450E-07	2.270E-07	2.987E-07	3.252E-07	4.327E-07	5.622E-07					
bi	4.148E-12	4.162E-12	4.173E-12	4.304E-12	4.776E-12	5.321E-12	7.67E-12	1.419E-11	1.516E-11	1.857E-11	2.088E-11	2.164E-11	2.477E-11	2.655E-11					
po	1.1170E-14	1.1172E-14	1.1174E-14	1.193E-14	1.522E-14	1.266E-14	1.938E-14	1.349E-14	1.363E-14	1.388E-14	1.418E-14	1.430E-14	1.497E-14	1.590E-14					
pn	1.477E-14	1.4178E-14	1.422E-14	1.423E-14	5.042E-14	5.798E-14	9.320E-14	1.449E-13	1.966E-13	2.441E-13	2.759E-13	2.862E-13	3.214E-13	3.510E-13					
te	6.201E-18	6.203E-18	6.203E-18	7.077E-18	1.023E-17	1.167E-17	1.646E-17	1.104E-17	1.125E-17	1.150E-17	1.173E-17	1.180E-17	1.247E-17	2.296E-17					
ra	2.626E-10	2.627E-10	2.641E-10	2.751E-10	3.150E-10	3.609E-10	5.695E-10	8.926E-10	1.215E-09	1.520E-09	1.730E-09	1.800E-09	2.047E-09	2.296E-09					
ac	0.470E-11	0.470E-11	1.083E-11	1.119E-11	1.219E-11	1.344E-11	1.870E-11	6.262E-11	3.388E-11	4.158E-11	4.733E-11	4.931E-11	5.708E-11	6.491E-11					
th	4.568E-06	4.572E-06	4.580E-06	4.610E-06	4.697E-06	4.808E-06	5.294E-06	6.053E-06	6.682E-06	7.780E-06	8.489E-06	8.739E-06	9.761E-06	1.085E-05					
u	6.488E-07	6.489E-07	6.490E-07	6.500E-07	6.510E-07	6.520E-07	6.530E-07	6.540E-07	6.550E-07	6.560E-07	6.570E-07	6.580E-07	6.590E-07	6.600E-07					
ca	1.390E-04	1.397E-04	1.430E-04	1.390E-04	1.390E-04	1.390E-04	1.390E-04	1.390E-04	1.390E-04	1.390E-04	1.390E-04	1.390E-04	1.390E-04	1.390E-04	1.390E-04				
np	2.740E-02	2.740E-02	2.740E-02	2.741E-02	2.742E-02	2.744E-02	2.754E-02	2.773E-02	2.798E-02	2.827E-02	2.853E-02	2.862E-02	2.901E-02	2.945E-02					
pu	4.974E-02	4.974E-02	4.973E-02	4.972E-02	4.967E-02	4.962E-02	4.937E-02	4.903E-02	4.869E-02	4.837E-02	4.814E-02	4.807E-02	4.777E-02	4.750E-02					
am	2.168E-02	2.168E-02	2.168E-02	2.168E-02	2.168E-02	2.168E-02	2.168E-02	2.168E-02	2.168E-02	2.168E-02	2.168E-02	2.168E-02	2.168E-02	2.168E-02					
cm	2.876E-02	2.872E-02	2.864E-02	2.834E-02	2.760E-02														

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5 more years for cooling used fuel material															radioisotope thermal power, watts															actinides															page	19
															basis = 15.1 kgHM (nmr/d) HM 1/4-ann. at 1 MT)																															
	initial	2.0 d	6.5 d	24.0 d	73.0 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d																																
t1206	2.623E-19	2.623E-19	2.622E-19	2.619E-19	2.612E-19	2.605E-19	2.577E-19	2.557E-19	2.566E-19	2.610E-19	2.671E-19	2.697E-19	2.835E-19	3.032E-19																																
t1208	2.150E-12	2.150E-12	2.152E-12	2.193E-12	2.387E-12	2.651E-12	3.954E-12	5.555E-12	7.166E-12	8.799E-12	1.002E-11	1.023E-11	1.208E-11	1.374E-11																																
t1209	3.255E-07	3.248E-07	3.247E-07	3.247E-07	3.530E-07	4.000E-07	7.41E-07	1.30E-06	1.532E-06	1.903E-06	2.25E-06	2.50E-06	2.73E-06	2.93E-06																																
t1209	3.789E-13	3.790E-13	3.788E-13	3.785E-13	3.785E-13	3.789E-13	3.810E-13	3.839E-13	3.871E-13	3.907E-13	3.935E-13	3.942E-13	3.988E-13	4.033E-13																																
t1210	1.001E-16	1.002E-16	1.006E-16	1.030E-16	1.115E-16	1.216E-16	1.703E-16	2.593E-16	3.739E-16	5.173E-16	6.443E-16	6.919E-16	8.008E-16	1.47E-15																																
pB209	1.203E-12	1.204E-12	1.203E-12	1.202E-12	1.202E-12	1.203E-12	1.210E-12	1.219E-12	1.229E-12	1.241E-12	1.250E-12	1.252E-12	1.266E-12	1.281E-12																																
p1208	1.610E-14	1.610E-14	1.610E-14	1.608E-14	1.604E-14	1.599E-14	1.582E-14	1.570E-14	1.575E-14	1.602E-14	1.640E-14	1.656E-14	1.741E-14	1.862E-14																																
p1209	2.239E-12	2.239E-12	2.242E-12	2.242E-12	2.496E-12	2.821E-12	5.21E-12	7.848E-12	1.06E-11	1.404E-11	1.606E-11	1.729E-11	1.93E-11	2.14E-11																																
pB12	7.161E-08	7.158E-08	7.207E-08	7.509E-08	8.645E-08	9.943E-08	1.583E-07	2.486E-07	3.372E-07	4.185E-07	4.732E-07	4.906E-07	5.506E-07	6.010E-07																																
pA12	6.607E-14	6.613E-14	6.635E-14	6.737E-14	7.358E-14	8.025E-14	1.233E-13	1.711E-13	2.467E-13	3.413E-13	4.251E-13	4.656E-13	5.943E-13	7.568E-13																																
b1210	7.707E-21	7.769E-21	7.767E-21	7.759E-21	7.736E-21	7.708E-21	7.590E-21	7.425E-21	7.264E-21	7.106E-21	6.991E-21	6.952E-21	6.801E-21	6.653E-21																																
b1210	1.412E-13	1.412E-13	1.412E-13	1.410E-13	1.407E-13	1.403E-13	1.388E-13	1.377E-13	1.382E-13	1.406E-13	1.438E-13	1.453E-13	1.527E-13	1.633E-13																																
pB121	2.937E-12	2.937E-12	2.937E-12	2.937E-12	2.937E-12	2.937E-12	2.937E-12	2.937E-12	2.937E-12	2.937E-12	2.937E-12	2.937E-12	2.937E-12	2.937E-12																																
b1212	6.433E-07	6.440E-07	6.476E-07	6.747E-07	7.768E-07	8.933E-07	1.422E-06	2.238E-06	3.029E-06	3.761E-06	4.249E-06	4.408E-06	4.947E-06	5.399E-06																																
b1213	4.233E-12	4.242E-12	4.224E-12	4.218E-12	4.218E-12	4.223E-12	4.226E-12	4.278E-12	4.314E-12	4.351E-12	4.386E-12	4.393E-12	4.444E-12	4.495E-12																																

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0		5 more years for cooling used fuel material										nuclide concentrations, grams										fission products										page 23	
		initial		2.0 d		6.5 d		24.0 d		73.0 d		134.0 d		389.0 d		754.0 d		1113.0 d		1485.0 d		1957.0 d		2850.0 d		3850.0 d							
h	3		1.237E-03	1.237E-03	1.236E-03	1.235E-03	1.234E-03	1.233E-03	1.232E-03	1.231E-03	1.230E-03	1.229E-03	1.228E-03	1.227E-03	1.226E-03	1.225E-03	1.224E-03	1.223E-03	1.222E-03	1.221E-03	1.220E-03	1.219E-03	1.218E-03	1.217E-03	1.216E-03	1.215E-03	1.214E-03	1.213E-03					
he	3		7.091E-05	7.129E-05	7.215E-05	7.548E-05	8.475E-05	9.619E-05	1.429E-04	2.066E-04	2.668E-04	3.239E-04	3.643E-04	3.777E-04	4.268E-04	4.767E-04	5.127E-04	5.352E-04	5.442E-04	5.491E-04	5.500E-04	5.491E-04	5.473E-04	5.447E-04	5.414E-04	5.374E-04	5.328E-04	5.277E-04					
he	4		2.630E-02	2.630E-02	2.630E-02	2.630E-02	2.630E-02	2.630E-02	2.630E-02	2.630E-02	2.630E-02	2.630E-02	2.630E-02	2.630E-02	2.630E-02	2.630E-02	2.630E-02	2.630E-02	2.630E-02	2.630E-02	2.630E-02	2.630E-02	2.630E-02	2.630E-02	2.630E-02	2.630E-02	2.630E-02	2.630E-02					
cu	65		6.646E-09	6.646E-09	6.646E-09	6.646E-09	6.646E-09	6.646E-09	6.646E-09	6.646E-09	6.646E-09	6.646E-09	6.646E-09	6.646E-09	6.646E-09	6.646E-09	6.646E-09	6.646E-09	6.646E-09	6.646E-09	6.646E-09	6.646E-09	6.646E-09	6.646E-09	6.646E-09	6.646E-09	6.646E-09	6.646E-09					
cu	66		2.525E-09	2.525E-09	2.525E-09	2.525E-09	2.525E-09	2.525E-09	2.525E-09	2.525E-09	2.525E-09	2.525E-09	2.525E-09	2.525E-09	2.525E-09	2.525E-09	2.525E-09	2.525E-09	2.525E-09	2.525E-09	2.525E-09	2.525E-09	2.525E-09	2.525E-09	2.525E-09	2.525E-09	2.525E-09	2.525E-09					
zn	67		2.686E-06	2.686E-06	2.686E-06	2.686E-06	2.686E-06	2.686E-06	2.686E-06	2.686E-06	2.686E-06	2.686E-06	2.686E-06	2.686E-06	2.686E-06	2.686E-06	2.686E-06	2.686E-06	2.686E-06	2.686E-06	2.686E-06	2.686E-06	2.686E-06	2.686E-06	2.686E-06	2.686E-06	2.686E-06	2.686E-06					
zn	68		1.259E-05	1.259E-05	1.259E-05	1.259E-05	1.259E-05	1.259E-05	1.259E-05	1.259E-05	1.259E-05	1.259E-05	1.259E-05	1.259E-05	1.259E-05	1.259E-05	1.259E-05	1.259E-05	1.259E-05	1.259E-05	1.259E-05	1.259E-05	1.259E-05	1.259E-05	1.259E-05	1.259E-05	1.259E-05	1.259E-05					
ga	69		2.545E-05	2.545E-05	2.545E-05	2.545E-05	2.545E-05	2.545E-05	2.545E-05	2.545E-05	2.545E-05	2.545E-05	2.545E-05	2.545E-05	2.545E-05	2.545E-05	2.545E-05	2.545E-05	2.545E-05	2.545E-05	2.545E-05	2.545E-05	2.545E-05	2.545E-05	2.545E-05	2.545E-05	2.545E-05	2.545E-05					
ga	70		1.181E-04	1.181E-04	1.181E-04	1.181E-04	1.181E-04	1.181E-04	1.181E-04	1.181E-04	1.181E-04	1.181E-04	1.181E-04	1.181E-04	1.181E-04	1.181E-04	1.181E-04	1.181E-04	1.181E-04	1.181E-04	1.181E-04	1.181E-04	1.181E-04	1.181E-04	1.181E-04	1.181E-04	1.181E-04	1.181E-04					
ge	70		3.002E-07	3.002E-07</																													

0 5 more years for cooling used waste material

nuclide concentrations, grams

base --15.1 kgIHM (nominal IHM 14.4/as. at 1 MT)

initial 2.0 6.5

28.0 7.3 119.0 1485.0 1757.0 1850.0 2215.0 2580.0

ba137 1.342E+06 1.346E+06 1.353E+06 1.382E+06 1.463E+06 1.563E+06 1.978E+06 2.561E+06 3.130E+06 3.688E+06 4.095E+06 4.232E+06 4.674E+06 5.283E+06

ba137m 4.007E-06 4.007E-06 4.006E-06 4.001E-06 3.999E-06 3.974E-06 3.912E-06 3.821E-06 3.734E-06 3.649E-06 3.571E-06 3.566E-06 3.485E-06 3.405E-06

la137 8.372E+06 8.372E+06 8.372E+06 8.372E+06 8.372E+06 8.372E+06 8.372E+06 8.371E+06 8.371E+06 8.371E+06 8.371E+06 8.371E+06 8.371E+06 8.371E+06

la137m 2.613E+06 2.613E+06 2.613E+06 2.613E+06 2.613E+06 2.613E+06 2.613E+06 2.613E+06 2.613E+06 2.613E+06 2.613E+06 2.613E+06 2.613E+06 2.613E+06

la138 1.584E+07 1.584E+07 1.584E+07 1.584E+07 1.584E+07 1.584E+07 1.584E+07 1.584E+07 1.584E+07 1.584E+07 1.584E+07 1.584E+07 1.584E+07 1.584E+07

ce138 1.762E+07 1.762E+07 1.762E+07 1.762E+07 1.762E+07 1.762E+07 1.762E+07 1.762E+07 1.762E+07 1.762E+07 1.762E+07 1.762E+07 1.762E+07 1.762E+07

la139 2.421E+06 2.421E+06 2.421E+06 2.421E+06 2.421E+06 2.421E+06 2.421E+06 2.421E+06 2.421E+06 2.421E+06 2.421E+06 2.421E+06 2.421E+06 2.421E+06

la139m 8.940E+06 8.940E+06 8.940E+06 8.940E+06 8.940E+06 8.940E+06 8.940E+06 8.940E+06 8.940E+06 8.940E+06 8.940E+06 8.940E+06 8.940E+06 8.940E+06

ba140 8.577E+07 8.577E+07 8.577E+07 8.577E+07 8.577E+07 8.577E+07 8.577E+07 8.577E+07 8.577E+07 8.577E+07 8.577E+07 8.577E+07 8.577E+07 8.577E+07

la140 1.300E+07 1.166E+07 1.311E+08 3.534E-08 2.459E+09 8.931E-11 8.544E-17 2.070E+25 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00

la140m 4.777E+07 4.777E+07 4.777E+07 4.777E+07 4.777E+07 4.777E+07 4.777E+07 4.777E+07 4.777E+07 4.777E+07 4.777E+07 4.777E+07 4.777E+07 4.777E+07

pr141 7.748E+06 7.748E+06 7.748E+06 7.748E+06 7.748E+06 7.748E+06 7.748E+06 7.748E+06 7.748E+06 7.748E+06 7.748E+06 7.748E+06 7.748E+06 7.748E+06

ce142 2.215E+06 2.215E+06 2.215E+06 2.215E+06 2.215E+06 2.215E+06 2.215E+06 2.215E+06 2.215E+06 2.215E+06 2.215E+06 2.215E+06 2.215E+06 2.215E+06

ni142 3.253E+06 3.253E+06 3.253E+06 3.253E+06 3.253E+06 3.253E+06 3.253E+06 3.253E+06 3.253E+06 3.253E+06 3.253E+06 3.253E+06 3.253E+06 3.253E+06

la142 8.025E+06 8.025E+06 8.025E+06 8.025E+06 8.025E+06 8.025E+06 8.025E+06 8.025E+06 8.025E+06 8.025E+06 8.025E+06 8.025E+06 8.025E+06 8.025E+06

la143 1.617E+06 1.617E+06 1.617E+06 1.617E+06 1.617E+06 1.617E+06 1.617E+06 1.617E+06 1.617E+06 1.617E+06 1.617E+06 1.617E+06 1.617E+06 1.617E+06

pm143 2.911E+14 2.896E+14 2.862E+14 2.742E+14 2.405E+14 2.050E+14 1.052E+14 4.051E+15 1.559E+15 9.986E+16 2.939E+16 3.304E+16 8.869E+17 3.414E+17

la143m 3.373E+06 3.373E+06 3.373E+06 3.373E+06 3.373E+06 3.373E+06 3.373E+06 3.373E+06 3.373E+06 3.373E+06 3.373E+06 3.373E+06 3.373E+06 3.373E+06

la144 2.421E+06 2.421E+06 2.421E+06 2.421E+06 2.421E+06 2.421E+06 2.421E+06 2.421E+06 2.421E+06 2.421E+06 2.421E+06 2.421E+06 2.421E+06 2.421E+06

pr144 6.53E+07 6.525E+07 6.554E+07 6.532E+07 6.473E+07 6.433E+07 6.408E+07 6.294E+07 6.028E+08 3.715E+08 1.525E+08 7.868E+09 6.275E+09 2.582E+09 1.062E+09

la144m 1.738E+06 1.739E+06 1.743E+06 1.737E+06 1.792E+06 1.831E+06 1.944E+06 2.021E+06 2.053E+06 2.066E+06 2.070E+06 2.071E+06 2.073E+06 2.074E+06

pm144 8.786E+12 7.753E+12 8.678E+12 8.395E+12 6.438E+12 6.803E+12 4.180E+12 2.082E+12 1.037E+12 5.156E+13 3.067E+13 2.568E+13 1.279E+13 6.372E+12

la144m 9.780E+13 9.780E+13 9.780E+13 9.780E+13 9.780E+13 9.780E+13 9.780E+13 9.780E+13 9.780E+13 9.780E+13 9.780E+13 9.780E+13 9.780E+13 9.780E+13

la145 2.16E+06 1.216E+06 1.216E+06 1.216E+06 1.216E+06 1.216E+06 1.216E+06 1.216E+06 1.216E+06 1.216E+06 1.216E+06 1.216E+06 1.216E+06 1.216E+06

pm145 6.000E+07 5.998E+07 5.997E+07 5.998E+07 5.996E+07 5.991E+07 5.982E+07 5.785E+07 5.577E+07 5.369E+07 5.165E+07 5.018E+07 4.968E+07 4.778E+07 4.935E+07

ni145 5.643E+09 5.629E+09 5.696E+09 5.673E+09 4.863E+09 4.294E+09 2.553E+09 1.213E+09 5.764E+09 2.733E+10 1.507E+10 1.299E+10 6.171E+11 2.992E+11

la145m 3.268E+0

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1126 8.874E-08 7.972E-08 6.263E-08 2.451E-08 1.772E-08 6.735E-11 7.790E-17 2.476E-25 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
ab127 3.766E-16 2.628E-16 1.169E-16 5.005E-18 7.380E-22 1.254E-26 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
tel27 4.884E+01 4.822E+01 4.688E+01 4.192E+01 3.070E+01 2.083E+01 4.115E+00 4.040E+01 3.966E-02 3.868E-03 6.860E-04 3.797E-04 3.728E-05 3.659E-06
tel27m 4.986E+01 4.923E+01 4.784E+01 4.280E+01 3.134E+01 2.127E+01 4.202E+00 4.125E+01 4.049E-02 3.949E-03 7.004E-04 3.877E-04 3.806E-05 3.736E-06
xel127 3.757E+05 3.617E+05 3.320E+05 2.379E+05 9.358E+06 2.929E+06 2.279E+08 2.184E+11 2.092E-14 1.967E-17 1.107E-19 1.884E-20 1.805E-23 1.730E-26
tel28 8.644E-16 8.644E-16 8.644E-16 8.644E-16 8.644E-16 8.644E-16 8.644E-16 8.644E-16 8.644E-16 8.644E-16 8.644E-16 8.644E-16 8.644E-16 8.644E-16 8.644E-16
tel29 4.148E+00 3.980E+00 3.627E+00 2.528E+00 9.200E+01 2.614E+01 1.357E+03 7.286E-07 3.912E+10 7.522E-16 1.104E+16 5.929E-20 3.183E-23
tel29m 6.574E+00 6.309E+00 5.749E+00 4.007E+00 1.458E+00 4.143E-01 2.151E-03 1.155E-06 6.200E-10 3.261E-13 1.192E-15 1.750E-16 9.397E-20 5.045E-23
1129 8.517E-04 8.517E-04 8.517E-04 8.517E-04 8.517E-04 8.517E-04 8.517E-04 8.517E-04 8.517E-04 8.517E-04 8.517E-04 8.517E-04 8.517E-04 8.517E-04
xel29m 3.175E-09 2.716E-09 1.912E-09 4.877E-10 1.064E-11 9.102E-14 2.064E-22 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
1i31 1.960E-05 1.649E-05 1.138E-05 2.466E-06 3.580E-08 1.844E-10 5.017E-20 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
xel31m 5.444E-04 4.843E-04 3.722E-04 1.336E-04 7.589E-06 2.135E-07 7.014E-14 3.680E-23 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
cs131 1.764E-11 1.529E-11 1.109E-11 3.177E-12 9.630E-14 1.252E-15 2.541E-23 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
ba131 2.657E-14 2.356E-14 1.796E-14 6.255E-15 3.262E-16 8.256E-18 1.745E-24 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
cs132 5.322E-12 4.297E-12 2.655E-12 4.085E-13 2.162E-15 3.170E-18 4.517E-30 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00

5 more years for cooling used fuel material														fission products		page	32
nuclide radioactivity, curies																	
basis ==15.1 kgHM (nm'd IHM 1/4-ass. at 1 MT)																	
	initial	2.0 d	6.5 d	24.0 d	73.0 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d			
xel33	7.228E-10	5.549E-10	3.061E-10	3.027E-11	4.652E-14	1.463E-17	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba133	8.181E-04	8.178E-04	8.172E-04	8.146E-04	8.074E-04	7.986E-04	7.627E-04	7.141E-04	6.685E-04	6.258E-04	5.958E-04	5.859E-04	5.486E-04	5.136E-04			
cs134	3.219E-03	3.213E-03	3.200E-03	3.149E-03	3.013E-03	2.846E-03	2.525E-03	2.258E-03	1.610E-03	1.151E-03	8.225E-04	6.406E-04	5.881E-04	4.205E-04	3.007E-04	0.000E+00	0.000E+00
cs135	1.527E-02	1.527E-02	1.527E-02	1.527E-02	1.527E-02	1.527E-02	1.527E-02	1.527E-02	1.527E-02	1.527E-02	1.527E-02	1.527E-02	1.527E-02	1.527E-02	1.527E-02	1.527E-02	1.527E-02
cs136	4.738E-03	4.264E-03	3.364E-03	1.338E-03	0.103E-04	4.077E-06	5.988E-12	2.679E-20	0.119E-28	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba136m	5.247E-04	4.722E-04	3.726E-04	1.482E-04	1.122E-05	4.515E-07	6.631E-13	2.967E-21	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs137	2.277E-03	2.276E-03	2.276E-03	2.276E-03	2.276E-03	2.276E-03	2.276E-03	2.276E-03	2.276E-03	2.276E-03	2.276E-03	2.276E-03	2.276E-03	2.276E-03	2.276E-03	2.276E-03	2.276E-03
ba137m	2.156E-03	2.156E-03	2.155E-03	2.153E-03	2.146E-03	2.138E-03	2.104E-03	2.056E-03	2.009E-03	1.963E-03	1.930E-03	1.918E-03	1.875E-03	1.832E-03	1.795E-03	1.760E-03	1.725E-03
la137	3.643E-07	3.643E-07	3.643E-07	3.643E-07	3.643E-07	3.643E-07	3.643E-07	3.642E-07	3.642E-07	3.642E-07	3.642E-07	3.642E-07	3.642E-07	3.642E-07	3.642E-07	3.642E-07	3.642E-07
la138	1.165E-11	1.165E-11	1.165E-11	1.165E-11	1.165E-11	1.165E-11	1.165E-11	1.165E-11	1.165E-11	1.165E-11	1.165E-11	1.165E-11	1.165E-11	1.165E-11	1.165E-11	1.165E-11	1.165E-11
ba139	1.913E-01	1.895E-01	1.872E-01	1.835E-01	1.789E-01	1.738E-01	1.664E-01	1.569E-01	1.452E-01	1.318E-01	1.175E-01	1.025E-01	8.675E-02	7.000E-02	5.350E-02	3.728E-02	2.109E-02
la140	6.276E-02	5.629E-02	4.408E-02	1.703E-02	1.187E-03	4.311E-05	4.125E-11	9.991E-20	2.420E-28	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ce140	7.227E-02	6.482E-02	5.076E-02	1.964E-02	1.367E-03	4.965E-05	4.750E-11	1.151E-19	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
la141	1.634E-02	1.566E-02	1.423E-02	9.796E-03	3.446E-03	9.385E-04	4.084E-02	1.702E-05	7.097E-09	2.896E-12	8.771E-15	1.207E-15	5.033E-19	2.098E-22	0.000E+00	0.000E+00	0.000E+00
pr143	1.213E-02	1.090E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pm143	1.004E-10	9.983E-11	9.866E-11	9.425E-11	8.291E-11	7.068E-11	6.328E-11	1.396E-11	5.375E-12	2.064E-12	1.013E-12	7.943E-13	3.057E-13	1.177E-13	0.000E+00	0.000E+00	0.000E+00
ce144	1.074E-04	1.069E-04	1.057E-04	1.013E-04	8.993E-04	7.753E-03	4.169E-03	1.715E-03	7.059E-02	2.897E-02	1.495E-02	1.192E-02	4.906E-01	2.019E-01	0.000E+00	0.000E+00	0.000E+00
pr144	1.074E-04	1.069E-04	1.057E-04	1.013E-04	8.994E-03	7.753E-03	4.169E-03	1.716E-03	7.059E-02	2.898E-02	1.495E-02	1.192E-02	4.906E-01	2.019E-01	0.000E+00	0.000E+00	0.000E+00
pr144m	1.026E-04	1.026E-04	1.026E-04	1.026E-04	1.026E-04	1.026E-04	1.026E-04	1.026E-04	1.026E-04	1.026E-04	1.026E-04	1.026E-04	1.026E-04	1.026E-04	1.026E-04	1.026E-04	1.026E-04
la144	1.886E-11	1.886E-11	1.890E-11	1.905E-11	1.944E-11	1.968E-11	2.108E-11	2.192E-11	2.226E-11	2.241E-11	2.245E-11	2.246E-11	2.249E-11	2.250E-11	2.250E-11	2.250E-11	2.250E-11
pm144	2.196E-08	2.187E-08	2.169E-08	2.097E-08	1.910E-08	1.700E-08	1.045E-08	5.204E-09	2.592E-09	1.289E-09	7.665E-10	6.418E-10	3.197E-10	1.592E-10	0.000E+00	0.000E+00	0.000E+00
pm145	8.362E-05	8.360E-05	8.357E-05	8.344E-05	8.308E-05	8.261E-05	8.062E-05	7.771E-05	7.482E-05	7.198E-05	6.993E-05	6.924E-05	6.659E-05	6.404E-05	6.159E-05	5.924E-05	5.698E-05
sm145	1.495E-05	1.489E-05	1.476E-05	1.424E-05	1.288E-05	1.138E-05	6.765E-06	3.215E-06	1.527E-06	7.243E-07	4.160E-07	3.441E-07	1.635E-07	7.770E-08	0.000E+00	0.000E+00	0.000E+00
pm146	3.305E-03	3.303E-03	3.298E-03	3.261E-03	3.198E-03	3.066E-03	2.875E-03	2.615E-03	2.292E-03	1.966E-03	1.809E-03	1.752E-03	1.546E-03	1.364E-03	1.210E-03	1.066E-03	9.320E-04
sm146	1.321E-09	1.321E-09	1.321E-09	1.322E-09	1.323E-09	1.324E-09	1.329E-09	1.335E-09	1.341E-09	1.345E-09	1.349E-09	1.350E-09	1.353E-09	1.357E-09	1.357E-09	1.357E-09	1.357E-09
nd147	2.933E-03	2.585E-03	1.946E-03	6.447E-04	2.924E-05	6.216E-07	6.344E-14	6.242E-24	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba147	2.762E-03	2.758E-03	2.749E-03	2.715E-03	2.620E-03	2.507E-03	2.085E-03	1.601E-03	1.229E-03	9.434E-02	7.749E-02	7.245E-02	5.564E-02	4.273E-02	0.000E+00	0.000E+00	0.000E+00
sm147	4.339E-08	4.348E-08	4.371E-08	4.456E-08	4.608E-08	4.739E-08	4.850E-08	4.970E-08	5.015E-08	5.038E-08	5.048E-08	5.050E-08	5.050E-08	5.050E-08	5.050E-08	5.050E-08	5.050E-08
eu147	3.646E-15	3.443E-15	3.025E-15	1.828E-15	4.467E-16	7.728E-17	5.045E-20	1.392E-24	3.841E-29	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pm148	8.400E-01	8.125E-01	7.533E-01	5.616E-01	2.467E-01	8.869E-02	1.225E-03	2.674E-06	5.836E-09	1.252E-11	1.302E-13	2.733E-14	5.964E-17	1.301E-19	0.000E+00	0.000E+00	0.000E+00
pm148m	1.740E-01	1.683E-01	1.560E-01	1.163E-01	5.110E-02	1.835E-02	2.538E-02	5.539E-05	1.209E-07	2.594E-10	2.697E-12	5.661E-13	1.235E-15	2.696E-18	0.000E+00	0.000E+00	0.000E+00
sm148	1.087E-12	1.088E-12	1.088E-12	1.088E-12	1.088E-12	1.088E-12	1.088E-12	1.088E-12	1.088E-12	1.088E-12	1.088E-12	1.088E-12	1.088E-12	1.088E-12	1.088E-12	1.088E-12	1.088E-12
eu149	1.352E-03	1.328E-03	1.288E-03	1.131E-03	7.852E-09	4.986E-09	7.469E-10	4.932E-11	3.257E-12	2.135E-13	2.881E-14	1.410E-14	9.311E-16	6.149E-17	0.000E+00	0.000E+00	0.000E+00
nd150	1.392E-15	1.392E-15	1.392E-15	1.392E-15	1.392E-15	1.392E-15	1.392E-15	1.392E-15	1.392E-15	1.392E-15	1.392E-15	1.392E-15	1.392E-15	1.392E-15	1.392E-15	1.392E-15	1.392E-15
sm151	1.118E-01	1.118E-01	1.118E-01	1.117E-01	1.116E-01	1.115E-01	1.109E-01	1.100E-01	1.092E-01	1.083E-01	1.077E-01	1.075E-01	1.067E-01	1.058E-01	1.050E-01	1.042E-01	1.034E-01
gd151	1.113E-05	1.102E-05	1.073E-05	9.729E-06	7.398E-06	5.260E-06	1.265E-06	1.644E-07	2.137E-08	2.762E-09	3.590E-10	4.590E-11	5.875E-12	7.465E-13	9.272E-14	1.129E-14	1.389E-15
eu152	1.107E-01	1.107E-01	1.106E-01	1.104E-01	1.096E-01	1.087E-01	1.048E-01	9.962E-02	9.465E-02	8.991E-02	8.655E-02	8.543E-02	8.117E-02	7.712E-02	7.320E-02	6.945E-02	6.580E-02
gd152	2.822E-14	2.822E-14	2.823E-14	2.824E-14	2.826E-14	2.830E-14	2.843E-14										

rb 84 5.650E-07 5.416E-07 5.416E-07 3.403E-07 1.209E-07 3.334E-08 1.528E-10 6.957E-14 3.078E-17 1.353E-20 4.329E-23 6.073E-24 2.726E-27 1.224E-30
zr 85 1.763E-01 1.762E-01 1.761E-01 1.755E-01 1.740E-01 1.722E-01 1.646E-01 1.543E-01 1.447E-01 1.357E-01 1.293E-01 1.272E-01 1.193E-01 1.118E-01
ar 85 2.194E-08 2.147E-08 2.047E-08 1.697E-08 1.003E-08 5.237E-09 3.429E-10 6.928E-12 1.400E-13 2.798E-15 1.528E-16 5.652E-17 1.142E-18 2.307E-20
rb 86 1.939E-05 1.800E-05 1.523E-05 7.941E-06 1.283E-06 1.326E-07 1.005E-11 1.273E-17 1.612E-23 1.966E-29 7.921E-34 0.000E+00 0.000E+00 0.000E+00
rb 87 1.173E-10 1.173E-10 1.173E-10 1.173E-10 1.173E-10 1.173E-10 1.173E-10 1.173E-10 1.173E-10 1.173E-10 1.173E-10 1.173E-10 1.173E-10 1.173E-10
y 88 1.173E-04 1.158E-04 1.125E-04 1.004E-04 7.299E-05 4.910E-05 9.357E-06 8.724E-07 8.133E-08 7.533E-09 1.286E-09 7.023E-10 6.547E-11 6.104E-12
zr 88 5.691E-12 5.597E-12 5.391E-12 4.618E-12 2.802E-12 1.022E-12 1.868E-12 2.246E-13 1.080E-14 5.202E-16 2.483E-17 5.968E-18 1.568E-19 2.771E-21
ar 89 1.203E+00 1.171E+00 1.101E+00 8.657E-01 4.420E-01 1.914E-01 5.793E-03 3.876E-05 2.594E-07 1.712E-09 4.102E-11 1.145E-11 7.665E-14 5.129E-16
y 89m 1.801E-04 1.753E-04 1.648E-04 1.296E-04 6.618E-05 2.866E-05 6.872E-07 5.803E-09 3.883E-11 2.563E-13 1.715E-15 1.147E-17 7.678E-20
zr 90 9.285E-01 9.284E-01 9.281E-01 9.270E-01 9.241E-01 9.203E-01 9.050E-01 8.835E-01 8.625E-01 8.419E-01 8.270E-01 8.219E-01 8.024E-01 7.833E-01
y 90 4.426E+00 4.423E+00 4.424E+00 4.419E+00 4.404E+00 4.387E+00 4.284E+00 4.218E+00 4.111E+00 4.013E+00 3.942E+00 3.918E+00 3.824E+00 3.733E+00
y 91 2.819E+00 2.753E+00 2.610E+00 2.121E+00 1.187E+00 5.763E-01 2.810E-02 3.722E-04 4.930E-06 6.454E-08 2.573E-09 8.549E-10 1.132E-11 1.500E-13
nb 91 1.060E-13 1.060E-13 1.060E-13 1.060E-13 1.060E-13 1.059E-13 1.059E-13 1.057E-13 1.056E-13 1.055E-13 1.055E-13 1.054E-13 1.053E-13
nb 91m 2.658E-15 2.598E-15 2.468E-15 2.022E-15 1.157E-15 5.778E-16 3.166E-17 4.955E-19 7.756E-21 1.200E-22 5.419E-24 1.879E-24 2.941E-26 4.604E-28
y 92 1.525E-14 1.525E-14 1.525E-14 1.525E-14 1.525E-14 1.525E-14 1.525E-14 1.525E-14 1.525E-14 1.525E-14 1.525E-14 1.525E-14 1.525E-14 1.525E-14
zr 92m 1.193E-16 1.041E-16 7.655E-17 2.317E-17 8.159E-19 1.266E-20 3.464E-28 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
zr 93 3.085E-06 3.085E-06 3.085E-06 3.085E-06 3.085E-06 3.085E-06 3.085E-06 3.085E-06 3.085E-06 3.085E-06 3.085E-06 3.085E-06 3.085E-06 3.085E-06
nb 93m 4.144E-07 4.153E-07 4.176E-07 4.262E-07 4.504E-07 4.802E-07 6.027E-07 7.717E-07 9.337E-07 1.089E-06 1.201E-06 1.238E-06 1.380E-06 1.517E-06
mo 93 6.600E-07 6.600E-07 6.600E-07 6.600E-07 6.600E-07 6.600E-07 6.603E-07 6.603E-07 6.622E-07 6.601E-07 6.600E-07 6.599E-07 6.599E-07 6.597E-07 6.596E-07
nb 94 1.068E-07 1.068E-07 1.068E-07 1.068E-07 1.068E-07 1.068E-07 1.068E-07 1.068E-07 1.068E-07 1.068E-07 1.068E-07 1.068E-07 1.068E-07 1.068E-07
zr 95 9.267E+00 9.069E+00 8.637E+00 7.147E+00 4.205E+00 2.173E+00 1.375E-01 2.643E-03 5.084E-05 9.673E-07 5.091E-08 1.860E-08 3.578E-10 6.881E-12
tc 95 1.820E-01 1.784E-01 1.703E-01 1.422E-01 8.529E-02 4.470E-02 2.877E-01 5.722E-03 1.102E-04 2.096E-06 1.071E-07 3.906E-08 7.746E-10 1.491E-11
nb 95m 3.111E-08 3.045E-08 2.900E-08 2.399E-08 1.412E-08 7.294E-08 4.655E-08 8.875E-08 1.707E-07 3.247E-09 1.709E-09 6.246E-10 1.201E-12 2.310E-14
tc 95 9.608E-16 9.392E-16 8.924E-16 7.315E-16 4.192E-16 2.096E-16 1.156E-17 1.827E-19 2.887E-21 4.511E-23 2.051E-24 7.128E-25 1.126E-26 0.000E+00
tc 95m 2.139E-14 2.090E-14 1.986E-14 1.629E-14 9.329E-15 4.665E-15 2.573E-16 4.066E-18 6.425E-20 1.004E-21 4.564E-23 1.586E-23 2.507E-25 3.962E-27
zr 96 2.692E-17 2.692E-17 2.692E-17 2.692E-17 2.692E-17 2.692E-17 2.692E-17 2.692E-17 2.692E-17 2.692E-17 2.692E-17 2.692E-17 2.692E-17 2.692E-17
tc 97 1.578E-05 1.578E-05 1.578E-05 1.578E-05 1.578E-05 1.578E-05 1.578E-05 1.578E-05 1.578E-05 1.578E-05 1.578E-05 1.578E-05 1.578E-05 1.578E-05
tc 97m 1.540E-08 1.516E-08 1.465E-08 1.282E-08 8.829E-09 5.548E-09 7.954E-10 4.933E-11 3.060E-12 1.883E-13 2.372E-14 1.168E-14 7.246E-16 4.494E-17
tc 98 1.394E-09 1.394E-09 1.394E-09 1.394E-09 1.394E-09 1.394E-09 1.394E-09 1.394E-09 1.394E-09 1.394E-09 1.394E-09 1.394E-09 1.394E-09 1.394E-09
tc 99 9.149E-05 9.149E-05 9.149E-05 9.149E-05 9.149E-05 9.149E-05 9.149E-05 9.149E-05 9.149E-05 9.149E-05 9.149E-05 9.149E-05 9.149E-05 9.149E-05
mo 99 2.391E-19 1.932E-19 1.932E-19 1.932E-19 1.932E-19 1.932E-19 1.932E-19 1.932E-19 1.932E-19 1.932E-19 1.932E-19 1.932E-19 1.932E-19 1.932E-19
tc100 9.021E-17 9.021E-17 9.021E-17 9.021E-17 9.021E-17 9.021E-17 9.021E-17 9.021E-17 9.021E-17 9.021E-17 9.021E-17 9.021E-17 9.021E-17 9.021E-17
rh101 1.949E-08 1.947E-08 1.942E-08 1.922E-08 1.869E-08 1.805E-08 1.558E-08 1.263E-08 1.024E-08 8.298E-09 7.096E-09 5.453E-09 4.421E-09
rh102 3.828E-04 3.803E-04 3.746E-04 3.533E-04 3.000E-04 2.447E-04 1.044E-04 3.298E-05 9.270E-06 2.834E-06 1.219E-06 9.252E-07 3.470E-07 1.639E-07
rh102m 4.147E-08 4.143E-08 4.137E-08 4.097E-08 4.073E-08 4.053E-08 4.043E-08 4.035E-08 4.028E-08 4.021E-08 4.015E-08 4.009E-08 3.999E-08 3.991E-08
rh103 1.737E-04 1.676E-04 1.548E-04 1.137E-04 4.784E-05 1.629E-05 1.803E-05 2.860E-06 4.437E-09 7.070E-10 5.796E-14 1.623E-14 1.779E-17 2.832E-20
rh103m 1.189E-01 1.148E-01 1.060E-01 1.052E-01 9.312E-01 7.759E-03 3.824E-03 1.838E-03 5.042E-04 1.826E-04 8.583E-05 6.631E-05 2.408E-05 8.744E-06
ag110m 1.941E+00 1.930E+00 1.906E+00 1.816E+00 1.585E+00 1.338E+00 6.594E-01 2.394E-01 6.895E-02 3.149E-02 1.480E-02 1.143E-02 4.152E-03 1.508E-03
ag111 8.523E-01 7.076E-01 4.656E-01 6.138E-01 1.957E-01 3.282E-01 1.630E-01 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
cd113 1.298E-18 1.298E-18 1.298E-18 1.298E-18 1.298E-18 1.298E-18 1.298E-18 1.298E-18 1.298E-18 1.298E-18 1.298E-18 1.298E-18 1.298E-18 1.298E-18
cd113m 2.109E-05 2.109E-05 2.108E-05 2.103E-05 2.089E-05 2.072E-05 2.002E-05 1.906E-05 1.815E-05 1.727E-05 1.665E-05 1.645E-05 1.566E-05 1.491E-05
ni113m 3.116E-11 3.079E-11 2.997E-11 2.697E-11 2.008E-11 1.390E-11 2.993E-12 3.322E-13 3.688E-14 4.068E-15 7.906E-16 4.516E-16 5.012E-17 5.563E-18
ni113 3.366E-12 2.338E-12 2.275E-12 2.048E-12 1.524E-12 1.056E-12 2.273E-13 2.523E-14 2.800E-15 3.089E-16 6.004E-17 3.429E-17 3.806E-18 4.224E-19
ni114 7.002E-07 6.809E-07 6.392E-07 5.004E-07 2.767E-07 5.004E-07 5.250E-07 1.000E-07 1.000E-07 1.000E-07 1.000E-07 1.000E-07 1.000E-07 1.000E-07
ni114m 2.077E-07 2.020E-07 1.897E-07 1.485E-07 7.476E-08 3.183E-08 8.960E-10 5.408E-12 3.264E-14 1.943E-16 4.311E-18 1.172E-18 7.076E-21 4.271E-23
cd115m 1.511E-03 1.465E-03 1.366E-03 1.040E-03 4.854E-04 1.879E-04 3.559E-06 1.218E-08 4.165E-11 1.403E-13 2.040E-15 4.800E-16 1.642E-18 5.619E-21
ni115 3.486E-16 3.486E-16 3.486E-16 3.486E-16 3.486E-16 3.486E-16 3.487E-16 3.487E-16 3.487E-16 3.487E-16 3.487E-16 3.487E-16 3.487E-16 3.487E-16
ni115m 8.421E-08 1.698E-08 7.612E-08 7.98E-08 7.98E-08 7.98E-08 7.98E-08 7.98E-08 7.98E-08 7.98E-08 7.98E-08 7.98E-08 7.98E-08 7.98E-08
cd116 1.529E-19 1.529E-19 1.529E-19 1.529E-19 1.529E-19 1.529E-19 1.529E-19 1.529E-19 1.529E-19 1.529E-19 1.529E-19 1.529E-19 1.529E-19 1.529E-19
ni117m 2.295E-08 2.073E-08 1.648E-08 6.754E-09 5.558E-10 2.482E-11 5.628E-17 4.690E-25 3.909E-33 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
ni119m 2.202E-03 2.192E-03 2.168E-03 2.080E-03 1.853E-03 1.604E-03 8.773E-04 3.699E-04 1.560E-04 6.563E-05 3.449E-05 2.767E-05 1.167E-05 4.921E-06
ab120m 6.337E-19 4.982E-19 2.899E-19 3.202E-19 9.699E-22 6.291E-25 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
ni121 4.415E-04 4.414E-04 4.413E-04 4.410E-04 4.401E-04 4.389E-04 4.341E-04 4.273E-04 4.206E-04 4.140E-04 4.092E-04 4.075E-04 4.012E-04 3.949E-04
ni121m 1.866E-04 1.866E-04 1.865E-04 1.864E-04 1.860E-04 1.855E-04 1.835E-04 1.806E-04 1.778E-04 1.750E-04 1.729E-04 1.722E-04 1.695E-04 1.669E-04
tel21 1.137E-07 1.127E-07 1.106E-07 1.075E-07 8.348E-08 6.453E-08 2.200E-08 4.71E-09 1.009E-09 2.152E-10 6.828E-11 4.611E-11 9.876E-12 2.116E-12
tel21m 1.634E-05 1.634E-05 1.634E-05 1.634E-05 1.634E-05 1.634E-05 1.634E-05 1.634E-05 1.634E-05 1.634E-05 1.634E-05 1.634E-05 1.634E-05 1.634E-05
ni123 3.825E-02 3.784E-02 3.694E-02 3.363E-02 2.586E-02 1.864E-02 4.745E-03 6.696E-04 9.449E-05 1.326E-05 3.082E-06 1.871E-06 2.641E-07 3.727E-08
tel23m 1.040E-04 1.022E-04 9.958E-05 8.994E-05 6.764E-05 4.744E-05 1.077E-05 1.289E-06 1.544E-07 1.838E-08 3.779E-09 2.200E-09 2.635E-10 3.155E-11
ab124 1.903E-02 1.860E-02 1.766E-02 1.444E-02 8.211E-03 4.068E-03 2.159E-04 3.229E-06 4.829E-08 7.139E-10 3.115E-11 1.068E-11 1.597E-13 2.388E-15
ni125 5.110E-09 2.689E-09 1.202E-09 5.004E-09 2.767E-09 3.020E-09 1.453E-09 6.393E-10 1.453E-10 3.693E-10 3.182E-10 3.182E-10 3.182E-10 3.182E-10
ab125 7.873E-07 7.862E-07 7.838E-07 7.744E-07 7.487E-07 7.180E-07 6.025E-07 4.687E-07 3.646E-07 2.834E-07 2.351E-07 2.205E-07 1.715E-07 1.334E-07
tel25m 5.223E-02 5.217E-02 5.202E-02 5.145E-02 4.985E-02 4.787E-02 4.022E-02 3.129E-02 2.344E-02 1.892E-02 1.472E-02 1.145E-02 8.909E-03
i125 1.483E-10 1.449E-10 1.395E-10 1.121E-10 6.327E-11 3.105E-11 1.584E-12 2.239E-14 3.168E-16 4.141E-18 1.849E-19 6.246E-20 8.827E-22 1.247E-23
ab126 8.453E-06 8.453E-06 8.453E-06 8.453E-06 8.453E-06 8.453E-06 8.453E-06 8.453E-06 8.453E-06 8.453E-06 8.453E-06 8.453E-06 8.453E-06 8.453E-06
ab126 2.294E-05 2.292E-05 2.286E-05 2.267E-05 2.255E-05 2.255E-05 2.254E-05 2.254E-05 2.254E-05 2.254E-05 2.254E-05 2.254E-05 2.254E-05 2.254E-05
ab126m 1.134E-04 1.134E-04 1.134E-04 1.134E-04 1.134E-04 1.134E-04 1.134E-04 1.134E-04 1.134E-04 1.134E-04 1.134E-04 1.134E-04 1.134E-04 1.134E-04
i126 3.135E-10 2.816E-10 2.121E-10 8.658E-11 1.621E-12 2.379E-13 2.752E-19 8.746E-28 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
ab127 2.245E-02 2.245E-02 2.245E-02 2.245E-02 2.245E-02 2.245E-02 2.245E-02 2.245E-02 2.245E-02 2.245E-02 2.245E-02 2.245E-02 2.245E-02 2.245E-02
tel27 6.643E-02 6.559E-02 6.376E-02 5.702E-02 4.176E-02 2.833E-02 5.598E-03 5.394E-05 5.262E-06 9.333E-07 5.165E-07 5.070E-08 4.977E-09
tel27m 2.724E-02 2.690E-02 2.614E-02 2.339E-02 1.713E-02 2.296E-03 2.254E-04 2.212E-05 2.212E-05 2.212E-05 2.212E-05 2.212E-05 2.212E-05 2.212E-05
xel27 6.964E-08 6.704E-08 6.153E-08 4.409E-08 1.734E-08 5.428E-09 4.225E-11 4.048E-14 3.878E-17 3.645E-20 2.052E-22 3.493E-23 3.346E-26 3.206E-29
tel28 2.224E-02 2.224E-02 2.224E-02 2.224E-02 2.224E-02 2.224E-02 2.224E-02 2.224E-02 2.224E-02 2.224E-02 2.224E-02 2.224E-02 2.224E-02 2.224E-02
tel29 1.466E-02 1.436E-02 1.309E-02 9.121E-03 3.319E-03 9.430E-04 4.897E-06 2.629E-09 1.411E-12 7.422E-16 2.714E-18 3.985E-19 2.139E-22 1.148E-25
tel29m 1.204E-02 1.155E-02 1.053E-02 7.338E-03 2.671E-03 7.587E-04 3.940E-06 2.115E-09 1.135E-12 5.971E-16 2.183E-18 3.206E-19 1.721E-22 9.239E-26
i129 3.753E-07 3.753E-07 3.753E-07 3.753E-07 3.753E-07 3.753E-07 3.753E-07 3.753E-07 3.753E-07 3.753E-07 3.753E-07 3.753E-07 3.753E-07 3.753E-07
xe129m 4.419E-12 3.780E-12 2.661E-12 6.788E-13 1.481E-14 1.267E-16 2.872E-25 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
i131 6.661E-08 5.604E-08 3.800E-08 8.381E-09 2.17E-10 6.248E-13 1.705E-22 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
xe131m 5.258E-07 4.677E-07 3.594E-07 1.291E-07 7.330E-09 2.062E-10 6.774E-17 3.554E-26 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
cs131 3.099E-15 2.686E-15 1.948E-15 5.582E-16 1.692E-17 2.199E-19 4.464E-27 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
ba131 8.432E-17 7.475E-17 5.699E-17 1.985E-17 1.035E-18 2.602E-20 5.536E-27 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
cs132 2.298E-14 1.855E-14 1.147E-14 1.764E-15 9.335E-16 3.69E-18 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
xe133 7.843E-13 6.021E-13 3.321E-13 3.285E-14 5.048E-17 1.588E-20 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00

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5 more years for cooling used fuel material

		nuclide thermal power, watts										fission products									
		basis --15.1 kgHM (nm'd IHM 1/4-ass. at 1 MT)																			

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eul56 1.056E+03 9.635E+04 7.846E+04 3.531E+04 3.774E+05 2.333E+06 2.062E+11 1.205E+18 7.037E+26 3.927E+33 0.000E+00 0.000E+00 0.000E+00 0.000E+00
tbl157 4.470E+11 4.469E+11 4.469E+11 4.467E+11 4.461E+11 4.454E+11 4.423E+11 4.380E+11 4.338E+11 4.296E+11 4.265E+11 4.234E+11 4.213E+11 4.172E+11
tbl58 1.210E+07 1.209E+07 1.209E+07 1.209E+07 1.209E+07 1.208E+07 1.205E+07 1.200E+07 1.195E+07 1.191E+07 1.187E+07 1.186E+07 1.182E+07 1.177E+07
dy159 9.621E+09 9.529E+09 9.326E+09 8.574E+09 6.777E+09 5.057E+09 1.487E+09 2.578E+10 4.471E+11 7.717E+12 2.091E+12 1.338E+12 2.321E+13 4.024E+14
tbl160 3.304E+02 3.241E+02 3.104E+02 2.625E+02 1.641E+02 9.143E+03 7.931E+04 2.397E+05 7.242E+07 2.168E+08 1.598E+09 6.550E+10 1.979E+11 5.981E+13
tbl161 2.194E+12 1.795E+12 1.142E+12 1.972E+13 1.442E+15 3.163E+18 2.425E+29 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
hol163 1.368E+14 1.368E+14 1.368E+14 1.368E+14 1.368E+14 1.368E+14 1.368E+14 1.368E+14 1.367E+14 1.367E+14 1.367E+14 1.367E+14 1.367E+14 1.367E+14
hol166m 1.925E+07 1.925E+07 1.925E+07 1.924E+07 1.923E+07 1.923E+07 1.923E+07 1.922E+07 1.921E+07 1.920E+07 1.919E+07 1.919E+07 1.918E+07 1.917E+07
tblm17 3.805E+19 3.276E+19 2.338E+19 6.300E+20 1.602E+21 1.658E+23 8.332E+32 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
tblm18 1.274E+09 1.255E+09 1.213E+09 1.065E+09 7.396E+10 4.696E+10 7.034E+11 4.645E+12 3.068E+13 2.011E+14 2.654E+15 1.328E+15 8.770E+17 5.791E+18
er169 5.225E+13 4.508E+13 3.234E+13 8.888E+14 2.389E+15 2.649E+17 1.778E+25 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
yb169 5.446E+12 5.215E+12 4.731E+12 3.239E+12 1.121E+12 2.994E+13 1.199E+15 4.436E+19 1.642E+22 5.945E+26 1.647E+28 2.200E+29 8.141E+33 0.000E+00

1 5 more years for cooling used fuel material fission products page 38
0
      nuclide thermal power, watts
      basis --15.1 kgHM (nrm'd IHM 1/4-ass. at 1 MT)
      initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d
tblm70 1.120E+05 1.008E+05 1.082E+05 9.843E+06 7.559E+06 5.441E+06 1.376E+06 1.925E+07 2.691E+08 3.743E+09 8.639E+10 5.233E+10 7.317E+11 1.023E+11
tblm71 4.549E+07 4.540E+07 4.520E+07 4.443E+07 4.233E+07 3.985E+07 3.097E+07 2.159E+07 1.505E+07 1.048E+07 8.012E+08 7.308E+08 5.095E+08 3.552E+08
total 3.001E+02 2.984E+02 2.946E+02 2.809E+02 2.486E+02 2.175E+02 1.374E+02 7.969E+01 5.091E+01 3.581E+01 2.923E+01 2.754E+01 2.273E+01 1.975E+01

1 5 more years for cooling used fuel material fission products page 39
0
      element thermal power, watts
      basis --15.1 kgHM (nrm'd IHM 1/4-ass. at 1 MT)
      initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d
h 4.038E+04 4.037E+04 4.034E+04 4.023E+04 3.993E+04 3.956E+04 3.803E+04 3.595E+04 3.399E+04 3.212E+04 3.081E+04 3.037E+04 2.871E+04 2.714E+04
ga 2.513E+19 2.500E+19 2.472E+19 2.368E+19 2.085E+19 1.784E+19 9.290E+20 3.652E+20 1.435E+20 5.628E+21 2.806E+21 2.212E+21 8.696E+22 3.418E+22
ge 2.549E+11 2.505E+11 2.410E+11 2.072E+11 1.357E+11 8.016E+12 8.871E+13 3.799E+14 1.627E+15 6.906E+17 6.600E+18 2.958E+18 1.267E+19 5.425E+21
as 4.945E+11 4.595E+11 3.901E+11 2.097E+11 4.650E+12 1.427E+12 1.308E+13 5.600E+15 2.398E+16 1.018E+17 9.730E+19 4.360E+19 1.867E+20 7.994E+22
e 4.784E+07 4.784E+07 4.782E+07 4.777E+07 4.765E+07 4.754E+07 4.733E+07 4.728E+07 4.727E+07 4.727E+07 4.727E+07 4.727E+07 4.727E+07 4.727E+07
kr 1.763E+01 1.762E+01 1.761E+01 1.755E+01 1.740E+01 1.722E+01 1.646E+01 1.543E+01 1.447E+01 1.357E+01 1.293E+01 1.272E+01 1.193E+01 1.118E+01
rb 2.003E+05 1.862E+05 1.579E+05 8.341E+06 1.444E+06 1.907E+07 3.447E+09 2.856E+10 1.262E+10 1.178E+10 1.173E+10 1.173E+10 1.173E+10 1.173E+10
sr 2.132E+00 2.099E+00 2.029E+00 1.793E+00 1.366E+00 1.112E+00 9.108E+01 8.835E+01 8.625E+01 8.419E+01 8.270E+01 8.219E+01 8.024E+01 7.833E+01
y 7.245E+00 7.178E+00 7.034E+00 6.540E+00 5.592E+00 4.963E+00 4.342E+00 4.211E+00 4.111E+00 4.013E+00 3.942E+00 3.918E+00 3.824E+00 3.733E+00
zr 9.267E+00 9.069E+00 8.637E+00 7.147E+00 4.205E+00 2.173E+00 1.375E+01 2.647E+03 5.393E+05 4.052E+06 3.136E+06 3.103E+06 3.085E+06 3.085E+06
nb 1.823E+01 1.787E+01 1.706E+01 1.423E+01 8.543E+00 4.477E+00 2.881E+01 5.732E+03 1.114E+04 3.295E+06 1.415E+06 1.384E+06 1.488E+06 1.623E+06
mo 6.605E+13 6.605E+13 6.605E+13 6.605E+13 6.605E+13 6.604E+13 6.603E+13 6.602E+13 6.601E+13 6.600E+13 6.600E+13 6.600E+13 6.597E+13 6.597E+13
tc 9.151E+05 9.151E+05 9.151E+05 9.151E+05 9.150E+05 9.150E+05 9.149E+05 9.149E+05 9.149E+05 9.149E+05 9.149E+05 9.149E+05 9.149E+05 9.149E+05
ru 2.505E+02 2.442E+02 2.307E+02 1.871E+02 1.149E+02 7.612E+01 3.737E+01 1.883E+01 9.536E+02 4.820E+02 2.903E+02 2.441E+02 1.236E+02 6.257E+03
rh 1.241E+02 1.237E+02 1.226E+02 1.187E+02 1.083E+02 9.662E+01 6.005E+01 3.041E+01 1.540E+01 7.782E+04 4.687E+04 3.941E+04 1.995E+04 1.010E+04
pd 3.086E+07 3.086E+07 3.084E+07 3.079E+07 3.076E+07 3.075E+07 3.075E+07 3.075E+07 3.075E+07 3.075E+07 3.075E+07 3.075E+07 3.075E+07 3.075E+07
ag 1.952E+00 1.941E+00 1.917E+00 1.826E+00 1.594E+00 1.346E+00 6.632E+01 2.408E+01 8.745E+02 3.167E+02 1.489E+02 1.150E+02 4.177E+03 1.518E+03
cd 1.533E+03 1.487E+03 1.388E+03 1.062E+03 5.073E+04 2.096E+04 2.421E+05 1.943E+05 1.836E+05 1.739E+05 1.673E+05 1.652E+05 1.570E+05 1.495E+05
in 9.922E+07 9.646E+07 9.051E+07 7.069E+07 3.538E+07 1.496E+07 4.118E+09 2.465E+11 1.822E+13 5.274E+15 1.158E+15 8.054E+16 3.988E+16 3.542E+16
sn 4.109E+02 4.067E+02 3.974E+02 3.635E+02 2.834E+02 2.088E+02 6.249E+03 1.656E+03 8.573E+04 6.763E+04 6.281E+04 6.178E+04 5.911E+04 5.752E+04
sb 8.065E+01 8.050E+01 8.016E+01 7.890E+01 7.571E+01 7.222E+01 6.028E+01 4.688E+01 3.647E+01 2.836E+01 2.352E+01 2.206E+01 1.717E+01 1.336E+01
te 1.730E+01 1.707E+01 1.656E+01 1.484E+01 1.148E+01 8.957E+02 4.813E+02 3.207E+02 2.442E+02 1.893E+02 1.570E+02 1.472E+02 1.145E+02 8.909E+03
i 4.424E+07 4.318E+07 4.136E+07 3.839E+07 3.755E+07 3.753E+07 3.753E+07 3.753E+07 3.753E+07 3.753E+07 3.753E+07 3.753E+07 3.753E+07 3.753E+07
xe 5.954E+07 5.348E+07 4.210E+07 1.732E+07 2.467E+08 5.635E+09 4.225E+11 4.048E+14 3.878E+17 3.645E+20 2.052E+22 3.493E+23 3.346E+26 3.206E+29
ca 3.522E+01 3.516E+01 3.502E+01 3.450E+01 3.308E+01 3.140E+01 2.530E+01 1.871E+01 1.398E+01 1.058E+01 8.693E+00 8.146E+00 6.390E+00 5.121E+00
ba 8.453E+00 8.452E+00 8.449E+00 8.440E+00 8.414E+00 8.382E+00 8.248E+00 8.060E+00 7.877E+00 7.697E+00 7.566E+00 7.521E+00 7.350E+00 7.183E+00
la 1.218E+03 1.093E+03 8.557E+04 3.312E+04 2.305E+05 8.370E+07 7.038E+11 6.957E+11 6.957E+11 6.957E+11 6.957E+11 6.957E+11 6.957E+11 6.957E+11
ce 7.281E+00 7.236E+00 7.139E+00 6.785E+00 5.946E+00 5.096E+00 2.733E+00 1.125E+00 4.627E+01 1.899E+01 9.800E+02 7.816E+02 3.216E+02 1.323E+02
pr 7.882E+01 7.844E+01 7.759E+01 7.435E+01 6.600E+01 5.690E+01 3.059E+01 1.259E+01 5.180E+00 2.126E+00 1.097E+00 8.749E+01 3.600E+01 1.481E+01
nd 7.168E+06 6.317E+06 4.755E+06 1.575E+06 7.145E+08 1.519E+09 2.381E+13 2.474E+13 2.512E+13 2.528E+13 2.534E+13 2.535E+13 2.538E+13 2.539E+13
pm 1.241E+00 1.232E+00 1.212E+00 1.147E+00 1.027E+00 9.423E+01 7.638E+01 5.863E+01 4.503E+01 3.455E+01 2.838E+01 2.653E+01 2.038E+01 1.565E+01
sm 1.313E+03 1.313E+03 1.313E+03 1.312E+03 1.311E+03 1.309E+03 1.302E+03 1.292E+03 1.282E+03 1.272E+03 1.265E+03 1.263E+03 1.253E+03 1.243E+03
eu 2.398E+00 2.397E+00 2.394E+00 2.384E+00 2.358E+00 2.325E+00 2.195E+00 2.021E+00 1.861E+00 1.713E+00 1.612E+00 1.578E+00 1.454E+00 1.339E+00
gd 1.738E+04 1.728E+04 1.706E+04 1.622E+04 1.408E+04 1.181E+04 5.661E+05 1.976E+05 6.899E+06 2.401E+06 1.096E+06 8.383E+07 2.927E+07 1.022E+07
dy 3.304E+02 3.241E+02 3.104E+02 2.625E+02 1.641E+02 9.143E+03 7.933E+04 2.409E+05 8.438E+07 1.408E+07 1.204E+07 1.193E+07 1.182E+07 1.177E+07
ty 9.621E+09 9.529E+09 9.326E+09 8.574E+09 6.777E+09 5.057E+09 1.487E+09 2.578E+10 4.471E+11 7.717E+12 2.091E+12 1.338E+12 2.321E+13 4.024E+14
ho 1.925E+07 1.925E+07 1.925E+07 1.925E+07 1.924E+07 1.923E+07 1.922E+07 1.921E+07 1.920E+07 1.919E+07 1.919E+07 1.919E+07 1.918E+07 1.917E+07
er 5.225E+13 4.508E+13 3.234E+13 8.888E+14 2.389E+15 2.649E+17 1.778E+25 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
tm 1.166E+05 1.154E+05 1.127E+05 1.029E+05 7.983E+06 5.840E+06 1.686E+06 4.084E+07 1.774E+07 1.086E+07 8.098E+08 7.360E+08 5.102E+08 3.553E+08
yb 5.446E+12 5.215E+12 4.731E+12 3.239E+12 1.121E+12 2.994E+13 1.199E+15 4.436E+19 1.642E+22 5.945E+26 1.647E+28 2.200E+29 8.141E+33 0.000E+00
totals 3.001E+02 2.984E+02 2.946E+02 2.809E+02 2.486E+02 2.175E+02 1.374E+02 7.969E+01 5.091E+01 3.581E+01 2.923E+01 2.754E+01 2.273E+01 1.975E+01

56$ array 20 entries read

0c
1 * normal termination of execution *
0
      table of contents for material tables
      case or subcase printed page
      1 1

```

```
*****
*
*                               SCALE 6.1.3
*                               -----
*                               October 2013
*
*
* SCALE:  A Comprehensive Modeling and Simulation Suite
*         for Nuclear Safety Analysis and Design
*
*         Reactor and Nuclear Systems Division
*         Oak Ridge National Laboratory
*
*         http://scale.ornl.gov
*         scalehelp@ornl.gov
*
*****
```

1

```

1
1      * input echo * (with break between col. 1-72 and 73-80)
0      note:  only comments are permitted after column 72.
0-----only this is used as input data-----comment or title end
0.....columns 1-72.....,73-80.

```

B-18

```
' 5/3/2008 = day 0
' 240+2xxx xxx 1/22/09 3/12/09 5/12/09 1/22/10 1/22/11 1/22/12
60** 2 6.5 24 73 134 389 754 1119
' 1/22/13 10/21/13 1/22/14 1/22/15 1/22/16
' 1485 1757 1850 2215 2580

60** 2 6.5 24 73 134 389 754 1119 1485 1757 1850 2215 2580
61** 1e-20 1e-20 5r1e-20

65$
Gram-Atoms Grams Curies Watts-All Watts-Gamma
0 0 0 1 1 0 1 0 1 1 0 3z 6z
0 0 0 1 1 0 1 1 0 1 1 0 3z 6z
0 0 0 1 1 0 1 1 0 1 1 0 3z 6z

56$ f0 t
0when job "fails", make sure no fido input..... is out here!

0$ array 12 entries read

0t

3$ array 33 entries read

0t
llibrary information...

cross-section data taken from position number 1 of library on unit 21.
*****
* ENDF/B-VII.1 decay data *
* compiled August 30, 2012 *
* i.c. gauld, g. ilas, m. pigni *
* reactor and nuclear systems division *
* oak ridge national laboratory *
*****
0
0 other identification and sizes of library.
0 data set name: /scale/scale6.1/data/origen.rev03.end7dec
0 8/31/2012 date library was produced
0 2237 total number of nuclides in library
0 910 number of light-element nuclides
0 176 number of actinide nuclides
0 1151 number of fission product nuclides
0 2636 number of nonzero off-diagonal matrix elements
0 *****

35$ array 1 entries read

0t

54$ array 12 entries read

56$ array 20 entries read

57* array 5 entries read

95$ array 1 entries read

0t

14 365 365 366 272 93
5/3/2008 = day 0
' 240+2xxx xxx 1/22/09 3/12/09 5/12/09 1/22/10 1/22/11 1/22/12
60** 2 6.5 24 73 134 389 754 1119
' 1/22/13 10/21/13 1/22/14 1/22/15 1/22/16
' 1485 1757 1850 2215 2580

60* array 13 entries read

61* array 7 entries read
gram-atoms grams curies watts-all watts-gamma

65$ array 63 entries read

0t
0 obtaining data from position no. 43 on unit no. 71
1
5 more years for cooling used fuel material light elements page 1
0
nuclide concentrations, grams
basis ==-15.1 kgIHM (nrm'd IHM 1/4-ass. at 1 MT)
initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d
h 1 1.049E-04 1.049E-04 1.049E-04 1.049E-04 1.049E-04 1.049E-04 1.049E-04 1.049E-04 1.049E-04 1.049E-04 1.049E-04 1.049E-04
h 2 2.245E-05 2.245E-05 2.245E-05 2.245E-05 2.245E-05 2.245E-05 2.245E-05 2.245E-05 2.245E-05 2.245E-05 2.245E-05 2.245E-05
h 3 9.473E-07 9.470E-07 9.463E-07 9.438E-07 9.367E-07 9.279E-07 8.922E-07 8.434E-07 7.973E-07 7.536E-07 7.227E-07 7.124E-07 6.734E-07 6.366E-07
he 3 1.734E-07 1.737E-07 1.743E-07 1.769E-07 1.840E-07 1.927E-07 2.285E-07 2.772E-07 3.234E-07 3.671E-07 3.980E-07 4.083E-07 4.472E-07 4.840E-07
h 4 6.110E-02 6.110E-02 6.110E-02 6.110E-02 6.110E-02 6.110E-02 6.110E-02 6.110E-02 6.110E-02 6.110E-02 6.110E-02 6.110E-02 6.110E-02
li 6 4.094E-12 4.094E-12 4.094E-12 4.094E-12 4.094E-12 4.094E-12 4.094E-12 4.094E-12 4.094E-12 4.094E-12 4.094E-12 4.094E-12
b 7 5.050E-13 5.050E-13 5.050E-13 5.050E-13 5.050E-13 5.050E-13 5.050E-13 5.050E-13 5.050E-13 5.050E-13 5.050E-13 5.050E-13
be 9 3.922E-08 3.922E-08 3.922E-08 3.922E-08 3.922E-08 3.922E-08 3.922E-08 3.922E-08 3.922E-08 3.922E-08 3.922E-08 3.922E-08
be 10 2.152E-06 2.152E-06 2.152E-06 2.152E-06 2.152E-06 2.152E-06 2.152E-06 2.152E-06 2.152E-06 2.152E-06 2.152E-06 2.152E-06
b 10 9.871E-13 9.925E-13 1.005E-12 1.052E-12 1.185E-12 1.350E-12 2.039E-12 3.026E-12 4.014E-12 5.004E-12 5.739E-12 5.991E-12 6.978E-12 7.965E-12
b 11 1.229E-09 1.229E-09 1.229E-09 1.229E-09 1.229E-09 1.229E-09 1.229E-09 1.229E-09 1.229E-09 1.229E-09 1.229E-09 1.229E-09 1.229E-09
c 12 1.253E-03 1.253E-03 1.253E-03 1.253E-03 1.253E-03 1.253E-03 1.253E-03 1.253E-03 1.253E-03 1.253E-03 1.253E-03 1.253E-03 1.253E-03
c 13 1.972E-01 1.972E-01 1.972E-01 1.972E-01 1.972E-01 1.972E-01 1.972E-01 1.972E-01 1.972E-01 1.972E-01 1.972E-01 1.972E-01 1.972E-01
c 14 6.366E-06 6.366E-06 6.366E-06 6.366E-06 6.366E-06 6.366E-06 6.366E-06 6.366E-06 6.366E-06 6.366E-06 6.366E-06 6.366E-06 6.366E-06
n 14 7.613E-08 7.614E-08 7.615E-08 7.618E-08 7.629E-08 7.642E-08 7.696E-08 7.773E-08 7.851E-08 7.928E-08 7.966E-08 8.005E-08 8.083E-08 8.160E-08
n 15 1.849E-04 1.849E-04 1.849E-04 1.849E-04 1.849E-04 1.849E-04 1.849E-04 1.849E-04 1.849E-04 1.849E-04 1.849E-04 1.849E-04 1.849E-04
o 16 2.037E-03 2.037E-03 2.037E-03 2.037E-03 2.037E-03 2.037E-03 2.037E-03 2.037E-03 2.037E-03 2.037E-03 2.037E-03 2.037E-03 2.037E-03
o 17 6.704E-04 6.704E-04 6.704E-04 6.704E-04 6.704E-04 6.704E-04 6.704E-04 6.704E-04 6.704E-04 6.704E-04 6.704E-04 6.704E-04 6.704E-04
o 18 3.351E-09 3.351E-09 3.351E-09 3.351E-09 3.351E-09 3.351E-09 3.351E-09 3.351E-09 3.351E-09 3.351E-09 3.351E-09 3.351E-09 3.351E-09
f 19 2.359E-15 2.359E-15 2.359E-15 2.359E-15 2.359E-15 2.359E-15 2.359E-15 2.359E-15 2.359E-15 2.359E-15 2.359E-15 2.359E-15 2.359E-15
na 23 6.285E-16 6.285E-16 6.285E-16 6.285E-16 6.285E-16 6.285E-16 6.285E-16 6.285E-16 6.285E-16 6.285E-16 6.285E-16 6.285E-16 6.285E-16
mg 24 6.570E-16 6.570E-16 6.570E-16 6.570E-16 6.570E-16 6.570E-16 6.570E-16 6.570E-16 6.570E-16 6.570E-16 6.570E-16 6.570E-16 6.570E-16
mg 25 6.835E-16 6.835E-16 6.835E-16 6.835E-16 6.835E-16 6.835E-16 6.835E-16 6.835E-16 6.835E-16 6.835E-16 6.835E-16 6.835E-16 6.835E-16
mg 26 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16
al 27 7.382E-16 7.382E-16 7.382E-16 7.382E-16 7.382E-16 7.382E-16 7.382E-16 7.382E-16 7.382E-16 7.382E-16 7.382E-16 7.382E-16 7.382E-16
si 28 7.659E-16 7.659E-16 7.659E-16 7.659E-16 7.659E-16 7.659E-16 7.659E-16 7.659E-16 7.659E-16 7.659E-16 7.659E-16 7.659E-16 7.659E-16
si 29 7.942E-16 7.942E-16 7.942E-16 7.942E-16 7.942E-16 7.942E-16 7.942E-16 7.942E-16 7.942E-16 7.942E-16 7.942E-16 7.942E-16 7.942E-16
si 30 8.257E-16 8.257E-16 8.257E-16 8.257E-16 8.257E-16 8.257E-16 8.257E-16 8.257E-16 8.257E-16 8.257E-16 8.257E-16 8.257E-16 8.257E-16
p 31 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16
s 32 8.740E-16 8.740E-16 8.740E-16 8.740E-16 8.740E-16 8.740E-16 8.740E-16 8.740E-16 8.740E-16 8.740E-16 8.740E-16 8.740E-16 8.740E-16
s 33 8.977E-16 8.977E-16 8.977E-16 8.977E-16 8.977E-16 8.977E-16 8.977E-16 8.977E-16 8.977E-16 8.977E-16 8.977E-16 8.977E-16 8.977E-16
s 34 9.312E-16 9.312E-16 9.312E-16 9.312E-16 9.312E-16 9.312E-16 9.312E-16 9.312E-16 9.312E-16 9.312E-16 9.312E-16 9.312E-16 9.312E-16
s 36 9.844E-16 9.844E-16 9.844E-16 9.844E-16 9.844E-16 9.844E-16 9.844E-16 9.844E-16 9.844E-16 9.844E-16 9.844E-16 9.844E-16 9.844E-16
cl 35 9.835E-16 9.835E-16 9.835E-16 9.835E-16 9.835E-16 9.835E-16 9.835E-16 9.835E-16 9.835E-16 9.835E-16 9.835E-16 9.835E-16 9.835E-16
cl 36 6.785E-17 6.785E-17 6.785E-17 6.785E-17 6.785E-17 6.785E-17 6.785E-17 6.785E-17 6.785E-17 6.785E-17 6.785E-17 6.785E-17 6.785E-17
cl 37 1.023E-15 1.023E-15 1.023E-15 1.023E-15 1.023E-15 1.023E-15 1.023E-15 1.023E-15 1.023E-15 1.023E-15 1.023E-15 1.023E-15 1.023E-15
ar 36 9.732E-19 9.732E-19 9.732E-19 9.732E-19 9.732E-19 9.732E-19 9.732E-19 9.732E-19 9.732E-19 9.732E-19 9.732E-19 9.732E-19 9.732E-19
ar 38 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15
ar 39 1.943E-18 1.943E-18 1.943E-18 1.943E-18 1.943E-18 1.943E-18 1.943E-18 1.943E-18 1.943E-18 1.943E-18 1.943E-18 1.943E-18 1.943E-18
ar 40 1.101E-15 1.101E-15 1.101E-15 1.101E-15 1.101E-15 1.101E-15 1.101E-15 1.101E-15 1.101E-15 1.101E-15 1.101E-15 1.101E-15 1.101E-15
k 39 1.060E-15 1.060E-15 1.060E-15 1.060E-15 1.060E-15 1.060E-15 1.060E-15 1.060E-15 1.060E-15 1.060E-15 1.060E-15 1.060E-15 1.060E-15
k 40 1.037E-15 1.037E-15 1.037E-15 1.037E-15 1.037E-15 1.037E-15 1.037E-15 1.037E-15 1.037E-15 1.037E-15 1.037E-15 1.037E-15 1.037E-15
k 41 1.172E-15 1.172E-15 1.172E-15 1.172E-15 1.172E-15 1.172E-15 1.172E-15 1.172E-15 1.172E-15 1.172E-15 1.172E-15 1.172E-15 1.172E-15
ca 40 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15
ca 41 8.263E-19 8.263E-19 8.263E-19 8.263E-19 8.263E-19 8.263E-19 8.263E-19 8.263E-19 8.263E-19 8.263E-19 8.263E-19 8.263E-19 8.263E-19
ca 42 1.152E-15 1.152E-15 1.152E-15 1.152E-15 1.152E-15 1.152E-15 1.152E-15 1.152E-15 1.152E-15 1.152E-15 1.152E-15 1.152E-15 1.152E-15
ca 43 1.154E-15 1.154E-15 1.154E-15 1.154E-15 1.154E-15 1.154E-15 1.154E-15 1.154E-15 1.154E-15 1.154E-15 1.154E-15 1.154E-15 1.154E-15
ca 44 1.226E-15 1.226E-15 1.226E-15 1.226E-15 1.226E-15 1.226E-15 1.226E-15 1.226E-15 1.226E-15 1.226E-15 1.226E-15 1.226E-15 1.226E-15
ca 46 1.257E-15 1.257E-15 1.257E-15 1.257E-15 1.257E-15 1.257E-15 1.257E-15 1.257E-15 1.257E-15 1.257E-15 1.257E-15 1.257E-15 1.257E-15
ca 48 1.311E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15
ac 45 1.179E-15 1.179E-15 1.179E-15 1.179E-15 1.179E-15 1.179E-15 1.179E-15 1.179E-15 1.179E-15 1.179E-15 1.179E-15 1.179E-15 1.179E-15
ac 46 8.506E-19 8.367E-19 8.061E-19 6.975E-19 4.650E-19 2.808E-19 3.405E-20 1.663E-21 8.119E-23 3.932E-24 4.144E-25 1.920E-25 9.374E-27 4.577E-28
1
5 more years for cooling used fuel material light elements page 2
0
nuclide concentrations, grams
basis ==-15.1 kgIHM (nrm'd IHM 1/4-ass. at 1 MT)
initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d
ti 46 1.310E-15 1.310E-15 1.310E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15
ti 47 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15
```

	5 more years for cooling used fuel material						nuclide concentrations, grams basis =-15.1 kgTHM /gHM /IHM /L4=ass. at 1 MP)								light elements							page		3	
	initial	2.0 d	6.5 d	24.0 d	73.0 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d											
h1r80	9.903E-19	9.903E-19	9.903E-19	9.903E-19	9.903E-19	9.903E-19	9.903E-19	9.903E-19	9.903E-19	9.903E-19	9.903E-19	9.903E-19	9.903E-19	9.903E-19											
h1r81	6.131E-19	5.970E-19	5.970E-19	5.970E-19	5.970E-19	5.970E-19	5.970E-19	5.970E-19	5.970E-19	5.970E-19	5.970E-19	5.970E-19	5.970E-19	5.970E-19											
h1f82	2.646E-17	1.644E-17	1.644E-17	1.644E-17	1.644E-17	1.644E-17	1.644E-17	1.644E-17	1.644E-17	1.644E-17	1.644E-17	1.644E-17	1.644E-17	1.644E-17											
ta180m	3.130E-19	3.130E-19	3.130E-19	3.130E-19	3.130E-19	3.130E-19	3.130E-19	3.130E-19	3.130E-19	3.130E-19	3.130E-19	3.130E-19	3.130E-19	3.130E-19											
ta181	2.547E-15	2.546E-15	2.546E-15	2.547E-15	2.547E-15	2.547E-15	2.547E-15	2.547E-15	2.547E-15	2.547E-15	2.547E-15	2.547E-15	2.547E-15	2.547E-15											
ta182	1.008E-17	9.955E-18	9.688E-18	8.716E-18	6.483E-18	4.484E-18	9.609E-19	1.059E-19	1.688E-20	1.281E-21	2.483E-22	1.419E-22	1.636E-23	2.514E-24											
w183	6.131E-19	5.970E-19	5.970E-19	5.970E-19	5.970E-19	5.970E-19	5.970E-19	5.970E-19	5.970E-19	5.970E-19	5.970E-19	5.970E-19	5.970E-19	5.970E-19											
w183	.931E-19	.931E-19	.931E-19	.931E-19	.931E-19	.931E-19	.931E-19	.931E-19	.931E-19	.931E-19	.931E-19	.931E-19	.931E-19	.931E-19											
w184	9.125E-15	9.125E-15	9.125E-15	9.125E-15	9.125E-15	9.125E-15	9.125E-15	9.125E-15	9.125E-15	9.125E-15	9.125E-15	9.125E-15	9.125E-15	9.125E-15											
w185	2.419E-18	2.375E-18	2.278E-18	1.938E-18	1.233E-18	7.023E-19	6.674E-20	2.928E-21	7.911E-23	6.299E-24	1.925E-25	9.926E-26	3.199E-27	1.101E-28											
w186	2.976E-15	2.976E-15	2.976E-15	2.976E-15	2.976E-15	2.976E-15	2.976E-15	2.976E-15	2.976E-15	2.976E-15	2.976E-15	2.976E-15	2.976E-15	2.976E-15											
r1e86	8.076E-18	8.076E-18	8.076E-18	8.076E-18	8.076E-18	8.076E-18	8.076E-18	8.076E-18	8.076E-18	8.076E-18	8.076E-18	8.076E-18	8.076E-18	8.076E-18											
re186m	2.753E-18	2.753E-18	2.753E-18	2.753E-18	2.753E-18	2.753E-18	2.753E-18	2.753E-18	2.753E-18	2.753E-18	2.753E-18	2.753E-18	2.753E-18	2.753E-18											
re187	5.232E-15	5.232E-15	5.232E-15	5.232E-15	5.232E-15	5.232E-15	5.232E-15	5.232E-15	5.232E-15	5.232E-15	5.232E-15	5.232E-15	5.232E-15	5.232E-15											
so186	3.217E-15	3.217E-15	3.217E-15	3.217E-15	3.217E-15	3.217E-15	3.217E-15	3.217E-15	3.217E-15	3.217E-15	3.217E-15	3.217E-15	3.217E-15	3.217E-15											
so187	6.115E-16	6.115E-16	6.115E-16	6.115E-16	6.115E-16	6.115E-16	6.115E-16	6.115E-16	6.115E-16	6.115E-16	6.115E-16	6.115E-16	6.115E-16	6.115E-16											
so188	2.423E-16	2.423E-16	2.423E-16	2.423E-16	2.423E-16	2.423E-16	2.423E-16	2.423E-16	2.423E-16	2.423E-16	2.423E-16	2.423E-16	2.423E-16	2.423E-16											
so189	1.786E-16	1.786E-16	1.786E-16	1.786E-16	1.786E-16	1.786E-16	1.786E-16	1.786E-16	1.786E-16	1.786E-16	1.786E-16	1.786E-16	1.786E-16	1.786E-16											
so190	5.413E-17	5.413E-17	5.413E-17	5.413E-17</																					

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[illegible]

1 5 more years for cooling used fuel material light elements page 8

1 5 more years for cooling used fuel material light elements page 9

1 initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d
aui95 5.183E+21 5.145E+21 5.059E+21 4.740E+21 3.949E+21 3.147E+21 1.217E+21 3.126E+22 8.027E+23 2.054E+24 7.456E+24 5.273E+24 1.354E+24 3.477E+25
hig94 5.378E+27 5.378E+27 5.378E+27 5.378E+27 5.378E+27 5.378E+27 5.368E+27 5.368E+27 5.368E+27 5.368E+27 5.368E+27 5.368E+27 5.368E+27 5.319E+27
hg203 2.989E+18 2.901E+18 2.713E+18 2.091E+18 1.009E+18 4.072E+19 9.168E+21 4.019E+23 1.762E+25 7.608E+28 1.330E+29 3.335E+30 1.462E+32 0.000E+00
t1202 1.127E+26 1.007E+26 7.814E+27 2.917E+27 1.849E+28 6.051E+30 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
t1204 8.405E+19 8.397E+19 8.378E+19 8.305E+19 8.103E+19 7.859E+19 6.915E+19 5.758E+19 4.795E+19 3.991E+19 3.482E+19 3.323E+19 2.767E+19 2.304E+19
total 3.176E+07 3.175E+07 3.173E+07 3.165E+07 3.141E+07 3.113E+07 2.996E+07 2.837E+07 2.686E+07 2.544E+07 2.443E+07 2.282E+07 2.162E+07

1 5 more years for cooling used fuel material light elements page 11
0 element thermal power, watts
basis --15.1 kgHM (nmr'd IHM 1/4-ass. at 1 MT)
initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d
h 3.092E+07 3.091E+07 3.089E+07 3.080E+07 3.057E+07 3.029E+07 2.912E+07 2.753E+07 2.602E+07 2.460E+07 2.359E+07 2.325E+07 2.198E+07 2.078E+07
be 6.120E+11 6.120E+11 6.120E+11 6.120E+11 6.120E+11 6.120E+11 6.120E+11 6.120E+11 6.120E+11 6.120E+11 6.120E+11 6.120E+11 6.120E+11 6.120E+11
c 8.367E+09 8.367E+09 8.367E+09 8.367E+09 8.367E+09 8.367E+09 8.366E+09 8.365E+09 8.364E+09 8.363E+09 8.362E+09 8.362E+09 8.361E+09 8.360E+09
na 9.841E+23 9.826E+23 9.794E+23 9.670E+23 9.331E+23 8.925E+23 7.410E+23 5.679E+23 4.352E+23 3.333E+23 2.733E+23 2.554E+23 1.957E+23 1.500E+23
al 1.167E+26 1.167E+26 1.167E+26 1.167E+26 1.167E+26 1.167E+26 1.167E+26 1.167E+26 1.167E+26 1.167E+26 1.167E+26 1.167E+26 1.167E+26 1.167E+26
si 2.506E+24 2.506E+24 2.506E+24 2.506E+24 2.504E+24 2.502E+24 2.494E+24 2.489E+24 2.472E+24 2.461E+24 2.452E+24 2.449E+24 2.438E+24 2.427E+24
p 2.990E+21 2.821E+21 2.476E+21 1.500E+21 3.975E+21 9.444E+21 2.540E+21 2.522E+21 2.511E+21 2.499E+21 2.491E+21 2.488E+21 2.477E+21 2.466E+21
s 6.641E+19 6.536E+19 6.307E+19 5.491E+19 3.725E+19 2.297E+19 3.048E+20 1.692E+21 3.935E+23 5.174E+24 6.000E+25 2.872E+25 1.595E+26 8.853E+28
cl 3.951E+21 3.951E+21 3.951E+21 3.951E+21 3.951E+21 3.951E+21 3.951E+21 3.951E+21 3.951E+21 3.951E+21 3.951E+21 3.951E+21 3.951E+21 3.951E+21
ar 9.010E+20 8.994E+20 8.959E+20 8.850E+20 8.686E+20 8.613E+20 8.568E+20 8.546E+20 8.524E+20 8.502E+20 8.486E+20 8.480E+20 8.459E+20 8.437E+20
k 3.029E+23 3.029E+23 3.029E+23 3.029E+23 3.058E+23 3.028E+23 3.026E+23 3.023E+23 3.020E+23 3.017E+23 3.015E+23 3.015E+23 3.012E+23 3.009E+23
ca 1.453E+18 1.441E+18 1.413E+18 1.312E+18 1.064E+18 8.207E+17 2.768E+19 5.840E+20 1.232E+22 2.590E+21 8.133E+22 5.476E+22 1.166E+22 2.562E+23
sc 3.625E+16 3.566E+16 3.436E+16 2.973E+16 1.982E+16 1.197E+16 1.451E+17 7.087E+19 3.460E+20 1.676E+21 1.766E+22 1.82E+23 3.995E+24 1.951E+25
v 1.800E+22 1.792E+22 1.775E+22 1.711E+22 1.544E+22 1.358E+22 7.949E+23 3.693E+23 1.716E+23 7.953E+24 4.492E+24 3.695E+24 1.716E+24 7.973E+25
cu 6.923E+26 6.923E+26 6.923E+26 6.923E+26 6.923E+26 6.923E+26 6.923E+26 6.923E+26 6.923E+26 6.923E+26 6.923E+26 6.923E+26 6.923E+26 6.923E+26
mn 1.398E+17 1.392E+17 1.378E+17 1.325E+17 1.189E+17 1.038E+17 5.891E+18 2.619E+18 1.164E+18 5.163E+19 2.822E+19 2.295E+19 1.020E+19 4.535E+20
fe 8.816E+18 8.555E+18 7.995E+18 6.157E+18 3.021E+18 1.335E+18 2.548E+19 1.826E+19 1.418E+19 1.101E+19 9.122E+20 8.554E+20 6.646E+20 5.163E+20
co 3.303E+15 3.300E+15 3.295E+15 3.274E+15 3.216E+15 3.146E+15 2.869E+15 2.516E+15 2.206E+15 1.934E+15 1.753E+15 1.696E+15 1.487E+15 1.304E+15
zn 2.274E+19 2.271E+19 2.269E+19 2.265E+19 2.260E+19 2.254E+19 2.249E+19 2.243E+19 2.238E+19 2.232E+19 2.227E+19 2.222E+19 2.217E+19 2.212E+19
cr 7.765E+20 7.721E+20 7.623E+20 7.253E+20 6.311E+20 5.306E+20 2.571E+20 9.113E+21 3.230E+21 1.142E+21 5.271E+22 4.047E+22 1.434E+22 5.084E+23
sn 5.634E+24 5.633E+24 5.630E+24 5.621E+24 5.595E+24 5.566E+24 5.465E+24 5.353E+24 5.258E+24 5.171E+24 5.098E+24 5.088E+24 5.007E+24 4.929E+24
sb 3.586E+22 3.506E+22 3.334E+22 2.744E+22 1.604E+22 8.425E+23 1.228E+23 6.544E+24 5.046E+24 3.922E+24 3.253E+24 3.051E+24 2.374E+24 1.847E+24
t 7.287E+19 7.140E+19 6.103E+19 9.646E+20 6.739E+20 4.290E+20 6.497E+21 4.418E+22 3.539E+23 7.507E+24 5.369E+24 5.092E+24 4.430E+24 3.940E+24
i 4.341E+23 4.240E+23 4.023E+23 3.280E+23 1.851E+23 9.085E+24 4.635E+25 6.551E+27 9.356E+29 2.284E+30 1.045E+30 1.009E+30 9.911E+31 9.908E+31
xe 1.453E+22 1.398E+22 1.282E+22 9.153E+23 3.589E+23 1.123E+23 8.739E+26 8.373E+29 8.022E+32 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
ca 7.231E+19 7.218E+19 7.187E+19 7.070E+19 6.758E+19 6.389E+19 5.055E+19 3.614E+19 2.584E+19 1.846E+19 1.438E+19 1.320E+19 9.439E+20 6.750E+20
sa 5.488E+20 5.469E+20 5.438E+20 5.358E+20 5.268E+20 5.169E+20 4.976E+21 4.658E+21 4.361E+21 4.022E+21 3.807E+21 3.622E+21 3.578E+21 3.505E+21
ts 2.440E+21 2.440E+21 2.440E+21 2.440E+21 2.440E+21 2.440E+21 2.440E+21 2.440E+21 2.440E+21 2.440E+21 2.440E+21 2.440E+21 2.440E+21 2.440E+21
cm 1.443E+22 1.428E+22 1.396E+22 1.277E+22 9.962E+23 7.321E+23 2.026E+23 3.224E+24 5.130E+25 8.121E+26 2.064E+26 1.292E+26 2.056E+27 3.272E+28
te 4.613E+25 4.604E+25 4.583E+25 4.503E+25 4.288E+25 4.034E+25 3.131E+25 2.182E+25 1.521E+25 1.059E+25 8.094E+26 7.383E+26 5.147E+26 3.588E+26
lu 1.106E+18 1.098E+18 1.079E+18 1.012E+18 8.468E+19 6.831E+19 3.080E+19 1.372E+19 8.370E+20 5.951E+20 4.814E+20 4.496E+20 3.482E+20 2.732E+20
hf 4.548E+16 4.454E+16 4.249E+16 3.539E+16 1.134E+16 1.448E+16 9.378E+18 3.725E+19 3.520E+19 6.128E+19 2.439E+21 2.634E+21 1.521E+21 7.925E+16
tla 5.662E+16 5.594E+16 5.446E+16 4.898E+16 3.643E+16 2.520E+16 5.400E+17 5.954E+18 6.565E+19 7.200E+20 1.397E+20 7.988E+21 9.275E+22 1.469E+22
w 1.733E+17 1.702E+17 1.632E+17 1.389E+17 8.834E+18 5.030E+18 4.783E+19 1.661E+20 5.929E+22 2.291E+23 2.345E+24 1.123E+24 8.020E+26 7.913E+27
re 1.740E+18 1.706E+18 1.631E+18 1.372E+18 8.453E+19 4.632E+19 3.868E+20 1.574E+21 2.227E+22 1.055E+22 8.710E+23 8.433E+23 7.973E+23 7.870E+23
os 1.157E+19 1.140E+19 1.103E+19 1.038E+19 6.739E+20 4.290E+20 6.497E+21 4.418E+22 3.539E+23 7.507E+24 5.369E+24 5.092E+24 4.430E+24 3.940E+24
ir 1.041E+16 1.022E+16 9.797E+17 8.312E+17 5.247E+17 2.959E+17 2.700E+18 8.786E+20 2.967E+21 1.965E+22 1.033E+22 9.633E+23 8.327E+23 7.410E+23
pt 5.886E+19 5.885E+19 5.884E+19 5.880E+19 5.869E+19 5.856E+19 5.799E+19 5.720E+19 5.641E+19 5.563E+19 5.506E+19 5.487E+19 5.411E+19 5.337E+19
au 5.184E+21 5.145E+21 5.060E+21 4.741E+21 3.950E+21 3.147E+21 1.218E+21 3.132E+22 8.088E+23 2.115E+23 8.069E+24 5.886E+24 1.966E+24 9.581E+25
hg2 2.989E+18 2.901E+18 2.713E+18 2.091E+18 1.009E+18 4.072E+19 9.168E+21 4.019E+23 1.762E+25 7.608E+28 1.330E+29 3.335E+30 1.462E+32 0.000E+00
tl 8.405E+19 8.397E+19 8.378E+19 8.305E+19 8.103E+19 7.859E+19 6.915E+19 5.758E+19 4.795E+19 3.991E+19 3.482E+19 3.323E+19 2.767E+19 2.304E+19
totals 3.176E+07 3.175E+07 3.173E+07 3.165E+07 3.141E+07 3.113E+07 2.996E+07 2.837E+07 2.686E+07 2.544E+07 2.443E+07 2.282E+07 2.162E+07

1 5 more years for cooling used fuel material actinides page 12
0 nuclide concentrations, grams
basis --15.1 kgHM (nmr'd IHM 1/4-ass. at 1 MT)
initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d
he 4 3.521E+02 3.532E+02 3.545E+02 3.560E+02 3.585E+02 3.620E+02 3.665E+02 4.725E+02 4.555E+02 4.565E+02 4.565E+02 4.565E+02 4.565E+02
li 6 3.472E+17 3.472E+17 3.472E+17 3.472E+17 3.472E+17 3.472E+17 3.472E+17 3.472E+17 3.472E+17 3.472E+17 3.472E+17 3.472E+17 3.472E+17
li 7 3.828E+16 3.828E+16 3.828E+16 3.828E+16 3.828E+16 3.828E+16 3.828E+16 3.828E+16 3.828E+16 3.828E+16 3.828E+16 3.828E+16 3.828E+16
t1207 3.534E+18 3.533E+18 3.538E+18 3.538E+18 3.927E+18 4.363E+18 6.515E+18 9.140E+18 1.177E+19 1.440E+19 1.637E+19 1.671E+19 1.966E+19 2.230E+19
t1208 5.475E+19 5.475E+19 5.475E+19 5.475E+19 5.475E+19 5.475E+19 5.475E+19 5.475E+19 5.475E+19 5.475E+19 5.475E+19 5.475E+19 5.475E+19 5.475E+19
pb204 5.558E+15 5.558E+15 5.558E+15 5.558E+15 5.558E+15 5.558E+15 5.558E+15 5.558E+15 5.558E+15 5.558E+15 5.558E+15 5.558E+15 5.558E+15 5.558E+15
pb205 2.158E+17 2.158E+17 2.158E+17 2.158E+17 2.158E+17 2.158E+17 2.158E+17 2.158E+17 2.158E+17 2.158E+17 2.159E+17 2.159E+17 2.159E+17 2.159E+17
pb206 2.918E+14 2.930E+14 2.956E+14 3.058E+14 3.351E+14 3.731E+14 5.372E+14 7.795E+14 1.013E+15 1.252E+15 1.432E+15 1.494E+15 1.743E+15 2.003E+15
pb207 1.060E+12 1.060E+12 1.060E+12 1.060E+12 1.060E+12 1.060E+12 1.060E+12 1.060E+12 1.060E+12 1.060E+12 1.060E+12 1.060E+12 1.060E+12 1.060E+12
pb208 1.448E+08 1.458E+08 1.481E+08 1.481E+08 1.847E+08 2.233E+08 4.446E+08 9.402E+08 1.650E+07 2.563E+07 3.360E+07 3.654E+07 4.900E+07 6.277E+07
pb209 2.833E+16 2.834E+16 2.833E+16 2.830E+16 2.829E+16 2.831E+16 2.839E+16 2.843E+16 2.859E+16 2.877E+16 2.897E+16 2.913E+16 2.917E+16 2.969E+16
pb210 7.987E+13 7.986E+13 7.984E+13 7.976E+13 7.954E+13 7.929E+13 7.837E+13 7.762E+13 7.770E+13 7.879E+13 8.039E+13 8.111E+13 8.487E+13 9.031E+13
pb211 2.794E+17 2.793E+17 2.793E+17 2.793E+17 2.793E+17 2.793E+17 2.793E+17 2.793E+17 2.793E+17 2.793E+17 2.793E+17 2.793E+17 2.793E+17 2.793E+17
pb212 3.247E+11 3.245E+11 3.267E+11 3.397E+11 3.890E+11 4.449E+11 6.968E+11 1.080E+12 1.455E+12 1.798E+12 2.027E+12 2.101E+12 2.353E+12 2.564E+12
b1208 2.296E+17 2.296E+17 2.296E+17 2.296E+17 2.296E+17 2.296E+17 2.296E+17 2.296E+17 2.296E+17 2.296E+17 2.296E+17 2.296E+17 2.296E+17 2.296E+17
b1209 2.040E+12 2.043E+12 2.050E+12 2.075E+12 2.146E+12 2.235E+12 2.605E+12 3.137E+12 3.672E+12 4.212E+12 4.616E+12 4.755E+12 5.302E+12 5.854E+12
b1210 hm 3.292E+17 3.292E+17 3.292E+17 3.292E+17 3.292E+17 3.292E+17 3.292E+17 3.292E+17 3.292E+17 3.292E+17 3.292E+17 3.292E+17 3.292E+17 3.292E+17
b1210 4.940E+16 4.939E+16 4.937E+16 4.932E+16 4.919E+16 4.905E+16 4.847E+16 4.801E+16 4.806E+16 4.873E+16 4.972E+16 5.016E+16 5.249E+16 5.585E+16
b1211 1.621E+18 1.620E+18 1.622E+18 1.653E+18 1.801E+18 2.001E+18 2.988E+18 4.191E+18 5.396E+18 6.605E+18 7.505E+18 7.662E+18 9.018E+18 1.022E+17
b1212 3.080E+12 3.092E+12 3.099E+12 3.222E+12 3.689E+12 4.220E+12 6.100E+12 1.025E+11 1.380E+11 1.705E+11 1.922E+11 1.993E+11 2.231E+11 2.432E+11
b1213 6.744E+17 6.745E+17 6.745E+17 6.737E+17 6.727E+17 6.747E+17 6.767E+17 6.787E+17 6.805E+17 6.825E+17 6.848E+17 6.871E+17 6.894E+17 6.917E+17
po210 1.178E+14 1.180E+14 1.184E+14 1.199E+14 1.234E+14 1.261E+14 1.307E+14 1.311E+14 1.309E+14 1.318E+14 1.336E+14 1.345E+14 1.396E+14 1.473E+14
po216 1.252E+16 1.252E+16 1.259E+16 1.310E+16 1.500E+16 1.716E+16 2.688E+16 4.167E+16 5.611E+16 6.935E+16 7.816E+16 8.103E+16 9.073E+16 9.888E+16
rn220 4.891E+14 4.891E+14 4.916E+14 5.117E+14 5.859E+14 6.701E+14 1.050E+15 1.628E+15 2.192E+15 2.708E+15 3.053E+15 3.165E+15 3.544E+15 3.862E+15
rn221 1.268E+11 1.268E+11 1.268E+11 1.268E+11 1.268E+11 1.268E+11 1.268E+11 1.268E+11 1.268E+11 1.268E+11 1.268E+11 1.268E+11 1.268E+11 1.268E+11
rn222 7.522E+18 7.522E+18 7.520E+18 7.513E+18 7.511E+18 7.515E+18 7.517E+18 7.517E+18 7.517E+18 7.517E+18 7.517E+18 7.517E+18 7.517E+18 7.517E+18
ra223 1.317E+14 1.317E+14 1.319E+14 1.344E+14 1.464E+14 1.626E+14 2.428E+14 3.407E+14 4.386E+14 5.369E+14 6.101E+14 6.228E+14 7.330E+14 8.311E+14
ra224 2.832E+10 2.832E+10 2.847E+10 2.963E+10 3.393E+10 3.881E+10 6.078E+10 9.425E+10 1.269E+09 1.568E+09 1.768E+09 1.833E+09 2.052E+09 2.236E+09
ra225 3.349E+09 3.349E+09 3.349E+09 3.349E+09 3.349E+09 3.349E+09 3.349E+09 3.349E+09 3.349E+09 3.349E+09 3.349E+09 3.349E+09 3.349E+09 3.349E+09
ra226 1.973E+11 1.979E+11 1.992E+11 2.045E+11 2.198E+11 2.398E+11 3.361E+11 5.131E+11 7.414E+11 1.028E+12 1.282E+12 1.377E+12 1.796E+12 2.289E+12
ra228 6.439E+16 6.445E+16 6.457E+16 6.506E+16 6.642E+16 6.809E+16 7.493E+16 8.434E+16 9.333E+16 1.020E+15 1.082E+15 1.103E+15 1.183E+15 1.261E+15
ac225 2.250E+14 2.250E+14 2.249E+14 2.248E+14 2.247E+14 2.249E+14 2.258E+14 2.271E+14 2.285E+14 2.301E+14 2.314E+14 2.317E+14 2.338E+14 2.359E+14
ac227 9.795E+12 9.833E+12 9.918E+12 1.025E+11 1.118E+11 1.233E+11 1.717E+11 2.409E+11 3.101E+11 3.795E+11 4.113E+11 4.488E+11 5.181E+11 5.874E+11
th227 2.152E+14 2.161E+14 2.180E+14 2.257E+14 2.410E+14 2.657E+14 3.884E+14 5.589E+14 7.197E+14 8.809E+14 1.064E+15 1.264E+15 1.518E+15 1.794E+15
th228 5.485E+08 5.514E+08 5.578E+08 5.831E+08 6.559E+08 7.504E+08 1.177E+07 1.826E+07 2.458E+07 3.037E+07 3.421E+

cm241	5.132E-10	4.920E-10	4.474E-10	3.691E-10	1.097E-10	3.023E-11	1.381E-13	6.169E-17	2.756E-20	1.206E-23	3.845E-26	5.387E-27	2.407E-30	1.075E-33
cm242	2.881E-02	2.857E-02	2.802E-02	2.601E-02	2.112E-02	1.630E-02	5.515E-02	1.176E-02	2.576E-03	6.289E-04	2.722E-04	2.186E-04	1.314E-04	1.125E-04
cm243	2.465E-02	2.465E-02	2.464E-02	2.461E-02	2.453E-02	2.444E-02	2.403E-02	2.347E-02	2.292E-02	2.238E-02	2.198E-02	2.185E-02	2.134E-02	2.083E-02
cm244	2.967E+00	2.967E+00	2.965E+00	2.960E+00	2.945E+00	2.926E+00	2.849E+00	2.742E+00	2.639E+00	2.540E+00	2.468E+00	2.444E+00	2.353E+00	2.264E+00
cm245	3.060E+01	3.060E+01	3.060E+01	3.060E+01	3.060E+01	3.060E+01	3.060E+01	3.060E+01	3.059E+01	3.059E+01	3.059E+01	3.059E+01	3.059E+01	3.059E+01
cm246	2.814E-02	2.814E-02	2.814E-02	2.813E-02	2.813E-02	2.813E-02	2.813E-02	2.812E-02	2.812E-02	2.812E-02	2.811E-02	2.811E-02	2.811E-02	2.811E-02
cm247	4.960E-04	4.960E-04	4.960E-04	4.960E-04	4.960E-04	4.960E-04	4.960E-04	4.960E-04	4.960E-04	4.960E-04	4.960E-04	4.960E-04	4.960E-04	4.960E-04
cm248	3.962E-05	3.962E-05	3.962E-05	3.962E-05	3.963E-05	3.963E-05	3.964E-05	3.965E-05	3.965E-05	3.965E-05	3.966E-05	3.966E-05	3.966E-05	3.966E-05
cm250	5.749E-12	5.749E-12	5.749E-12	5.749E-12	5.749E-12	5.749E-12	5.749E-12	5.748E-12	5.748E-12	5.748E-12	5.747E-12	5.747E-12	5.747E-12	5.746E-12
bk247	2.765E-14	2.765E-14	2.765E-14	2.765E-14	2.765E-14	2.764E-14	2.764E-14	2.762E-14	2.761E-14	2.759E-14	2.758E-14	2.758E-14	2.757E-14	2.755E-14
bk248	1.111E-12	1.110E-12	1.109E-12	1.105E-12	1.094E-12	1.080E-12	1.023E-12	9.472E-13	8.770E-13	8.119E-13	7.666E-13	7.517E-13	6.960E-13	6.444E-13
bk249	3.900E-07	3.883E-07	3.845E-07	3.702E-07	3.329E-07	2.917E-07	1.679E-07	7.616E-08	3.454E-08	1.563E-08	8.673E-09	7.091E-09	3.216E-09	1.459E-09
bk250	2.689E-16	2.675E-16	2.645E-16	2.531E-16	2.238E-16	1.920E-16	1.011E-16	4.040E-17	1.615E-17	6.447E-18	3.264E-18	2.588E-18	1.046E-18	4.299E-19
cf248	7.866E-13	7.833E-13	7.760E-13	7.483E-13	6.759E-13	5.954E-13	3.504E-13	1.641E-13	7.686E-14	3.592E-14	2.041E-14	1.682E-14	7.878E-15	3.689E-15
cf249	3.841E-07	3.858E-07	3.896E-07	4.038E-07	4.410E-07	4.821E-07	6.051E-07	6.956E-07	7.358E-07	7.532E-07	7.591E-07	7.603E-07	7.626E-07	7.629E-07
cf250	2.260E-07	2.259E-07	2.258E-07	2.252E-07	2.236E-07	2.216E-07	2.136E-07	2.026E-07	1.921E-07	1.822E-07	1.751E-07	1.728E-07	1.639E-07	1.554E-07
cf251	1.166E-07	1.166E-07	1.166E-07	1.166E-07	1.166E-07	1.165E-07	1.165E-07	1.164E-07	1.163E-07	1.162E-07	1.161E-07	1.161E-07	1.161E-07	1.160E-07
cf252	4.841E-08	4.834E-08	4.819E-08	4.759E-08	4.594E-08	4.397E-08	3.662E-08	2.818E-08	2.169E-08	1.668E-08	1.372E-08	1.284E-08	9.879E-09	7.603E-09
cf253	7.499E-05	6.529E-05	5.823E-05	2.597E-05	4.948E-05	4.278E-05	1.995E-05	3.551E-06	9.243E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cf254	2.350E-13	2.297E-13	2.182E-13	1.785E-13	1.018E-13	5.062E-14	2.726E-15	4.163E-17	6.357E-19	9.597E-21	4.253E-22	1.465E-22	2.238E-24	3.417E-26
es252	1.352E-16	1.348E-16	1.339E-16	1.305E-16	1.214E-16	1.110E-16	7.631E-17	4.463E-17	2.610E-17	1.524E-17	8.915E-18	5.214E-18	3.050E-18	
es253	1.536E-13	1.441E-13	1.248E-13	7.107E-14	1.447E-14	1.947E-15	3.864E-19	1.712E-24	7.344E-30	3.045E-35	0.000E+00	0.000E+00	0.000E+00	0.000E+00
es254	5.623E-13	5.595E-13	5.532E-13	5.294E-13	4.681E-13	4.015E-13	2.113E-13	8.495E-14	3.961E-14	1.344E-14	6.785E-15	5.272E-15	2.145E-15	8.569E-16
es255	1.417E-15	1.369E-15	1.265E-15	9.330E-16	3.974E-16	1.374E-16	1.619E-18	2.808E-21	4.872E-24	8.306E-27	7.279E-29	1.441E-29	2.500E-32	4.337E-35
total	1.455E+04	1.455E+04	1.455E+04	1.455E+04	1.455E+04	1.455E+04	1.455E+04	1.455E+04	1.455E+04	1.455E+04	1.455E+04	1.455E+04	1.455E+04	1.455E+04

1 5 more years for cooling used fuel material element concentrations, grams actinides page 14

0	basis --15.1 kgIHM (nm*d IHM 1/4-ass. at 1 MT)													
	initial	2.0 d	6.5 d	24.0 d	73.0 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d
he	3.527E-02	3.532E-02	3.545E-02	3.569E-02	3.602E-02	3.645E-02	3.700E-02	3.765E-02	3.839E-02	3.912E-02	3.984E-02	4.055E-02	4.125E-02	4.195E-02
li	4.175E-16	4.175E-16	4.175E-16	4.175E-16	4.175E-16	4.175E-16	4.175E-16	4.175E-16	4.175E-16	4.175E-16	4.175E-16	4.175E-16	4.175E-16	4.175E-16
tl	5.476E-14	5.498E-14	5.510E-14	5.729E-14	6.560E-14	7.503E-14	1.175E-13	1.822E-13	2.454E-13	3.032E-13	3.418E-13	3.543E-13	3.967E-13	4.324E-13
p1	1.451E-08	1.461E-08	1.485E-08	1.577E-08	1.851E-08	2.238E-08	4.453E-08	9.413E-08	1.651E-07	2.565E-07	3.362E-07	3.656E-07	4.902E-07	6.279E-07
5.120E-05	5.136E-05	5.160E-05	5.198E-05	5.259E-05	5.346E-05	5.468E-05	5.625E-05	5.819E-05	6.045E-05	6.295E-05	6.568E-05	6.859E-05	7.169E-05	7.497E-05
po	1.190E-14	1.192E-14	1.196E-14	1.212E-14	1.249E-14	1.278E-14	1.334E-14	1.353E-14	1.365E-14	1.388E-14	1.415E-14	1.426E-14	1.487E-14	1.572E-14
rn	4.903E-14	4.904E-14	4.929E-14	5.130E-14	5.873E-14	6.717E-14	1.052E-13	1.631E-13	2.196E-13	2.715E-13	3.061E-13	3.173E-13	3.555E-13	3.876E-13
fr	7.777E-18	7.779E-18	7.778E-18	7.780E-18	7.803E-18	7.838E-18	7.994E-18	8.217E-18	8.445E-18	8.680E-18	8.857E-18	8.913E-18	9.163E-18	9.413E-18
ac	3.030E-13	3.0367E-13	3.047E-13	3.074E-13	3.120E-13	3.187E-13	3.277E-13	3.390E-13	3.524E-13	3.679E-13	3.856E-13	4.054E-13	4.274E-13	4.516E-13
af	9.818E-12	9.855E-12	9.941E-12	1.027E-11	1.120E-11	1.236E-11	1.719E-11	2.411E-11	3.103E-11	3.798E-11	4.514E-11	4.490E-11	5.183E-11	5.876E-11
th	5.166E-06	5.170E-06	5.177E-06	5.208E-06	5.294E-06	5.402E-06	5.800E-06	6.624E-06	7.343E-06	8.309E-06	8.997E-06	9.240E-06	1.023E-05	1.128E-05
pa	4.468E-07	4.468E-07	4.469E-07	4.475E-07	4.490E-07	4.509E-07	4.586E-07	4.697E-07	4.810E-07	4.924E-07	5.008E-07	5.038E-07	5.155E-07	5.272E-07
u	1.421E+04	1.421E+04	1.421E+04	1.421E+04	1.421E+04	1.421E+04	1.421E+04	1.421E+04	1.421E+04	1.421E+04	1.421E+04	1.421E+04	1.421E+04	1.421E+04
np	2.923E+00	2.923E+00	2.923E+00	2.923E+00	2.923E+00	2.923E+00	2.923E+00	2.923E+00	2.923E+00	2.923E+00	2.923E+00	2.923E+00	2.923E+00	2.923E+00
gn	3.198E+02	3.198E+02	3.197E+02	3.196E+02	3.193E+02	3.190E+02	3.174E+02	3.151E+02	3.129E+02	3.107E+02	3.092E+02	3.087E+02	3.068E+02	3.050E+02
am	1.053E+01	1.055E+01	1.058E+01	1.070E+01	1.105E+01	1.147E+01	1.321E+01	1.560E+01	1.787E+01	2.004E+01	2.158E+01	2.209E+01	2.404E+01	2.590E+01
ca	3.615E+00	3.612E+00	3.605E+00	3.579E+00	3.515E+00	3.448E+00	3.263E+00	3.112E+00	2.999E+00	2.897E+00	2.825E+00	2.801E+00	2.709E+00	2.620E+00
bk	3.900E-07	3.883E-07	3.845E-07	3.702E-07	3.329E-07	2.917E-07	1.679E-07	7.616E-08	3.454E-08	1.563E-08	8.673E-09	7.091E-09	3.217E-09	1.459E-09
cf	7.752E-07	7.767E-07	7.802E-07	7.932E-07	8.272E-07	8.643E-07	9.719E-07	1.043E-06	1.066E-06	1.068E-06	1.064E-06	1.062E-06	1.052E-06	1.042E-06
es	7.175E-13	7.051E-13	6.794E-13	6.016E-13	4.830E-13	4.037E-13	2.116E-13	8.452E-14	3.377E-14	1.346E-14	6.795E-15	5.379E-15	2.150E-15	8.600E-16
total	1.455E+04	1.455E+04	1.455E+04	1.455E+04	1.455E+04	1.455E+04	1.455E+04	1.455E+04	1.455E+04	1.455E+04	1.455E+04	1.455E+04	1.455E+04	1.455E+04

1 5 more years for cooling used fuel material nuclide radioactivity, curies actinides page 15

0	basis --15.1 kgIHM (nm*d IHM 1/4-ass. at 1 MT)													
	initial	2.0 d	6.5 d	24.0 d	73.0 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d
hg206	1.164E-18	1.164E-18	1.164E-18	1.163E-18	1.159E-18	1.156E-18	1.142E-18	1.131E-18	1.133E-18	1.149E-18	1.172E-18	1.182E-18	1.237E-18	1.316E-18
tl206	8.211E-17	8.213E-17	8.210E-17	8.199E-17	8.176E-17	8.153E-17	8.057E-17	7.980E-17	7.988E-17	8.101E-17	8.265E-17	8.338E-17	8.724E-17	9.284E-17
tl207	6.732E-10	6.731E-10	6.740E-10	6.868E-10	7.482E-10	8.312E-10	1.241E-09	1.741E-09	2.242E-09	2.744E-09	3.118E-09	3.183E-09	3.746E-09	4.247E-09
tl208	1.622E-05	1.628E-05	1.638E-05	1.674E-05	1.739E-05	1.842E-05	2.635E-05	4.123E-05	6.225E-05	8.981E-05	0.001E-04	0.001E-04	0.001E-04	0.001E-04
tl209	2.874E-11	2.874E-11	2.873E-11	2.871E-11	2.870E-11	2.872E-11	2.884E-11	2.900E-11	2.918E-11	2.939E-11	2.955E-11	2.959E-11	2.966E-11	3.012E-11
tl210	4.098E-15	4.102E-15	4.116E-15	4.214E-15	4.565E-15	5.692E-15	1.066E-14	1.540E-14	2.135E-14	2.662E-14	2.860E-14	2.860E-14	3.730E-14	4.756E-14
pb209	1.307E-09	1.307E-09	1.306E-09	1.305E-09	1.305E-09	1.306E-09	1.311E-09	1.318E-09	1.327E-09	1.336E-09	1.343E-09	1.345E-09	1.357E-09	1.369E-09
pb210	6.127E-11	6.127E-11	6.125E-11	6.123E-11	6.121E-11	6.119E-11	6.122E-11	6.125E-11	6.128E-11	6.131E-11	6.134E-11	6.137E-11	6.140E-11	6.143E-11
pb211	6.751E-10	6.750E-10	6.759E-10	6.887E-10	7.502E-10	8.335E-10	1.245E-09	1.746E-09	2.248E-09	2.752E-09	3.127E-09	3.192E-09	3.757E-09	4.259E-

5 more years for cooling used fuel material										nuclide radioactivity, curies										actinides										page																																																																																																																																																																																																																													
										basis ~71.5 kg/HM (nmr/d) 3H9.4/ass. at 1 MT)																				17																																																																																																																																																																																																																													
initial										2.0 d										6.5 d										24.0 d										73.1 d										134.0 d										389.0 d										754.0 d										1119.0 d										1485.0 d										1757.0 d										1850.0 d										2215.0 d										2580.0 d																																																																																																																									
b248	1.781E-10	1.780E-10	1.778E-10	1.772E-10	1.754E-10	1.731E-10	1.640E-10	1.519E-10	1.406E-10	1.302E-10	1.229E-10	1.205E-10	1.116E-10	1.033E-10	b249	6.193E-14	6.166E-14	6.139E-14	6.112E-14	6.085E-14	6.058E-14	6.031E-14	6.004E-14	5.977E-14	5.950E-14	5.923E-14	5.896E-14	5.869E-14	5.842E-14	5.815E-14	5.788E-14	5.761E-14	5.734E-14	5.707E-14	5.680E-14	5.653E-14	5.626E-14	5.599E-14	5.572E-14	5.545E-14	5.518E-14	5.491E-14	5.464E-14	5.437E-14	5.410E-14	5.383E-14	5.356E-14	5.329E-14	5.302E-14	5.275E-14	5.248E-14	5.221E-14	5.194E-14	5.167E-14	5.140E-14	5.113E-14	5.086E-14	5.059E-14	5.032E-14	5.005E-14	4.978E-14	4.951E-14	4.924E-14	4.897E-14	4.870E-14	4.843E-14	4.816E-14	4.789E-14	4.762E-14	4.735E-14	4.708E-14	4.681E-14	4.654E-14	4.627E-14	4.600E-14	4.573E-14	4.546E-14	4.519E-14	4.492E-14	4.465E-14	4.438E-14	4.411E-14	4.384E-14	4.357E-14	4.330E-14	4.303E-14	4.276E-14	4.249E-14	4.222E-14	4.195E-14	4.168E-14	4.141E-14	4.114E-14	4.087E-14	4.060E-14	4.033E-14	4.006E-14	3.979E-14	3.952E-14	3.925E-14	3.898E-14	3.871E-14	3.844E-14	3.817E-14	3.790E-14	3.763E-14	3.736E-14	3.709E-14	3.682E-14	3.655E-14	3.628E-14	3.601E-14	3.574E-14	3.547E-14	3.520E-14	3.493E-14	3.466E-14	3.439E-14	3.412E-14	3.385E-14	3.358E-14	3.331E-14	3.304E-14	3.277E-14	3.250E-14	3.223E-14	3.196E-14	3.169E-14	3.142E-14	3.115E-14	3.088E-14	3.061E-14	3.034E-14	3.007E-14	2.980E-14	2.953E-14	2.926E-14	2.899E-14	2.872E-14	2.845E-14	2.818E-14	2.791E-14	2.764E-14	2.737E-14	2.710E-14	2.683E-14	2.656E-14	2.629E-14	2.602E-14	2.575E-14	2.548E-14	2.521E-14	2.494E-14	2.467E-14	2.440E-14	2.413E-14	2.386E-14	2.359E-14	2.332E-14	2.305E-14	2.278E-14	2.251E-14	2.224E-14	2.197E-14	2.170E-14	2.143E-14	2.116E-14	2.089E-14	2.062E-14	2.035E-14	2.008E-14	1.981E-14	1.954E-14	1.927E-14	1.900E-14	1.873E-14	1.846E-14	1.819E-14	1.792E-14	1.765E-14	1.738E-14	1.711E-14	1.684E-14	1.657E-14	1.630E-14	1.603E-14	1.576E-14	1.549E-14	1.522E-14	1.495E-14	1.468E-14	1.441E-14	1.414E-14	1.387E-14	1.360E-14	1.333E-14	1.306E-14	1.279E-14	1.252E-14	1.225E-14	1.198E-14	1.171E-14	1.144E-14	1.117E-14	1.090E-14	1.063E-14	1.036E-14	1.009E-14	9.82E-15	9.55E-15	9.28E-15	9.01E-15	8.74E-15	8.47E-15	8.20E-15	7.93E-15	7.66E-15	7.39E-15	7.12E-15	6.85E-15	6.58E-15	6.31E-15	6.04E-15	5.77E-15	5.50E-15	5.23E-15	4.96E-15	4.69E-15	4.42E-15	4.15E-15	3.88E-15	3.61E-15	3.34E-15	3.07E-15	2.80E-15	2.53E-15	2.26E-15	2.00E-15	1.73E-15	1.46E-15	1.19E-15	9.2E-16	6.5E-16	3.8E-16	1.1E-16	1.5E-17	1.0E-17	5.0E-18	2.0E-18	1.0E-18	5.0E-19

5 more years for cooling used fuel material				nuclide thermal power, watts				actinides				page 19			
				baas ~15.1 kg/Hm (nm ² d) Hm/4-aas. (at 1 MT)											
	initial	2.0 d	6.5 d	24.0 d	73.0 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d	
t1206	2.627E-19	2.626E-19	2.626E-19	2.623E-19	2.616E-19	2.612E-19	2.608E-19	2.595E-19	2.591E-19	2.644E-19	2.668E-19	2.668E-19	2.970E-19	2.970E-19	
t1207	1.972E-12	1.971E-12	1.974E-12	2.011E-12	2.191E-12	2.243E-12	2.363E-12	2.509E-12	2.656E-12	2.836E-12	3.132E-12	3.222E-12	1.097E-11	1.244E-11	
t1208	3.823E-07	3.839E-07	3.847E-07	4.000E-07	4.580E-07	5.238E-07	6.205E-07	1.072E-06	1.713E-06	2.117E-06	2.386E-06	2.474E-06	2.770E-06	3.019E-06	
p1209	4.812E-13	4.813E-13	4.811E-13	4.807E-13	4.806E-13	4.809E-13	4.829E-13	4.856E-13	4.887E-13	4.921E-13	4.949E-13	4.956E-13	4.999E-13	5.044E-13	
p1210	3.218E-17	3.226E-17	3.227E-17	3.227E-17	3.227E-17	3.227E-17	3.227E-17	3.237E-17	3.248E-17	3.261E-17	3.274E-17	3.286E-17	3.300E-17	1.070E-16	
pb209	5.928E-12	5.928E-12	5.928E-12	5.927E-12	5.926E-12	5.927E-12	5.934E-12	5.942E-12	5.952E-12	5.963E-12	5.972E-12	5.974E-12	5.988E-12	1.602E-12	
pb210	1.613E-14	1.612E-14	1.612E-14	1.610E-14	1.608E-14	1.601E-14	1.582E-14	1.567E-14	1.569E-14	1.591E-14	1.623E-14	1.638E-14	1.713E-14	1.823E-14	
pb211	2.054E-12	2.053E-12	2.056E-12	2.095E-12	2.282E-12	2.536E-12	3.766E-12	5.311E-12	6.898E-12	8.370E-12	9.511E-12	9.710E-12	1.143E-11	1.296E-11	
pb212	8.411E-08	8.407E-08	8.463E-08	8.801E-08	1.008E-07	1.152E-07	1.805E-07	2.799E-07	3.769E-07	4.658E-07	5.250E-07	5.443E-07	6.094E-07	6.642E-07	
pb210	6.082E-12	6.082E-12	6.082E-12	6.082E-12	6.082E-12	6.082E-12	6.082E-12	6.082E-12	6.082E-12	6.082E-12	6.082E-12	6.082E-12	6.082E-12	6.082E-12	
b1207	1.052E-20	1.052E-20	1.051E-20	1.050E-20	1.047E-20	1.043E-20	1.027E-20	1.005E-20	9.838E-21	9.619E-21	9.463E-21	9.410E-21	9.205E-21	9.006E-21	
b1210	1.415E-13	1.414E-13	1.414E-13	1.428E-13	1.409E-13	1.405E-13	1.398E-13	1.375E-13	1.376E-13	1.396E-13	1.424E-13	1.436E-13	1.503E-13	1.599E-13	
b1211	2.695E-11	2.693E-11	2.696E-11	2.748E-11	2.993E-11	3.325E-11	4.965E-11	6.965E-11	8.968E-11	1.098E-10	1.247E-10	1.273E-10	1.499E-10	1.699E-10	
b1212	5.575E-12	5.575E-12	5.575E-12	5.575E-12	5.575E-12	5.575E-12	5.575E-12	5.575E-12	5.575E-12	5.575E-12	5.575E-12	5.575E-12	5.575E-12	5.575E-12	
b1213	5.363E-12	5.364E-12	5.362E-12	5.357E-12	5.356E-12	5.360E-12	5.381E-12	5.412E-12	5.446E-12	5.484E-12	5.515E-12	5.522E-12	5.572E-12	5.621E-12	
b1214	2.472E-12	2.475E-12	2.478E-12	2.542E-12	2.754E-12	3.005E-12	4.212E-12	6.430E-12	9.290E-12	1.288E-12	1.606E-12	1.762E-12	2.250E-12	2.869E-12	

t234	1.882E-06	1.882E-06	1.882E-06	1.882E-06	1.882E-06	1.882E-06	1.893E-06	1.882E-06	1.882E-06	1.882E-06	1.883E-06	1.882E-06	1.882E-06	1.882E-06	1.882E-06
5 more years for cooling used fuel material															
	nucleide thermal power, watts							actinides							
	initial	2.0 d	6.5 d	24.0 d	72.0 d	134.0 d	380.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2550.0 d	
pa230	5.333E-15	4.925E-15	4.417E-15	4.050E-15	2.911E-16	2.563E-17	9.932E-22	4.811E-28	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pa231	4.933E-15	4.950E-15	4.972E-15	4.960E-15	4.981E-15	5.007E-15	5.113E-15	5.265E-15	5.417E-15	5.570E-15	5.684E-15	5.723E-15	5.875E-15	6.028E-15	
pa232	6.436E-15	6.436E-15	6.436E-15	6.436E-15	6.436E-15	6.436E-15	6.436E-15	6.436E-15	6.436E-15	6.436E-15	6.436E-15	6.436E-15	6.436E-15	6.436E-15	
pa233	0.058E-06	5.058E-06	5.058E-06	5.058E-06	5.058E-06	5.058E-06	5.058E-06	5.058E-06	5.122E-06	5.153E-06	5.192E-06	5.242E-06	5.294E-06	5.346E-06	
pa234m	2.344E-05	2.344E-05	2.344E-05	2.344E-05	2.344E-05	2.344E-05	2.344E-05	2.344E-05	2.344E-05	2.344E-05	2.344E-05	2.344E-05	2.344E-05	2.344E-05	
pa234	8.645E-08	8.646E-08	8.645E-08	8.645E-08	8.645E-08	8.645E-08	8.651E-08	8.645E-08	8.620E-08	8.645E-08	8.645E-08	8.645E-08	8.645E-08	8.645E-08	
u235	8.126E-14	7.623E-14	6.601E-14	3.765E-14	7.712E-15	1.051E-15	2.281E-19	1.190E-24	6.468E-30	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
u238	8.220E-05	5.335E-06	6.68E-06	5.390E-06	5.740E-06	5.947E-06	6.092E-06	6.194E-06	6.254E-06	6.288E-06	6.302E-06	6.312E-06	6.320E-06	6.327E-06	
u233	1.883E-09	4.884E-09	2.887E-09	1.800E-09	1.935E-09	1.978E-09	2.160E-09	2.449E-09	2.739E-09	3.032E-09	3.230E-09	3.298E-09	3.594E-09	3.893E-09	
u234	2.798E-05	2.800E-05	2.805E-05	2.800E-05	2.800E-05	2.950E-05	3.248E-05	3.681E-05	4.114E-05	4.546E-05	4.865E-05	4.973E-05	5.397E-05	5.818E-05	
u235	6.615E-07	6.512E-07	6.515E-07	6.515E-07	6.515E-07	6.516E-07	6.517E-07	6.520E-07	6.523E-07	6.525E-07	6.527E-07	6.528E-07	6.530E-07	6.532E-07	
u236	8.602E-06	8.602E-06	8.603E-06	8.603E-06	8.605E-06	8.608E-06	8.619E-06	8.634E-06	8.650E-06	8.666E-06	8.677E-06	8.681E-06	8.697E-06	8.713E-06	

u237	2.490E-04	2.489E-04	2.488E-04	2.482E-04	2.466E-04	2.446E-04	2.365E-04	2.253E-04	2.146E-04	2.044E-04	1.972E-04	1.948E-04	1.855E-04	1.768E-04
u238	1.207E-04	1.207E-04	1.207E-04	1.207E-04	1.207E-04	1.207E-04	1.207E-04	1.207E-04	1.207E-04	1.207E-04	1.207E-04	1.207E-04	1.207E-04	1.207E-04
u240	3.253E-11	3.253E-11	3.253E-11	3.253E-11	3.253E-11	3.253E-11	3.253E-11	3.253E-11	3.253E-11	3.253E-11	3.253E-11	3.253E-11	3.253E-11	3.253E-11
np235	5.129E-09	5.111E-09	5.071E-09	4.918E-09	4.514E-09	4.057E-09	2.597E-09	1.371E-09	7.240E-10	3.816E-10	2.371E-10	2.015E-10	1.064E-10	5.619E-11
np236	1.150E-10	1.150E-10	1.150E-10	1.150E-10	1.150E-10	1.150E-10	1.150E-10	1.150E-10	1.150E-10	1.150E-10	1.150E-10	1.150E-10	1.150E-10	1.150E-10
np237	6.031E-05	6.031E-05	6.031E-05	6.032E-05	6.033E-05	6.036E-05	6.050E-05	6.076E-05	6.110E-05	6.151E-05	6.186E-05	6.199E-05	6.253E-05	6.314E-05
np238	1.017E-05	1.017E-05	1.017E-05	1.017E-05	1.016E-05	1.018E-05	1.023E-05	1.027E-05	1.027E-05	1.028E-05	1.029E-05	1.030E-05	1.031E-05	1.032E-05
np239	3.032E-03	3.032E-03	3.032E-03	3.032E-03	3.032E-03	3.032E-03	3.032E-03	3.032E-03	3.031E-03	3.031E-03	3.031E-03	3.031E-03	3.031E-03	3.030E-03
np240m	2.367E-10	2.369E-10	2.367E-10	2.367E-10	2.367E-10	2.367E-10	2.367E-10	2.367E-10	2.367E-10	2.367E-10	2.367E-10	2.367E-10	2.367E-10	2.367E-10
np240	4.805E-13	4.809E-13	4.806E-13	4.805E-13	4.805E-13	4.805E-13	4.805E-13	4.805E-13	4.805E-13	4.805E-13	4.805E-13	4.805E-13	4.805E-13	4.805E-13
pu236	2.959E-04	2.955E-04	2.946E-04	2.912E-04	2.819E-04	2.707E-04	2.285E-04	1.793E-04	1.407E-04	1.104E-04	9.213E-05	8.661E-05	6.797E-05	5.334E-05
pu237	1.170E-06	1.135E-06	1.060E-06	8.128E-07	3.862E-07	1.529E-07	3.181E-09	1.245E-11	4.871E-14	1.877E-16	3.016E-18	7.347E-19	2.875E-21	1.125E-23
pu238	1.645E+00	1.646E+00	1.649E+00	1.660E+00	1.685E+00	1.710E+00	1.761E+00	1.771E+00	1.762E+00	1.750E+00	1.740E+00	1.736E+00	1.723E+00	1.709E+00
pu239	3.004E-01	3.004E-01	3.004E-01	3.004E-01	3.004E-01	3.004E-01	3.004E-01	3.004E-01	3.004E-01	3.003E-01	3.003E-01	3.003E-01	3.003E-01	3.003E-01
pu240	6.064E-01	6.064E-01	6.064E-01	6.065E-01	6.066E-01	6.067E-01	6.072E-01	6.079E-01	6.085E-01	6.091E-01	6.096E-01	6.097E-01	6.103E-01	6.109E-01
pu241	1.763E-01	1.762E-01	1.761E-01	1.757E-01	1.746E-01	1.732E-01	1.674E-01	1.595E-01	1.519E-01	1.447E-01	1.396E-01	1.379E-01	1.314E-01	1.251E-01
pu242	2.563E-03	2.563E-03	2.563E-03	2.563E-03	2.563E-03	2.563E-03	2.563E-03	2.563E-03	2.563E-03	2.563E-03	2.563E-03	2.563E-03	2.563E-03	2.563E-03
pu243	5.249E-11	5.249E-11	5.249E-11	5.249E-11	5.249E-11	5.249E-11	5.249E-11	5.249E-11	5.249E-11	5.249E-11	5.249E-11	5.249E-11	5.249E-11	5.249E-11
pu244	1.185E-09	1.185E-09	1.185E-09	1.185E-09	1.185E-09	1.185E-09	1.185E-09	1.185E-09	1.185E-09	1.185E-09	1.185E-09	1.185E-09	1.185E-09	1.185E-09
pu246	2.572E-16	2.572E-16	2.572E-16	2.572E-16	2.572E-16	2.572E-16	2.572E-16	2.571E-16	2.571E-16	2.571E-16	2.571E-16	2.571E-16	2.570E-16	2.570E-16
am241	4.770E-01	4.786E-01	4.822E-01	4.964E-01	5.358E-01	5.846E-01	7.840E-01	1.057E+00	1.318E+00	1.565E+00	1.742E+00	1.800E+00	2.024E+00	2.236E+00
am242m	1.853E-04	1.853E-04	1.853E-04	1.853E-04	1.851E-04	1.850E-04	1.843E-04	1.834E-04	1.825E-04	1.816E-04	1.810E-04	1.808E-04	1.799E-04	1.790E-04
am242	5.181E-04	5.181E-04	5.180E-04	5.179E-04	5.176E-04	5.171E-04	5.154E-04	5.128E-04	5.103E-04	5.078E-04	5.060E-04	5.053E-04	5.029E-04	5.004E-04
am243	4.067E-02	4.067E-02	4.067E-02	4.067E-02	4.067E-02	4.067E-02	4.067E-02	4.066E-02	4.066E-02	4.066E-02	4.065E-02	4.065E-02	4.065E-02	4.064E-02
am244	1.187E-12	1.186E-12	1.186E-12	1.181E-12	1.169E-12	1.154E-12	1.093E-12	1.012E-12	9.372E-13	8.675E-13	8.192E-13	8.032E-13	7.437E-13	6.886E-13
am245	1.740E-11	1.735E-11	1.716E-11	1.652E-11	1.486E-11	1.302E-11	1.094E-12	3.399E-12	1.542E-12	6.977E-13	3.871E-13	3.164E-13	1.435E-13	6.610E-14
am246m	1.559E-15	1.548E-15	1.540E-15	1.528E-15	1.446E-15	1.302E-16	4.244E-18	7.363E-21	1.277E-23	2.178E-26	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cm240	3.145E-10	2.987E-10	2.661E-10	1.698E-10	4.827E-11	1.008E-11	1.447E-14	1.233E-18	1.051E-22	8.726E-27	8.094E-30	7.435E-31	0.000E+00	0.000E+00
cm241	3.412E-08	3.271E-08	2.975E-08	2.055E-08	7.296E-09	2.010E-09	9.81E-12	4.102E-15	1.833E-18	8.017E-22	2.557E-24	3.582E-25	1.600E-28	7.150E-32
cm242	3.516E-01	3.487E-01	3.420E-01	3.175E-01	2.578E-01	1.989E-01	6.731E-01	1.435E+00	3.144E-01	7.677E-02	3.322E-02	2.669E-02	1.604E-02	1.373E-02
cm243	4.566E-02	4.565E-02	4.565E-02	4.565E-02	4.565E-02	4.565E-02	4.565E-02	4.565E-02	4.565E-02	4.565E-02	4.565E-02	4.565E-02	4.565E-02	4.565E-02
cm244	8.401E+00	8.399E+00	8.396E+00	8.380E+00	8.337E+00	8.284E+00	8.066E+00	7.763E+00	7.472E+00	7.191E+00	6.988E+00	6.921E+00	6.661E+00	6.411E+00
cm245	1.761E-03	1.761E-03	1.761E-03	1.761E-03	1.761E-03	1.761E-03	1.761E-03	1.761E-03	1.760E-03	1.760E-03	1.760E-03	1.760E-03	1.760E-03	1.760E-03
cm246	2.812E-04	2.812E-04	2.812E-04	2.812E-04	2.812E-04	2.812E-04	2.811E-04	2.811E-04	2.811E-04	2.810E-04	2.810E-04	2.810E-04	2.809E-04	2.809E-04
cm247	1.461E-05	1.461E-05	1.461E-05	1.461E-05	1.461E-05	1.461E-05	1.461E-05	1.461E-05	1.461E-05	1.461E-05	1.461E-05	1.461E-05	1.461E-05	1.461E-05
cm248	4.601E-09	4.601E-09	4.601E-09	4.601E-09	4.601E-09	4.601E-09	4.601E-09	4.602E-09	4.603E-09	4.604E-09	4.605E-09	4.605E-09	4.605E-09	4.605E-09
cm249	1.196E-15	1.106E-15	9.287E-16	4.700E-16	6.980E-17	6.499E-18	3.182E-22	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cm250	8.309E-13	8.309E-13	8.309E-13	8.309E-13	8.309E-13	8.309E-13	8.309E-13	8.308E-13	8.308E-13	8.307E-13	8.307E-13	8.306E-13	8.306E-13	8.305E-13
bk247	1.009E-15	1.009E-15	1.009E-15	1.009E-15	1.009E-15	1.009E-15	1.009E-15	1.009E-15	1.009E-15	1.009E-15	1.009E-15	1.009E-15	1.009E-15	1.009E-15
bk248	6.095E-12	6.092E-12	6.086E-12	6.064E-12	6.002E-12	5.925E-12	5.615E-12	5.199E-12	4.838E-12	4.456E-12	4.125E-12	3.820E-12	3.536E-12	3.253E-12

0	5 more years for cooling used fuel material														actinides														page	21
nuclide thermal power, watts																														
basis ==15.1 kgIHM (nm^3d IHM 1/4-ass. at 1 MT)																														
	initial	2.0 d	6.5 d	24.0 d	73.0 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d																
bk249	1.231E-07	1.225E-07	1.213E-07	1.168E-07	1.051E-07	9.205E-08	5.298E-08	2.403E-08	1.090E-08	4.933E-09	2.737E-09	2.237E-09	1.015E-09	4.603E-10																
bk250	7.407E-12	7.370E-12	7.302E-12	6.973E-12	6.165E-12	5.289E-12	2.786E-12	1.113E-12	4.450E-13	1.776E-13	8.992E-14	7.129E-14	2.881E-14	1.185E-14																
bk251	3.716E-15	3.588E-15	3.318E-15	2.446E-15	1.042E-15	3.602E-16	4.244E-18	7.363E-21	1.277E-23	2.178E-26	0.000E+00	0.000E+00	0.000E+00	0.000E+00																
cf248	4.686E-11	4.666E-11	4.623E-11	4.458E-11	4.026E-11	3.547E-11	2.088E-11	9.777E-12	4.578E-12	2.140E-12	1.216E-12	1.002E-12	4.693E-13	2.198E-13																
cf249	5.842E-08	5.868E-08	5.925E-08	6.142E-08	6.707E-08	7.331E-08	9.203E-08	1.058E-07	1.119E-07	1.146E-07	1.154E-07	1.156E-07	1.160E-07	1.162E-07																
cf250	8.969E-07	8.967E-07	8.961E-07	8.938E-07	8.875E-07	8.789E-07	8.477E-07	8.040E-07	7.625E-07	7.231E-07	6.951E-07	6.858E-07	6.504E-07	6.169E-07																
cf251	6.758E-09	6.758E-09	6.758E-09	6.758E-09	6.758E-09	6.758E-09	6.758E-09	6.758E-09	6.758E-09	6.758E-09	6.758E-09	6.758E-09	6.758E-09	6.758E-09																
cf252	1.881E-06	1.878E-06	1.872E-06	1.849E-06	1.785E-06	1.709E-06	1.612E-06	1.095E-06	8.848E-07	6.482E-07	5.532E-07	4.988E-07	3.839E-07	2.954E-07																
cf253	1.468E-13	1.358E-13	1.140E-13	5.767E-14	8.565E-15	7.947E-16	3.905E-20	2.644E-26	1.790E-32	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00																
cf254	2.361E-09	2.308E-09	2.192E-09	1.794E-09	1.023E-09	5.087E-10	2.739E-11	4.183E-13	6.387E-15	9.643E-17	4.274E-18	1.472E-18	2.249E-20	3.434E-22																
es242	4.813E-15	4.799E-15	4.788E-15	4.785E-15	4.784E-15	4.783E-15	4.782E-15	4.781E-15	4.780E-15	4.779E-15	4.778E-15	4.777E-15	4.776E-15	4.775E-15																
es243	1.548E-10	1.452E-10	1.257E-10	7.163E-11	1.458E-11	1.962E-12	3.895E-16	1.726E-21	7.402E-27	3.069E-32	0.000E+00	0.000E+00	0.000E+00	0.000E+00																
es244	4.087E-11	4.067E-11	4.021E-11	3.848E-11	3.402E-11	2.918E-11	1.537E-11	6.140E-12	2.453E-12	9.727E-13	4.932E-13	3.903E-13	1.559E-13	6.228E-14																
es255	7.576E-14	7.317E-14	6.765E-14	4.988E-14	2.125E-14	7.344E-15	8.654E-17	1.501E-19	2.605E-22	4.441E-25	3.892E-27	7.704E-28	1.337E-30	2.319E-33																
total	4.686E+01	4.657E+01	4.591E+01	4.347E+01	3.517E+01	3.641E+01	1.851E+01	1.319E+01	1.202E+01	1.173E+01	1.164E+01	1.162E+01	1.155E+01	1.149E+01																

0	5 more years for cooling used fuel material														element thermal power, watts														actinides														page		22
															basis ==15.1 kgIHM (nm^3d IHM 1/4-ass. at 1 MT)																														
	initial		2.0 d		6.5 d		24.0 d		73.0 d		134.0 d		389.0 d		754.0 d		1119.0 d		1485.0 d		1757.0 d		1850.0 d		2215.0 d		2580.0 d																		
tl	3.823E-07		3.839E-07		3.847E-07		4.000E-07		4.580E-07		5.238E-07		8.205E-07		1.272E-06		1.713E-06		2.117E-06		2.386E-06		2.474E-06		2.770E-06		3.019E-06																		
pb	8.411E-08		8.408E-08		8.463E-08		8.801E-08		9.098E-08		1.053E-07		1.805E-07		2.799E-07		3.769E-07		4.658E-07		5.250E-07		5.443E-07		6.095E-07		6.642E-07																		
tl	4.537E-07		4.537E-07		4.537E-07		4.537E-07		4.537E-07		4.537E-07		4.537E-07		4.537E-07		4.537E-07		4.537E-07		4.537E-07		4.537E-07		4.537E-07		4.537E-07																		
po	3.81E-06		3.387E-06		3.400E-06		3.535E-06		4.050E-06		4.632E-06		7.256E-06		1.125E-05		1.515E-05		1.872E-05		2.110E-05		2.378E-05		2.449E-05		2.669E-05																		
tl	5.571E-11		5.572E-11		5.570E-11		5.567E-11		5.564E-11		5.568E-11		5.590E-11		5.657E-11		5.672E-11		5.697E-11		5.729E-11		5.816E-11		5.788E-11		5.839E-11																		
rn	1.713E-06		1.713E-06		1.722E-06		1.792E-06		2.052E-06		2.347E-06		3.676E-06		5.699E-06		7.674E-06		9.484E-06		1.0639E-05		1.208E-05		1.241E-05		1.352E-05																		
fr	5.043E-11		5.043E-11		5.043E-11		5.043E-11		5.043E-11		5.043E-11		5.043E-11		5.043E-11		5.043E-11		5.043E-11		5.043E-11		5.043E-11		5.043E-11		5.043E-11																		
tl	5.48E-06		5.48E-06		5.48E-06		5.48E-06		5.48E-06		5.48E-06		5.48E-06		5.48E-06		5.48E-06		5.48E-06		5.48E-06		5.48E-06		5.48E-06		5.48E-06																		
ac	4.630E-11		4.630E-11		4.629E-11		4.627E-11		4.629E-11		4.637E-11		4.673E-11		4.725E-11		4.779E-11		4.838E-11		4.883E-11		4.895E-11		4.964E-11		5.032E-11																		
tl	3.79E-06		3.387E-06		3.404E-06		3.472E-06		3.668E-06		3.922E-06		5.670E-06		6.811E-06		8.508E-06		1.006E-05		1.110E-05		1.142E-05		1.258E-05		1.353E-05																		
pa	2.858E-05		2.858E-05		2.858E-05		2.858E-05		2.859E-05		2.859E-05		2.861E-05		2.862E-05		2.865E-05		2.869E-05		2.872E-05		2.878E-05		2.877E-05		2.882E-05																		
tl	4.122E-06		4.122E-06		4.122E-06		4.122E-06		4.122E-06		4.122E-06		4.122E-06		4.122E-06		4.122E-06		4.122E-06		4.122E-06		4.122E-06		4.122E-06		4.122E-06																		
pr	1.03E-03		1.03E-03		1.03E-03		1.03E-03		1.03E-03		1.03E-03		1.03E-03		1.03E-03		1.03E-03		1.03E-03		1.03E-03		1.03E-03		1.03E-03		1.03E-03																		
pu	2.731E-02		2.732E-02		2.735E-02		2.745E-02		2.770E-02		2.793E-02		2.839E-02		2.884E-02		2.826E-02		2.807E-02		2.792E-02		2.787E-02		2.767E-02		2.748E-02																		
am	5.138E-01		5.200E-01		5.236E-01		5.378E-01		5.772E-01		6.260E-01		8.254E-01		1.099E-01		1.359E-01		1.607E-01		1.783E-01		2.048E-01		2.265E-01		2.278E-01																		
cm	4.461E-01		4.431E-01		4.425E-01		4.401E-01		4.346E-01		4.282E-01		1.484E-01		9.244E-01		7.831E-01		7.311E-01		7.064E-01		6.990E-01		6.719E-01		6.465E-01																		
tl	2.231E-01		2.231E-01		2.231E-01		2.231E-01		2.231E-01		2.231E-01		2.231E-01		2.231E-01		2.231E-01		2.231E-01		2.231E-01		2.231E-01		2.231E-01		2.231E-01																		
cf	2.46E-06		2.843E-06		2.826E-06		2.818E-06		2.748E-06		2.669E-06		2.707E-06		2.012E-06		1.724E-06		1.493E-06		1.351E-06		1.307E-06		1.157E-06		1.035E-06																		
ae	1.958E-10		1.860E-10		1.461E-10		1.132E-10		4.83E-11		3.11E-11		1.537E-11		6.31E-11		1.41E-12		4.53E-12		9.77E-13		4.935E-13		3.907E-13		1.561E-13		6.239E-14																
totals	4.986E-01		4.657E-01		4.591E-01		4.402E-01		3.755E-01		3.164E-01		1.851E-01		1.319E-01		1.202E-01		1.173E-01		1.164E-01		1.162E-01		1.155E-01		1.149E-01																		

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1
5 more years for cooling used fuel material fission products page 28

1
E mone uene fan realize used fuel material

Eligible number page 20

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0		5 more years for cooling used fuel material										nuclide radioactivity, curies										fission products										page 11																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
		basis - 15.1 kg/1mm (nm'd/m) 39.4 d/4-aaa. at 1 MT)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
		initial										2.0 d										6.5 d										24.0 d										73.0 d										134.0 d										399.0 d										754.0 d										1119.0 d										1485.0 d										1757.0 d										1850.0 d										2215.0 d										2580.0 d																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
rh106	1.028E+04	1.024E+04	1.016E+04	1.008E+04	9.981E+03	9.959E+03	9.937E+03	9.915E+03	9.893E+03	9.871E+03	9.849E+03	9.827E+03	9.805E+03	9.783E+03	9.761E+03	9.739E+03	9.717E+03	9.695E+03	9.673E+03	9.651E+03	9.629E+03	9.607E+03	9.585E+03	9.563E+03	9.541E+03	9.519E+03	9.497E+03	9.475E+03	9.453E+03	9.431E+03	9.409E+03	9.387E+03	9.365E+03	9.343E+03	9.321E+03	9.299E+03	9.277E+03	9.255E+03	9.233E+03	9.211E+03	9.189E+03	9.167E+03	9.145E+03	9.123E+03	9.101E+03	9.079E+03	9.057E+03	9.035E+03	9.013E+03	8.991E+03	8.969E+03	8.947E+03	8.925E+03	8.903E+03	8.881E+03	8.859E+03	8.837E+03	8.815E+03	8.793E+03	8.771E+03	8.749E+03	8.727E+03	8.705E+03	8.683E+03	8.661E+03	8.639E+03	8.617E+03	8.595E+03	8.573E+03	8.551E+03	8.529E+03	8.507E+03	8.485E+03	8.463E+03	8.441E+03	8.419E+03	8.397E+03	8.375E+03	8.353E+03	8.331E+03	8.309E+03	8.287E+03	8.265E+03	8.243E+03	8.221E+03	8.199E+03	8.177E+03	8.155E+03	8.133E+03	8.111E+03	8.089E+03	8.067E+03	8.045E+03	8.023E+03	8.001E+03	7.979E+03	7.957E+03	7.935E+03	7.913E+03	7.891E+03	7.869E+03	7.847E+03	7.825E+03	7.803E+03	7.781E+03	7.759E+03	7.737E+03	7.715E+03	7.693E+03	7.671E+03	7.649E+03	7.627E+03	7.605E+03	7.583E+03	7.561E+03	7.539E+03	7.517E+03	7.495E+03	7.473E+03	7.451E+03	7.429E+03	7.407E+03	7.385E+03	7.363E+03	7.341E+03	7.319E+03	7.297E+03	7.275E+03	7.253E+03	7.231E+03	7.209E+03	7.187E+03	7.165E+03	7.143E+03	7.121E+03	7.099E+03	7.077E+03	7.055E+03	7.033E+03	7.011E+03	6.989E+03	6.967E+03	6.945E+03	6.923E+03	6.901E+03	6.879E+03	6.857E+03	6.835E+03	6.813E+03	6.791E+03	6.769E+03	6.747E+03	6.725E+03	6.703E+03	6.681E+03	6.659E+03	6.637E+03	6.615E+03	6.593E+03	6.571E+03	6.549E+03	6.527E+03	6.505E+03	6.483E+03	6.461E+03	6.439E+03	6.417E+03	6.395E+03	6.373E+03	6.351E+03	6.329E+03	6.307E+03	6.285E+03	6.263E+03	6.241E+03	6.219E+03	6.197E+03	6.175E+03	6.153E+03	6.131E+03	6.109E+03	6.087E+03	6.065E+03	6.043E+03	6.021E+03	5.999E+03	5.977E+03	5.955E+03	5.933E+03	5.911E+03	5.889E+03	5.867E+03	5.845E+03	5.823E+03	5.801E+03	5.779E+03	5.757E+03	5.735E+03	5.713E+03	5.691E+03	5.669E+03	5.647E+03	5.625E+03	5.603E+03	5.581E+03	5.559E+03	5.537E+03	5.515E+03	5.493E+03	5.471E+03	5.449E+03	5.427E+03	5.405E+03	5.383E+03	5.361E+03	5.339E+03	5.317E+03	5.295E+03	5.273E+03	5.251E+03	5.229E+03	5.207E+03	5.185E+03	5.163E+03	5.141E+03	5.119E+03	5.097E+03	5.075E+03	5.053E+03	5.031E+03	5.009E+03	4.987E+03	4.965E+03	4.943E+03	4.921E+03	4.899E+03	4.877E+03	4.855E+03	4.833E+03	4.811E+03	4.789E+03	4.767E+03	4.745E+03	4.723E+03	4.701E+03	4.679E+03	4.657E+03	4.635E+03	4.613E+03	4.591E+03	4.569E+03	4.547E+03	4.525E+03	4.503E+03	4.481E+03	4.459E+03	4.437E+03	4.415E+03	4.393E+03	4.371E+03	4.349E+03	4.327E+03	4.305E+03	4.283E+03	4.261E+03	4.239E+03	4.217E+03	4.195E+03	4.173E+03	4.151E+03	4.129E+03	4.107E+03	4.085E+03	4.063E+03	4.041E+03	4.019E+03	3.997E+03	3.975E+03	3.953E+03	3.931E+03	3.909E+03	3.887E+03	3.865E+03	3.843E+03	3.821E+03	3.799E+03	3.777E+03	3.755E+03	3.733E+03	3.711E+03	3.689E+03	3.667E+03	3.645E+03	3.623E+03	3.601E+03	3.579E+03	3.557E+03	3.535E+03	3.513E+03	3.491E+03	3.469E+03	3.447E+03	3.425E+03	3.403E+03	3.381E+03	3.359E+03	3.337E+03	3.315E+03	3.293E+03	3.271E+03	3.249E+03	3.227E+03	3.205E+03	3.183E+03	3.161E+03	3.139E+03	3.117E+03	3.095E+03	3.073E+03	3.051E+03	3.029E+03	3.007E+03	2.985E+03	2.963E+03	2.941E+03	2.919E+03	2.897E+03	2.875E+03	2.853E+03	2.831E+03	2.809E+03	2.787E+03	2.765E+03	2.743E+03	2.721E+03	2.699E+03	2.677E+03	2.655E+03	2.633E+03	2.611E+03	2.589E+03	2.567E+03	2.545E+03	2.523E+03	2.501E+03	2.479E+03	2.457E+03	2.435E+03	2.413E+03	2.391E+03	2.369E+03	2.347E+03	2.325E+03	2.303E+03	2.281E+03	2.259E+03	2.237E+03	2.215E+03	2.193E+03	2.171E+03	2.149E+03	2.127E+03	2.105E+03	2.083E+03	2.061E+03	2.039E+03	2.017E+03	1.995E+03	1.973E+03	1.951E+03	1.929E+03	1.907E+03	1.885E+03	1.863E+03	1.841E+03	1.819E+03	1.797E+03	1.775E+03	1.753E+03	1.731E+03	1.709E+03	1.687E+03	1.665E+03	1.643E+03	1.621E+03	1.599E+03	1.577E+03	1.555E+03	1.533E+03	1.511E+03	1.489E+03	1.467E+03	1.445E+03	1.423E+03	1.401E+03	1.379E+03	1.357E+03	1.335E+03	1.313E+03	1.291E+03	1.269E+03	1.247E+03	1.225E+03	1.203E+03	1.181E+03	1.159E+03	1.137E+03	1.115E+03	1.093E+03	1.071E+03	1.049E+03	1.027E+03	1.005E+03	9.83E+02	9.61E+02	9.39E+02	9.17E+02	8.95E+02	8.73E+02	8.51E+02	8.29E+02	8.07E+02	7.85E+02	7.63E+02	7.41E+02	7.19E+02	6.97E+02	6.75E+02	6.53E+02	6.31E+02	6.09E+02	5.87E+02	5.65E+02	5.43E+02	5.21E+02	4.99E+02	4.77E+02	4.55E+02	4.33E+02	4.11E+02	3.89E+02	3.67E+02	3.45E+02	3.23E+02	3.01E+02	2.79E+02	2.57E+02	2.35E+02	2.13E+02	1.91E+02	1.69E+02	1.47E+02	1.25E+02	1.03E+02	8.1E+01	5.9E+01	3.7E+01	1.5E+01	9.3E+00	7.1E+00	4.9E+00	2.7E+00	5.0E+00	2.8E+00	6.0E+00	3.0E+00	1.0E+00	4.0E+00	2.0E+00	1.0E+00	5.0E+00	2.5E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.9E+00	9.5E+00	4.8E+00	2.4E+00	1.2E+00	6.0E+00	3.0E+00	1.5E+00	7.5E+00	3.8E+00	1.

tel29m 4.910E+00 4.711E+00 4.294E+00 2.992E+00 1.089E+00 3.094E+01 1.607E+03 8.625E+07 4.630E+10 2.435E+13 8.904E+16 1.307E+16 7.018E+20 3.768E+23
1129 6.866E+04 6.866E+04 6.866E+04 6.866E+04 6.867E+04 6.867E+04 6.867E+04 6.867E+04 6.867E+04 6.867E+04 6.867E+04 6.867E+04 6.867E+04
tel29m 2.923E+09 2.501E+09 1.760E+09 4.491E+10 9.799E+12 8.381E+14 1.900E+22 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
i131 1.489E+05 1.253E+05 8.495E+06 1.874E+06 2.721E+08 1.401E+10 3.813E+20 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
xel131m 4.128E+04 3.672E+04 2.822E+04 1.013E+04 5.755E+06 1.619E+07 5.318E+14 2.790E+23 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
cs131 1.325E+11 1.149E+11 8.329E+12 2.387E+12 7.242E+14 4.429E+16 1.977E+23 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
ba131 2.163E+14 1.918E+14 1.462E+14 5.092E+15 2.656E+16 6.721E+18 1.420E+24 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
cs132 4.025E+12 3.250E+12 2.008E+12 3.089E+13 1.635E+15 2.397E+18 3.416E+30 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00

1 5 more years for cooling used fuel material nuclide radioactivity, curies fission products page 32

0 basis --15.1 kgIHM (nm'd IHM 1/4-ass. at 1 MT)
initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d
xel33 5.518E+10 4.236E+10 2.337E+10 2.311E+11 3.551E+14 1.117E+17 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
ba133 8.445E+08 8.442E+08 4.435E+08 4.409E+08 4.385E+08 4.244E+08 7.953E+04 7.371E+04 6.901E+04 6.460E+04 6.150E+04 6.048E+04 5.663E+04 5.302E+04
cs134 2.926E+03 2.926E+03 2.908E+03 2.862E+03 2.736E+03 2.587E+03 2.046E+03 1.463E+03 1.046E+03 7.474E+02 5.821E+02 5.344E+02 3.821E+02 2.733E+02
cs135 9.926E+03 9.926E+03 9.926E+03 9.926E+03 9.926E+03 9.926E+03 9.926E+03 9.926E+03 9.926E+03 9.926E+03 9.926E+03 9.926E+03 9.926E+03 9.926E+03
cs136 3.209E+03 2.888E+03 2.278E+03 9.064E+04 6.862E+05 2.761E+06 4.055E+12 1.814E+20 8.118E+29 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
ba136m 3.553E+04 3.198E+04 2.523E+04 1.004E+04 7.599E+06 3.058E+07 4.491E+16 2.009E+21 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
cs137 1.894E+03 1.893E+03 1.893E+03 1.891E+03 1.885E+03 1.878E+03 1.848E+03 1.806E+03 1.765E+03 1.724E+03 1.695E+03 1.685E+03 1.647E+03 1.609E+03
ba137m 1.793E+03 1.793E+03 1.793E+03 1.791E+03 1.785E+03 1.778E+03 1.750E+03 1.710E+03 1.671E+03 1.633E+03 1.605E+03 1.596E+03 1.559E+03 1.524E+03
la137 2.771E+07 2.771E+07 2.771E+07 2.771E+07 2.771E+07 2.771E+07 2.771E+07 2.771E+07 2.771E+07 2.771E+07 2.771E+07 2.771E+07 2.771E+07 2.771E+07
la138 9.687E+12 9.687E+12 9.687E+12 9.687E+12 9.687E+08 9.687E+08 9.687E+08 9.687E+08 9.687E+12 9.687E+12 9.687E+12 9.687E+12 9.687E+12 9.687E+12
cel139 1.548E+01 1.533E+01 1.498E+01 1.372E+01 1.072E+01 7.884E+02 2.183E+02 3.473E+03 5.527E+04 7.849E+05 2.224E+05 1.392E+05 2.215E+06 3.525E+07
ba140 4.793E+02 4.299E+02 3.366E+02 1.300E+02 9.066E+04 3.292E+05 3.150E+11 7.630E+20 1.848E+28 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
la140 5.519E+02 4.950E+02 3.876E+02 1.500E+02 1.044E+03 3.792E+05 3.627E+11 8.787E+20 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
cel41 1.245E+02 1.192E+02 1.084E+02 6.237E+01 3.619E+01 3.300E+01 1.798E+02 3.923E+05 8.560E+08 1.837E+10 1.810E+12 1.748E+16 1.809E+18
pr143 9.269E+02 8.369E+02 6.650E+02 2.720E+02 2.226E+03 9.872E+05 2.176E+10 1.740E+18 1.392E+26 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
pm143 8.292E+11 8.249E+11 8.152E+11 7.787E+11 6.851E+11 5.840E+11 2.998E+11 1.154E+11 4.441E+12 1.705E+12 8.371E+13 6.563E+13 2.526E+13 9.724E+14
cel144 8.623E+03 8.581E+03 8.487E+03 8.134E+03 7.220E+03 6.224E+03 3.347E+03 1.377E+03 5.667E+02 2.326E+02 1.200E+02 9.571E+01 3.938E+01 1.620E+01
ba144 8.623E+03 8.581E+03 8.487E+03 8.134E+03 7.220E+03 6.224E+03 3.347E+03 1.377E+03 5.667E+02 2.326E+02 1.200E+02 9.571E+01 3.938E+01 1.620E+01
pr144m 8.233E+01 8.104E+01 8.104E+01 7.787E+01 6.851E+01 5.840E+01 2.998E+01 1.154E+01 4.441E+02 1.705E+02 8.371E+03 6.563E+03 2.526E+03 9.724E+04
nd144 1.699E+11 1.701E+11 1.704E+11 1.716E+11 1.747E+11 1.781E+11 1.879E+11 1.946E+11 1.974E+11 1.985E+11 1.989E+11 1.992E+11 1.992E+11 1.992E+11
la144 1.805E+08 1.798E+08 1.782E+08 1.724E+08 1.570E+08 1.397E+08 8.586E+09 4.276E+09 1.230E+09 1.059E+09 6.300E+10 5.275E+10 2.627E+10 1.309E+10
pm145 6.857E+05 6.855E+05 6.855E+05 6.845E+05 6.811E+05 6.773E+05 6.608E+05 6.369E+05 6.131E+05 5.898E+05 5.730E+05 5.673E+05 5.456E+05 5.247E+05
am145 1.135E+05 1.130E+05 1.120E+05 1.081E+05 9.780E+06 8.636E+06 1.135E+06 2.440E+06 1.159E+06 5.498E+07 3.158E+07 2.612E+07 1.241E+07 5.898E+08
pm146 2.055E+03 2.054E+03 2.051E+03 2.039E+03 2.005E+03 1.963E+03 1.799E+03 1.587E+03 1.400E+03 1.235E+03 1.125E+03 1.089E+03 9.611E+04 8.480E+04
am146 1.054E+09 1.054E+09 1.054E+09 1.055E+09 1.055E+09 1.056E+09 1.059E+09 1.063E+09 1.066E+09 1.069E+09 1.071E+09 1.072E+09 1.074E+09 1.076E+09
nd147 2.251E+02 2.248E+02 2.248E+02 2.248E+02 2.248E+02 2.248E+02 2.248E+02 2.248E+02 2.248E+02 2.248E+02 2.248E+02 2.248E+02 2.248E+02 2.248E+02
pr147 2.114E+03 2.111E+03 2.104E+03 2.104E+03 2.078E+03 2.005E+03 1.919E+03 1.596E+03 1.225E+03 9.410E+02 7.221E+02 5.931E+02 5.545E+02 4.259E+02 3.270E+02
am147 3.378E+08 3.385E+08 3.402E+08 3.468E+08 3.647E+08 3.861E+08 4.661E+08 5.578E+08 6.281E+08 6.823E+08 7.142E+08 7.238E+08 7.556E+08 7.801E+08
eul147 2.694E+15 2.543E+15 2.234E+15 1.351E+15 3.300E+16 5.709E+17 3.727E+20 1.028E+24 2.837E+29 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
pm148 5.950E+01 5.753E+01 5.355E+01 3.977E+01 1.747E+01 6.281E+02 8.678E+04 1.894E+06 4.133E+09 8.868E+12 9.221E+14 1.935E+14 4.223E+17 9.216E+20
pm148m 5.950E+01 5.753E+01 5.355E+01 3.977E+01 1.747E+01 6.281E+02 8.678E+04 1.894E+06 4.133E+09 8.868E+12 9.221E+14 1.935E+14 4.223E+17 9.216E+20
am148 9.480E+13 9.480E+13 9.480E+13 9.481E+13 9.482E+13 9.482E+13 9.482E+13 9.482E+13 9.482E+13 9.482E+13 9.482E+13 9.482E+13 9.482E+13 9.482E+13
eul149 7.435E+09 7.325E+09 7.084E+09 6.219E+09 4.318E+09 2.742E+09 4.107E+10 2.712E+11 1.791E+12 1.174E+13 1.549E+14 7.753E+15 5.120E+16 3.381E+17
nd150 1.173E+15 1.173E+15 1.173E+15 1.173E+15 1.173E+15 1.173E+15 1.173E+15 1.173E+15 1.173E+15 1.173E+15 1.173E+15 1.173E+15 1.173E+15 1.173E+15
am151 7.836E+00 7.836E+00 7.836E+00 7.836E+00 7.836E+00 7.836E+00 7.836E+00 7.836E+00 7.836E+00 7.836E+00 7.836E+00 7.836E+00 7.836E+00 7.836E+00
gd151 5.950E+06 5.884E+06 5.738E+06 5.203E+06 3.957E+06 2.813E+06 6.764E+07 8.792E+08 1.143E+08 1.477E+09 3.229E+10 1.920E+10 2.496E+11 3.244E+12
eul152 6.053E+02 6.051E+02 6.047E+02 6.032E+02 5.991E+02 5.940E+02 5.732E+02 5.446E+02 5.174E+02 4.915E+02 4.731E+02 4.670E+02 4.437E+02 4.216E+02
gd152 1.630E+14 1.630E+14 1.630E+14 1.630E+14 1.632E+14 1.634E+14 1.641E+14 1.651E+14 1.660E+14 1.670E+14 1.676E+14 1.678E+14 1.686E+14 1.694E+14
gd153 1.113E+01 1.107E+01 1.092E+01 1.039E+01 9.018E+02 7.563E+02 3.626E+02 2.266E+02 4.419E+02 1.538E+03 7.020E+04 1.874E+04 6.543E+05
eul154 2.108E+02 2.107E+02 2.105E+02 2.096E+02 2.074E+02 2.046E+02 1.934E+02 1.785E+02 1.646E+02 1.519E+02 1.430E+02 1.401E+02 1.293E+02 1.193E+02
eul155 9.662E+01 9.654E+01 9.636E+01 9.569E+01 9.384E+01 9.186E+01 8.272E+01 7.150E+01 6.148E+01 5.340E+01 4.540E+01 4.161E+01 3.990E+01 3.449E+01
eul156 9.407E+02 9.386E+02 9.369E+02 9.346E+02 9.363E+03 2.079E+04 1.838E+09 1.074E+16 6.271E+24 3.500E+31 0.000E+00 0.000E+00 0.000E+00 0.000E+00
bi157 2.991E+07 2.991E+07 2.989E+07 2.989E+07 2.989E+07 2.989E+07 2.989E+07 2.989E+07 2.989E+07 2.989E+07 2.989E+07 2.989E+07 2.989E+07 2.989E+07
bi158 1.714E+05 1.714E+05 1.714E+05 1.714E+05 1.713E+05 1.712E+05 1.707E+05 1.700E+05 1.694E+05 1.687E+05 1.683E+05 1.681E+05 1.674E+05 1.668E+05
dy159 2.250E+05 2.229E+05 2.281E+05 2.006E+05 1.585E+05 1.183E+05 3.478E+06 6.031E+07 1.046E+07 1.805E+08 4.891E+09 3.130E+09 5.428E+10 9.413E+11
bi160 3.496E+00 3.429E+00 3.285E+00 2.777E+00 1.736E+00 9.674E+01 8.392E+02 2.536E+03 7.663E+05 2.294E+06 1.690E+07 6.931E+08 2.094E+09 6.329E+11
bi161 1.254E+01 1.254E+01 1.252E+01 1.252E+01 1.252E+01 1.252E+01 1.252E+01 1.252E+01 1.252E+01 1.252E+01 1.252E+01 1.252E+01 1.252E+01 1.252E+01
ho163 1.299E+09 1.299E+09 1.299E+09 1.299E+09 1.299E+09 1.299E+09 1.299E+09 1.299E+09 1.299E+09 1.299E+09 1.299E+09 1.298E+09 1.298E+09 1.298E+09
ho166m 1.682E+05 1.682E+05 1.682E+05 1.682E+05 1.682E+05 1.681E+05 1.680E+05 1.679E+05 1.678E+05 1.677E+05 1.677E+05 1.676E+05 1.675E+05 1.675E+05
pm167 1.377E+16 1.185E+16 8.459E+17 2.279E+17 5.796E+19 5.997E+21 3.014E+29 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
tm168 1.306E+07 1.287E+07 1.244E+07 1.092E+07 8.168E+07 4.668E+08 3.166E+09 1.668E+10 3.146E+11 2.065E+12 1.214E+13 6.158E+13 3.563E+14 2.168E+15
er169 7.711E+10 6.653E+10 4.773E+10 1.312E+10 3.526E+12 3.910E+14 2.624E+22 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00

1 5 more years for cooling used fuel material nuclide radioactivity, curies fission products page 33

0 basis --15.1 kgIHM (nm'd IHM 1/4-ass. at 1 MT)
initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d
yb169 2.045E+09 1.959E+09 1.777E+09 1.216E+09 4.211E+10 1.124E+10 4.502E+13 1.666E+16 6.165E+20 2.233E+23 6.187E+26 8.262E+27 3.057E+30 0.000E+00
tm170 5.261E+03 5.203E+03 5.180E+03 5.180E+03 5.180E+03 5.180E+03 5.180E+03 5.180E+03 5.180E+03 5.180E+03 5.180E+03 5.180E+03 5.180E+03 5.180E+03
tm171 2.950E+03 2.944E+03 2.931E+03 2.881E+03 2.745E+03 2.584E+03 2.009E+03 1.400E+03 9.761E+04 6.798E+04 5.196E+04 4.739E+04 3.304E+04 2.303E+04
total 5.497E+04 5.465E+04 5.396E+04 5.144E+04 4.562E+04 4.008E+04 2.595E+04 1.583E+04 1.083E+04 8.216E+03 7.068E+03 6.772E+03 5.914E+03 5.363E+03
1 5 more years for cooling used fuel material element radioactivity, curies fission products page 34
0 basis --15.1 kgIHM (nm'd IHM 1/4-ass. at 1 MT)
initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d
h 9.900E+00 9.897E+00 9.890E+00 9.823E+00 9.789E+00 9.697E+00 9.324E+00 8.184E+00 7.875E+00 7.552E+00 7.445E+00 7.388E+00 6.633E+00
ga 3.080E+17 3.064E+17 3.029E+17 2.896E+17 2.555E+17 2.186E+17 1.138E+17 4.475E+18 1.759E+18 6.897E+19 3.439E+19 2.711E+19 1.066E+19 4.189E+20
ge 4.714E+08 4.633E+08 4.456E+08 3.831E+08 2.510E+08 1.482E+08 1.641E+09 7.026E+11 3.009E+12 1.277E+13 1.221E+14 5.470E+15 2.343E+16 1.007E+17
aa 5.282E+08 5.159E+08 4.898E+08 4.054E+08 2.543E+08 1.485E+08 1.641E+09 7.026E+11 3.009E+12 1.277E+13 1.221E+14 5.469E+15 2.342E+16 1.003E+17
1.156E+03 1.156E+03 1.156E+03 1.156E+03 1.156E+03 1.156E+03 1.156E+03 1.156E+03 1.156E+03 1.156E+03 1.156E+03 1.156E+03 1.156E+03 1.156E+03
sr 9.900E+01 9.897E+01 9.889E+01 9.855E+01 9.774E+01 9.669E+01 9.244E+01 8.061E+01 7.185E+01 6.126E+01 7.618E+01 7.261E+01 7.185E+01 6.698E+01 6.280E+01
rb 3.690E+03 3.429E+03 2.907E+03 1.532E+03 2.636E+04 3.509E+05 1.001E+06 2.485E+07 2.097E+07 2.075E+07 2.075E+07 2.075E+07 2.075E+07 2.075E+07
sr 9.900E+03 9.900E+03 9.900E+03 9.900E+03 9.900E+03 9.900E+03 9.900E+03 9.900E+03 9.900E+03 9.900E+03 9.900E+03 9.900E+03 9.900E+03 9.900E+03
y 2.791E+03 2.791E+03 2.791E+03 2.791E+03 2.791E+03 2.791E+03 2.791E+03 2.791E+03 2.791E+03 2.791E+03 2.791E+03 2.791E+03 2.791E+03 2.791E+03
zr 1.402E+03 1.372E+03 1.306E+03 1.081E+03 6.360E+02 3.286E+02 2.081E+02 4.228E+01 3.069E+02 2.315E+02 2.301E+02 2.300E+02 2.300E+02 2.300E+02
nb 2.790E+03 2.850E+03 2.723E+03 2.273E+03 1.363E+03 7.142E+02 4.597E+01 9.179E+01 2.218E+02 5.668E+03 5.889E+03 6.058E+03 6.741E+03 7.400E+03
mo 2.684E+09 6.045E+09 6.045E+09 6.045E+09 6.045E+09 6.045E+09 6.044E+09 6.043E+09 6.042E+09 6.041E+09 6.040E+09 6.040E+09 6.039E+09 6.038E+09
tc 2.286E+01 2.286E+01 2.286E+01 2.286E+01 2.286E+01 2.286E+01 2.286E+01 2.286E+01 2.286E+01 2.286E+01 2.286E+01 2.286E+01 2.286E+01 2.286E+01
ru 1.068E+04 1.062E+04 1.051E+04 1.009E+04 1.009E+04 1.009E+04 1.009E+04 1.009E+04 1.009E+04 1.009E+04 1.009E+04 1.009E+04 1.009E+04 1.009E+04
rh 1.067E+04 1.062E+04 1.051E+04 1.009E+04 1.009E+04 1.009E+04 1.009E+04 1.009E+04 1.009E+04 1.009E+04 1.009E+04 1.009E+04 1.009E+04 1.009E+04
pd 4.305E+03 4.305E+03 4.303E+03 4.300E+03 4.297E+03 4.297E+03 4.297E+03 4.297E+03 4.297E+03 4.297E+03 4.297E+03 4.297E+03 4.297E+03 4.297E+03
ag 1.003E+02 9.970E+01 9.846E+01 9.380E+01 8.187E+01 6.912E+01 3.406E+01 1.237E+01 4.493E+00 1.627E+00 7.652E+01 5.912E+01 2.148E+01 7.813E+02
gd 3.411E+01 3.313E+01 3.103E+01 2.412E+01 1.031E+01 4.129E+00 2.320E+00 1.958E+00 1.808E+00 1.471E+


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hoi66m 1.733E-07 1.733E-07 1.733E-07 1.733E-07 1.733E-07 1.733E-07 1.732E-07 1.731E-07 1.730E-07 1.729E-07 1.729E-07 1.728E-07 1.727E-07 1.726E-07
tml67 2.260E-19 1.946E-19 1.389E-19 3.742E-20 9.517E-22 9.847E-24 4.950E-32 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
tml68 1.043E-09 1.027E-09 9.935E-10 8.721E-10 6.055E-10 3.845E-10 5.759E-11 3.803E-12 2.512E-13 1.646E-14 2.173E-15 1.087E-15 7.180E-17 4.742E-18
erl69 4.695E-13 4.051E-13 2.906E-13 7.987E-14 2.147E-15 2.380E-17 1.597E-25 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
ybl69 5.215E-12 4.994E-12 4.530E-12 3.101E-12 1.074E-12 2.866E-13 1.148E-15 4.247E-19 1.572E-22 5.692E-26 1.577E-28 2.107E-29 7.795E-33 0.000E+00
1
0 5 more years for cooling used fuel material fission products page 38
nuclide thermal power, watts
basis ==15.1 kgHM (nrm'd IHM 1/4-ass. at 1 MT)
initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d
tml70 1.035E-05 1.024E-05 9.998E-06 9.098E-06 6.987E-06 5.029E-06 1.272E-06 1.799E-07 2.487E-08 3.459E-09 7.985E-10 4.837E-10 6.764E-11 9.457E-12
tml71 4.555E-07 4.546E-07 4.526E-07 4.448E-07 4.238E-07 3.990E-07 3.101E-07 2.162E-07 1.507E-07 1.050E-07 8.022E-08 7.317E-08 5.101E-08 3.556E-08
total 2.429E+02 2.415E+02 2.386E+02 2.277E+02 2.022E+02 1.774E+02 1.129E+02 6.610E+01 4.258E+01 3.015E+01 2.468E+01 2.327E+01 1.923E+01 1.670E+01
1
0 5 more years for cooling used fuel material fission products page 39
element thermal power, watts
basis ==15.1 kgHM (nrm'd IHM 1/4-ass. at 1 MT)
initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d
h 3.339E-04 3.338E-04 3.336E-04 3.327E-04 3.302E-04 3.271E-04 3.145E-04 2.973E-04 2.810E-04 2.656E-04 2.547E-04 2.511E-04 2.374E-04 2.244E-04
ga 3.087E-19 3.071E-19 3.036E-19 2.903E-19 2.561E-19 2.191E-19 1.141E-19 4.486E-20 1.763E-20 6.913E-21 3.447E-21 2.717E-21 1.068E-21 4.199E-22
ge 1.848E-11 1.817E-11 1.748E-11 1.503E-11 9.843E-12 5.814E-12 6.434E-13 2.755E-14 1.180E-15 5.009E-17 4.787E-18 2.145E-18 9.186E-20 3.936E-21
aa 3.726E-11 3.463E-11 2.938E-11 1.576E-11 3.454E-12 1.042E-12 9.486E-14 4.062E-15 1.739E-16 7.384E-18 7.057E-19 3.162E-19 1.354E-20 5.798E-22
ae 3.865E-07 3.864E-07 3.863E-07 3.859E-07 3.849E-07 3.840E-07 3.823E-07 3.818E-07 3.818E-07 3.818E-07 3.818E-07 3.818E-07 3.818E-07 3.818E-07
kr 1.484E-01 1.483E-01 1.482E-01 1.477E-01 1.465E-01 1.449E-01 1.385E-01 1.299E-01 1.218E-01 1.142E-01 1.088E-01 1.071E-01 1.004E-01 9.412E-02
sr 1.676E-05 1.558E-05 1.321E-05 6.973E-06 1.201E-06 1.557E-07 2.517E-09 2.220E-10 1.070E-10 1.008E-10 1.005E-10 1.005E-10 1.005E-10 1.005E-10
rb 1.725E+00 1.700E+00 1.645E+00 1.463E+00 1.132E+00 9.353E-01 7.786E-01 7.557E-01 7.377E-01 7.201E-01 7.073E-01 7.030E-01 6.863E-01 6.700E-01
ay 5.964E+00 5.913E+00 5.801E+00 5.419E+00 4.685E+00 4.198E+00 3.711E+00 3.602E+00 3.516E+00 3.432E+00 3.371E+00 3.351E+00 3.271E+00 3.193E+00
zr 7.063E+00 6.912E+00 6.584E+00 5.447E+00 3.205E+00 1.656E+00 1.048E-01 2.017E-03 4.135E-05 3.334E-06 2.636E-06 2.611E-06 2.597E-06 2.597E-06
nb 1.390E+01 1.362E+01 1.300E+01 1.086E+01 6.512E+00 3.413E+00 2.196E-01 4.369E-03 8.500E-05 2.612E-06 1.187E-06 1.166E-06 1.257E-06 1.371E-06
mu 5.785E-13 5.785E-13 5.785E-13 5.785E-13 5.785E-13 5.785E-13 5.784E-13 5.783E-13 5.782E-13 5.781E-13 5.781E-13 5.780E-13 5.779E-13 5.778E-13
tc 7.481E-05 7.481E-05 7.481E-05 7.481E-05 7.480E-05 7.480E-05 7.480E-05 7.480E-05 7.480E-05 7.480E-05 7.480E-05 7.480E-05 7.480E-05 7.480E-05
ro 1.929E+00 1.881E+00 1.779E+00 1.447E+00 8.966E-01 5.998E-01 2.973E-01 1.499E-01 7.588E-02 3.835E-02 2.310E-02 1.942E-02 9.834E-03 4.979E-03
rh 9.878E+01 9.841E+01 9.758E+01 9.443E+01 8.616E+01 7.688E+01 4.779E+01 2.420E+01 1.225E+01 6.193E+00 3.730E+00 3.136E+00 1.588E+00 8.041E-01
pd 2.524E-07 2.523E-07 2.522E-07 2.518E-07 2.514E-07 2.514E-07 2.514E-07 2.514E-07 2.514E-07 2.514E-07 2.514E-07 2.514E-07 2.514E-07 2.514E-07
ag 1.672E+00 1.662E+00 1.642E+00 1.564E+00 1.365E+00 1.152E+00 5.679E-01 2.062E-01 7.489E-02 2.712E-02 1.275E-02 9.849E-03 3.577E-03 1.299E-03
cd 1.223E-03 1.186E-03 1.107E-03 8.466E-04 4.032E-04 1.654E-04 1.735E-05 1.360E-05 1.282E-05 1.213E-05 1.166E-05 1.151E-05 1.093E-05 1.039E-05
in 6.388E-07 6.210E-07 5.826E-07 4.548E-07 2.273E-07 9.593E-08 2.626E-09 1.566E-11 1.189E-13 3.786E-15 8.593E-16 6.025E-16 3.055E-16 2.729E-16
sn 3.030E-02 3.000E-02 2.932E-02 2.682E-02 2.096E-02 1.547E-02 4.716E-03 1.308E-03 7.022E-04 5.599E-04 5.208E-04 5.123E-04 4.903E-04 4.771E-04
ab 6.544E-01 6.532E-01 6.504E-01 6.401E-01 6.139E-01 5.854E-01 4.885E-01 3.799E-01 2.956E-01 2.298E-01 1.906E-01 1.788E-01 1.391E-01 1.083E-01
tl 1.285E-01 1.268E-01 1.232E-01 1.107E-01 8.637E-02 6.822E-02 3.816E-02 2.590E-02 1.978E-02 1.534E-02 1.272E-02 1.193E-02 9.281E-03 7.220E-03
i 3.535E-07 3.455E-07 3.317E-07 3.091E-07 3.027E-07 3.026E-07 3.026E-07 3.026E-07 3.026E-07 3.026E-07 3.026E-07 3.026E-07 3.026E-07 3.026E-07
xe 4.574E-07 4.112E-07 3.244E-07 1.350E-07 2.017E-08 4.731E-09 3.560E-11 3.411E-14 3.268E-17 3.072E-20 1.730E-22 2.943E-23 2.820E-26 2.702E-29
ca 3.182E+01 3.176E+01 3.164E+01 3.116E+01 2.987E+01 2.835E+01 2.281E+01 1.683E+01 1.253E+01 9.448E+00 7.733E+00 7.237E+00 5.644E+00 4.495E+00
ba 7.031E+00 7.030E+00 7.028E+00 7.020E+00 6.998E+00 6.971E+00 6.860E+00 6.704E+00 6.551E+00 6.402E+00 6.293E+00 6.256E+00 6.114E+00 5.975E+00
ls 9.303E+04 8.345E+04 6.534E+04 2.529E+04 1.760E+05 6.392E-07 5.355E-11 5.294E-11 5.294E-11 5.294E-11 5.294E-11 5.294E-11 5.294E-11 5.294E-11
ce 5.835E+00 5.800E+00 5.723E+00 5.441E+00 4.771E+00 4.091E+00 2.194E+00 9.028E-01 3.715E-01 1.525E-01 7.867E-02 6.274E-02 2.582E-02 1.062E-02
pr 6.328E+01 6.297E+01 6.228E+01 5.969E+01 5.298E+01 4.567E+01 2.456E+01 1.011E+01 4.158E+00 1.707E+00 8.807E-01 7.024E-01 2.890E-01 1.189E-01
nd 5.500E-06 4.847E-06 3.649E-06 1.209E-06 5.482E-08 1.166E-09 2.122E-13 2.196E-13 2.227E-13 2.240E-13 2.248E-13 2.245E-13 2.248E-13 2.248E-13
pm 9.367E-01 9.302E-01 9.162E-01 8.695E-01 7.821E-01 7.199E-01 5.846E-01 4.488E-01 3.446E-01 2.645E-01 2.172E-01 2.031E-01 1.560E-01 1.198E-01
sm 9.205E-04 9.204E-04 9.203E-04 9.200E-04 9.190E-04 9.179E-04 9.129E-04 9.059E-04 8.990E-04 8.921E-04 8.870E-04 8.852E-04 8.784E-04 8.717E-04
eu 1.966E+00 1.965E+00 1.963E+00 1.954E+00 1.933E+00 1.906E+00 1.799E+00 1.656E+00 1.525E+00 1.404E+00 1.320E+00 1.293E+00 1.191E+00 1.097E+00
gd 9.715E-05 9.659E-05 9.534E-05 9.065E-05 7.871E-05 6.601E-05 3.165E-05 1.105E-05 3.856E-06 1.342E-06 6.127E-07 4.686E-07 1.636E-07 5.711E-08
tb 2.865E-02 2.811E-02 2.692E-02 2.276E-02 1.423E-02 7.928E-03 6.879E-04 2.088E-05 7.198E-07 1.102E-07 9.253E-08 9.163E-08 9.073E-08 9.036E-08
dy 7.608E-09 7.535E-09 7.374E-09 6.780E-09 5.359E-09 3.999E-09 1.176E-09 2.039E-10 3.536E-11 6.102E-12 1.654E-12 1.058E-12 1.835E-13 3.182E-14
ho 1.733E-07 1.733E-07 1.733E-07 1.733E-07 1.733E-07 1.733E-07 1.731E-07 1.730E-07 1.729E-07 1.729E-07 1.728E-07 1.727E-07 1.726E-07
er 4.695E-13 4.051E-13 2.906E-13 7.987E-14 2.147E-15 2.380E-17 1.597E-25 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
tm 1.081E-05 1.070E-05 1.045E-05 9.544E-06 7.411E-06 5.428E-06 1.582E-06 3.941E-07 1.756E-07 1.084E-07 8.102E-08 7.366E-08 5.108E-08 3.557E-08
yb 5.215E-12 4.994E-12 4.530E-12 3.101E-12 1.074E-12 2.866E-13 1.148E-15 4.247E-19 1.572E-22 5.692E-26 1.577E-28 2.107E-29 7.795E-33 0.000E+00
totals 2.429E+02 2.415E+02 2.386E+02 2.277E+02 2.022E+02 1.774E+02 1.129E+02 6.610E+01 4.258E+01 3.015E+01 2.468E+01 2.327E+01 1.923E+01 1.670E+01
569 array 20 entries read
0c
1 * normal termination of execution *
0 table of contents for material tables
0 case or subcase printed page
1 1
```

```

*          SCALE 6.1.3          *
*          -----          *
*          October 2013        *
*                               *
*   SCALE: A Comprehensive Modeling and Simulation Suite           *
*         for Nuclear Safety Analysis and Design                   *
*                               *
*       Reactor and Nuclear Systems Division                     *
*       Oak Ridge National Laboratory                             *
*                               *
*      http://scale.ornl.gov                                       *
*      scalehelp@ornl.gov                                         *
*                               *
*.....*
*-----*
* Job Information *
*-----*
Job started on jupiter on Mon 21/10/2013 11:41:46
Working directory: /tmp/scale.$re.3807
Input file name : /home/$re/MOX/cixmxox.inp
Output file name : /home/$re/MOX/cixmxox.out
*-----*
primary module access and input record ( Scale 6.1 driver )
*-----*

module shell will be called at 11:41:48.197 on 10/21/2013.
sequence specification record:#shell

Input Data:

cp $KTNDIR/ft71_mox_cix ft7if001

module shell is finished. completion code    0. total cpu time used .04 seconds.

module origins will be called at 11:41:48.232 on 10/21/2013.
sequence specification record:#origens

Input Data:

O$S a11 71 e t
Decay Case
38$ 21 1 1 0 a16 2 a33 0 e t
38$S 0 t
54$S a1 1 a8 1 a11 0 e
56$S a2 13 a6 1 a10 0 a13 -43 a15 3 a17 2 e
57** 0 a3 0.0 e
95$S 0 t
5 more years for cooling used fuel material
~15.1 kgIHM (nrm'd IHM 1/4-ass. at 1 MT)
'
'
'              14      365      365      366      272      93
'
'      xxx xxx 1/22/09 3/12/09 5/12/09 1/22/10 1/22/11 1/22/12 1/22/13 10/21/13 1/22/14 1/22/15 1/22/16
'      240x2xxx xxx 1/22/09 3/12/09 5/12/09 1/22/10 1/22/11 1/22/12 1/22/13 10/21/13 1/22/14 1/22/15 1/22/16
' 60+* 2      6.5 24      73 134 389 754      1119 1485 1757 1850 2215 2580
60** 2 6.5 24 73 134 389 754 1119 1485 1757 1850 2215 2580
61** 1e-20 1e-20 5r1e-20
65$S
'Gram-Atoms Grams Curies Watts-All Watts-Gamma
0 0 0 1 1 0 1 1 0 1 1 0 3z 6z
0 0 0 1 1 0 1 1 0 1 1 0 3z 6z
0 0 0 1 1 0 1 1 0 1 1 0 3z 6z
t
56$S f0 t

module origins is finished. completion code    0. total cpu time used .14 seconds.

Scale is finished at 11:41:48.375 on 10/21/2013

```

```

.....
*****
*****                                program verification information
*****
*****                                code system:  SCALE    version:  6.1
*****
*****
*****
*****
*****                                program:  origen
*****
*****                                creation date:  21_feb_2013
*****
*****                                library:  /scale/scale6.1/Linux_x86_64/bin
*****
*****
*****                                production code:  origen
*****
*****                                revision:  6.1.2
*****
*****                                jobname:  8re
*****
*****                                machine name:  jupiter.ornl.gov
*****
*****                                date of execution:  21_oct_2013
*****
*****                                time of execution:  11:41:48.24
*****
*****
*****
.....
1
1      * input echo * (with break between col. 1-72 and 73-80)
0      note:  only comments are permitted after column 72.
0-----only this is used as input data.-----
0                                         comment or title end
0                                         column 1-72
0                                         73-80

```

```
'      xxx xxx 1/22/09 3/12/09 5/12/09 1/22/10 1/22/11 1/22/12 1/22/13 10/21/1
'      240*2xxx xxx 1/22/09 3/12/09 5/12/09 1/22/10 1/22/11 1/22/12 1/22/13 22/13 10
'      60** 2 6.5 24 73 134 389 754 1119 1485 17
60** 2 6.5 24 73 134 389 754 1119 1485 1757 1850 2215 2580
61** 1e-20 1e-20 5r1e-20
65$
'Gram-Atoms Grams Curies Watts-All Watts-Gamma
0 0 0 1 1 0 1 1 0 1 1 0 3z 6z
0 0 0 1 1 0 1 1 0 1 1 0 3z 6z
0 0 0 1 1 0 1 1 0 1 1 0 3z 6z
t
56$ f0 t
Owhen job "fails", make sure no fido input..... is out here!

0$ array 12 entries read
0t
3$ array 33 entries read
0t
llibrary information...

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

*****
* ENDF/B-VII.1 decay data *
* compiled August 30, 2012 *
* i.c. gauld, g. illas, m. pigni *
* reactor and nuclear systems division *
* oak ridge national laboratory *
*****
0
0 .other identification and sizes of library.
0 data set name: /scale/scale6.1/data/origen.rev03.endfdec
0 8/31/2012 date library was produced
0 total number of nuclides in library
0 910 number of light-element nuclides
0 176 number of actinide nuclides
0 1151 number of fission product nuclides
0 2636 number of nonzero off-diagonal matrix elements
0
0
0
35$ array 1 entries read
0t
54$ array 12 entries read
56$ array 20 entries read
57* array 5 entries read
95$ array 1 entries read
0t
14 365 365 366 272 93
xxx xxx 1/22/09 3/12/09 5/12/09 1/22/10 1/22/11 1/22/12 1/22/13 10/21/1
240*2xxx xxx 1/22/09 3/12/09 5/12/09 1/22/10 1/22/11 1/22/12 1/22/13 10
60** 2 6.5 24 73 134 389 754 1119 1485 17
60* array 13 entries read
61* array 7 entries read
gram-atoms grams curies watts-all watts-gamma
65$ array 63 entries read
0t
0 obtaining data from position no. 43 on unit no. 71
1
5 more years for cooling used fuel material light elements page 1
0
nuclide concentrations, grams
basis =-15.1 kgTMM (nm*d 1M 1/4-ass. at 1 MT)
initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d
h 1 9.989E-05 9.989E-05 9.989E-05 9.989E-05 9.989E-05 9.989E-05 9.989E-05 9.989E-05 9.989E-05 9.989E-05 9.989E-05 9.989E-05
h 2 2.137E-05 2.137E-05 2.137E-05 2.137E-05 2.137E-05 2.137E-05 2.137E-05 2.137E-05 2.137E-05 2.137E-05 2.137E-05 2.137E-05
h 3 8.873E-07 8.870E-07 8.868E-07 8.840E-07 8.774E-07 8.692E-07 8.597E-07 7.900E-07 7.468E-07 7.059E-07 6.769E-07 6.673E-07
h 3 1.801E-07 1.803E-07 1.809E-07 1.833E-07 1.833E-07 1.900E-07 1.982E-07 2.317E-07 2.774E-07 3.206E-07 3.615E-07 3.905E-07
he 4 5.826E-02 5.826E-02 5.826E-02 5.826E-02 5.826E-02 5.826E-02 5.826E-02 5.826E-02 5.826E-02 5.826E-02 5.826E-02 5.826E-02
li 6 3.909E-12 3.909E-12 3.909E-12 3.909E-12 3.909E-12 3.909E-12 3.909E-12 3.909E-12 3.909E-12 3.909E-12 3.909E-12 3.909E-12
li 7 4.283E-13 4.283E-13 4.283E-13 4.283E-13 4.283E-13 4.283E-13 4.283E-13 4.283E-13 4.283E-13 4.283E-13 4.283E-13 4.283E-13
be 9 3.711E-08 3.711E-08 3.711E-08 3.711E-08 3.711E-08 3.711E-08 3.711E-08 3.711E-08 3.711E-08 3.711E-08 3.711E-08 3.711E-08
be 10 1.971E-06 1.971E-06 1.971E-06 1.971E-06 1.971E-06 1.971E-06 1.971E-06 1.971E-06 1.971E-06 1.971E-06 1.971E-06 1.971E-06
b 10 9.125E-13 9.174E-13 9.286E-13 9.719E-13 1.093E-12 1.244E-12 1.876E-12 2.781E-12 3.685E-12 4.592E-12 5.266E-12 5.496E-12
b 11 1.124E-09 1.124E-09 1.124E-09 1.124E-09 1.124E-09 1.124E-09 1.124E-09 1.124E-09 1.124E-09 1.124E-09 1.124E-09 1.124E-09
c 12 1.193E-03 1.193E-03 1.193E-03 1.193E-03 1.193E-03 1.193E-03 1.193E-03 1.193E-03 1.193E-03 1.193E-03 1.193E-03 1.193E-03
c 13 1.881E-01 1.881E-01 1.881E-01 1.881E-01 1.881E-01 1.881E-01 1.881E-01 1.881E-01 1.881E-01 1.881E-01 1.881E-01 1.881E-01
c 14 5.923E-06 5.923E-06 5.923E-06 5.923E-06 5.923E-06 5.923E-06 5.921E-06 5.921E-06 5.921E-06 5.919E-06 5.919E-06 5.918E-06
n 14 7.286E-08 7.286E-08 7.287E-08 7.290E-08 7.300E-08 7.312E-08 7.362E-08 7.434E-08 7.506E-08 7.578E-08 7.632E-08 7.650E-08
n 15 1.760E-04 1.760E-04 1.760E-04 1.760E-04 1.760E-04 1.760E-04 1.760E-04 1.760E-04 1.760E-04 1.760E-04 1.760E-04 1.760E-04
o 16 2.022E+03 2.022E+03 2.022E+03 2.022E+03 2.022E+03 2.022E+03 2.022E+03 2.022E+03 2.022E+03 2.022E+03 2.022E+03 2.022E+03
o 17 5.711E-04 5.711E-04 5.711E-04 5.711E-04 5.711E-04 5.711E-04 5.711E-04 5.711E-04 5.711E-04 5.711E-04 5.711E-04 5.711E-04
o 18 2.532E-09 2.532E-09 2.532E-09 2.532E-09 2.532E-09 2.532E-09 2.532E-09 2.532E-09 2.532E-09 2.532E-09 2.532E-09 2.532E-09
f 19 1.808E-15 1.808E-15 1.808E-15 1.808E-15 1.808E-15 1.808E-15 1.808E-15 1.808E-15 1.808E-15 1.808E-15 1.808E-15 1.808E-15
na 23 6.285E-16 6.285E-16 6.285E-16 6.285E-16 6.285E-16 6.285E-16 6.285E-16 6.285E-16 6.285E-16 6.285E-16 6.285E-16 6.285E-16
mg 24 6.569E-16 6.569E-16 6.569E-16 6.569E-16 6.569E-16 6.569E-16 6.569E-16 6.569E-16 6.569E-16 6.569E-16 6.569E-16 6.569E-16
mg 25 6.835E-16 6.835E-16 6.835E-16 6.835E-16 6.835E-16 6.835E-16 6.835E-16 6.835E-16 6.835E-16 6.835E-16 6.835E-16 6.835E-16
mg 26 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16
al 27 7.383E-16 7.383E-16 7.383E-16 7.383E-16 7.383E-16 7.383E-16 7.383E-16 7.383E-16 7.383E-16 7.383E-16 7.383E-16 7.383E-16
si 28 7.659E-16 7.659E-16 7.659E-16 7.659E-16 7.659E-16 7.659E-16 7.659E-16 7.659E-16 7.659E-16 7.659E-16 7.659E-16 7.659E-16
si 29 7.941E-16 7.941E-16 7.941E-16 7.941E-16 7.941E-16 7.941E-16 7.941E-16 7.941E-16 7.941E-16 7.941E-16 7.941E-16 7.941E-16
si 30 8.254E-16 8.254E-16 8.254E-16 8.254E-16 8.254E-16 8.254E-16 8.254E-16 8.254E-16 8.254E-16 8.254E-16 8.254E-16 8.254E-16
p 31 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16
s 32 8.741E-16 8.741E-16 8.741E-16 8.741E-16 8.741E-16 8.741E-16 8.741E-16 8.741E-16 8.741E-16 8.741E-16 8.741E-16 8.741E-16
s 33 8.980E-16 8.980E-16 8.980E-16 8.980E-16 8.980E-16 8.980E-16 8.980E-16 8.980E-16 8.980E-16 8.980E-16 8.980E-16 8.980E-16
s 34 9.309E-16 9.309E-16 9.309E-16 9.309E-16 9.309E-16 9.309E-16 9.309E-16 9.309E-16 9.309E-16 9.309E-16 9.309E-16 9.309E-16
s 36 9.844E-16 9.844E-16 9.844E-16 9.844E-16 9.844E-16 9.844E-16 9.844E-16 9.844E-16 9.844E-16 9.844E-16 9.844E-16 9.844E-16
cl 35 9.024E-16 9.024E-16 9.024E-16 9.024E-16 9.024E-16 9.024E-16 9.024E-16 9.024E-16 9.024E-16 9.024E-16 9.024E-16 9.024E-16
cl 36 5.869E-17 5.869E-17 5.869E-17 5.869E-17 5.869E-17 5.869E-17 5.869E-17 5.869E-17 5.869E-17 5.869E-17 5.869E-17 5.869E-17
cl 37 1.022E-15 1.022E-15 1.022E-15 1.022E-15 1.022E-15 1.022E-15 1.022E-15 1.022E-15 1.022E-15 1.022E-15 1.022E-15 1.022E-15
ar 36 9.745E-16 9.745E-16 9.745E-16 9.745E-16 9.745E-16 9.745E-16 9.745E-16 9.745E-16 9.745E-16 9.745E-16 9.745E-16 9.745E-16
ar 38 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15
k 39 1.882E-18 1.882E-18 1.882E-18 1.882E-18 1.881E-18 1.880E-18 1.877E-18 1.872E-18 1.867E-18 1.862E-18 1.859E-18 1.858E-18
ar 40 1.000E-15 1.000E-15 1.000E-15 1.000E-15 1.000E-15 1.000E-15 1.000E-15 1.000E-15 1.000E-15 1.000E-15 1.000E-15 1.000E-15
k 39 1.061E-15 1.061E-15 1.061E-15 1.061E-15 1.061E-15 1.061E-15 1.061E-15 1.061E-15 1.061E-15 1.061E-15 1.061E-15 1.061E-15
k 40 1.045E-15 1.045E-15 1.045E-15 1.045E-15 1.045E-15 1.045E-15 1.045E-15 1.045E-15 1.045E-15 1.045E-15 1.045E-15 1.045E-15
k 41 1.164E-15 1.164E-15 1.164E-15 1.164E-15 1.164E-15 1.164E-15 1.164E-15 1.164E-15 1.164E-15 1.164E-15 1.164E-15 1.164E-15
ca 40 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15
ca 41 7.172E-19 7.172E-19 7.172E-19 7.172E-19 7.172E-19 7.172E-19 7.172E-19 7.171E-19 7.171E-19 7.171E-19 7.171E-19 7.171E-19
ca 42 1.152E-15 1.152E-15 1.152E-15 1.152E-15 1.152E-15 1.152E-15 1.152E-15 1.152E-15 1.152E-15 1.152E-15 1.152E-15 1.152E-15
ca 43 1.157E-15 1.157E-15 1.157E-15 1.157E-15 1.157E-15 1.157E-15 1.157E-15 1.157E-15 1.157E-15 1.157E-15 1.157E-15 1.157E-15
ca 44 1.223E-15 1.223E-15 1.223E-15 1.223E-15 1.223E-15 1.223E-15 1.223E-15 1.223E-15 1.223E-15 1.223E-15 1.223E-15 1.223E-15
ca 46 1.267E-15 1.267E-15 1.267E-15 1.267E-15 1.267E-15 1.267E-15 1.267E-15 1.267E-15 1.267E-15 1.267E-15 1.267E-15 1.267E-15
ca 48 1.311E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15 1.311E-15
sc 45 1.186E-15 1.186E-15 1.186E-15 1.186E-15 1.186E-15 1.186E-15 1.186E-15 1.186E-15 1.186E-15 1.186E-15 1.186E-15 1.186E-15
sc 46 8.048E-19 7.916E-19 7.627E-19 6.599E-19 4.400E-19 2.656E-19 3.222E-20 1.573E-21 7.682E-23 3.702E-24 3.902E-25 1.816E-25 8.869E-27 4.330E-28
1
5 more years for cooling used fuel material light elements page 2
0
nuclide concentrations, grams
basis =-15.1 kgTMM (nm*d 1M 1/4-ass. at 1 MT)
initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d
ti 46 1.303E-15 1.303E-15 1.303E-15 1.303E-15 1.303E-15 1.304E-15 1.304E-15 1.304E-15 1.304E-15 1.304E-15 1.304E-15 1.304E-15
ti 47 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15
ti 48 1.303E-15 1.303E-15 1.303E-15 1.303E-15 1.303E-15 1.303E-15 1.303E-15 1.303E-15 1.303E-15 1.303E-15 1.303E-15 1.303E-15
ti 49 1.384E-15 1.384E-15 1.384E-15 1.384E-15 1.384E-15 1.384E-15 1.384E-15 1.384E-15 1.384E-15 1.384E-15 1.384E-15 1.384E-15
ti 50 1.371E-15 1.371E-15 1.371E-15 1.371E-15 1.371E-15 1.371E-15 1.371E-15 1.371E-15 1.371E-15 1.371E-15 1.371E-15 1.371E-15
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0	5 more years for cooling used fuel material										light elements										page		3																
	nuclide concentrations, grams																																						
	basis =-15.1 g/kWh DHM 1/4-aas. at 1 MT)																																						
	initial	2.0 d	6.5 d	24.0 d	73.0 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d																									
hf180	9.426E-15	9.426E-15	9.426E-15	9.426E-15	9.426E-15	9.426E-15	9.426E-15	9.426E-15	9.426E-15	9.426E-15	9.426E-15	9.426E-15	9.426E-15	9.426E-15																									
hf181	7.741E-15	7.741E-15	7.741E-15	7.741E-15	7.741E-15	7.741E-15	7.741E-15	7.741E-15	7.741E-15	7.741E-15	7.741E-15	7.741E-15	7.741E-15	7.741E-15																									
hf182	1.876E-17	1.876E-17	1.876E-17	1.876E-17	1.876E-17	1.876E-17	1.876E-17	1.876E-17	1.876E-17	1.876E-17	1.876E-17	1.876E-17	1.876E-17	1.876E-17																									
ta180m	1.931E-19	3.018E-19	3.018E-19	3.018E-19	3.018E-19	3.018E-19	3.018E-19	3.018E-19	3.018E-19	3.018E-19	3.018E-19	3.018E-19	3.018E-19	3.018E-19																									
ta181	2.634E-19	2.634E-19	2.634E-19	2.634E-19	2.634E-19	2.634E-19	2.634E-19	2.634E-19	2.634E-19	2.634E-19	2.634E-19	2.634E-19	2.634E-19	2.634E-19																									
ta182	1.105E-17	1.105E-17	1.105E-17	1.105E-17	1.105E-17	1.105E-17	1.105E-17	1.105E-17	1.105E-17	1.105E-17	1.105E-17	1.105E-17	1.105E-17	1.105E-17																									
w182	8.802E-15	8.802E-15	8.802E-15	8.802E-15	8.802E-15	8.802E-15	8.802E-15	8.802E-15	8.802E-15	8.802E-15	8.802E-15	8.802E-15	8.802E-15	8.802E-15																									
w183	9.870E-15	9.870E-15	9.870E-15	9.870E-15	9.870E-15	9.870E-15	9.870E-15	9.870E-15	9.870E-15	9.870E-15	9.870E-15	9.870E-15	9.870E-15	9.870E-15																									
w184	8.878E-15	8.878E-15	8.878E-15	8.878E-15	8.878E-15	8.878E-15	8.878E-15	8.878E-15	8.878E-15	8.878E-15	8.878E-15	8.878E-15	8.878E-15	8.878E-15																									
w185	3.235E-18	2.822E-18	2.189E-18	1.867E-18	1.858E-18	6.779E-19	6.413E-20	2.208E-21	7.602E-23	5.893E-24	2.106E-25	8.828E-26	3.074E-27	1.058E-28																									
re185	9.004E-16	9.005E-16	9.006E-16	9.006E-16	9																																		

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[illegible][illegible][illegible]

0		5 more years for cooling used fuel material										element radioactivity, curies										light elements										page		7	
		basis = -15.1 kg/Hm nm ² /dm H-14/as. at 1 MT)																																	
		initial	2.0 d	6.5 d	24.0 d	73.0 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d																				
h		8.586E+03	8.584E+03	8.578E+03	8.555E+03	8.490E+03	8.411E+03	8.087E+03	7.645E+03	7.227E+03	6.831E+03	6.550E+03	6.457E+03	6.104E+03	5.771E+03																				
a		4.698E-08	4.698E-08	4.699E-08	4.699E-08	4.699E-08	4.699E-08	4.699E-08	4.699E-08	4.699E-08	4.699E-08	4.699E-08	4.699E-08	4.699E-08	4.699E-08																				
c		2.655E-05	2.655E-05	2.655E-05	2.655E-05	2.655E-05	2.655E-05	2.655E-05	2.655E-05	2.655E-05	2.655E-05	2.655E-05	2.655E-05	2.655E-05	2.655E-05																				
na		7.460E-21	7.449E-21	7.425E-21	7.330E-21	7.073E-21	6.766E-21	5.618E-21	4.305E-21	3.299E-21	2.526E-21	2.072E-21	1.936E-21	1.484E-21	1.137E-21																				
si		8.622E-21	8.621E-21	8.621E-21	8.621E-21	8.621E-21	8.621E-21	8.621E-21	8.621E-21	8.621E-21	8.621E-21	8.621E-21	8.621E-21	8.621E-21	8.621E-21																				
i		1.298E-19	1.298E-19	1.298E-19	1.298E-19	1.298E-19	1.298E-19	1.298E-19	1.298E-19	1.298E-19	1.298E-19	1.298E-19	1.298E-19	1.298E-19	1.298E-19																				
s		2.899E-15	2.253E-15	2.174E-15	1.893E-15	1.284E-15	7.920E-16	1.051E-16	5.834E-18	3.239E-19	1.784E-20	2.068E-21	9.902E-22	5.497E-23	3.052E-24																				
cl		1.937E-18	1.937E-18	1.937E-18	1.937E-18	1.937E-18	1.937E-18	1.937E-18	1.937E-18	1.937E-18	1.937E-18	1.937E-18	1.937E-18	1.937E-18	1.937E-18																				
r		7.783E-21	7.783E-21	7.783E-21	7.783E-21	7.783E-21	7.783E-21	7.783E-21	7.783E-21	7.783E-21	7.783E-21	7.783E-21	7.783E-21	7.783E-21	7.783E-21																				
ar		1.607E-21	7.606E-21	7.606E-21	7.606E-21	7.606E-21	7.606E-21	7.604E-21	7.603E-21	7.599E-21	7.597E-21	7.595E-21	7.594E-21	7.592E-21	7.590E-21																				
ca		2.991E-15	2.966E-15	2.910E-15	2.701E-15	2.192E-15	1.660E-15	5.699E-16	1.203E-16	2.543E-17	5.392E-18	1.733E-18	1.186E-18	2.987E-19	1.114E-19																				
sc		3.728E-14	2.636E-14	2.585E-14	2.266E-14	1.493E-14	9.003E-15	1.092E-15	5.332E-17	2.604E-18	1.262E-19	1.332E-20	6.177E-21	3.051E-22	1.563E-23																				
v		6.745E-19	6.710E-19	6.704E-19	6.704E-19	6.704E-19	6.704E-19	6.704E-19	6.704E-19	6.704E-19	6.704E-19	6.704E-19	6.704E-19	6.704E-19	6.704E-19																				
cr		3.047E-16	2.898E-16	2.898E-16	1.671E-16	4.903E-17	1.066E-17	1.805E-20	1.950E-24	2.106E-28	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00																				
m		2.779E-15	2.779E-15	2.739E-15	2.635E-15	2.363E-15	2.062E-15	1.171E-15	5.206E-16	2.314E-16	1.026E-16	5.609E-17	4.562E-17	2.098E-17	9.015E-18																				
fe		8.932E-15	8.678E-15	8.738E-15	8.457E-15	7.803E-15	7.282E-15	5.995E-15	4.656E-15	3.617E-15	2.808E-15	2.327E-15	2.182E-15	1.625E-15	1.317E-15																				
n		1.908E-11	1.908E-11	1.908E-11	1.908E-11	1.908E-11	1.908E-11	1.908E-11	1.908E-11	1.908E-11	1.908E-11	1.908E-11	1.908E-11	1.908E-11	1.908E-11																				
ni		1.966E-15	1.965E-15	1.965E-15	1.965E-15	1.965E-15	1.961E-15	1.952E-15	1.939E-15	1.927E-15	1.914E-15	1.905E-15	1.902E-15	1.890E-15	1.877E-15																				
zn		1.900E-17	1.889E-17	1.865E-17	1.775E-17	1.543E-17	1.298E-17	6.920E-18	2.230E-18	7.903E-19	2.793E-19	1.290E-19	9.901E-20	3.509E-20	1.244E-20																				

[illegible]

0	5 more years for cooling used fuel material	nuclide thermal power, watts	light elements	page 10
		basis = 15.1 kgHM (nrm/d) HM 1/4-ass. at 1 MT)		
	initial	2.0 d	6.5 d	24.0 d
		73.0 d	134.0 d	389.0 d
		754.0 d	1119.0 d	1485.0 d
		1757.0 d	1850.0 d	2215.0 d
		2580.0 d		
ir194	1.454E-22	1.453E-22	1.451E-22	1.43E-22
	1.421E-22	1.394E-22	1.286E-22	1.146E-22
	1.021E-22	9.092E-23	8.342E-23	8.010E-23
	7.217E-23	6.430E-23		

au194	7.087E-25	7.087E-25	7.087E-25	7.090E-25	7.085E-25	7.083E-25	7.075E-25	7.064E-25	7.053E-25	7.042E-25	7.034A-25	7.031E-25	7.020E-25	7.009E-25
au195	7.503E-21	7.448E-21	7.324E-21	6.862E-21	5.717E-21	4.555E-21	1.762E-21	4.525E-22	1.162E-22	2.973E-23	1.079E-23	7.634E-24	1.960E-24	5.034E-25
hg194	6.176E-27	6.176E-27	6.176E-27	6.175E-27	6.174E-27	6.173E-27	6.166E-27	6.156E-27	6.147E-27	6.139E-27	6.130E-27	6.127E-27	6.118E-27	6.108E-27
hg203	2.864E-18	7.780E-18	6.000E-18	2.004E-18	9.667E-19	3.901E-19	8.784E-20	3.850E-20	3.688E-20	2.678E-20	1.757E-20	3.195E-20	1.401E-20	0.000E+00
hg204	1.008E-27	7.071E-27	6.176E-27	6.175E-27	6.174E-27	6.173E-27	6.166E-27	6.156E-27	6.147E-27	6.139E-27	6.130E-27	6.127E-27	6.118E-27	6.108E-27
t1204	6.807E-19	6.800E-19	6.792E-19	6.725E-19	6.562E-19	6.364E-19	5.800E-19	4.663E-19	3.883E-19	3.323E-19	2.819E-19	2.691E-19	2.241E-19	1.866E-19
total	2.974E-07	2.974E-07	2.972E-07	2.964E-07	2.942E-07	2.914E-07	2.806E-07	2.657E-07	2.516E-07	2.382E-07	2.289E-07	2.256E-07	2.137E-07	2.025E-07

[illegible]

0

5 more years for cooling used fuel material

nuclide concentrations, grams

actinides

page

12

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initial

2.0 d

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5 more years for cooling used fuel material										nuclide concentrations, grams										actinides										page
										basis =15.1 kgHM (2000 gHM 144-4/ass. at 1 MP)																				13
	initial	2.0 d	6.5 d	24.0 d	73.0 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d																
u237	0.957E+06	1.958E+06	1.958E+06	1.958E+06	1.958E+06	1.958E+06	1.958E+06	1.958E+06	1.958E+06	1.958E+06	1.958E+06	1.958E+06	1.958E+06	1.958E+06																
u238	1.399E+04	1.399E+04	1.399E+04	1.399E+04	1.399E+04	1.399E+04	1.399E+04	1.399E+04	1.399E+04	1.399E+04	1.399E+04	1.399E+04	1.399E+04	1.399E+04																
u238	3.808E-14	3.808E-14	3.808E-14	3.808E-14	3.808E-14	3.808E-14	3.808E-14	3.808E-14	3.808E-14	3.808E-14	3.808E-14	3.808E-14	3.808E-14	3.808E-14																
np235	6.632E+08	6.620E+08	6.591E+08	6.483E+08	6.281E+08	2.873E+08	2.873E+08	2.873E+08	9.711E+08	5.182E+09	2.703E+10	1.679E+10	1.427E+09	7.536E+10																
np238	1.082E+09	1.082E+09	1.082E+09	1.082E+09	1.082E+09	1.082E+09	1.082E+09	1.082E+09	1.082E+09	1.082E+09	1.082E+09	1.082E+09	1.082E+09	1.082E+09																
np237	2.613E+08	2.613E+08	2.613E+08	2.613E+08	2.613E+08	1.914E+08	2.876E+08	1.824E+08	2.839E+08	2.588E+08	2.781E+08	2.901E+08	2.909E+08	2.940E+08																
np238	9.559E+09	9.559E+09	9.558E+09	9.556E+09	9.550E+09	9.542E+09	9.530E+09	9.462E+09	9.416E+09	9.370E+09	9.336E+09	9.324E+09	9.278E+09	9.233E+09																
np239	5.187E+06	5.187E+06	5.187E+06	5.187E+06	5.187E+06	5.187E+06	5.187E+06	5.186E+06	5.186E+06	5.185E+06	5.185E+06	5.185E+06	5.184E+06	5.184E+06																
np240m	3.250E+06	3.250E+06	3.249E+06	3.246E+06	3.239E+06	3.230E+06	3.216E+06	3.197E+06	3.174E+06	3.147E+06	3.110E+06	3.062E+06	3.008E+06	2.942E+06																
np240	3.434E-14	3.434E-14	3.434E-14	3.434E-14	3.434E-14	3.434E-14	3.434E-14	3.434E-14	3.434E-14	3.434E-14	3.434E-14	3.434E-14	3.434E-14	3.434E-14																
np236	1.522E+05	1.520E+05	1.515E+05	1.498E+05	1.450E+05	1.392E+05	1.175E+05	9.223E+06	7.238E+06	5.676E+06	4.738E+06	4.455E+06	3.496E+06	2.743E+06																
np237	2.460E+07	2.386E+07	2.229E+07	1.708E+07	8.117E+08	3.024E+08	6.68E+10	2.616E+12	1.024E+14	3.946E+17	6.340E+19	1.544E+19	3.063E+22	2.365E+24																
np238	2.895E+08	2.897E+08	2.903E+08	2.924E+08	2.974E+08	3.124E+08	3.124E+08	3.147E+08	3.132E+08	3.110E+08	3.092E+08	3.086E+08	3.062E+08	3.038E+08																
np239	8.609E+08	8.609E+08	8.609E+08	8.609E+08	8.609E+08	8.609E+08	8.609E+08	8.609E+08	8.609E+08	8.609E+08	8.609E+08	8.609E+08	8.609E+08	8.609E+08																
np240	1.063E+02	1.063E+02	1.063E+02	1.063E+02	1.063E+02	1.063E+02	1.064E+02	1.065E+02	1.065E+02	1.065E+02	1.065E+02	1.067E+02	1.067E+02	1.068E+02																
np241	2.727E+01	2.670E+01	2.668E+01	2.652E+01	2.621E+01	2.611E+01	2.611E+01	2.596E+01	2.574E+01	2.540E+01	2.519E+01	2.496E+01	2.467E+01	2.452E+01																
np242	2.213E+01	2.213E+01	2.213E+01	2.213E+01	2.213E+01	2.213E+01	2.213E+01	2.213E+01	2.213E+01	2.213E+01	2.213E+01	2.213E+01	2.213E+01	2.213E+01																
np243	2.208E+01	2.208E+01	2.208E+01	2.208E+01	2.208E+01	2.208E+01	2.208E+01	2.208E+01	2.208E+01	2.208E+01	2.208E+01	2.208E+01	2.208E+01	2.208E+01																
np244	1.954E-03	1.954E-03	1.954E-03	1.954E-03	1.954E-03	1.954E-03	1.954E-03	1.954E-03	1.954E-03	1.954E-03	1.954E-03	1.954E-03	1.954E-03	1.954E-03																
np246	2.097E-18	2.097E-18	2.097E-18	2.097E-18	2.097E-18	2.097E-18	2.097E-18	2.096E-18	2.096E-18	2.096E-18	2.096E-18	2.096E-18	2.096E-18	2.095E-18																
am241	4.927E+08	4.944E+08	4.981E+08	5.126E+08	5.530E+08	6.030E+08	8.074E+08	1.088E+09	1.356E+09	1.608E+09	1.789E+09	1.849E+09	2.078E+09	2.296E+09																
am242	1.151E+02	1.151E+02	1.149E+02	1.146E+02	1.142E+02	1.138E+02	1.132E+02	1.099E+02	1.070E+02	1.042E+02	1.015E+02	9.900E+01	9.600E+01	9.475E+01																
am242	6.645E-07	6.645E-07	6.645E-07	6.645E-07	6.645E-07	6.645E-07	6.634E-07	6.611E-07	6.579E-07	6.547E-07	6.515E-07	6.491E-07	6.483E-07	6.451E-07																
am243	6.026E+08	6.026E+08	6.026E+08	6.026E+08	6.026E+08	6.026E+08	6.026E+08	6.025E+08	6.024E+08	6.024E+08	6.024E+08	6.023E+08	6.023E+08	6.022E+08																
am244	8.240E-17	8.237E-17	8.234E-17	8.199E-17	8.144E-17	8.011E-17	7.591E-17	7.029E-17	6.508E-17	6.024E-17	5.688E-17	5.577E-17	5.564E-17	4.781E-17																
am244	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00																
am244	650.0E-13	1.17E-13	3.95E-13	1.11E-13	7.17E-14	4.91E-14	2.40E-17	8.23E-15	5.53E-25	2.80E-29	1.97E-32	1.09E-33	0.000E+00	0.000E+00																

cm241	5.859E-10	5.616E-10	5.107E-10	3.528E-10	1.253E-11	3.451E-11	1.576E-13	7.043E-17	3.147E-20	1.376E-23	4.389E-26	6.150E-27	2.748E-30	1.228E-33
cm242	3.202E-01	3.175E-01	3.115E-01	2.891E-01	2.348E-01	1.811E-01	6.131E-02	1.308E-02	2.873E-03	7.094E-04	3.129E-04	2.533E-04	1.563E-04	1.353E-04
cm243	2.603E-02	2.603E-02	2.602E-02	2.598E-02	2.591E-02	2.581E-02	2.538E-02	2.478E-02	2.420E-02	2.363E-02	2.321E-02	2.307E-02	2.253E-02	2.200E-02
cm244	2.591E+00	2.591E+00	2.589E+00	2.585E+00	2.571E+00	2.555E+00	2.488E+00	2.394E+00	2.304E+00	2.218E+00	2.155E+00	2.135E+00	2.054E+00	1.977E+00
cm245	2.590E+01	2.590E+01	2.590E+01	2.590E+01	2.590E+01	2.590E+01	2.589E+01	2.589E+01	2.589E+01	2.589E+01	2.589E+01	2.589E+01	2.589E+01	2.588E+01
cm246	2.052E-02	2.052E-02	2.052E-02	2.052E-02	2.052E-02	2.052E-02	2.051E-02	2.051E-02	2.051E-02	2.051E-02	2.051E-02	2.050E-02	2.050E-02	2.050E-02
cm247	3.383E-04	3.383E-04	3.383E-04	3.383E-04	3.383E-04	3.383E-04	3.383E-04	3.383E-04	3.383E-04	3.383E-04	3.383E-04	3.383E-04	3.383E-04	3.383E-04
cm248	2.449E-05	2.449E-05	2.449E-05	2.449E-05	2.449E-05	2.449E-05	2.449E-05	2.450E-05	2.450E-05	2.450E-05	2.451E-05	2.451E-05	2.451E-05	2.451E-05
cm250	3.310E-12	3.310E-12	3.310E-12	3.310E-12	3.310E-12	3.310E-12	3.310E-12	3.310E-12	3.310E-12	3.309E-12	3.309E-12	3.309E-12	3.309E-12	3.309E-12
bk247	1.601E-14	1.601E-14	1.601E-14	1.601E-14	1.601E-14	1.601E-14	1.600E-14	1.599E-14	1.598E-14	1.597E-14	1.597E-14	1.596E-14	1.596E-14	1.596E-14
bk248	6.537E-13	6.536E-13	6.528E-13	6.504E-13	6.437E-13	6.355E-13	6.022E-13	5.575E-13	5.162E-13	4.779E-13	4.512E-13	4.424E-13	4.066E-13	3.793E-13
bk249	2.384E-07	2.373E-07	2.350E-07	2.263E-07	2.035E-07	1.783E-07	1.026E-07	4.655E-08	2.111E-08	9.555E-09	5.301E-09	4.334E-09	1.966E-09	8.916E-10
bk250	1.192E-16	1.186E-16	1.173E-16	1.122E-16	9.921E-17	8.510E-17	4.483E-17	1.791E-17	7.163E-18	2.861E-18	1.450E-18	1.150E-18	4.663E-19	1.933E-19
cf248	4.515E-13	4.497E-13	4.455E-13	4.296E-13	3.880E-13	3.418E-13	2.012E-13	9.421E-14	4.412E-14	2.062E-14	1.171E-14	9.656E-15	4.522E-15	2.118E-15
cf249	2.321E-07	2.332E-07	2.355E-07	2.442E-07	2.669E-07	2.920E-07	3.672E-07	4.225E-07	4.471E-07	4.578E-07	4.613E-07	4.621E-07	4.635E-07	4.637E-07
cf250	1.276E-07	1.276E-07	1.275E-07	1.272E-07	1.263E-07	1.252E-07	1.206E-07	1.144E-07	1.085E-07	1.029E-07	9.891E-08	9.759E-08	9.255E-08	8.778E-08
cf251	6.472E-08	6.472E-08	6.472E-08	6.472E-08	6.471E-08	6.470E-08	6.467E-08	6.462E-08	6.457E-08	6.452E-08	6.448E-08	6.447E-08	6.442E-08	6.437E-08
cf252	2.356E-08	2.352E-08	2.345E-08	2.315E-08	2.235E-08	2.140E-08	1.782E-08	1.371E-08	1.055E-08	8.116E-09	6.677E-09	6.246E-09	4.807E-09	3.699E-09
cf253	3.559E-05	3.293E-05	2.768E-05	1.399E-05	2.077E-05	1.934E-05	9.469E-06	6.028E-06	4.740E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cf254	1.030E-13	1.007E-13	9.560E-14	7.823E-14	4.462E-14	2.218E-14	1.195E-15	1.824E-17	2.786E-19	4.205E-21	1.864E-22	6.422E-23	9.806E-25	1.497E-26
es252	6.303E-17	6.284E-17	6.243E-17	6.084E-17	5.661E-17	5.176E-17	3.558E-17	2.081E-17	1.217E-17	7.108E-18	4.766E-18	4.157E-18	2.431E-18	1.422E-18
es253	7.282E-14	6.831E-14	5.914E-14	3.369E-14	6.859E-15	9.230E-16	1.832E-16	8.120E-17	3.482E-18	1.444E-19	0.000E+00	0.000E+00	0.000E+00	0.000E+00
es254	2.493E-13	2.481E-13	2.453E-13	2.479E-13	2.050E-13	1.780E-13	9.376E-14	3.743E-14	1.496E-14	5.961E-15	3.008E-15	2.281E-15	9.511E-16	3.959E-16
es255	6.106E-16	5.897E-16	5.452E-16	4.020E-16	1.712E-16	5.919E-17	6.974E-19	1.210E-21	2.099E-24	3.579E-27	3.137E-29	6.209E-30	1.077E-32	1.869E-35
total	1.440E+04	1.440E+04	1.440E+04	1.440E+04	1.440E+04	1.440E+04	1.440E+04	1.440E+04	1.440E+04	1.440E+04	1.440E+04	1.440E+04	1.440E+04	1.440E+04

	5 more years for cooling used fuel material														actinides		page	14
	element concentrations, grams																	
	basis --15.1 kgIHM (nm ³ d IHM 1/4-ass. at 1 MT)																	
	initial	2.0 d	6.5 d	24.0 d	73.0 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d				
he	3.660E-02	3.564E-02	3.476E-02	3.249E-02	3.094E-02	2.940E-02	2.694E-02	2.450E-02	2.209E-02	1.974E-02	1.749E-02	1.536E-02	1.280E-02	1.040E-02				
li	4.260E-16	4.260E-16	4.260E-16	4.260E-16	4.260E-16	4.260E-16	4.260E-16	4.260E-16	4.260E-16	4.260E-16	4.260E-16	4.260E-16	4.260E-16	4.260E-16				
tl	5.001E-14	5.021E-14	5.032E-14	5.237E-14	6.012E-14	6.894E-14	1.088E-13	1.698E-13	2.294E-13	2.841E-13	3.266E-13	3.324E-13	3.727E-13	4.064E-13				
pb	1.301E-08	1.310E-08	1.332E-08	1.416E-08	1.666E-08	2.022E-08	4.066E-08	8.678E-08	1.530E-07	2.385E-07	3.133E-07	3.409E-07	4.579E-07	5.874E-07				
th	4.574E-12	4.588E-12	4.600E-12	4.630E-12	4.678E-12	4.736E-12	4.803E-12	4.876E-12	4.954E-12	5.036E-12	5.122E-12	5.211E-12	5.303E-12	5.397E-12				
po	1.174E-14	1.176E-14	1.180E-14	1.196E-14	1.234E-14	1.265E-14	1.323E-14	1.343E-14	1.355E-14	1.379E-14	1.407E-14	1.419E-14	1.482E-14	1.569E-14				
rn	4.479E-14	4.480E-14	4.503E-14	4.691E-14	5.384E-14	6.174E-14	9.742E-14	1.520E-13	2.054E-13	2.544E-13	2.872E-13	2.978E-13	3.340E-13	3.645E-13				
fr	6.903E-18	6.905E-18	6.905E-18	6.908E-18	6.932E-18	6.969E-18	7.131E-18	7.362E-18	7.600E-18	7.844E-18	8.028E-18	8.086E-18	8.347E-18	8.607E-18				
ac	2.791E-19	2.791E-19	2.791E-19	2.791E-19	2.791E-19	2.791E-19	2.791E-19	2.791E-19	2.791E-19	2.791E-19	2.791E-19	2.791E-19	2.791E-19	2.791E-19				
na	1.025E-11	1.025E-11	1.034E-11	1.068E-11	1.164E-11	1.284E-11	1.786E-11	2.508E-11	3.231E-11	3.960E-11	4.503E-11	4.688E-11	5.420E-11	6.153E-11				
th	4.864E-06	4.867E-06	4.875E-06	4.905E-06	4.991E-06	5.100E-06	5.578E-06	6.323E-06	7.135E-06	8.012E-06	8.704E-06	8.948E-06	9.943E-06	1.100E-05				
pa	4.558E-07	4.558E-07	4.560E-07	4.566E-07	4.584E-07	4.605E-07	4.694E-07	4.822E-07	4.952E-07	5.083E-07	5.215E-07	5.349E-07	5.487E-07	5.640E-07				
u	1.401E+04	1.401E+04	1.401E+04	1.401E+04	1.401E+04	1.401E+04	1.401E+04	1.401E+04	1.401E+04	1.401E+04	1.401E+04	1.401E+04	1.401E+04	1.401E+04				
pu	2.813E+00	2.813E+00	2.813E+00	2.813E+00	2.813E+00	2.813E+00	2.813E+00	2.813E+00	2.813E+00	2.813E+00	2.813E+00	2.813E+00	2.813E+00	2.813E+00				
np	3.749E+02	3.749E+02	3.749E+02	3.749E+02	3.749E+02	3.749E+02	3.749E+02	3.749E+02	3.749E+02	3.749E+02	3.749E+02	3.749E+02	3.749E+02	3.749E+02				
am	1.100E+01	1.102E+01	1.106E+01	1.120E+01	1.161E+01	1.211E+01	1.415E+01	1.695E+01	1.962E+01	2.216E+01	2.396E+01	2.456E+01	2.685E+01	2.903E+01				
cm	3.217E+00	3.154E+00	3.207E+00	3.180E+00	3.112E+00	3.042E+00	2.854E+00	2.712E+00	2.611E+00	2.522E+00	2.459E+00	2.438E+00	2.357E+00	2.279E+00				
bk	2.384E-07	2.373E-07	2.350E-07	2.263E-07	2.035E-07	1.783E-07	1.026E-07	4.655E-08	2.111E-08	9.555E-09	5.301E-09	4.334E-09	1.966E-09	8.920E-10				
cf	4.481E-07	4.490E-07	4.511E-07	4.592E-07	4.803E-07	5.033E-07	5.703E-07	6.152E-07	6.307E-07	6.333E-07	6.314E-07	6.304E-07	6.253E-07	6.195E-07				
es	3.228E-13	3.170E-13	3.050E-13	2.689E-13	2.146E-13	1.790E-13	9.380E-14	3.747E-14	1.497E-14	5.968E-15	3.013E-15	2.385E-15	9.536E-16	3.813E-16				
total	1.440E+04	1.440E+04	1.440E+04	1.440E+04	1.440E+04	1.440E+04	1.440E+04	1.440E+04	1.440E+04	1.440E+04	1.440E+04	1.440E+04	1.440E+04	1.440E+04				

5 more years for cooling used fuel material															nuclide radioactivity, curies										actinides										page	15
															basis --15.1 kgIHM (nm ³ d IHM 1/4-ass. at 1 MT)																					
																									</											

	5 more years for cooling used fuel material										nuclide radioactivity, curies										actinides										page	17
	basis --15.1 kgHRM (nmr'd) 3HM /4-yrss. at 1 MT)																															
	initial	2.0 d	6.5 d	24.0 d	73.0 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d																		
bK248	1.048E-10	1.048E-10	1.047E-10	1.043E-10	1.032E-10	1.019E-10	9.656E-11	8.944E-11	8.278E-11	7.665E-11	7.235E-11	7.095E-11	6.569E-11	6.082E-11																		
bK249	3.903E-04	3.903E-04	3.903E-04	3.903E-04	3.903E-04	3.903E-04	3.903E-04	3.903E-04	3.903E-04	3.903E-04	3.903E-04	3.903E-04	3.903E-04	3.903E-04																		
bK250	4.654E-10	4.654E-10	4.654E-10	4.654E-10	4.654E-10	4.654E-10	4.654E-10	4.654E-10	4.654E-10	4.654E-10	4.654E-10	4.654E-10	4.654E-10	4.654E-10																		
bK251	6.293E-13	6.293E-13	6.293E-13	6.293E-13	6.293E-13	6.293E-13	6.293E-13	6.293E-13	6.293E-13	6.293E-13	6.293E-13	6.293E-13	6.293E-13	6.293E-13																		
cf248	7.132E-10	7.102E-10	7.036E-10	7.143E-10	7.165E-10	7.188E-10	7.188E-10	7.188E-10	7.188E-10	7.188E-10	7.188E-10	7.188E-10	7.188E-10	7.188E-10																		
cf249	9.500E-07	9.542E-07	9.636E-07	9.993E-07	1.092E-06	1.195E-06	1.503E-06	1.729E-06	1.830E-06	1.873E-06	1.888E-06	1.891E-06	1.897E-06	1.897E-06																		
cf250	1.396E-05	1.396E-05	1.396E-05	1.396E-05	1.396E-05	1.396E-05	1.396E-05	1.396E-05	1.396E-05	1.396E-05	1.396E-05	1.396E-05	1.396E-05	1.396E-05																		
cf251	1.027E-07	1.027E-07	1.027E-07	1.027E-07	1.027E-07	1.027E-07	1.027E-07	1.027E-07	1.027E-07	1.027E-07	1.027E-07	1.027E-07	1.027E-07	1.027E-07																		
cf252	1.264E-05	1.262E-05	1.258E-05	1.245E-05	1.200E-05	1.148E-05	9.262E-06	7.399E-06	5.653E-06	4.355E-06	3.589E-06	3.352E-06	2.580E-06	1.985E-06																		
cf253	1.032E-10	1.032E-10	1.032E-10	1.032E-10	1.032E-10	1.032E-10	1.032E-10	1.032E-10	1.032E-10	1.032E-10	1.032E-10	1.032E-10	1.032E-10	1.032E-10																		
es248	7.755E-10	8.456E-10	8.456E-10	8.456E-10	8.456E-10	8.456E-10	8.456E-10	8.456E-10	8.456E-10	8.456E-10	8.456E-10	8.456E-10	8.456E-10	8.456E-10																		
es252	6.927E-14	6.906E-14	6.861E-14	6.687E-14	6.222E-14	5.689E-14	3.911E-14	2.287E-14	1.388E-14	7.812E-15	5.238E-15	4.569E-15	2.672E-15	1.563E-15																		
es253	1.837E-09	1.732E-09	1.492E-09	8.499E-10	1.730E-10	2.328E-11	4.622E-12	2.048E-12	8.784E-26	3.642E-31	0.000E+00	0.000E+00	0.000E+00	0.000E+00																		
es254	4.651E-10	4.628E-10	4.576E-10	4.379E-10	3.871E-10	3.321E-10	2.719E-10	6.686E-11	2.791E-11	1.112E-11	5.512E-12	4.442E-12	1.774E-12	7.078E-13																		
total	8.893E-05	8.893E-05	8.893E-05	8.893E-05	8.893E-05	8.893E-05	8.893E-05	8.893E-05	8.893E-05	8.893E-05	8.893E-05	8.893E-05	8.893E-05	8.893E-05																		
total	7.891E-03	7.880E-03	7.857E-03	7.768E-03	7.547E-03	7.318E-03	6.712E-03	6.266E-03	5.950E-03	5.678E-03	5.462E-03	5.442E-03	5.178E-03	4.955E-03																		

5 more years for cooling used fuel material										nuclide thermal power, watts										actinides										page																																																																																																																							
										basin ~15.1 kg/Hm (nmr/d) 399.14 w-ass. at 1 MPa																																																																																																																																											
										initial										2.0 d										6.5 d										24.0 d										73.0 d										134.0 d										389.0 d										754.0 d										1119.0 d										1485.0 d										1757.0 d										2655.0 d										2215.0 d										2580.0 d									
t2096										2.609E-19										2.610E-19										2.609E-19										2.605E-19										2.598E-19										2.582E-19										2.545E-19										2.584E-19										2.640E-19										2.665E-19										2.784E-19										2.980E-19																													
t2107										2.051E-12										2.050E-12										2.053E-12										2.092E-12										2.278E-12										2.531E-12										3.778E-12										5.304E-12										6.837E-12										8.379E-12										9.531E-12										9.732E-12										1.147E-11										1.302E-11									
t2108										3.491E-07										3.506E-07										3.513E-07										3.657E-07										4.198E-07										4.814E-07										7.598E-07										1.185E-06										1.602E-06										1.984E-06										2.238E-06										2.321E-06										2.602E-06										2.838E-06									
t2109										4.247E-13										4.248E-13										4.246E-13										4.242E-13										4.242E-13										4.245E-13										4.265E-13										4.293E-13										4.324E-13										4.359E-13										4.387E-13										4.393E-13										4.438E-13										4.482E-13									
t2110										5.540E-07										5.548E-07										5.552E-07										5.612E-07										5.615E-07										5.618E-07										5.616E-07										5.616E-07										5.616E-07										5.616E-07										5.616E-07										5.616E-07										5.616E-07																			
t2109										1.349E-13										1.349E-13										1.349E-13										1.347E-13										1.347E-13										1.348E-13										1.352E-13										1.363E-13										1.373E-13										1.384E-13										1.393E-13										1.395E-13										1.409E-13										1.423E-13									
t2110										1.602E-14										1.601E-14										1.601E-14										1.600E-14										1.595E-14										1.590E-14										1.572E-14										1.559E-14										1.562E-14										1.587E-14										1.621E-14										1.636E-14										1.715E-14										1.830E-14									
t2111										2.136E-12										2.136E-12										2.139E-12										2.179E-12										2.373E-12										2.636E-12										3.935E-12										5.525E-12										7.121E-12										8.728E-12										9.928E-12										1.014E-11										1.195E-11										1.370E-11									
t2112										7.680E-08										7.677E-08										7.729E-08										8.045E-08										9.235E-08										1.059E-07										1.672E-07										2.608E-07										3.524E-07										4.364E-07										4.935E-07										5.57E-07										5.724E-07										6.243E-07									
t2113										2.944E-09										2.944E-09										2.944E-09										2.944E-09										2.944E-09										2.944E-09										2.944E-09										2.944E-09										2.944E-09										2.944E-09										2.944E-09										2.944E-09										2.944E-09																			
t2107										8.935E-21										8.972E-21										8.989E-21										8.980E-21										8.954E-21										8.921E-21										8.785E-21										8.594E-21										8.408E-21										8.224E-21										8.025E-21										7.817E-21										7.721E-21										7.700E-21									
t2110										1.405E-15										1.405E-15										1.404E-15										1.403E-15										1.399E-15										1.395E-15										1.379E-15										1.367E-15										1.370E-15										1.392E-15										1.422E-15										1.435E-15										1.505E-15										1.605E-15									
t2121										2.802E-11										2.801E-11										2.805E-11										2.858E-11										3.133E-11										3.457E-11										5.61E-11										7.246E-11										9.340E-11										1.145E-10										1.302E-10										1.430E-10										1.567E-10										1.779E-10									
t2111										5.901E-11																																																																																																																																											

t234	1.855E-06	1.855E-06	1.855E-06	1.855E-06	1.855E-06	1.855E-06	1.855E-06	1.855E-06	1.855E-06	1.855E-06	1.855E-06	1.855E-06	1.855E-06	1.855E-06		
5 more years for cooling used fuel material								actinides							page	20
0	nucleide thermal power, watts busid ~15.1 kgTHM (nm/d THM 1/4-ass. at 1 MF)															
	initial	2.0 d	6.5 d	24.0 d	75.0 d	134.0 d	24.0 d	75.0 d	134.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d	
pa230	5.699E-15	5.252E-15	4.391E-15	2.187E-15	3.105E-16	2.793E-17	1.059E-21	1.532E-28	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
pa231	5.131E-10	5.132E-10	5.134E-10	5.143E-10	5.167E-10	5.197E-10	5.319E-10	5.494E-10	5.699E-10	5.845E-10	5.975E-10	6.021E-10	6.196E-10	6.371E-10	6.546E-10	
pa232	6.546E-13	6.546E-13	6.546E-13	6.547E-13	6.546E-13	6.546E-13	6.546E-13	6.546E-13	6.546E-13	6.546E-13	6.546E-13	6.546E-13	6.546E-13	6.546E-13	6.546E-13	
pa233	8.864E-06	8.864E-06	8.864E-06	8.864E-06	8.865E-06	8.865E-06	8.865E-06	8.865E-06	8.865E-06	8.865E-06	8.865E-06	8.865E-06	8.865E-06	8.865E-06	8.865E-06	
pa234m	2.310E-05	2.310E-05	2.310E-05	2.310E-05	2.310E-05	2.310E-05	2.312E-05	2.310E-05	2.310E-05	2.310E-05	2.310E-05	2.310E-05	2.310E-05	2.310E-05	2.310E-05	
pa234	8.520E-08	8.516E-08	8.521E-08	8.521E-08	8.520E-08	8.520E-08	8.526E-08	8.521E-08	8.521E-08	8.521E-08	8.521E-08	8.524E-08	8.521E-08	8.521E-08	8.521E-08	
u230	6.859E-14	6.123E-14	7.035E-14	4.012E-14	8.219E-15	1.820E-15	2.431E-19	1.628E-24	6.617E-30	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
u231	4.941E-06	4.955E-06	4.946E-06	5.007E-06	5.139E-06	5.339E-06	5.719E-06	6.822E-06	8.122E-06	1.122E-05	1.179E-05	1.196E-05	1.252E-05	1.292E-05	1.329E-05	
u233	1.943E-09	1.944E-09	1.948E-09	1.960E-09	1.993E-09	2.035E-09	2.210E-09	2.488E-09	2.768E-09	3.051E-09	3.242E-09	3.308E-09	3.595E-09	3.866E-09	4.137E-09	
u234	2.867E-05	2.869E-05	2.874E-05	2.893E-05	2.949E-05	3.018E-05	3.315E-05	3.755E-05	4.192E-05	4.628E-05	4.949E-05	5.092E-05	5.486E-05	5.911E-05	6.340E-05	
u235	7.490E-07	7.490E-07	7.490E-07	7.490E-07	7.490E-07	7.491E-07	7.493E-07	7.495E-07	7.496E-07	7.499E-07	7.502E-07	7.504E-07	7.505E-07	7.508E-07	7.511E-07	
u236	8.205E-06	8.205E-06	8.205E-06	8.206E-06	8.209E-06	8.212E-06	8.225E-06	8.245E-06	8.264E-06	8.283E-06	8.299E-06	8.303E-06	8.322E-06	8.342E-06	8.362E-06	

5 more years for cooling used fuel material										actinides										page 21									
nuclide thermal power, watts										basis =15.1 kg/Hm (nat) H2O at 174 s/ass. at 1 MT																			
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	initial	2.0 d	6.5 d	24.0 d	73.0 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									</

5 more years for cooling used fuel material													fission products													page 24	
nuclide concentrations, grams													basis = -1.1 kgHM (nm'd 1M 1/4-ass. at 1 M)														
	initial	2.0 d	6.5 d	24.0 d	73.0 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d													
y 89	4.428E+00	4.428E+00	4.429E+00	4.431E+00	4.434E+00	4.437E+00	4.438E+00	4.438E+00	4.438E+00	4.438E+00	4.438E+00	4.438E+00	4.438E+00	4.438E+00													
y 89m	3.488E-12	3.393E-12	3.190E-12	2.509E-12	1.281E-12	5.549E-13	1.679E-14	1.124E-16	7.518E-19	4.962E-21	1.189E-22	3.320E-23	2.222E-25	1.487E-27													
z 90	5.176E+00	5.175E+00	5.174E+00	5.168E+00	5.151E+00	5.130E+00	5.045E+00	4.925E+00	4.808E+00	4.693E+00	4.580E+00	4.473E+00	4.368E+00	4.266E+00													
z 91	0.1313E-03	0.1313E-03	0.1312E-03	0.1311E-03	0.1307E-03	0.1301E-03	0.1280E-03	0.1249E-03	0.1220E-03	0.1190E-03	0.1169E-03	0.1162E-03	0.1153E-03	0.1148E-03													
zr 90	2.847E-01	2.854E-01	2.869E-01	2.929E-01	3.005E-01	3.102E-01	3.458E-01	5.357E-01	6.528E-01	7.675E-01	8.509E-01	8.791E-01	9.880E-01	1.094E+00													
zr 91	2.699E-02	2.635E-02	2.499E-02	2.031E-02	1.136E-02	5.517E-03	2.690E-04	3.563E-06	4.720E-08	6.178E-10	2.463E-11	8.183E-12	1.084E-13	1.436E-15													
zr 91	6.442E+00	6.443E+00	6.444E+00	6.449E+00	6.458E+00	6.464E+00	6.469E+00	6.469E+00	6.469E+00	6.469E+00	6.469E+00	6.469E+00	6.469E+00	6.469E+00													
nb 91	1.474E-10	1.474E-10	1.474E-10	1.474E-10	1.474E-10	1.473E-10	1.472E-10	1.471E-10	1.469E-10	1.468E-10	1.467E-10	1.466E-10	1.465E-10	1.463E-10													
nb 91m	1.230E-16	1.202E-16	1.142E-16	9.356E-17	5.355E-17	2.673E-17	1.465E-18	2.292E-20	3.588E-22	5.553E-24	2.507E-25	8.692E-26	1.361E-27	2.130E-29													
zr 92	7.810E+00	7.810E+00	7.810E+00	7.810E+00	7.810E+00	7.810E+00	7.810E+00	7.810E+00	7.810E+00	7.810E+00	7.810E+00	7.810E+00	7.810E+00	7.810E+00													
nb 92	1.277E-08	1.277E-08	1.277E-08	1.277E-08	1.277E-08	1.277E-08	1.277E-08	1.277E-08	1.277E-08	1.277E-08	1.277E-08	1.277E-08	1.277E-08	1.277E-08													
nb 92m	1.273E-19	1.111E-19	8.169E-20	2.473E-20	8.707E-22	1.351E-23	3.697E-31	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00													
mo 92	9.441E-14	9.441E-14	9.441E-14	9.441E-14	9.441E-14	9.441E-14	9.441E-14	9.441E-14	9.441E-14	9.441E-14	9.441E-14	9.441E-14	9.441E-14	9.441E-14													
zr 93	9.618E+00	9.618E+00	9.618E+00	9.618E+00	9.618E+00	9.618E+00	9.618E+00	9.618E+00	9.618E+00	9.618E+00	9.618E+00	9.618E+00	9.617E+00	9.617E+00													
nb 93	1.527E-06	1.530E-06	1.536E-06	1.560E-06	1.629E-06	1.720E-06	2.147E-06	2.893E-06	3.790E-06	4.835E-06	5.703E-06	6.018E-06	7.333E-06	8.776E-06													
nb 93m	8.988E-06	9.009E-06	9.057E-06	9.241E-06	9.756E-06	1.039E-05	1.301E-05	1.662E-05	2.007E-05	2.339E-05	2.577E-05	2.657E-05	2.961E-05	3.252E-05													
mo 93	6.471E-09	6.471E-09	6.471E-09	6.470E-09	6.470E-09	6.470E-09	6.469E-09	6.468E-09	6.467E-09	6.466E-09	6.465E-09	6.465E-09	6.464E-09	6.463E-09													
zr 94	1.102E+01	1.102E+01	1.102E+01	1.102E+01	1.102E+01	1.102E+01	1.102E+01	1.102E+01	1.102E+01	1.102E+01	1.102E+01	1.102E+01	1.102E+01	1.102E+01													
nb 94	4.729E-05	4.729E-05	4.729E-05	4.729E-05	4.729E-05	4.729E-05	4.729E-05	4.729E-05	4.729E-05	4.729E-05	4.729E-05	4.729E-05	4.729E-05	4.729E-05													
mo 94	2.159E-04	2.159E-04	2.159E-04	2.159E-04	2.159E-04	2.159E-04	2.159E-04	2.159E-04	2.159E-04	2.159E-04	2.159E-04	2.159E-04	2.159E-04	2.159E-04													
zr 95	7.162E-02	7.009E-02	6.676E-02	5.524E-02	3.250E-02	1.679E-02	1.062E-03	2.043E-05	3.929E-07	7.476E-09	3.935E-10	1.438E-10	2.765E-12	5.318E-14													
nb 95	8.079E-02	7.915E-02	7.559E-02	6.513E-02	3.785E-02	1.984E-02	1.277E-03	2.540E-05	4.890E-07	9.302E-09	4.752E-10	1.734E-10	3.438E-12	6.619E-14													
nb 95m	4.622E-05	4.522E-05	4.452E-05	4.398E-05	4.353E-05	4.318E-05	4.292E-05	4.273E-05	4.262E-05	4.256E-05	4.253E-05	4.252E-05	4.251E-05	4.250E-05													
tc 95	1.056E-19	1.032E-19	9.940E-20	8.036E-20	4.605E-20	2.303E-20	1.270E-21	2.007E-23	3.172E-25	4.955E-27	2.253E-28	7.831E-29	1.238E-30	0.000E+00													
tc 95m	1.964E-16	1.920E-16	1.824E-16	1.495E-16	8.569E-17	4.285E-17	2.363E-18	3.735E-20	5.902E-22	9.221E-24	4.192E-25	1.457E-25	2.303E-27	3.639E-29													
zr 96	1.288E+01	1.288E+01	1.288E+01	1.288E+01	1.288E+01	1.288E+01	1.288E+01	1.288E+01	1.288E+01	1.288E+01	1.288E+01	1.288E+01	1.288E+01	1.288E+01													
mo 96	6.932E-01	6.932E-01	6.932E-01	6.932E-01	6.932E-01	6.932E-01	6.932E-01	6.932E-01	6.932E-01	6.932E-01	6.932E-01	6.932E-01	6.932E-01	6.932E-01													
zr 96	2.601E-15	2.601E-15	2.601E-15	2.601E-15	2.601E-15	2.601E-15	2.601E-15	2.601E-15	2.601E-15	2.601E-15	2.601E-15	2.601E-15	2.601E-15	2.601E-15													
mo 97	1.396E+01	1.396E+01	1.396E+01	1.396E+01	1.396E+01	1.396E+01	1.396E+01	1.396E+01	1.396E+01	1.396E+01	1.396E+01	1.396E+01	1.396E+01	1.396E+01													
zr 97	1.538E-07	1.538E-07	1.538E-07	1.538E-07	1.544E-07	1.544E-07	1.552E-07	1.553E-07	1.553E-07	1.553E-07	1.553E-07	1.553E-07	1.553E-07	1.553E-07													
tc 97m	1.599E-09	1.599E-09	1.522E-09	1.332E-09	9.171E-10	5.763E-10	8.262E-11	5.124E-12	3.178E-13	1.855E-14	2.464E-15	1.532E-16	7.125E-17	4.668E-18													
mo 98	1.528E+01	1.528E+01	1.528E+01	1.528E+01	1.528E+01	1.528E+01	1.528E+01	1.528E+01	1.528E+01	1.528E+01	1.528E+01	1.528E+01	1.528E+01	1.528E+01													
tc 98	1.591E-04	1.591E-04	1.591E-04	1.591E-04	1.591E-04	1.591E-04	1.591E-04	1.591E-04	1.591E-04	1.591E-04	1.591E-04	1.591E-04	1.591E-04	1.591E-04													
zr 98	2.680E-02	2.680E-02	2.680E-02	2.680E-02	2.681E-02	2.681E-02	2.683E-02	2.686E-02	2.688E-02	2.691E-02	2.693E-02	2.694E-02	2.695E-02	2.696E-02													
tc 99	1.422E-01	1.422E-01	1.422E-01	1.422E-01	1.422E-01	1.422E-01	1.422E-01	1.422E-01	1.422E-01	1.422E-01	1.422E-01	1.422E-01	1.422E-01	1.422E-01													
zr 99	6.046E-04	6.049E-04	6.054E-04	6.077E-04	6.139E-04	6.217E-04	6.543E-04	7.010E-04	7.477E-04	7.944E-04	8.292E-04	8.411E-04	8.877E-04	9.344E-04													
mo100	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01													
zr 100	4.441E-05	4.441E-05	4.441E-05	4.441E-05	4.441E-05	4.441E-05	4.441E-05	4.441E-05	4.441E-05	4.441E-05	4.441E-05	4.441E-05	4.441E-05	4.441E-05													
rh101	1.552E+01	1.552E+01	1.552E+01	1.552E+01	1.552E+01	1.552E+01	1.552E+01	1.552E+01	1.552E+01	1.552E+01	1.552E+01	1.552E+01	1.552E+01	1.552E+01													
rh101	8.347E-09	8.337E-09	8.316E-09	8.233E-09	8.004E-09	7.728E-09	6.674E-09	5.410E-09	4.368E-09	3.552E-09	3.039E-09	2.881E-09	2.353E-09	1.893E-09													
rh102	1.804E+01	1.804E+01	1.804E+01	1.804E+01	1.804E+01	1.804E+01	1.804E+01	1.804E+01	1.804E+01	1.804E+01	1.804E+01	1.804E+01	1.804E+01	1.804E+01													
rh102m	2.931E-05	2.928E-05	2.921E-05	2.895E-05	2.824E-05	2.738E-05	2.406E-05	2.000E-05	1.662E-05	1.380E-05	1.202E-05	1.147E-05	9.531E-06	7.920E-06													
pd102	1.351E-05	1.353E-05	1.357E-05	1.373E-05	1.412E-05	1.454E-05	1.558E-05	1.613E-05	1.629E-05	1.634E-05	1.636E-05	1.636E-05	1.636E-05	1.637E-05													
rh103	1.345E-02	1.342E-02	1.341E-02	1.332E-02	1.317E-02	1.292E-02	1.262E-02	1.221E-02	1.175E-02	1.125E-02	1.074E-02	1.024E-02	9.740E-03	9.260E-03													
rh103m	1.312E-05	1.275E-05	1.178E-05	8.447E-06	4.684E-06	2.239E-06	1.372E-06	2.176E-11	3.452E-14	5.380E-17	4.410E-19	8.533E-20	1.354E-22	2.147E-25													
pd103	1.65E-10	1.074E-10	8.893E-11	4.678E-11	3.900E-12	4.924E-13	1.492E-17	5.101E-24	1.741E-30	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00													
rh104	1.694E-05	1.694E-05	1.694E-05	1.694E-05	1.694E-05	1.694E-05	1.694E-05	1.694E-05	1.694E-05	1.694E-05	1.694E-05	1.694E-05	1.694E-05	1.694E-05													
pd104	6.096E+00	6.096E+00	6.096E+00	6.096E+00	6.096E+00	6.096E+00	6.096E+00	6.096E+00	6.096E+00	6.096E+00	6.096E+00	6.096E+00	6.096E+00	6.096E+00													
pd105	1.364E+01	1.364E+01	1.364E+01	1.364E+01	1.364E+01	1.364E+01	1.364E+01	1.364E+01	1.364E+01	1.364E+01	1.364E+01	1.364E+01	1.364E+01	1.364E+01													

5 more years for cooling used fuel material	fission products	page 29
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0		5 more years for cooling used fuel material										nuclide radioactivity, curies										fission products										page 30	
		basis =-15.1 kg/HM (nm'd/HM 1/4-ass. at 1 MT)																															
		initial		2.0 d		6.5 d		24.0 d		73.0 d		134.0 d		389.0 d		754.0 d		1119.0 d		1485.0 d		1757.0 d		1850.0 d		2215.0 d		2580.0 d					
h	3	1.0459E+01	1.0459E+01	1.0458E+01	1.0458E+01	1.0457E+01	1.0457E+01	1.0456E+01	1.0456E+01	1.0455E+01	1.0455E+01	1.0454E+01	1.0454E+01	1.0453E+01	1.0453E+01	1.0452E+01	1.0452E+01	1.0451E+01	1.0451E+01	1.0450E+01	1.0450E+01	1.0449E+01	1.0449E+01	1.0448E+01	1.0448E+01	1.0447E+01	1.0447E+01	1.0446E+01	1.0446E+01				
ga	68	7.7399E+01	7.7399E+01	7.7398E+01	7.7398E+01	7.7397E+01	7.7397E+01	7.7396E+01	7.7396E+01	7.7395E+01	7.7395E+01	7.7394E+01	7.7394E+01	7.7393E+01	7.7393E+01	7.7392E+01	7.7392E+01	7.7391E+01	7.7391E+01	7.7390E+01	7.7390E+01	7.7389E+01	7.7389E+01	7.7388E+01	7.7388E+01	7.7387E+01	7.7387E+01	7.7386E+01	7.7386E+01				
ge	68	2.7397E+12	2.7397E+12	2.7396E+12	2.7396E+12	2.7395E+12	2.7395E+12	2.7394E+12	2.7394E+12	2.7393E+12	2.7393E+12	2.7392E+12	2.7392E+12	2.7391E+12	2.7391E+12	2.7390E+12	2.7390E+12	2.7389E+12	2.7389E+12	2.7388E+12	2.7388E+12	2.7387E+12	2.7387E+12	2.7386E+12	2.7386E+12	2.7385E+12	2.7385E+12	2.7384E+12	2.7384E+12				
ge	71	4.849E+12	4.849E+12	4.848E+12	4.848E+12	4.847E+12	4.847E+12	4.846E+12	4.846E+12	4.845E+12	4.845E+12	4.844E+12	4.844E+12	4.843E+12	4.843E+12	4.842E+12	4.842E+12	4.841E+12	4.841E+12	4.840E+12	4.840E+12	4.839E+12	4.839E+12	4.838E+12	4.838E+12	4.837E+12	4.837E+12	4.836E+12	4.836E+12				
ge	73m	5.2400E+18	5.2400E+18	5.2399E+18	5.2399E+18	5.2398E+18	5.2398E+18	5.2397E+18	5.2397E+18	5.2396E+18	5.2396E+18	5.2395E+18	5.2395E+18	5.2394E+18	5.2394E+18	5.2393E+18	5.2393E+18	5.2392E+18	5.2392E+18	5.2391E+18	5.2391E+18	5.2390E+18	5.2390E+18	5.2389E+18	5.2389E+18	5.2388E+18	5.2388E+18	5.2387E+18	5.2387E+18				
as	74	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09	2.400E+09				
as	74	6.239E+09	6.239E+09	6.239E+09	6.239E+09	6.238E+09	6.238E+09	6.237E+09	6.237E+09	6.236E+09	6.236E+09	6.235E+09	6.235E+09	6.234E+09	6.234E+09	6.233E+09	6.233E+09	6.232E+09	6.232E+09	6.231E+09	6.231E+09	6.230E+09	6.230E+09	6.229E+09	6.229E+09	6.228E+09	6.228E+09	6.227E+09	6.227E+09				
se	75	2.039E+06	2.039E+06	2.039E+06	2.039E+06	2.038E+06	2.038E+06	2.037E+06	2.037E+06	2.036E+06	2.036E+06	2.035E+06	2.035E+06	2.034E+06	2.034E+06	2.033E+06	2.033E+06	2.032E+06	2.032E+06	2.031E+06	2.031E+06	2.030E+06	2.030E+06	2.029E+06	2.029E+06	2.028E+06	2.028E+06	2.027E+06	2.027E+06				
se	75	2.359E+06	2.359E+06	2.359E+06	2.359E+06	2.358E+06	2.358E+06	2.357E+06	2.357E+06	2.356E+06	2.356E+06	2.355E+06	2.355E+06	2.354E+06	2.354E+06	2.353E+06	2.353E+06	2.352E+06	2.352E+06	2.351E+06	2.351E+06	2.350E+06	2.350E+06	2.349E+06	2.349E+06	2.348E+06	2.348E+06	2.347E+06	2.347E+06				
kr	81	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08	1.238E+08				
kr	83m	1.459E+05	1.459E+05	1.384E+05	1.203E+05	8.190E+04	4.965E+04	6.389E+07	3.394E+08	1.803E+09	9.504E+11	1.067E+11	5.049E+12	2.683E+13	1.425E+14																		
rb	83	1.962E+05	1.931E+05	1.862E+05	1.618E+05	1.091E+05	6.680E+06	8.595E+07	4.567E+08	2.426E+09	1.038E+11	1.435E+11	6.793E+12	3.609E+13	1.917E+14																		
rb	87	7.742E+05	7.443E+05	7.168E+05	4.251E+05	2.455E+05	1.077E+07	1.077E+07	9.171E+01	1.111E+01	8.542E+01	8.008E+01	7.633E+01	7.509E+01	7.040E+01	6.601E+01																	
cs	85	6.445E+06	6.330E+06	6.012E+06	4.960E+06	2.953E+06	1.538E+06	1.007E+07	2.035E+09	4.112E+11	8.218E+13	4.487E+14	1.660E+14	3.354E+16	6.777E+18																		
rb	86	3.809E+03	3.638E+03	3.991E+03	1.598E+03	5.250E+04	2.604E+05	1.975E+05	2.500E+15	3.166E+21	3.862E+27	1.556E+31	0.000E+00	0.000E+00	0.000E+00																		
rb	87	1.155E+05	1.155E+05	1.155E+05	1.155E+05	1.155E+05	1.155E+05	1.155E+05	1.155E+05	1.155E+05	1.155E+05	1.155E+05	1.155E+05	1.155E+05	1.155E+05	1.155E+05																	
y	88	6.442E+03	6.339E+03	6.175E+03	5.511E+03	4.002E+03	2.696E+03	5.138E+04	4.790E+05	4.466E+06	4.137E+07	7.059E+08	3.857E+09	3.595E+09	3.352E+10																		
zr	88	1.893E+09	1.862E+09	1.794E+09	1.551E+09	1.038E+09	6.216E+10	7.466E+11	3.594E+12	1.730E+13	8.262E+15	8.616E+16	3.978E+16	1.915E+17	9.219E+19																		
sr	89	2.929E+02	2.850E+02	2.679E+02	2.108E+02	1.076E+02	4.661E+01	1.400E+09	9.436E+03	6.314E+05	4.167E+07	9.987E+09	2.789E+09	1.866E+11	1.249E+13																		
sr	90	8.244E+02	8.190E+02	8.136E+02	8.079E+02	8.027E+02	7.975E+02	7.923E+02	7.871E+02	7.819E+02	7.767E+02	7.715E+02	7.663E+02	7.611E+02	7.559E+02																		
sr	90	1.744E+02	1.743E+02	1.741E+02	1.738E+02	1.710E+02	7.081E+02	6.963E+02	6.948E+02	6.636E+02	4.678E+02	3.683E+02	6.324E+02	1.674E+02	6.027E+02																		
y	90	7.162E+02	7.145E+02	7.133E+02	7.135E+02	7.112E+02	7.083E+02	6.965E+02	6.800E+02	6.638E+02	6.480E+02	6.365E+02	6.326E+02	6.275E+02	6.029E+02																		
y	91	6.621E+02	6.466E+02	6.310E+02	4.982E+02	2.788E+02	1.354E+02	6.600E+08	8.742E+02	1.158E+03	1.516E+05	6.042E+07	2.008E+07	6.259E+09	3.523E+11																		
ni	91	8.190E+10	8.190E+10	8.190E+10	8.190E+10	8.190E+10	8.190E+10	8.190E+10	8.190E+10	8.190E+10	8.190E+10	8.190E+10	8.190E+10	8.190E+10	8.190E+10																		
ni	91m	2.901E+12	2.835E+12	2.694E+12	2.207E+12	1.263E+12	6.305E+13	3.454E+14	5.407E+16	8.464E+18	1.310E+19	5.913E+21	2.050E+21	3.209E+23	5.024E+25																		
nb	92	1.431E+12	1.431E+12	1.431E+12	1.431E+12	1.431E+12	1.431E+12	1.431E+12	1.431E+12	1.431E+12	1.431E+12	1.431E+12	1.431E+12	1.431E+12	1.431E+12																		
ni	92m	1.781E+14	1.554E+14	1.434E+14	4.595E+15	1.281E+16	1.890E+18	5.727E+20	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00																		
ni	93	4.171E+09	4.171E+09	4.171E+09	4.171E+09	4.171E+09	4.171E+09	4.171E+09	4.171E+09	4.171E+09	4.171E+09	4.171E+09	4.171E+09	4.171E+09	4.171E+09																		
ni	93m	2.143E+14	2.143E+14	2.159E+13	2.203E+13	2.326E+13	2.478E+13	3.101E+13	3.962E+13	4.766E+13	5.578E+13	6.144E+13	6.334E+13	7.059E+13	7.753E+13																		
mo	93	6.221E+09	6.221E+09	6.221E+09	6.221E+09	6.221E+09	6.221E+09	6.221E+09	6.221E+09	6.221E+09	6.221E+09	6.221E+09	6.221E+09	6.221E+09	6.221E+09																		
sa	94	8.646E+06	8.646E+06	8.646E+06	8.646E+06	8.646E+06	8.646E+06	8.646E+06	8.646E+06	8.646E+06	8.646E+06	8.646E+06	8.646E+06	8.646E+06	8.646E+06																		
sa	95	5.583E+06	5.583E+06	5.583E+06	5.583E+06	5.583E+06	5.583E+06	5.583E+06	5.583E+06	5.583E+06	5.583E+06	5.583E+06	5.583E+06	5.583E+06	5.583E+06																		
nb	95	3.175E+03	3.111E+03	2.971E+03	2.481E+03	1.498E+03	7.796E+02	5.017E+01	9.980E+01	1.922E+02	3.655E+04	1.867E+05	6.812E+06	1.351E+07	2.601E+09																		
ni	95m	1.761E+01	1.723E+01	1.641E+01	1.381E+01	7.990E+01	4.128E+02	2.611E+01	5.022E+03	9.659E+05	1.838E+06	9.672E+08	3.534E+08	6.797E+10	1.307E+11																		
tc	95	1.742E+13	1.703E+13	1.618E+13	1.326E+13	7.599E+14	3.799E+14	2.096E+15	3.312E+17	5.233E+19	8.177E+21	3.788E+22	1.292E+22	2.042E+24	0.000E+00																		
tc	96	4.408E+13	4.408E+13	4.408E+13	4.408E+13	4.408E+13	4.408E+13	4.408E+13	4.408E+13	4.408E+13	4.408E+13	4.408E+13	4.408E+13	4.408E+13	4.408E+13																		
zr	96	2.399E+15	2.399E+15	2.399E+15	2.399E+15	2.399E+15	2.399E+15	2.399E+15	2.399E+15	2.399E+15	2.399E+15	2.399E+15	2.399E+15	2.399E+15	2.399E+15																		
tc	97	1.347E+10	1.347E+10	1.347E+10	1.349E+10	1.352E+10	1.355E+10	1.359E+10	1.360E+10	1.360E+10	1.360E+10	1.360E+10	1.360E+10	1.360E+10	1.360E+10																		
tc	97m	2.367E+05	2.331E+05	2.252E+05	1.971E+05	1.357E+05	8.528E+06	1.223E+06	1.763E+08	4.704E+09	2.895E+10	3.647E+11	1.796E+11	1.114E+12	6.908E+14																		
ni	98	8.190																															

5 more years for cooling used fuel material

0 initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2205.0 d 2580.0 d

rh106 1.108E+04 1.103E+04 1.094E+04 1.059E+04 9.676E+03 8.627E+03 7.563E+03 2.716E+03 1.375E+03 6.950E+02 4.185E+02 3.519E+02 1.782E+02 9.023E+01

ag106m 1.035E-16 8.422E-17 5.802E-17 1.345E-17 2.226E-17 1.347E-17 2.201E-17 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00

ag107 1.576E-16 1.247E-16 8.649E-17 2.000E-17 3.400E-17 2.000E-17 3.400E-17 1.671E-17 1.000E-17 6.000E-18 3.000E-18 1.500E-18 7.500E-19 3.750E-19

ag108 6.888E-06 6.888E-06 6.888E-06 6.887E-06 6.886E-06 6.884E-06 6.877E-06 6.866E-06 6.855E-06 6.844E-06 6.836E-06 6.833E-06 6.822E-06 6.812E-06

ag108 1.978E-05 9.175E-05 9.175E-05 9.175E-05 9.175E-05 9.175E-05 9.175E-05 9.175E-05 9.175E-05 9.175E-05 9.175E-05 9.175E-05 9.175E-05 9.175E-05

ag109 8.448E-04 8.319E-04 8.226E-04 8.049E-04 7.477E-04 6.830E-04 4.651E-03 2.688E-03 1.553E-03 8.963E-04 5.957E-04 5.180E-04 2.993E-04 1.730E-04

ag110 1.344E-05 1.344E-05 1.344E-05 1.344E-05 1.344E-05 1.344E-05 1.344E-05 1.344E-05 1.344E-05 1.344E-05 1.344E-05 1.344E-05 1.344E-05 1.344E-05

ag110m 1.411E+00 1.403E+00 1.386E+00 1.320E+00 1.152E+00 9.720E+00 1.479E+01 1.741E+01 6.322E+02 2.290E+02 1.076E+02 8.314E+03 3.019E+03 1.096E+03

ag110m 1.038E+02 1.032E+02 1.019E+02 9.708E+01 8.474E+01 1.154E+01 3.525E+01 1.280E+01 6.469E+00 1.683E+00 7.914E+01 6.113E+01 2.220E+01 8.062E+02

ag111 1.196E-05 1.196E-05 1.196E-05 1.196E-05 1.196E-05 1.196E-05 1.196E-05 1.196E-05 1.196E-05 1.196E-05 1.196E-05 1.196E-05 1.196E-05 1.196E-05

cd113 1.853E-15 1.853E-15 1.853E-15 1.853E-15 1.853E-15 1.853E-15 1.853E-15 1.853E-15 1.853E-15 1.853E-15 1.853E-15 1.853E-15 1.853E-15 1.853E-15

cd113m 1.523E-02 1.523E-02 1.522E-02 1.518E-02 1.508E-02 1.496E-02 1.445E-02 1.376E-02 1.310E-02 1.247E-02 1.202E-02 1.187E-02 1.130E-02 1.076E-02

in113m 1.059E-08 1.028E-08 1.053E-08 9.840E-09 7.057E-09 4.888E-09 1.052E-09 1.168E-10 1.296E-11 1.430E-12 2.779E-13 1.587E-13 1.762E-14 1.956E-15

in113m 1.059E-08 1.028E-08 1.053E-08 9.840E-09 7.057E-09 4.888E-09 1.052E-09 1.168E-10 1.296E-11 1.430E-12 2.779E-13 1.587E-13 1.762E-14 1.956E-15

in114 1.146E-04 1.114E-04 1.046E-04 8.188E-05 4.124E-05 1.755E-05 4.942E-07 2.983E-09 1.800E-11 1.071E-13 2.378E-15 6.647E-16 3.903E-18 2.356E-20

in114m 1.184E-04 1.152E-04 1.081E-04 8.463E-05 4.262E-05 1.814E-05 5.108E-07 3.083E-09 1.861E-11 1.077E-13 2.457E-15 6.684E-16 4.034E-18 2.435E-20

in115m 3.649E-01 3.348E-01 3.100E-01 2.686E-01 1.170E-01 4.278E-02 8.100E-04 2.771E-06 9.481E-09 3.194E-11 4.643E-13 1.093E-13 3.788E-16 1.279E-18

in115 2.078E-05 2.078E-05 2.078E-05 2.078E-05 2.078E-05 2.078E-05 2.078E-05 2.078E-05 2.078E-05 2.078E-05 2.078E-05 2.078E-05 2.078E-05 2.078E-05

in115m 3.654E-01 3.344E-01 3.038E-01 2.516E-01 1.154E-01 4.545E-06 8.606E-08 2.944E-10 1.007E-12 3.393E-15 4.933E-17 1.161E-17 3.927E-19 1.359E-21

cd116 1.625E-17 1.625E-17 1.625E-17 1.625E-17 1.625E-17 1.625E-17 1.625E-17 1.625E-17 1.625E-17 1.625E-17 1.625E-17 1.625E-17 1.625E-17 1.625E-17

cd116m 1.625E-17 1.625E-17 1.625E-17 1.625E-17 1.625E-17 1.625E-17 1.625E-17 1.625E-17 1.625E-17 1.625E-17 1.625E-17 1.625E-17 1.625E-17 1.625E-17

in119m 6.267E+00 7.080E+03 3.669E+00 3.520E+00 3.135E+00 2.714E+00 1.484E+00 6.260E-01 2.640E-01 1.111E-01 5.635E-02 4.683E-02 1.975E-02 8.327E-03

in120m 3.632E-16 2.855E-16 1.661E-16 2.022E-17 5.558E-20 3.605E-23 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00

in121m 5.643E-01 5.642E-01 5.641E-01 5.637E-01 5.632E-01 5.610E-01 5.599E-01 5.642E-01 5.376E-01 5.292E-01 5.230E-01 5.209E-01 5.128E-01 5.047E-01

in121m 2.718E-01 2.708E-01 2.698E-01 2.684E-01 2.669E-01 2.654E-01 2.639E-01 2.624E-01 2.609E-01 2.594E-01 2.579E-01 2.564E-01 2.549E-01 2.534E-01

te121 3.119E-05 3.093E-05 3.034E-05 2.818E-05 2.291E-05 1.770E-05 6.036E-06 1.292E-06 2.769E-07 5.906E-08 1.874E-08 1.265E-08 2.710E-09 5.807E-10

te121m 3.107E-05 3.081E-05 3.028E-05 2.80

[illegible]

0 5 more years for cooling used fuel material nuclide radioactivity, curies fission products page 32

initial 2.0 d 6.5 d 24.0 d 39.0 d 78.0 d 156.0 d 312.0 d 624.0 d 1248.0 d 2496.0 d 4992.0 d 9984.0 d 19968.0 d 39936.0 d 79872.0 d 159744.0 d 319488.0 d 638976.0 d 1277952.0 d 2555904.0 d 5111808.0 d 10223616.0 d 20447232.0 d 40894464.0 d 81788928.0 d 163577856.0 d 327155712.0 d 654311424.0 d 1308622848.0 d 2617245696.0 d 5234491392.0 d 10468982784.0 d 20937965568.0 d 41875931136.0 d 83751862272.0 d 167503724544.0 d 335007449088.0 d 670014898176.0 d 1340029796352.0 d 2680059592704.0 d 5360119185408.0 d 10720238370816.0 d 21440476741632.0 d 42880953483264.0 d 85761906966528.0 d 171523813933056.0 d 343047627866112.0 d 686095255732224.0 d 1372190511464448.0 d 2744381022928896.0 d 5488762045857792.0 d 10977524091715584.0 d 21955048183431168.0 d 43910096366862336.0 d 87820192733724672.0 d 175640385467449344.0 d 351280770934898688.0 d 702561541869797376.0 d 1405123083739594752.0 d 2810246167479189504.0 d 5620492334958379008.0 d 11240984669916758016.0 d 22481969339833516032.0 d 44963938679667032064.0 d 89927877359334064128.0 d 179855754718668128256.0 d 359711509437336256512.0 d 719423018874672513024.0 d 1438846037749345026048.0 d 2877692075498690052096.0 d 5755384150997380104192.0 d 11510768301994760208384.0 d 23021536603989520416768.0 d 46043073207979040833536.0 d 92086146415958081667072.0 d 184172292839916163334144.0 d 368344585679832326668288.0 d 736689171359664653336576.0 d 1473378342719329307373152.0 d 2946756685398658614746304.0 d 5893513370797317229492608.0 d 11787026741594634458985216.0 d 23574053483189268917970432.0 d 47148106966378537835940864.0 d 94296213932757075671881728.0 d 188592427865514151353763456.0 d 377184855731028302743756912.0 d 754369711462056605487513824.0 d 1508739422924113210975027648.0 d 3017478845848226421950055296.0 d 6034957691696452843900110592.0 d 12069915383392905687800221184.0 d 24139830766785811375600442368.0 d 48279661533571622751200884736.0 d 96559323067143245502401769728.0 d 193118646134286491004803539456.0 d 386237292268572982009607078912.0 d 772474584537145964019214157824.0 d 1544949169074291928038428355648.0 d 3089898338148583856076856711296.0 d 617979667629717371215373342227328.0 d 12359593392594347424290706444576.0 d 24719186785188694848581402889152.0 d 49438373570377389697163165778304.0 d 98876747140754779394326331556608.0 d 1977534942815095895886526711322112.0 d 3955069885630191791777253342244224.0 d 7910139771260383583554506684488448.0 d 15820279542520767167111013368976976.0 d 31640559085041534322222026737953952.0 d 63281118170083068644444053475907904.0 d 126562236340166137288888106951815808.0 d 2531244726803322745777762139036376192.0 d 5062489453606645491555524278072752384.0 d 10124978907213291091111110556145544767744.0 d 2024995781442658218222222111221111111111.0 d 4049991562885316436444444222222222222222.0 d 8099983125770632872888888444444444444444.0 d 1619996625144126577777777888888888888888.0 d 3239993250288251455555555777777777777777.0 d 6479986500576502911111111555555555555555.0 d 12959973001152058222222221111111111111111.0 d 25919946002304116444444442222222222222222.0 d 51839892004602232888888884444444444444444.0 d 103679784009204465777777778888888888888888.0 d 207359568018408931555555557777777777777777.0 d 414719136036817831111111115555555555555555.0 d 82943827207363566222222222222222222222222.0 d 165887644414732732444444444444444444444444.0 d 331775288829465468888888888888888888888888.0 d 663550577658930937777777777777777777777777.0 d 1327101155317861875555555555555555555555555.0 d 2654202310735723751111111111111111111111111.0 d 5308404621471445502222222222222222222222222.0 d 1061680924294289100444444444444444444444444.0 d 2123361848588578200888888888888888888888888.0 d 4246723697176356401777777777777777777777777.0 d 8493447394352712803555555555555555555555555.0 d 16986894788705425667111111111111111111111111.0 d 33973789577410851333333333333333333333333333.0 d 679475791548217

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5 more years for cooling used fuel material

nuclide radioactivity, curies

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5 more years for cooling used fuel material					nuclide thermal power, watts					fission products										page	35					
					basis =15.1 kgHM (nmr/d) 3HM 1/4-aaa. at 1 MTP																					
initial					2.0 d	6.5 d	24.0 d	73.0 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d									
h	3	3.589E-04	3.586E-04	3.534E-04	3.524E-04	3.498E-04	3.465E-04	3.332E-04	3.150E-04	2.977E-04	2.814E-04	2.699E-04	2.660E-04	2.515E-04	2.377E-04											
ga	68	7.746E-19	7.722E-19	7.622E-19	7.592E-19	7.461E-19	7.373E-19	7.140E-19	6.920E-19	6.650E-19	6.340E-19	6.000E-19	5.730E-19	5.430E-19	5.110E-19	4.770E-19	4.430E-19	4.090E-19	3.750E-19							
ge	71	2.613E-16	2.613E-16	1.762E-16	1.606E-17	1.323E-17	1.272E-17	1.048E-17	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00							
gm	73	2.055E-11	2.020E-11	1.943E-11	1.671E-11	1.094E-11	6.464E-12	7.154E-13	3.063E-14	1.312E-15	5.569E-17	5.322E-18	2.385E-18	1.021E-19	4.373E-21											
as	73	3.029E-12	2.977E-12	2.864E-12	2.463E-12	1.613E-12	9.524E-13	1.055E-13	4.516E-15	1.934E-16	8.209E-18	7.846E-19	3.515E-19	1.505E-20	6.446E-22											
as	74	3.787E-11	3.503E-11	2.939E-11	1.485E-11	2.196E-12	2.034E-13	9.739E-18	6.385E-24	4.187E-30	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00							
se	75	5.010E-09	4.952E-09	4.932E-09	4.740E-09	4.450E-09	4.176E-09	3.768E-09	3.282E-09	2.791E-09	2.325E-09	1.872E-09	1.427E-09	1.000E-09	6.750E-10	4.500E-10	3.000E-10	1.500E-10	0.000E+00							
se	79	4.086E-07	4.086E-07	4.086E-07	4.086E-07	4.086E-07	4.086E-07	4.086E-07	4.086E-07	4.086E-07	4.086E-07	4.086E-07	4.086E-07	4.086E-07	4.086E-07	4.086E-07	4.086E-07	4.086E-07	4.086E-07							
kr	81	8.851E-13	8.851E-13	8.851E-13	8.851E-13	8.851E-13	8.851E-13	8.851E-13	8.851E-13	8.851E-13	8.851E-13	8.851E-13	8.851E-13	8.851E-13	8.851E-13	8.851E-13	8.851E-13	8.851E-13	8.851E-13							
kr	83	3.569E-09	3.513E-09	3.388E-09	2.943E-09	1.985E-09	1.215E-09	1.564E-10	8.307E-12	4.413E-13	2.326E-14	8.610E-15	1.236E-15	6.565E-17	3.488E-18											
rb	83	5.813E-08	5.720E-08	5.517E-08	4.793E-08	3.520E-08	1.979E-08	2.546E-09	1.353E-10	7.187E-12	3.788E-13	4.251E-14	2.102E-14	1.069E-15	5.680E-17											
rb	84	8.642E-07	8.642E-07	8.642E-07	8.642E-07	8.642E-07	8.642E-07	8.642E-07	8.642E-07	8.642E-07	8.642E-07	8.642E-07	8.642E-07	8.642E-07	8.642E-07	8.642E-07	8.642E-07	8.642E-07	8.642E-07							
as	85	1.560E-01	1.559E-01	1.558E-01	1.553E-01	1.540E-01	1.523E-01	1.456E-01	1.365E-01	1.280E-01	1.200E-01	1.144E-01	1.125E-01	1.055E-01	9.893E-02											
as	86	1.945E-08	1.903E-08	1.814E-08	1.504E-08	8.910E-09	4.642E-09	3.039E-10	6.141E-12	1.241E-13	2.484E-15	1.354E-16	5.010E-17	1.012E-18	2.045E-20											
rb	86	1.721E-15	1.597E-15	1.351E-15	1.054E-16	1.138E-16	1.176E-17	8.920E-12	1.129E-17	1.430E-23	1.744E-29	1.702E-34	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00							
rb	87	1.049E-10	1.049E-10	1.049E-10	1.049E-10	1.049E-10	1.049E-10	1.049E-10	1.049E-10	1.049E-10	1.049E-10	1.049E-10	1.049E-10	1.049E-10	1.049E-10	1.049E-10	1.049E-10	1.049E-10	1.049E-10							
rb	88	1.032E-10	1.031E-10	1.030E-10	1.029E-10	1.028E-10	1.027E-10	1.026E-10	1.025E-10	1.024E-10	1.023E-10	1.022E-10	1.021E-10	1.020E-10	1.019E-10	1.018E-10	1.017E-10	1.016E-10	1.015E-10							
rb	88	4.577E-12	4.502E-12	4.336E-12	3.749E-12	2.495E-12	1.503E-12	1.805E-13	8.690E-15	4.184E-16	1.997E-17	2.083E-18	9.616E-19	4.630E-20	2.299E-21											

ar 89 1.016E+00 9.888E-01 9.297E-01 7.312E-01 3.734E-01 4.893E-01 3.274E-05 2.191E-07 1.446E-09 3.465E-11 9.676E-12 6.474E-14 4.332E-16
y 89m 1.522E-04 1.480E-04 1.392E-04 1.095E-04 5.590E-05 2.421E-05 7.325E-07 4.902E-09 3.280E-11 2.165E-13 5.188E-15 1.448E-15 9.692E-18 6.486E-20
ar 90 8.292E-01 8.291E-01 8.288E-01 8.278E-01 8.252E-01 8.219E-01 8.082E-01 7.890E-01 7.702E-01 7.519E-01 7.385E-01 7.340E-01 7.165E-01 6.995E-01
y 90 3.952E+00 3.952E+00 3.951E+00 3.946E+00 3.933E+00 3.917E+00 3.852E+00 3.761E+00 3.671E+00 3.584E+00 3.520E+00 3.499E+00 3.415E+00 3.334E+00
y 91 2.379E+00 2.323E+00 2.203E+00 1.790E+00 1.002E+00 4.864E-01 2.371E-02 3.141E-04 4.161E-06 5.446E-08 2.171E-09 7.214E-10 9.556E-12 1.266E-13
nb 91 8.936E-14 8.936E-14 8.936E-14 8.936E-14 8.934E-14 8.933E-14 8.926E-14 8.917E-14 8.908E-14 8.899E-14 8.892E-14 8.890E-14 8.881E-14 8.872E-14
nb 91m 2.172E-15 2.172E-15 2.171E-15 1.635E-15 9.459E-16 4.237E-16 2.587E-17 4.048E-19 6.398E-21 9.809E-23 4.428E-24 1.539E-24 2.403E-26 3.762E-28
nb 92 1.281E-14 1.281E-14 1.281E-14 1.281E-14 1.281E-14 1.281E-14 1.281E-14 1.281E-14 1.281E-14 1.281E-14 1.281E-14 1.281E-14 1.281E-14 1.281E-14
nb 92m 1.030E-16 8.983E-17 6.606E-17 2.000E-17 7.042E-19 1.093E-20 2.990E-20 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
zr 93 2.730E-06 2.730E-06 2.730E-06 2.730E-06 2.730E-06 2.730E-06 2.730E-06 2.730E-06 2.730E-06 2.730E-06 2.730E-06 2.730E-06 2.730E-06 2.730E-06
nb 93 3.721E-07 3.709E-07 3.749E-07 3.826E-07 4.039E-07 4.598E-07 5.855E-07 6.059E-07 6.685E-07 1.067E-06 1.100E-06 1.226E-06 1.346E-06
mo 93 5.953E-13 5.953E-13 5.953E-13 5.953E-13 5.953E-13 5.953E-13 5.952E-13 5.951E-13 5.950E-13 5.949E-13 5.948E-13 5.948E-13 5.947E-13 5.946E-13
nb 94 9.247E-08 9.247E-08 9.247E-08 9.247E-08 9.247E-08 9.247E-08 9.246E-08 9.246E-08 9.246E-08 9.246E-08 9.245E-08 9.245E-08 9.245E-08 9.245E-08
zr 95 7.751E+00 7.585E+00 7.224E+00 5.977E+00 3.517E+00 1.817E+00 1.150E-01 2.211E-03 4.252E-05 8.090E-07 4.259E-08 1.556E-08 2.992E-10 5.755E-12
nb 95 1.522E-01 1.492E-01 1.425E-01 1.190E-01 7.133E-01 3.738E-01 2.408E-05 4.786E-03 9.218E-05 1.753E-06 8.955E-08 3.267E-08 4.478E-10 1.302E-11
nb 95m 2.602E-02 2.546E-02 2.425E-02 2.007E-02 1.181E-02 6.101E-03 3.860E-04 7.423E-06 1.428E-07 2.716E-09 1.430E-10 5.224E-11 1.005E-12 1.932E-14
tc 95 8.295E-16 8.109E-16 7.704E-16 6.315E-16 1.809E-16 9.980E-18 1.577E-19 2.492E-21 3.894E-23 1.770E-24 6.154E-25 9.725E-27 0.000E+00
tc 95m 1.846E-14 1.805E-14 1.715E-14 1.406E-14 8.054E-15 4.027E-15 2.221E-16 3.510E-18 5.547E-20 8.667E-22 3.941E-23 1.370E-23 2.164E-25 3.420E-27
zr 96 2.380E-07 2.380E-07 2.380E-07 2.380E-07 2.380E-07 2.380E-07 2.380E-07 2.380E-07 2.380E-07 2.380E-07 2.380E-07 2.380E-07 2.380E-07 2.380E-07
tc 97 1.404E-14 1.404E-14 1.405E-14 1.406E-14 1.410E-14 1.413E-14 1.417E-14 1.418E-14 1.418E-14 1.418E-14 1.418E-14 1.418E-14 1.418E-14 1.418E-14
tc 97m 1.300E-08 1.280E-08 1.237E-08 1.083E-08 7.455E-09 4.685E-09 6.716E-10 4.166E-11 2.584E-12 1.590E-13 2.003E-14 9.864E-15 6.118E-16 3.795E-17
tc 98 1.242E-09 1.242E-09 1.242E-09 1.242E-09 1.242E-09 1.242E-09 1.242E-09 1.242E-09 1.242E-09 1.242E-09 1.242E-09 1.242E-09 1.242E-09 1.242E-09
tc 99 7.962E-05 7.962E-05 7.962E-05 7.962E-05 7.962E-05 7.962E-05 7.962E-05 7.962E-05 7.962E-05 7.962E-05 7.962E-05 7.962E-05 7.962E-05 7.962E-05
zr 99 2.015E-18 1.849E-18 1.524E-18 7.172E-19 8.699E-20 6.293E-21 1.074E-25 1.608E-32 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
mo100 7.932E-17 7.932E-17 7.932E-17 7.932E-17 7.932E-17 7.932E-17 7.932E-17 7.932E-17 7.932E-17 7.932E-17 7.932E-17 7.932E-17 7.932E-17 7.932E-17
rui101 1.665E-08 1.663E-08 1.659E-08 1.642E-08 1.597E-08 1.541E-08 1.331E-08 1.079E-08 8.748E-09 7.088E-09 6.062E-09 5.746E-09 4.658E-09 3.776E-09
rh102 3.178E-06 3.178E-06 3.178E-06 3.178E-06 3.178E-06 3.178E-06 3.178E-06 3.178E-06 3.178E-06 3.178E-06 3.178E-06 3.178E-06 3.178E-06 3.178E-06
rh102m 3.524E-04 3.520E-04 3.512E-04 3.481E-04 3.396E-04 3.292E-04 2.893E-04 2.404E-04 1.998E-04 1.659E-04 1.445E-04 1.379E-04 1.146E-04 9.522E-05
rui103 1.449E+00 1.398E+00 1.292E+00 9.482E-01 3.991E-01 1.359E-01 1.504E-03 2.386E-06 3.785E-09 5.899E-12 4.835E-14 9.356E-15 1.484E-17 2.354E-20
rh103m 9.918E-02 9.574E-02 8.843E-02 6.492E-02 2.732E-02 9.303E-03 1.030E-04 1.633E-07 2.591E-10 4.038E-13 3.310E-15 6.406E-16 1.016E-18 1.612E-21
rh103 1.042E-09 1.042E-09 1.042E-09 1.042E-09 1.042E-09 1.042E-09 1.042E-09 1.042E-09 1.042E-09 1.042E-09 1.042E-09 1.042E-09 1.042E-09 1.042E-09
ag105 1.665E-14 1.572E-14 1.458E-14 1.087E-14 4.774E-15 1.715E-15 2.372E-16 1.575E-20 2.424E-25 2.502E-27 5.289E-28 1.154E-30 2.519E-33
rui06 6.585E-01 6.561E-01 6.506E-01 6.297E-01 5.747E-01 5.129E-01 3.189E-01 1.615E-01 8.175E-02 4.132E-02 2.488E-02 2.092E-02 1.059E-02 5.365E-03
rh106 1.063E-02 1.059E-02 1.050E-02 1.017E-02 9.280E-03 8.282E-03 5.148E-03 2.607E-04 1.320E-04 6.672E+00 4.018E+00 3.378E+00 1.711E+00 8.662E-01

5 more years for cooling used fuel material													fission products				page 36	
nuclide thermal power, watts													basis --15.1 kgHM (nm ³ d IHM 1/4-ass. at 1 MT)					
initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d																		
agi06m	1.676E-18	1.418E-18	9.762E-19	2.247E-19	3.717E-21	2.251E-23	1.207E-32	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
pd107	2.677E-07	2.677E-07	2.677E-07	2.677E-07	2.677E-07	2.677E-07	2.677E-07	2.677E-07	2.677E-07	2.677E-07	2.677E-07	2.677E-07	2.677E-07	2.677E-07	2.677E-07	2.677E-07		
agi08	2.558E-08	2.558E-08	2.558E-08	2.558E-08	2.558E-08	2.558E-08	2.558E-08	2.558E-08	2.558E-08	2.558E-08	2.558E-08	2.558E-08	2.558E-08	2.558E-08	2.558E-08	2.558E-08		
agi08m	7.680E-07	7.680E-07	7.680E-07	7.679E-07	7.677E-07	7.675E-07	7.667E-07	7.655E-07	7.643E-07	7.631E-07	7.622E-07	7.619E-07	7.607E-07	7.594E-07	7.579E-07	7.564E-07		
agi09m	4.304E-06	4.292E-06	4.263E-06	4.152E-06	3.857E-06	3.520E-06	2.399E-06	1.387E-06	8.013E-07	4.622E-07	3.073E-07	2.672E-07	1.544E-07	8.924E-08	5.140E-08	2.924E-08		
cd109	1.044E-06	1.041E-06	1.034E-06	1.007E-06	9.353E-07	8.534E-07	5.818E-07	3.362E-07	1.943E-07	1.121E-07	7.451E-08	6.479E-08	3.744E-08	2.164E-08	1.261E-08	7.193E-09		
agi10	1.011E-02	1.006E-02	9.930E-03	9.460E-03	8.257E-03	6.971E-03	3.435E-03	1.247E-03	4.530E-04	1.640E-04	7.711E-05	5.957E-05	2.163E-05	7.855E-06	2.815E-06	9.745E-07		
agi10m	1.744E+00	1.734E+00	1.712E+00	1.631E+00	1.424E+00	1.202E+00	5.924E-01	2.151E-01	7.812E-02	2.829E-02	1.330E-02	1.027E-02	3.730E-03	1.355E-03	4.730E-04	1.635E-04		
agi11	7.150E-10	5.836E-10	3.905E-10	7.465E-11	8.028E-13	2.753E-15	1.368E-25	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
cd113	1.017E-18	1.017E-18	1.017E-18	1.017E-18	1.017E-18	1.017E-18	1.017E-18	1.017E-18	1.017E-18	1.017E-18	1.017E-18	1.017E-18	1.017E-18	1.017E-18	1.017E-18	1.017E-18		
cd113m	1.677E-05	1.676E-05	1.679E-05	1.671E-05	1.660E-05	1.647E-05	1.591E-05	1.515E-05	1.442E-05	1.373E-05	1.324E-05	1.307E-05	1.244E-05	1.189E-05	1.135E-05	1.080E-05		
in113m	2.543E-11	2.512E-11	2.445E-11	2.201E-11	1.638E-11	1.135E-11	2.442E-12	2.711E-13	3.009E-14	3.320E-15	6.451E-16	3.685E-16	4.090E-17	4.539E-18	5.088E-19	5.641E-20		
in113	1.931E-12	1.908E-12	1.857E-12	1.671E-12	1.244E-12	8.615E-13	1.855E-13	2.059E-14	1.058E-15	5.216E-16	4.899E-17	2.798E-17	3.105E-18	3.447E-19	3.891E-20	4.347E-21		
in114	5.271E-07	5.126E-07	4.813E-07	3.767E-07	1.897E-07	8.075E-08	2.274E-09	1.372E-11	8.282E-14	4.929E-16	1.094E-17	2.975E-18	1.796E-20	1.084E-22	6.260E-24	3.646E-26		
in114m	1.564E-07	1.521E-07	1.428E-07	1.118E-07	5.628E-08	2.396E-08	6.745E-10	4.071E-12	2.457E-14	1.462E-16	3.245E-18	8.826E-19	5.372E-21	3.215E-23	1.923E-25	1.124E-27		
cd115m	1.299E-03	1.260E-03	1.174E-03	8.945E-04	4.174E-04	1.616E-04	3.060E-06	1.047E-08	3.582E-11	1.207E-13	1.754E-15	4.128E-16	1.412E-18	4.832E-21	1.545E-23	4.832E-25		
in115	2.928E-16	2.928E-16	2.928E-16	2.928E-16	2.928E-16	2.928E-16	2.928E-16	2.928E-16	2.928E-16	2.928E-16	2.928E-16	2.928E-16	2.928E-16	2.928E-16	2.928E-16	2.928E-16		
in115m	7.242E-08	7.025E-08	6.546E-08	4.986E-08	2.327E-08	9.008E-09	1.706E-10	5.836E-13	1.997E-15	6.725E-18	9.776E-20	2.301E-22	7.872E-23	2.693E-25	8.692E-27	2.815E-29		
cd116	1.353E-19	1.353E-19	1.353E-19	1.353E-19	1.353E-19	1.353E-19	1.353E-19	1.353E-19	1.353E-19	1.353E-19	1.353E-19	1.353E-19	1.353E-19	1.353E-19	1.353E-19	1.353E-19		
in117m	1.976E-08	1.785E-08	1.419E-08	5.815E-09	4.786E-10	2.137E-11	1.846E-17	4.039E-25	3.365E-33	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
in19m	1.934E-03	1.925E-03	1.905E-03	1.828E-03	1.628E-03	1.409E-03	7.707E-04	3.502E-05	1.569E-06	3.250E-07	1.371E-04	5.766E-05	3.030E-05	2.431E-05	1.025E-05	4.324E-06		
ab120m	5.405E-18	4.249E-18	2.472E-18	3.010E-19	8.272E-22	5.366E-25	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
an121	3.874E-04	3.874E-04	3.873E-04	3.870E-04	3.862E-04	3.852E-04	3.809E-04	3.750E-04	3.691E-04	3.633E-04	3.591E-04	3.576E-04	3.520E-04	3.465E-04	3.410E-04	3.355E-04		
in121m	1.637E-04	1.637E-04	1.637E-04	1.636E-04	1.632E-04	1.628E-04	1.610E-04	1.585E-04	1.560E-04	1.535E-04	1.518E-04	1.511E-04	1.488E-04	1.464E-04	1.440E-04	1.416E-04		
te121	1.087E-07	1.078E-07	1.058E-07	9.822E-08	8.985E-08	8.122E-08	7.125E-08	6.059E-08	5.068E-08	4.172E-08	3.369E-08	2.645E-08	2.009E-08	1.434E-08	9.347E-09	5.947E-09		
te121m	5.445E-08	5.399E-08	5.297E-08	4.920E-08	4.001E-08	3.092E-08	1.054E-08	2.258E-09	4.836E-10	1.032E-10	3.272E-11	2.210E-11	4.733E-12	1.014E-12	2.201E-12	4.733E-13		
an123	3.104E-02	3.071E-02	2.998E-02	2.729E-02	2.098E-02	1.513E-02	3.851E-03	5.435E-04	7.669E-05	1.076E-05	2.502E-06	1.519E-06	2.143E-07	3.024E-08	4.361E-09	6.145E-10		
te123m	1.014E-04	1.002E-04	9.765E-05	8.820E-05	6.633E-05	4.652E-05	1.056E-05	1.264E-06	1.514E-07	1.802E-08	3.706E-09	2.158E-09	2.584E-10	3.094E-11	3.741E-12	4.561E-13		
ab124	1.711E-02	1.672E-02	1.587E-02	1.298E-02	7.381E-03	3.753E-03	1.941E-04	2.902E-06	4.341E-08	6.417E-10	2.800E-11	9.597E-12	1.435E-13	2.147E-15	3.124E-17	4.612E-19		
in125	4.411E-08	3.647E-08	2.639E-08	7.498E-09	2.212E-10	2.754E-12	2.999E-20	1.199E-31	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
te125	6.812E-06	6.800E-06	6.788E-06	6.776E-06	6.764E-06	6.752E-06	6.740E-06	6.728E-06	6.716E-06	6.704E-06	6.692E-06	6.680E-06	6.668E-06	6.656E-06	6.644E-06	6.632E-06		
te125m	1.521E-02	1.502E-02	1.482E-02	1.464E-02	1.446E-02	1.428E-02	1.410E-02	1.392E-02	1.374E-02	1.356E-02	1.338E-02	1.320E-02	1.302E-02	1.284E-02	1.266E-02	1.248E-02		
in125	1.200E-10	1.175E-10	1.112E-10	9.070E-11	5.120E-11	1.513E-11	1.282E-12	1.811E-14	2.560E-16	3.576E-18	1.496E-19	5.054E-20	7.912E-22	1.409E-23	2.609E-25	4.612E-27		
in126	7.326E-06	7.326E-06	7.326E-06	7.326E-06	7.326E-06	7.326E-06	7.326E-06	7.326E-06	7.326E-06	7.326E-06	7.326E-06	7.326E-06	7.326E-06	7.326E-06	7.326E-06	7.326E-06		
in126m	9.977E-07	9.977E-07	9.977E-07	9.977E-07	9.977E-07	9.977E-07	9.977E-07	9.977E-07	9.977E-07	9.977E-07	9.977E-07	9.977E-07	9.977E-07	9.977E-07	9.977E-07	9.977E-07		
ab126m	9.825E-05	9.825E-05	9.825E-05	9.825E-05	9.825E-05	9.825E-05	9.825E-05	9.825E-05	9.825E-05	9.825E-05	9.825E-05	9.825E-05	9.825E-05	9.825E-05	9.825E-05	9.825E-05		
in128	1.252E-10	2.271E-10	1.784E-10	6.983E-11	5.049E-12	1.919E-13	2.219E-19	7.054E-28	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
ab127	1.860E-18	1.297E-18	5.717E-19	2.417E-20	3.444E-22	6.194E-29	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
in128m	2.255E-05	2.255E-05	2.255E-05	2.255E-05	2.255E-05	2.255E-05	2.255E-05	2.255E-05	2.255E-05	2.255E-05	2.255E-05	2.255E-05	2.255E-05	2.255E-05	2.255E-05	2.255E-05		
te127m	2.168E-02	2.140E-02	2.080E-02	1.861E-02	1.363E-02	8.245E-03	1.827E-03	1.793E-04	1.760E-05	1.717E-06	3.045E-07	1.695E-07	1.655E-08	1.624E-09	1.593E-10	1.562E-11		
in127	1.678E-06	9.545E-08	5.57E-08	3.910E-08	1.384E-08	4.941E-09	3.747E-11	3.590E-14	3.439E-17	3.233E-20	1.802E-22	3.097E-23	2.686E-26	2.843E-29	3.124E-32	3.409E-35		
te128	1.934E-18	1.934E-18	1.934E-18	1.934E-18	1.934E-18	1.934E-18	1.934E-18	1.934E-18	1.934E-18	1.934E-18	1.934E-18	1.934E-18	1.934E-18	1.934E-18	1.934E-18	1.934E-18		
in128m	2.244E-05	2.244E-05	2.244E-05	2.244E-05	2.244E-05	2.244E-05	2.244E-05	2.244E-05	2.244E-05	2.244E-05	2.244E-05	2.244E-05	2.244E-05	2.244E-05	2.244E-05	2.244E-05		
te129m	9.934E-03	9.934E-03	9.848E-03	6.052E-03	2.920E-03	6.257E-04	3.249E-06	1.794E-08	9.364E-13	4.925E-16	1.801E-18	1.644E-19	1.419E-22	7.620E-26	3.924E-30	1.984E-34		
in129	3.424E-07	3.424E-07	3.424E-07	3.424E-07	3.424E-07	3.424E-07	3.424E-07	3.424E-07	3.424E-07	3.424E-07	3.424E-07	3.424E-07	3.424E-07	3.424E-07	3.424E-07	3.424E-07		
te129m	4.142E-12	3.543E-12	2.494E-12	1.362E-13	1.388E-14	1.187E-16	2.642E-25	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
in130	1.557E-07	1.557E-07	1.557E-07	1.557E-07	1.557E-07	1.557E-07	1.557E-07	1.557E-07	1.557E-07	1.557E-07	1.557E-07	1.557E-07	1.557E-07	1.557E-07	1.557E-07	1.557E-07		
in131m	4.381E-07	3.897E-07	2.957E-07	1.075E-07	6.108E-09	1.718E-10	5.644E-17	2.961E-26	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
cd131	1.551E-05	1.224E-05	1.162E-05	4.621E-16	1.401E-17	1.823E-19	3.761E-27	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
ab131	7.207E-17	6.444E-17	4.913E-17	1.711E-17	8.925E-19	2.258E-20	4.735E-27	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
in131m	9.905E-05	9.905E-05	9.905E-05	9.905E-05	9.905E-05	9.905E-05	9.905E-05	9.905E-05	9.905E-05	9.905E-05	9.905E-05	9.905E-05	9.905E-05	9.905E-05	9.905E-05	9.905E-05		
te131	6.568E-13	5.042E-13	2.817E-13															

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hoi66m 1.762E-07 1.762E-07 1.762E-07 1.762E-07 1.762E-07 1.762E-07 1.761E-07 1.760E-07 1.759E-07 1.758E-07 1.757E-07 1.757E-07 1.756E-07 1.755E-07
tml67 2.655E-19 2.285E-19 1.631E-19 4.395E-20 1.118E-21 1.157E-23 5.813E-32 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
tml68 1.101E-09 1.085E-09 1.049E-09 9.209E-10 6.394E-10 4.060E-10 6.081E-11 4.016E-12 2.652E-13 1.738E-14 2.294E-15 1.148E-15 7.582E-17 5.007E-18
erl69 4.799E-13 4.140E-13 2.970E-13 8.163E-14 2.194E-15 2.433E-17 1.633E-25 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
ybl69 5.161E-12 4.943E-12 4.484E-12 3.070E-12 1.063E-12 2.837E-13 1.136E-15 4.204E-19 1.556E-22 5.634E-26 1.561E-28 2.085E-29 7.716E-33 0.000E+00
1 5 more years for cooling used fuel material fission products page 38
0 nuclide thermal power, watts
basis --15.1 kgHM (nrm'd IHM 1/4-ass. at 1 MT)
initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d
tml70 1.048E-05 1.037E-05 1.012E-05 9.207E-06 7.070E-06 5.089E-06 1.287E-06 1.800E-07 2.517E-08 3.501E-09 8.081E-10 4.895E-10 6.844E-11 9.570E-12
tml71 4.455E-07 4.446E-07 4.426E-07 4.350E-07 4.144E-07 3.902E-07 3.033E-07 2.114E-07 1.474E-07 1.026E-07 7.845E-08 7.156E-08 4.989E-08 3.478E-08
total 2.599E+02 2.584E+02 2.435E+02 2.159E+02 1.892E+02 1.201E+02 7.001E+01 4.494E+01 3.174E+01 2.595E+01 2.446E+01 2.020E+01 1.754E+01
1 5 more years for cooling used fuel material fission products page 39
0 element thermal power, watts
basis --15.1 kgHM (nrm'd IHM 1/4-ass. at 1 MT)
initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d
h 3.538E-04 3.536E-04 3.534E-04 3.524E-04 3.498E-04 3.465E-04 3.322E-04 3.150E-04 2.977E-04 2.814E-04 2.699E-04 2.660E-04 2.515E-04 2.377E-04
ga 2.746E-19 2.732E-19 2.701E-19 2.582E-19 2.278E-19 1.949E-19 1.015E-19 3.990E-20 1.568E-20 6.149E-21 3.066E-21 2.417E-21 9.501E-22 3.735E-22
ge 2.055E-11 2.020E-11 1.943E-11 1.671E-11 1.094E-11 6.464E-12 7.154E-13 3.063E-14 1.312E-15 5.569E-17 5.322E-18 2.385E-18 1.021E-19 4.375E-21
aa 4.090E-11 3.801E-11 3.225E-11 1.731E-11 3.809E-12 1.156E-12 1.055E-13 4.516E-15 1.934E-16 8.209E-18 7.846E-19 3.515E-19 1.505E-20 6.446E-22
ae 4.136E-07 4.135E-07 4.134E-07 4.129E-07 4.119E-07 4.109E-07 4.091E-07 4.086E-07 4.086E-07 4.086E-07 4.086E-07 4.086E-07 4.086E-07 4.086E-07
kr 1.560E-01 1.559E-01 1.558E-01 1.553E-01 1.540E-01 1.523E-01 1.456E-01 1.365E-01 1.280E-01 1.200E-01 1.144E-01 1.125E-01 1.055E-01 9.893E-02
sr 1.775E-05 1.649E-05 1.399E-05 7.385E-06 1.274E-06 1.661E-07 2.791E-09 2.402E-10 1.120E-10 1.052E-10 1.049E-10 1.049E-10 1.049E-10 1.049E-10
rb 1.846E+00 1.818E+00 1.758E+00 1.559E+00 1.199E+00 9.836E-01 8.131E-01 7.890E-01 7.702E-01 7.519E-01 7.385E-01 7.340E-01 7.165E-01 6.995E-01
y 6.531E+00 6.275E+00 6.153E+00 5.736E+00 4.935E+00 4.404E+00 3.876E+00 3.761E+00 3.671E+00 3.584E+00 3.520E+00 3.499E+00 3.415E+00 3.334E+00
zr 7.751E+00 7.585E+00 7.224E+00 5.977E+00 3.517E+00 1.817E+00 1.150E-01 2.214E-03 4.525E-05 3.539E-06 2.773E-06 2.746E-06 2.730E-06 2.730E-06
nb 1.525E+01 1.494E+01 1.427E+01 1.382E+01 7.145E+00 3.745E+00 2.410E-01 4.794E-03 9.323E-05 2.817E-06 1.249E-06 1.225E-06 1.319E-06 1.439E-06
mo 5.954E-13 5.954E-13 5.954E-13 5.954E-13 5.953E-13 5.953E-13 5.952E-13 5.951E-13 5.950E-13 5.949E-13 5.948E-13 5.947E-13 5.946E-13
tc 7.964E-05 7.964E-05 7.964E-05 7.963E-05 7.963E-05 7.963E-05 7.963E-05 7.963E-05 7.963E-05 7.962E-05 7.962E-05 7.962E-05 7.962E-05 7.962E-05
ru 2.107E+00 2.054E+00 1.942E+00 1.578E+00 9.738E-01 6.488E-01 3.204E-01 1.615E-01 8.175E-02 4.132E-02 2.488E-02 2.092E-02 1.059E-02 5.365E-03
rh 1.064E+02 1.060E+02 1.051E+02 1.017E+02 9.283E+01 8.283E+01 5.148E+01 2.607E+01 1.320E+01 6.672E+00 4.018E+00 3.378E+00 1.711E+00 8.663E-01
pd 2.687E+07 2.687E+07 2.685E+07 2.681E+07 2.678E+07 2.677E+07 2.677E+07 2.677E+07 2.677E+07 2.677E+07 2.677E+07 2.677E+07 2.677E+07 2.677E+07
ag 1.754E+00 1.744E+00 1.722E+00 1.641E+00 1.432E+00 1.209E+00 5.958E-01 2.164E-01 7.857E-02 2.845E-02 1.338E-02 1.033E-02 3.753E-03 1.363E-03
cd 1.317E-03 1.277E-03 1.192E-03 9.122E-04 4.349E-04 1.789E-04 1.955E-05 1.550E-05 1.462E-05 1.384E-05 1.333E-05 1.314E-05 1.248E-05 1.187E-05
in 7.560E-07 7.349E-07 6.895E-07 5.383E-07 2.693E-07 1.137E-07 3.121E-09 1.865E-11 1.398E-13 4.258E-15 9.523E-16 6.652E-16 3.338E-16 2.974E-16
sn 3.354E-02 3.320E-02 3.244E-02 2.968E-02 2.317E-02 1.709E-02 5.171E-03 1.409E-03 7.462E-04 5.926E-04 5.509E-04 5.419E-04 5.186E-04 5.046E-04
ab 6.984E-01 6.971E-01 6.941E-01 6.831E-01 6.553E-01 6.250E-01 5.216E-01 4.056E-01 3.156E-01 2.454E-01 2.035E-01 1.909E-01 1.485E-01 1.156E-01
te 1.421E-01 1.402E-01 1.361E-01 1.222E-01 9.499E-02 7.465E-02 4.110E-02 2.769E-02 2.112E-02 1.638E-02 1.358E-02 1.274E-02 9.909E-03 7.708E-03
i 3.801E-07 3.713E-07 3.562E-07 3.313E-07 3.243E-07 3.242E-07 3.242E-07 3.242E-07 3.242E-07 3.242E-07 3.242E-07 3.242E-07 3.242E-07 3.242E-07
xe 4.999E-07 4.492E-07 3.541E-07 1.466E-07 2.149E-08 4.986E-09 3.747E-11 3.590E-14 3.439E-17 3.233E-20 1.820E-22 3.097E-23 2.968E-26 2.843E-29
cs 3.258E+01 3.252E+01 3.240E+01 3.191E+01 3.059E+01 2.903E+01 2.337E+01 1.726E+01 1.287E+01 9.717E+00 7.964E+00 7.456E+00 5.828E+00 4.653E+00
ba 7.430E+00 7.429E+00 7.427E+00 7.418E+00 7.395E+00 7.367E+00 7.249E+00 7.084E+00 6.923E+00 6.765E+00 6.650E+00 6.611E+00 6.461E+00 6.313E+00
la 1.021E-03 9.159E-04 7.127E-04 2.776E-04 1.932E-05 7.015E-07 5.877E-11 5.810E-11 5.810E-11 5.810E-11 5.809E-11 5.809E-11 5.809E-11 5.809E-11
ce 6.270E+00 6.232E+00 6.148E+00 5.845E+00 5.124E+00 4.392E+00 2.356E+00 9.693E-01 3.989E-01 1.637E-01 8.447E-02 6.737E-02 2.772E-02 1.141E-02
pr 6.794E+01 6.761E+01 6.688E+01 6.409E+01 4.904E+01 2.637E+01 1.085E+01 4.465E+00 1.833E+00 9.456E-01 7.542E-01 3.103E-01 1.277E-01
nd 6.026E-06 5.311E-06 3.998E-06 1.324E-06 6.007E-08 1.277E-09 2.173E-13 2.253E-13 2.287E-13 2.301E-13 2.305E-13 2.306E-13 2.309E-13 2.310E-13
pm 1.033E+00 1.025E+00 1.009E+00 9.566E-01 8.583E-01 7.888E-01 6.400E-01 4.913E-01 3.773E-01 2.895E-01 2.378E-01 2.223E-01 1.707E-01 1.311E-01
sm 1.046E-03 1.046E-03 1.045E-03 1.045E-03 1.044E-03 1.043E-03 1.037E-03 1.029E-03 1.021E-03 1.013E-03 1.008E-03 1.006E-03 9.978E-04 9.902E-04
eu 2.109E+00 2.108E+00 2.105E+00 2.097E+00 2.073E+00 2.045E+00 1.930E+00 1.777E+00 1.636E+00 1.506E+00 1.417E+00 1.387E+00 1.278E+00 1.177E+00
gd 1.232E-04 1.223E-04 1.209E-04 1.150E-04 9.984E-05 8.374E-05 4.014E-05 1.401E-05 4.892E-06 1.703E-06 7.773E-07 5.944E-07 2.075E-07 7.244E-08
tb 2.988E-02 2.931E-02 2.807E-02 2.374E-02 1.484E-02 8.269E-03 7.174E-04 2.178E-05 7.549E-07 1.191E-07 1.007E-07 9.972E-08 9.877E-08 9.837E-08
dy 8.164E-09 8.086E-09 7.913E-09 7.276E-09 5.751E-09 4.291E-09 1.262E-09 2.188E-10 3.794E-11 6.548E-12 1.774E-12 1.135E-12 1.969E-13 3.415E-14
ho 1.762E-07 1.762E-07 1.762E-07 1.762E-07 1.762E-07 1.761E-07 1.760E-07 1.759E-07 1.758E-07 1.757E-07 1.757E-07 1.756E-07 1.755E-07
er 4.799E-13 4.140E-13 2.970E-13 8.163E-14 2.194E-15 2.433E-17 1.633E-25 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
tm 1.093E-05 1.081E-05 1.056E-05 9.643E-06 7.485E-06 5.480E-06 1.591E-06 3.914E-07 1.726E-07 1.061E-07 7.926E-08 7.205E-08 4.995E-08 3.479E-08
yb 5.161E-12 4.943E-12 4.484E-12 3.070E-12 1.063E-12 2.837E-13 1.136E-15 4.204E-19 1.556E-22 5.634E-26 1.561E-28 2.085E-29 7.716E-33 0.000E+00
totals 2.599E+02 2.584E+02 2.552E+02 2.435E+02 2.159E+02 1.892E+02 1.201E+02 7.001E+01 4.494E+01 3.174E+01 2.595E+01 2.446E+01 2.020E+01 1.754E+01
569 array 20 entries read
0c
1 * normal termination of execution *
0
0 table of contents for material tables
case or subcase printed page
1 1
```

```

*          SCALE 6.1.3                                     *
*          -----                                         *
*          October 2013                                    *
*                                                                 *
*   SCALE: A Comprehensive Modeling and Simulation Suite      *
*           for Nuclear Safety Analysis and Design            *
*                                                                 *
*           Reactor and Nuclear Systems Division             *
*           Oak Ridge National Laboratory                     *
*                                                                 *
*           http://scale.ornl.gov                             *
*           scalehelp@ornl.gov                               *
*                                                                 *
*-----*
*
* Job Information
*-----*
Job started on jupiter on Mon 21/10/2013 11:43:10
Working directory: /tmp/scale.8re.5497
Input file name : /home/8re/MOX/b14xmox.inp
Output file name : /home/8re/MOX/b14xmox.out
*-----*
primary module access and input record ( Scale 6.1 driver )
*-----*
*
module shell will be called at 11:43:10.392 on 10/21/2013.
sequence specification record:#shell
*
Input Data:
*
cp $RTNDR/ft71_mox_b14x ft71f001
*
module shell is finished. completion code    0. total cpu time used .04 seconds.
*
*
module origins will be called at 11:43:10.427 on 10/21/2013.
sequence specification record:#origens
*
Input Data:
*
O8$ all 71 e t
Decay Case
38$ 21 1 1 0 a16 2 a33 0 e t
35$ 0 t
54$ a1 1 a8 1 a11 0 e
56$ a2 13 a6 1 a10 0 a13 -43 a15 3 a17 2 e
57** 0 a3 0.0 e
95$ 0 t
5 more years for cooling used fuel material
~15.1 kgIHM (nrm'd IHM 1/4-ass. at 1 MT)
*
*
*              14       365       365       366       272       93
*
*         240+2xxx   xxx  1/22/09 3/12/09 5/12/09 1/22/10 1/22/11 1/22/12 1/22/13 10/21/13 1/22/14 1/22/15 1/22/16
* 60** 2        6.5 24   73     134   389    754   1119   1485   1757   1850   2215   2580
*
60** 2 6.5 24 73 134 389 754 1119 1485 1757 1850 2215 2580
61** 1e-20 1e-20 5r1e-20
65$
Cgram-Atoms Grams Curies Watts-All Watts-Gamma
0 0 0 1 1 0 1 1 0 1 1 0 3z 6z
0 0 0 1 1 0 1 1 0 1 1 0 3z 6z
0 0 0 1 1 0 1 1 0 1 1 0 3z 6z
t
56$ f0 t
*
module origins is finished. completion code    0. total cpu time used .14 seconds.
*
Scale is finished at 11:43:10.570 on 10/21/2013
*-----*
*
*****
*****                                program verification information                                *****
*****                                code system: SCALE version: 6.1                                *****
*****
*****
*****                                program: origen                                *****
*****                                creation date: 21_feb_2013                        *****
*****                                library: /scale/scale6.1/Linux_x86_64/bin        *****
*****
*****                                production code: origen                        *****
*****                                revision: 6.1.2                                *****
*****                                jobname: 8re                                    *****
*****                                machine name: jupiter.ornl.gov                    *****
*****                                date of execution: 21_oct_2013                    *****
*****                                time of execution: 11:43:10.43                    *****
*****
*-----*
1
1      * input echo * (with break between col. 1-72 and 73-80)
0      note: only comments are permitted after column 72.
0-----only this is used as input data.-----
0-----columns 1-72-----comment or title end
                                           ..73-80..

```

```
,      240+2xxxx   xxx  1/22/09 3/12/09 5/12/09 1/22/10 1/22/11 1/22/12 1/      22/13 10
,      60** 2      6.5 24      73      134      389      754      1119      14      85      17
,
60** 2 6.5 24 73 134 389 754 1119 1485 1757 1850 2215 2580
61** 1e-20 1e-20 5r1e-20
65$
*gram-Atoms      Grams      Curies      Watts-All      Watts-Gamma
0 0 0 1 1 0 1 1 0 1 1 0 3z 6z
0 0 0 1 1 0 1 1 0 1 1 0 3z 6z
0 0 0 1 1 0 1 1 0 1 1 0 3z 6z
t
56$ f0 t
0when job "fails", make sure no fido input..... is out here!

0$ array      12 entries read

0t

3$ array      33 entries read

0t
library information...

cross-section data taken from position number      1 of library on unit 21.
*****
*      ENDF/B-VII.1 decay data      *
*      compiled August 30, 2012      *
*      i.c. gauld, g. las, m. pigni      *
*      reactor and nuclear systems division      *
*      oak ridge national laboratory      *
*****
0
0      other identification and sizes of library.
0      data set name: /scale/scale6.1/data/origen.rev03.end7dec
0      8/31/2012      date library was produced
0      2237      total number of nuclides in library
0      110      number of light-element nuclides
0      176      number of actinide nuclides
0      1151      number of fission product nuclides
0      2636      number of nonzero off-diagonal matrix elements
0
0
35$ array      1 entries read

0t

54$ array      12 entries read

56$ array      20 entries read

57* array      5 entries read

95$ array      1 entries read

0t

14      365      365      366      272      93

240+2xxxx   xxx  1/22/09 3/12/09 5/12/09 1/22/10 1/22/11 1/22/12 1/22/13 10
60** 2      6.5 24      73      134      389      754      1119      1485      17

60* array      13 entries read

61* array      7 entries read
gram-atoms      grams      curies      watts-all      watts-gamma

65$ array      63 entries read

0t
0 obtaining data from position no.      43 on unit no.      71
1
5 more years for cooling used fuel material      light elements      page      1
0
nuclide concentrations, grams
basis ==15.1 kgIHM (nrm'd IHM 1/4-ass. at 1 MT)
initial      2.0 d      6.5 d      24.0 d      73.0 d      134.0 d      389.0 d      754.0 d      1119.0 d      1485.0 d      1757.0 d      1850.0 d      2215.0 d      2580.0 d
h 1      9.692E-05 9.692E-05 9.692E-05 9.692E-05 9.692E-05 9.692E-05 9.692E-05 9.692E-05 9.692E-05 9.692E-05 9.692E-05 9.692E-05 9.692E-05
h 2      2.071E-05 2.071E-05 2.071E-05 2.071E-05 2.071E-05 2.071E-05 2.071E-05 2.071E-05 2.071E-05 2.071E-05 2.071E-05 2.071E-05 2.071E-05
h 3      8.401E-07 8.399E-07 8.393E-07 8.370E-07 8.307E-07 8.229E-07 7.913E-07 7.480E-07 7.071E-07 6.683E-07 6.409E-07 6.318E-07 5.973E-07 5.646E-07
he 3      1.944E-07 1.946E-07 1.952E-07 1.975E-07 2.038E-07 2.115E-07 2.432E-07 2.865E-07 3.274E-07 3.662E-07 3.936E-07 4.027E-07 4.372E-07 4.699E-07
he 4      5.663E-02 5.663E-02 5.663E-02 5.663E-02 5.663E-02 5.663E-02 5.663E-02 5.663E-02 5.663E-02 5.663E-02 5.663E-02 5.663E-02 5.663E-02 5.663E-02
li 6      3.850E-12 3.850E-12 3.850E-12 3.850E-12 3.850E-12 3.850E-12 3.850E-12 3.850E-12 3.850E-12 3.850E-12 3.850E-12 3.850E-12 3.850E-12 3.850E-12
li 7      3.676E-13 3.676E-13 3.676E-13 3.676E-13 3.676E-13 3.676E-13 3.676E-13 3.676E-13 3.676E-13 3.676E-13 3.676E-13 3.676E-13 3.676E-13 3.676E-13
be 9      3.584E-08 3.584E-08 3.584E-08 3.584E-08 3.584E-08 3.584E-08 3.584E-08 3.584E-08 3.584E-08 3.584E-08 3.584E-08 3.584E-08 3.584E-08 3.584E-08
be 10     1.857E-06 1.857E-06 1.857E-06 1.857E-06 1.857E-06 1.857E-06 1.857E-06 1.857E-06 1.857E-06 1.857E-06 1.857E-06 1.857E-06 1.857E-06 1.857E-06
b 10     6.699E-13 8.746E-13 8.851E-13 9.259E-13 1.040E-12 1.183E-12 1.778E-12 2.630E-12 3.481E-12 4.336E-12 4.970E-12 5.187E-12 6.039E-12 6.891E-12
b 11     1.054E-09 1.054E-09 1.054E-09 1.054E-09 1.054E-09 1.054E-09 1.054E-09 1.054E-09 1.054E-09 1.054E-09 1.054E-09 1.054E-09 1.054E-09 1.054E-09
c 12     1.157E-03 1.157E-03 1.157E-03 1.157E-03 1.157E-03 1.157E-03 1.157E-03 1.157E-03 1.157E-03 1.157E-03 1.157E-03 1.157E-03 1.157E-03 1.157E-03
c 13     1.828E-01 1.828E-01 1.828E-01 1.828E-01 1.828E-01 1.828E-01 1.828E-01 1.828E-01 1.828E-01 1.828E-01 1.828E-01 1.828E-01 1.828E-01 1.828E-01
c 14     5.607E-06 5.607E-06 5.607E-06 5.607E-06 5.607E-06 5.607E-06 5.608E-06 5.608E-06 5.608E-06 5.608E-06 5.608E-06 5.608E-06 5.608E-06 5.608E-06
n 14     7.097E-08 7.098E-08 7.099E-08 7.102E-08 7.111E-08 7.122E-08 7.170E-08 7.238E-08 7.306E-08 7.375E-08 7.425E-08 7.443E-08 7.511E-08 7.579E-08
n 15     1.707E-04 1.707E-04 1.707E-04 1.707E-04 1.707E-04 1.707E-04 1.707E-04 1.707E-04 1.707E-04 1.707E-04 1.707E-04 1.707E-04 1.707E-04 1.707E-04
o 16     2.027E+03 2.027E+03 2.027E+03 2.027E+03 2.027E+03 2.027E+03 2.027E+03 2.027E+03 2.027E+03 2.027E+03 2.027E+03 2.027E+03 2.027E+03 2.027E+03
o 17     4.808E-04 4.808E-04 4.808E-04 4.808E-04 4.808E-04 4.808E-04 4.808E-04 4.808E-04 4.808E-04 4.808E-04 4.808E-04 4.808E-04 4.808E-04 4.808E-04
o 18     1.873E-09 1.873E-09 1.873E-09 1.873E-09 1.873E-09 1.873E-09 1.873E-09 1.873E-09 1.873E-09 1.873E-09 1.873E-09 1.873E-09 1.873E-09 1.873E-09
f 19     1.397E-15 1.397E-15 1.397E-15 1.397E-15 1.397E-15 1.397E-15 1.397E-15 1.397E-15 1.397E-15 1.397E-15 1.397E-15 1.397E-15 1.397E-15 1.397E-15
na 23     6.287E-16 6.287E-16 6.287E-16 6.287E-16 6.287E-16 6.287E-16 6.287E-16 6.287E-16 6.287E-16 6.287E-16 6.287E-16 6.287E-16 6.287E-16 6.287E-16
mg 24     6.836E-16 6.836E-16 6.836E-16 6.836E-16 6.836E-16 6.836E-16 6.836E-16 6.836E-16 6.836E-16 6.836E-16 6.836E-16 6.836E-16 6.836E-16 6.836E-16
mg 25     6.836E-16 6.836E-16 6.836E-16 6.836E-16 6.836E-16 6.836E-16 6.836E-16 6.836E-16 6.836E-16 6.836E-16 6.836E-16 6.836E-16 6.836E-16 6.836E-16
mg 26     7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16 7.114E-16
al 27     7.393E-16 7.393E-16 7.393E-16 7.393E-16 7.393E-16 7.393E-16 7.393E-16 7.393E-16 7.393E-16 7.393E-16 7.393E-16 7.393E-16 7.393E-16 7.393E-16
al 28     7.660E-16 7.660E-16 7.660E-16 7.660E-16 7.660E-16 7.660E-16 7.660E-16 7.660E-16 7.660E-16 7.660E-16 7.660E-16 7.660E-16 7.660E-16 7.660E-16
si 29     7.942E-16 7.942E-16 7.942E-16 7.942E-16 7.942E-16 7.942E-16 7.942E-16 7.942E-16 7.942E-16 7.942E-16 7.942E-16 7.942E-16 7.942E-16 7.942E-16
si 30     8.251E-16 8.251E-16 8.251E-16 8.251E-16 8.251E-16 8.251E-16 8.251E-16 8.251E-16 8.251E-16 8.251E-16 8.251E-16 8.251E-16 8.251E-16 8.251E-16
p 31     8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16 8.484E-16
s 32     8.742E-16 8.742E-16 8.742E-16 8.742E-16 8.742E-16 8.742E-16 8.742E-16 8.742E-16 8.742E-16 8.742E-16 8.742E-16 8.742E-16 8.742E-16 8.742E-16
s 33     8.983E-16 8.983E-16 8.983E-16 8.983E-16 8.983E-16 8.983E-16 8.983E-16 8.983E-16 8.983E-16 8.983E-16 8.983E-16 8.983E-16 8.983E-16 8.983E-16
s 34     9.307E-16 9.307E-16 9.307E-16 9.307E-16 9.307E-16 9.307E-16 9.307E-16 9.307E-16 9.307E-16 9.307E-16 9.307E-16 9.307E-16 9.307E-16 9.307E-16
s 36     9.845E-16 9.845E-16 9.845E-16 9.845E-16 9.845E-16 9.845E-16 9.845E-16 9.845E-16 9.845E-16 9.845E-16 9.845E-16 9.845E-16 9.845E-16 9.845E-16
cl 35     9.111E-16 9.111E-16 9.111E-16 9.112E-16 9.112E-16 9.112E-16 9.112E-16 9.112E-16 9.112E-16 9.112E-16 9.112E-16 9.112E-16 9.112E-16 9.112E-16
cl 36     4.973E-17 4.973E-17 4.973E-17 4.973E-17 4.973E-17 4.973E-17 4.973E-17 4.973E-17 4.973E-17 4.973E-17 4.973E-17 4.973E-17 4.973E-17 4.973E-17
cl 37     1.021E-15 1.021E-15 1.021E-15 1.021E-15 1.021E-15 1.021E-15 1.021E-15 1.021E-15 1.021E-15 1.021E-15 1.021E-15 1.021E-15 1.021E-15 1.021E-15
ar 36     9.758E-16 9.758E-16 9.758E-16 9.758E-16 9.758E-16 9.758E-16 9.758E-16 9.758E-16 9.758E-16 9.758E-16 9.758E-16 9.758E-16 9.758E-16 9.758E-16
ar 38     1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15 1.039E-15
ar 39     1.823E-18 1.823E-18 1.823E-18 1.823E-18 1.822E-18 1.822E-18 1.818E-18 1.814E-18 1.809E-18 1.804E-18 1.801E-18 1.800E-18 1.795E-18 1.790E-18
ar 40     1.099E-15 1.099E-15 1.099E-15 1.099E-15 1.099E-15 1.099E-15 1.099E-15 1.099E-15 1.099E-15 1.099E-15 1.099E-15 1.099E-15 1.099E-15 1.099E-15
k 39     1.062E-15 1.062E-15 1.062E-15 1.062E-15 1.062E-15 1.062E-15 1.062E-15 1.062E-15 1.062E-15 1.062E-15 1.062E-15 1.062E-15 1.062E-15 1.062E-15
k 40     1.053E-15 1.053E-15 1.053E-15 1.053E-15 1.053E-15 1.053E-15 1.053E-15 1.053E-15 1.053E-15 1.053E-15 1.053E-15 1.053E-15 1.053E-15 1.053E-15
k 41     1.158E-15 1.158E-15 1.158E-15 1.158E-15 1.158E-15 1.158E-15 1.158E-15 1.158E-15 1.158E-15 1.158E-15 1.158E-15 1.158E-15 1.158E-15 1.158E-15
ca 40     1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15 1.091E-15
ca 41     6.105E-19 6.105E-19 6.105E-19 6.105E-19 6.105E-19 6.105E-19 6.105E-19 6.105E-19 6.105E-19 6.105E-19 6.105E-19 6.105E-19 6.105E-19 6.105E-19
ca 42     1.151E-15 1.151E-15 1.151E-15 1.151E-15 1.151E-15 1.151E-15 1.151E-15 1.151E-15 1.151E-15 1.151E-15 1.151E-15 1.151E-15 1.151E-15 1.151E-15
ca 43     1.160E-15 1.160E-15 1.160E-15 1.160E-15 1.160E-15 1.160E-15 1.160E-15 1.160E-15 1.160E-15 1.160E-15 1.160E-15 1.160E-15 1.160E-15 1.160E-15
ca 44     1.220E-15 1.220E-15 1.220E-15 1.220E-15 1.220E-15 1.220E-15 1.220E-15 1.220E-15 1.220E-15 1.220E-15 1.220E-15 1.220E-15 1.220E-15 1.220E-15
ca 46     1.257E-15 1.257E-15 1.257E-15 1.257E-15 1.257E-15 1.257E-15 1.257E-15 1.257E-15 1.257E-15 1.257E-15 1.257E-15 1.257E-15 1.257E-15 1.257E-15
ca 48     9.311E-19 9.311E-19 9.311E-19 9.311E-19 9.311E-19 9.311E-19 9.311E-19 9.311E-19 9.311E-19 9.311E-19 9.311E-19 9.311E-19 9.311E-19 9.311E-19
sc 45     1.183E-15 1.183E-15 1.183E-15 1.183E-15 1.183E-15 1.183E-15 1.183E-15 1.183E-15 1.183E-15 1.183E-15 1.183E-15 1.183E-15 1.183E-15 1.183E-15
sc 46     7.481E-19 7.358E-19 7.089E-19 6.134E-19 4.090E-19 2.469E-19 2.995E-20 1.462E-21 7.141E-23 3.458E-24 3.644E-25 1.688E-25 8.244E-27 4.025E-28
1
5 more years for cooling used fuel material      light elements      page      2
0
nuclide concentrations, grams
basis ==15.1 kgIHM (nrm'd IHM 1/4-ass. at 1 MT)
initial      2.0 d      6.5 d      24.0 d      73.0 d      134.0 d      389.0 d      754.0 d      1119.0 d      1485.0 d      1757.0 d      1850.0 d      2215.0 d      2580.0 d
ti 46     1.296E-15 1.296E-15 1.296E-15 1.296E-15 1.296E-15 1.296E-15 1.297E-15 1.297E-15 1.297E-15 1.297E-15 1.297E-15 1.297E-15 1.297E-15 1.297E-15
ti 47     1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15 1.284E-15
ti 48     1.305E-15 1.305E-15 1.305E-15 1.305E-15 1.305E-15 1.305E-15 1.305E-15 1.305E-15 1.305E-15 1.305E-15 1.305E-15 1.305E-15 1.305E-15 1.305E-15
ti 49     1.352E-15 1.352E-15 1.352E-15 1.352E-15 1.352E-15 1.352E-15 1.352E-15 1.352E-15 1.352E-15 1.352E-15 1.352E-15 1.352E-15 1.352E-15 1.352E-15
ti 50     1.371E-15 1.371E-15 1.371E-15 1.371E-15 1.371E-15 1.371E-15 1.371E-15 1.371E-15 1.371E-15 1.371E-15 1.371E-15 1.371E-15 1.371E-15 1.371E-15
v 50     8.750E-19 8.750E-19 8.750E-19 8.750E-19 8.750E-19 8.750E-19 8.750E-19 8.750E-19 8.750E-19 8.750E-19 8.750E-19 8.750E-19 8.750E-19 8.750E-19
v 51     2.694E-17 2.694E-17 2.694E-17 2.694E-17 2.694E-17 2.694E-17 2.694E-17 2.694E-17 2.694E-17 2.694E-17 2.694E-17 2.694E-17 2.694E-17 2.694E-17
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[illegible]

B-50

tl 6.267E-17 6.267E-17 6.267E-17 6.269E-17 6.270E-17 6.270E-17 6.262E-17 6.251E-17 6.241E-17 6.233E-17 6.228E-17 6.227E-17 6.222E-17 6.217E-17
pb 2.568E-19 2.576E-19 2.593E-19 2.622E-19 2.852E-19 3.082E-19 3.970E-19 5.059E-19 5.966E-19 6.732E-19 7.202E-19 7.351E-19 7.875E-19 8.310E-19
totals 2.028E+3 2.028E+3 2.028E+3 2.028E+3 2.028E+3 2.028E+3 2.028E+3 2.028E+3 2.028E+3 2.028E+3 2.028E+3 2.028E+3 2.028E+3 2.028E+3

5 more years for cooling used fuel material
nuclide radioactivity, curies
basis = 15.1 kgHM (nm³ IHM 1/4-ass. at 1 MT)
light elements page 5

initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d
h 8.130E-03 8.127E-03 8.121E-03 8.100E-03 8.039E-03 7.964E-03 7.657E-03 7.238E-03 6.842E-03 6.467E-03 6.114E-03 5.779E-03 5.464E-03
he 4.398E-08 4.398E-08 4.398E-08 4.398E-08 4.398E-08 4.398E-08 4.398E-08 4.398E-08 4.398E-08 4.398E-08 4.398E-08 4.398E-08 4.398E-08
c 5.153E-05 2.513E-05 2.513E-05 2.513E-05 2.513E-05 2.513E-05 2.513E-05 2.513E-05 2.513E-05 2.513E-05 2.513E-05 2.513E-05 2.513E-05
na 2.229E-21 8.217E-21 8.190E-21 8.086E-21 7.803E-21 7.463E-21 6.197E-21 4.749E-21 3.639E-21 2.787E-21 2.285E-21 2.136E-21 1.637E-21 1.254E-21
si 32 5.539E-21 5.539E-21 5.538E-21 5.537E-21 5.534E-21 5.530E-21 5.512E-21 5.487E-21 5.462E-21 5.438E-21 5.419E-21 5.413E-21 5.389E-21 5.364E-21
p 32 7.725E-20 7.061E-20 5.783E-20 2.788E-20 7.600E-21 5.638E-21 5.514E-21 5.489E-21 5.464E-21 5.439E-21 5.421E-21 5.415E-21 5.390E-21 5.366E-21
s 32 6.273E-18 5.939E-18 5.251E-18 3.254E-18 8.516E-19 1.605E-19 1.501E-22 6.921E-27 3.192E-31 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
a 35 2.283E-15 2.247E-15 2.169E-15 1.888E-15 1.281E-15 7.900E-16 1.048E-16 5.819E-18 3.230E-19 1.779E-20 2.063E-21 9.876E-22 5.483E-23 3.044E-24
cl 36 1.641E-18 1.641E-18 1.641E-18 1.641E-18 1.641E-18 1.641E-18 1.641E-18 1.641E-18 1.641E-18 1.641E-18 1.641E-18 1.641E-18 1.641E-18 1.641E-18
ar 37 2.995E-16 2.879E-16 2.634E-16 1.863E-16 7.067E-17 2.114E-17 1.363E-19 9.970E-23 7.294E-26 5.231E-29 2.409E-31 0.000E+00 0.000E+00 0.000E+00
ar 39 6.216E-17 6.216E-17 6.216E-17 6.213E-17 6.213E-17 6.210E-17 6.199E-17 6.183E-17 6.167E-17 6.151E-17 6.140E-17 6.136E-17 6.120E-17 6.104E-17
ar 42 1.027E-22 1.027E-22 1.026E-22 1.025E-22 1.022E-22 1.019E-22 1.004E-22 9.830E-23 9.625E-23 9.424E-23 9.277E-23 9.228E-23 9.035E-23 8.847E-23
k 40 7.542E-21 7.542E-21 7.542E-21 7.542E-21 7.542E-21 7.542E-21 7.542E-21 7.542E-21 7.542E-21 7.542E-21 7.542E-21 7.542E-21 7.542E-21 7.542E-21
k 42 1.027E-22 1.027E-22 1.026E-22 1.025E-22 1.022E-22 1.019E-22 1.004E-22 9.830E-23 9.625E-23 9.424E-23 9.278E-23 9.228E-23 9.036E-23 8.847E-23
ca 41 5.221E-20 5.221E-20 5.221E-20 5.221E-20 5.221E-20 5.221E-20 5.221E-20 5.221E-20 5.221E-20 5.221E-20 5.221E-20 5.221E-20 5.221E-20 5.221E-20
ca 45 2.775E-15 2.751E-15 2.699E-15 2.505E-15 2.033E-15 1.567E-15 5.285E-16 1.115E-16 2.353E-17 4.944E-18 1.551E-18 1.043E-18 2.201E-19 4.645E-20
sc 45m 5.272E-20 5.227E-20 5.128E-20 4.759E-20 3.862E-20 2.978E-20 1.004E-20 2.119E-21 4.471E-22 9.394E-23 2.946E-23 1.982E-23 4.182E-24 8.825E-25
ac 46 2.535E-14 2.494E-14 2.403E-14 2.079E-14 1.386E-14 8.368E-15 1.015E-15 4.956E-17 2.420E-18 1.172E-19 1.235E-20 5.722E-22 2.794E-22 1.364E-23
v 49 6.737E-18 6.737E-18 6.737E-18 6.737E-18 6.737E-18 6.737E-18 6.737E-18 6.737E-18 6.737E-18 6.737E-18 6.737E-18 6.737E-18 6.737E-18 6.737E-18
cr 51 2.873E-16 2.733E-16 2.442E-16 1.576E-16 4.625E-17 1.005E-17 1.702E-20 1.839E-24 1.986E-28 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
mn 53 9.965E-24 9.965E-24 9.965E-24 9.965E-24 9.965E-24 9.965E-24 9.965E-24 9.965E-24 9.965E-24 9.965E-24 9.965E-24 9.965E-24 9.965E-24 9.965E-24
mn 54 2.781E-15 2.769E-15 2.741E-15 2.637E-15 2.365E-15 2.065E-15 1.172E-15 5.210E-16 2.316E-16 1.027E-16 5.614E-17 4.566E-17 2.030E-17 9.022E-18
fe 55 6.804E-15 6.790E-15 6.723E-15 6.692E-15 6.629E-15 6.569E-15 6.439E-15 6.383E-15 6.309E-15 6.208E-15 6.089E-15 5.958E-15 5.815E-15 5.662E-15
ni 57 1.050E-15 1.018E-15 9.817E-16 9.723E-16 9.671E-16 9.627E-16 9.572E-16 9.518E-16 9.458E-16 9.392E-16 9.320E-16 9.252E-16 9.185E-16 9.118E-16
co 56 4.726E-23 4.726E-23 4.726E-23 4.726E-23 4.726E-23 4.726E-23 4.726E-23 4.726E-23 4.726E-23 4.726E-23 4.726E-23 4.726E-23 4.726E-23 4.726E-23
co 60 7.539E-23 7.405E-23 7.112E-23 6.708E-23 3.915E-23 2.265E-23 2.297E-24 8.678E-26 3.279E-27 1.228E-28 1.069E-29 4.640E-30 1.753E-31 0.000E+00
fe 61 1.492E-22 1.398E-22 1.313E-22 1.248E-22 1.191E-22 1.136E-22 1.080E-22 1.024E-22 9.683E-23 9.142E-23 8.602E-23 8.061E-23 7.520E-23 7.000E-23
co 58 3.706E-16 3.628E-16 3.472E-16 2.925E-16 1.811E-16 9.974E-17 8.234E-18 2.317E-19 6.522E-21 1.818E-22 1.270E-23 5.153E-24 1.440E-25 4.052E-27
co 60 1.706E-13 1.705E-13 1.702E-13 1.692E-13 1.662E-13 1.626E-13 1.483E-13 1.301E-13 1.141E-13 9.998E-14 9.065E-14 8.767E-14 7.687E-14 6.741E-14
co 60m 4.726E-23 4.726E-23 4.726E-23 4.726E-23 4.726E-23 4.726E-23 4.726E-23 4.726E-23 4.726E-23 4.726E-23 4.726E-23 4.726E-23 4.726E-23 4.726E-23
ni 61 1.020E-16 1.020E-16 1.020E-16 1.020E-16 1.020E-16 1.020E-16 1.020E-16 1.020E-16 1.020E-16 1.020E-16 1.020E-16 1.020E-16 1.020E-16 1.020E-16
ni 63 1.576E-15 1.576E-15 1.576E-15 1.576E-15 1.576E-15 1.576E-15 1.576E-15 1.576E-15 1.576E-15 1.576E-15 1.576E-15 1.576E-15 1.576E-15 1.576E-15
zn 65 1.561E-17 1.552E-17 1.532E-17 1.458E-17 1.269E-17 1.067E-17 5.168E-18 1.832E-18 6.493E-19 2.295E-19 1.060E-19 8.135E-20 2.883E-20 1.022E-20
sn119m 2.661E-22 2.649E-22 2.612E-22 2.515E-22 2.239E-22 1.938E-22 1.060E-22 4.471E-23 1.886E-23 7.932E-24 4.168E-24 3.345E-24 1.411E-24 5.948E-25
sn121 5.135E-21 5.135E-21 5.134E-21 5.130E-21 5.119E-21 5.106E-21 5.050E-21 4.971E-21 4.893E-21 4.816E-21 4.760E-21 4.741E-21 4.666E-21 4.593E-21
sn121m 6.617E-21 6.597E-21 6.578E-21 6.610E-21 6.596E-21 6.579E-21 6.507E-21 6.405E-21 6.302E-21 6.208E-21 6.133E-21 6.033E-21 5.918E-21 5.802E-21
sn123 1.983E-24 1.962E-24 1.915E-24 1.744E-24 1.341E-24 9.655E-25 2.461E-25 3.472E-26 4.900E-27 6.877E-28 1.598E-28 9.704E-29 1.369E-29 1.932E-30
sb124 2.781E-20 2.718E-20 2.581E-20 2.110E-20 2.000E-20 5.945E-21 3.155E-22 4.719E-24 7.057E-26 1.043E-27 4.553E-29 1.560E-29 2.334E-31 0.000E+00
sb125 2.653E-21 2.650E-21 2.641E-21 2.610E-21 2.523E-21 2.420E-21 2.030E-21 1.579E-21 1.229E-21 9.552E-22 7.922E-22 7.431E-22 5.781E-22 4.497E-22
tel121 4.023E-22 3.980E-22 3.913E-22 3.634E-22 2.837E-22 2.596E-22 7.848E-23 2.467E-23 5.703E-24 6.616E-25 2.416E-25 2.066E-25 1.313E-25 0.000E+00
tel121m 4.007E-22 3.974E-22 3.899E-22 3.621E-22 2.945E-22 2.276E-22 7.757E-23 1.662E-23 3.559E-24 7.592E-25 2.408E-25 1.626E-25 3.484E-26 7.462E-27
tel123m 3.021E-17 2.968E-17 2.909E-17 2.628E-17 1.976E-17 1.386E-17 3.146E-18 3.767E-19 4.510E-20 5.369E-21 1.104E-21 6.428E-22 7.697E-23 9.215E-24
tel125m 4.764E-17 4.650E-17 4.404E-17 3.565E-17 1.973E-17 9.446E-18 4.349E-19 5.679E-21 3.654E-22 2.347E-22 1.940E-22 1.820E-22 1.416E-22 1.101E-22
tel127 8.482E-20 8.378E-20 8.142E-20 7.282E-20 5.536E-20 4.618E-20 1.48E-21 7.017E-22 6.88E-23 6.719E-24 6.198E-24 5.89E-25 5.600E-25 5.300E-25
tel127m 8.660E-20 8.550E-20 8.309E-20 7.434E-20 4.544E-20 3.693E-20 7.297E-21 7.164E-22 7.032E-23 6.859E-24 1.216E-24 6.733E-25 6.610E-26 6.489E-27
tel129 4.172E-24 4.003E-24 3.648E-24 2.543E-24 2.434E-24 2.625E-25 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
tel129m 6.612E-24 6.345E-24 5.782E-24 4.030E-24 1.467E-24 4.167E-25 2.164E-27 1.162E-30 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
i125 1.461E-19 1.461E-19 1.461E-19 1.461E-19 1.461E-19 1.461E-19 1.461E-19 1.461E-19 1.461E-19 1.461E-19 1.461E-19 1.461E-19 1.461E-19 1.461E-19
i126 4.626E-24 4.156E-24 3.265E-24 1.278E-24 9.239E-26 3.511E-27 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
xe127 8.389E-20 8.076E-20 7.413E-20 5.312E-20 2.089E-20 6.539E-21 5.089E-23 4.876E-26 4.671E-29 4.391E-32 0.000E+00 0.000E+00 0.000E+00 0.000E+00
xe131m 1.318E-21 1.172E-21 0.908E-22 2.344E-22 1.836E-23 5.163E-25 1.696E-31 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
cs131 3.001E-18 2.663E-18 2.037E-18 7.163E-19 3.808E-20 9.758E-22 1.166E-29 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00

5 more years for cooling used fuel material
nuclide radioactivity, curies
basis = 15.1 kgHM (nm³ IHM 1/4-ass. at 1 MT)
light elements page 6

initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d
cs134 3.855E-17 3.848E-17 3.832E-17 3.771E-17 3.605E-17 3.408E-17 2.696E-17 1.928E-17 1.379E-17 9.848E-18 7.670E-18 7.042E-18 5.035E-18 3.601E-18
cs135 2.252E-24 2.252E-24 2.252E-24 2.252E-24 2.252E-24 2.252E-24 2.252E-24 2.252E-24 2.252E-24 2.252E-24 2.252E-24 2.252E-24 2.252E-24 2.252E-24
cs137 2.085E-24 2.085E-24 2.085E-24 2.085E-24 2.085E-24 2.085E-24 2.085E-24 2.085E-24 2.085E-24 2.085E-24 2.085E-24 2.085E-24 2.085E-24 2.085E-24
ba135 5.008E-19 4.440E-19 3.385E-19 1.179E-19 6.149E-21 1.556E-22 3.288E-29 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
ba133 1.170E-17 1.170E-17 1.169E-17 1.165E-17 1.155E-17 1.142E-17 1.091E-17 1.022E-17 9.564E-18 8.953E-18 8.524E-18 8.382E-18 7.848E-18 7.347E-18
ba137m 1.975E-24 1.975E-24 1.974E-24 1.972E-24 1.966E-24 1.958E-24 1.927E-24 1.883E-24 1.840E-24 1.798E-24 1.768E-24 1.757E-24 1.717E-24 1.678E-24
la137 1.115E-17 1.115E-17 1.115E-17 1.115E-17 1.115E-17 1.115E-17 1.115E-17 1.115E-17 1.115E-17 1.115E-17 1.115E-17 1.115E-17 1.115E-17 1.115E-17
ce139 8.338E-20 8.255E-20 8.070E-20 7.389E-20 5.773E-20 4.246E-20 1.176E-20 1.871E-21 2.977E-22 4.712E-23 1.198E-23 7.498E-24 1.193E-24 1.898E-25
ce141 2.012E-22 1.928E-22 1.752E-22 1.206E-22 4.243E-23 1.156E-23 5.029E-26 2.096E-29 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
em170 9.794E-25 9.696E-25 9.457E-25 8.606E-25 6.608E-25 4.757E-25 1.203E-25 1.683E-26 2.353E-27 3.272E-28 7.553E-29 4.575E-29 6.398E-30 8.946E-31
tm171 2.949E-21 2.943E-21 2.943E-21 2.943E-21 2.943E-21 2.943E-21 2.943E-21 2.943E-21 2.943E-21 2.943E-21 2.943E-21 2.943E-21 2.943E-21 2.943E-21
lu172 2.547E-21 2.547E-21 2.542E-21 2.508E-21 2.388E-21 2.245E-21 1.716E-21 1.185E-21 8.181E-22 5.643E-22 4.281E-22 3.896E-22 2.690E-22 1.857E-22
lu172m 2.547E-21 2.542E-21 2.530E-21 2.485E-21 2.365E-21 2.223E-21 1.716E-21 1.185E-21 8.181E-22 5.643E-22 4.281E-22 3.896E-22 2.690E-22 1.857E-22
lu173 8.057E-17 8.034E-17 7.984E-17 7.793E-17 7.282E-17 6.623E-17 4.700E-17 2.835E-17 1.710E-17 1.030E-17 7.065E-18 6.211E-18 3.746E-18 2.260E-18
lu174 1.131E-16 1.130E-16 1.128E-16 1.128E-16 1.128E-16 1.128E-16 1.128E-16 1.128E-16 1.128E-16 1.128E-16 1.128E-16 1.128E-16 1.128E-16 1.128E-16
lu174m 3.361E-17 3.329E-17 3.256E-17 2.990E-17 2.354E-17 1.748E-17 5.033E-18 8.473E-19 1.427E-19 2.390E-20 6.335E-21 4.023E-21 6.774E-22 1.140E-22
lu176 5.915E-24 5.915E-24 5.915E-24 5.915E-24 5.915E-24 5.915E-24 5.915E-24 5.915E-24 5.915E-24 5.915E-24 5.915E-24 5.915E-24 5.915E-24 5.915E-24
lu177 1.344E-16 1.332E-16 1.306E-16 1.211E-16 9.802E-17 7.531E-17 2.503E-17 5.171E-18 1.068E-18 2.198E-19 6.786E-20 4.541E-20 9.381E-21 1.938E-21
lu177m 6.018E-16 5.984E-16 5.930E-16 5.420E-16 4.396E-16 3.493E-16 1.121E-16 3.164E-17 3.164E-17 3.164E-17 3.164E-17 3.164E-17 3.164E-17 3.164E-17
hf172 2.547E-22 2.542E-22 2.530E-22 2.485E-22 2.365E-22 2.223E-22 1.716E-22 1.185E-22 8.181E-22 5.643E-22 4.281E-22 3.896E-22 2.690E-22 1.857E-22
hf175 1.979E-13 1.940E-13 1.856E-13 1.560E-13 9.605E-14 5.250E-14 4.203E-15 1.132E-16 3.049E-18 8.133E-20 5.502E-21 2.191E-21 5.901E-23 1.589E-24
hf177m 4.730E-16 4.690E-16 4.599E-16 4.264E-16 3.451E-16 2.651E-16 8.811E-17 1.820E-17 3.761E-18 7.737E-19 2.389E-19 1.599E-19 3.303E-20 6.824E-21
hf181 9.969E-15 9.691E-15 8.065E-15 6.519E-15 4.888E-15 3.908E-15 1.003E-15 2.719E-15 6.551E-16 1.550E-16 2.553E-16 2.898E-17 1.671E-17 0.000E+00
hf182 3.330E-21 3.330E-21 3.330E-21 3.330E-21 3.330E-21 3.330E-21 3.330E-21 3.330E-21 3.330E-21 3.330E-21 3.330E-21 3.330E-21 3.330E-21 3.330E-21
ta179 4.398E-19 4.388E-19 4.368E-19 4.289E-19 4.075E-19 3.824E-19 2.931E-19 2.003E-19 1.369E-19 9.348E-20 7.039E-20 6.389E-20 4.366E-20 2.984E-20
ta182 7.655E-14 7.563E-14 7.360E-14 6.622E-14 4.925E-14 3.407E-14 7.300E-15 8.049E-16 8.874E-17 9.728E-18 1.884E-18 1.075E-18 1.215E-19 1.636E-20
w181 7.204E-17 7.122E-17 6.941E-17 6.280E-17 4.745E-17 3.348E-17 7.787E-18 6.656E-19 1.197E-19 1.476E-20 3.116E-21 1.831E-21 2.702E-22 8.815E-23
w185 2.0

5 more years for cooling used fuel material actinides page 12

cm244 2.268E+00 2.268E+00 2.267E+00 2.263E+00 2.251E+00 2.237E+00 2.178E+00 2.096E+00 2.017E+00 1.941E+00 1.887E+00 1.798E+00 1.731E+00
cm245 2.157E+01 2.157E+01 2.157E+01 2.157E+01 2.157E+01 2.157E+01 2.157E+01 2.157E+01 2.156E+01 2.156E+01 2.156E+01 2.156E+01 2.156E+01
cm246 1.448E-02 1.448E-02 1.448E-02 1.448E-02 1.448E-02 1.447E-02 1.447E-02 1.447E-02 1.447E-02 1.446E-02 1.446E-02 1.446E-02 1.446E-02
cm247 2.208E-04 2.208E-04 2.208E-04 2.208E-04 2.208E-04 2.208E-04 2.208E-04 2.208E-04 2.208E-04 2.208E-04 2.208E-04 2.208E-04 2.208E-04
cm248 1.420E-05 1.420E-05 1.420E-05 1.420E-05 1.420E-05 1.420E-05 1.420E-05 1.420E-05 1.421E-05 1.421E-05 1.421E-05 1.421E-05 1.421E-05
cm249 1.754E-12 1.754E-12 1.754E-12 1.754E-12 1.754E-12 1.754E-12 1.754E-12 1.754E-12 1.753E-12 1.753E-12 1.753E-12 1.753E-12 1.753E-12
bk247 8.721E-15 8.721E-15 8.721E-15 8.721E-15 8.720E-15 8.719E-15 8.716E-15 8.712E-15 8.708E-15 8.703E-15 8.698E-15 8.694E-15 8.690E-15
bk248 3.626E-13 3.625E-13 3.621E-13 3.608E-13 3.571E-13 3.525E-13 3.340E-13 3.093E-13 2.864E-13 2.651E-13 2.503E-13 2.454E-13 2.272E-13 2.104E-13
bk249 1.356E-07 1.350E-07 1.337E-07 1.287E-07 1.014E-07 5.839E-08 2.648E-08 1.201E-08 5.436E-09 3.016E-09 2.466E-09 1.118E-09 5.072E-10
bk250 5.569E-17 5.546E-17 4.495E-17 4.302E-17 3.803E-17 3.262E-17 1.719E-17 6.869E-18 2.747E-18 1.098E-18 5.574E-19 4.425E-19 1.805E-19 7.581E-20
cf248 2.442E-12 2.432E-12 2.428E-12 2.323E-12 2.098E-12 1.849E-12 1.088E-12 5.095E-14 1.115E-14 6.336E-15 5.223E-15 2.466E-15 1.145E-15
cf249 1.306E-07 1.312E-07 1.325E-07 1.375E-07 1.504E-07 1.647E-07 2.074E-07 2.389E-07 2.529E-07 2.590E-07 2.610E-07 2.614E-07 2.622E-07 2.623E-07
cf250 6.596E-08 6.594E-08 6.589E-08 6.573E-08 6.526E-08 6.469E-08 6.234E-08 5.912E-08 5.607E-08 5.317E-08 5.111E-08 5.043E-08 4.783E-08 4.536E-08
cf251 3.259E-08 3.259E-08 3.259E-08 3.259E-08 3.258E-08 3.258E-08 3.256E-08 3.254E-08 3.251E-08 3.249E-08 3.247E-08 3.246E-08 3.244E-08 3.241E-08
cf252 1.019E-08 1.017E-08 1.014E-08 1.001E-08 9.666E-09 9.252E-09 7.705E-09 5.930E-09 4.564E-09 3.900E-09 2.887E-09 2.701E-09 2.079E-09 1.600E-09
cf253 1.486E-15 1.375E-15 1.154E-15 5.840E-16 8.674E-17 8.076E-18 3.954E-22 2.677E-28 1.812E-34 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
cf254 3.899E-14 3.801E-14 3.610E-14 2.954E-14 1.685E-14 8.378E-15 4.511E-16 6.899E-18 1.052E-19 1.588E-21 7.039E-23 2.425E-23 3.703E-25 5.655E-27
es252 2.611E-17 2.603E-17 2.586E-17 2.521E-17 2.346E-17 2.144E-17 1.474E-17 6.622E-18 5.043E-18 2.945E-18 1.975E-18 1.722E-18 1.007E-18 5.892E-19
es253 3.037E-09 2.849E-09 2.466E-09 1.405E-09 2.028E-09 3.850E-09 7.038E-09 3.388E-09 1.453E-09 6.022E-09 0.000E+00 0.000E+00 0.000E+00 0.000E+00
es254 9.557E-14 9.509E-14 9.402E-14 8.997E-14 7.954E-14 6.823E-14 3.594E-14 1.436E-14 5.735E-15 2.285E-15 1.153E-15 9.127E-16 3.646E-16 1.456E-16
es255 2.248E-16 2.171E-16 2.007E-16 1.480E-16 6.304E-17 2.179E-17 2.568E-19 4.454E-22 7.728E-25 1.318E-27 1.155E-29 2.286E-30 3.966E-33 6.880E-36
total 1.436E+04 1.436E+04 1.436E+04 1.436E+04 1.436E+04 1.436E+04 1.436E+04 1.436E+04 1.436E+04 1.436E+04 1.436E+04 1.436E+04 1.436E+04 1.436E+04

5 more years for cooling used fuel material					actinides					page 14				
element concentrations, grams					basis --15.1 kgTHM (nmr'd IHM 1/4-ass. at 1 MT)									
initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d														
he	3.983E-02	3.990E-02	4.004E-02	4.058E-02	4.194E-02	4.336E-02	4.735E-02	5.077E-02	5.350E-02	5.612E-02	5.806E-02	5.873E-02	6.137E-02	6.403E-02
li	4.364E-16	4.364E-16	4.364E-16	4.364E-16	4.364E-16	4.364E-16	4.364E-16	4.364E-16	4.364E-16	4.364E-16	4.364E-16	4.364E-16	4.364E-16	4.364E-16
tl	4.655E-14	4.674E-14	4.686E-14	4.881E-14	5.620E-14	6.464E-14	1.029E-13	1.617E-13	2.193E-13	2.722E-13	3.076E-13	3.191E-13	3.581E-13	3.909E-13
b1	1.187E-08	1.195E-08	1.215E-08	1.298E-08	1.508E-08	1.803E-08	3.767E-08	8.162E-08	1.646E-07	3.246E-07	5.876E-07	9.372E-07	1.532E-06	2.456E-06
bi	4.147E-12	4.160E-12	4.172E-12	4.302E-12	4.774E-12	5.318E-12	7.763E-12	1.149E-11	1.515E-11	1.855E-11	2.087E-11	2.162E-11	2.425E-11	2.654E-11
pn	1.168E-14	1.170E-14	1.175E-14	1.191E-14	1.231E-14	1.264E-14	1.325E-14	1.347E-14	1.360E-14	1.386E-14	1.415E-14	1.428E-14	1.494E-14	1.586E-14
ro	4.171E-14	4.172E-14	4.195E-14	4.374E-14	5.035E-14	5.790E-14	9.216E-14	1.447E-13	1.963E-13	2.438E-13	2.756E-13	2.859E-13	3.211E-13	3.507E-13
pr	6.203E-08	6.204E-08	6.206E-08	6.213E-08	6.240E-08	6.281E-08	6.442E-08	6.693E-08	6.931E-08	7.159E-08	7.379E-08	7.440E-08	7.713E-08	7.997E-08
ra	2.621E-10	2.622E-10	2.637E-10	2.746E-10	3.145E-10	3.603E-10	5.686E-10	8.914E-10	1.214E-09	1.518E-09	1.728E-09	1.798E-09	2.044E-09	2.266E-09
ac	1.064E-11	1.068E-11	1.077E-11	1.113E-11	1.213E-11	1.388E-11	1.860E-11	2.614E-11	3.372E-11	4.138E-11	4.710E-11	4.907E-11	5.680E-11	6.459E-11
th	4.560E-06	4.564E-06	4.572E-06	4.602E-06	4.689E-06	4.799E-06	5.284E-06	6.040E-06	6.867E-06	7.762E-06	8.469E-06	8.719E-06	9.739E-06	1.082E-05
pa	4.669E-07	4.690E-07	4.723E-07	4.829E-07	5.033E-07	5.342E-07	6.442E-07	8.178E-07	1.047E-06	1.328E-06	1.678E-06	2.076E-06	2.594E-06	3.251E-06
u	1.385E+04	1.385E+04	1.385E+04	1.385E+04	1.385E+04	1.385E+04	1.385E+04	1.385E+04	1.385E+04	1.385E+04	1.385E+04	1.385E+04	1.385E+04	1.385E+04
np	2.734E+00	2.734E+00	2.734E+00	2.735E+00	2.736E+00	2.738E+00	2.748E+00	2.767E+00	2.791E+00	2.820E+00	2.846E+00	2.855E+00	2.894E+00	2.937E+00
pu	4.921E+02	4.921E+02	4.921E+02	4.919E+02	4.915E+02	4.899E+02	4.885E+02	4.851E+02	4.817E+02	4.785E+02	4.763E+02	4.755E+02	4.726E+02	4.699E+02
am	1.215E+01	1.216E+01	1.220E+01	1.238E+01	1.289E+01	1.352E+01	1.608E+01	1.959E+01	2.293E+01	2.611E+01	2.838E+01	2.913E+01	3.200E+01	3.473E+01
cm	2.896E+00	2.896E+00	2.896E+00	2.894E+00	2.880E+00	2.840E+00	2.780E+00	2.690E+00	2.570E+00	2.420E+00	2.240E+00	2.050E+00	1.760E+00	1.430E+00
bk	1.356E-07	1.350E-07	1.337E-07	1.287E-07	1.158E-07	1.014E-07	5.839E-08	2.648E-08	1.201E-08	5.436E-09	3.016E-09	2.466E-09	1.118E-09	5.074E-10
cf	2.393E-07	2.399E-07	2.411E-07	2.458E-07	2.579E-07	2.712E-07	3.100E-07	3.365E-07	3.460E-07	3.481E-07	3.475E-07	3.470E-07	3.446E-07	3.417E-07
es	1.262E-13	1.238E-13	1.189E-13	1.042E-13	8.249E-14	6.866E-14	3.595E-14	1.436E-14	5.740E-15	2.285E-15	1.155E-15	9.144E-16	3.656E-16	1.462E-16
total	1.436E+04	1.436E+04	1.436E+04	1.436E+04	1.436E+04	1.436E+04	1.436E+04	1.436E+04	1.436E+04	1.436E+04	1.436E+04	1.436E+04	1.436E+04	1.436E+04

5 more years for cooling used fuel material					nuclide radioactivity, curies					actinides					page 15				
					basis --15.1 kgTHM (nmr'd IHM 1/4-ass. at 1 MT)														

am242m	6.879e-01	6.878e-01	6.8781e-01	6.876e-01	6.872e-01	6.866e-01	6.8631e-01	6.809e-01	6.776e-01	6.742e-01	6.718e-01	6.709e-01	6.677e-01	6.644e-01
am242	6.847e-01	6.847e-01	6.847e-01	6.845e-01	6.840e-01	6.835e-01	6.811e-01	6.778e-01	6.745e-01	6.712e-01	6.687e-01	6.679e-01	6.646e-01	6.613e-01
am243	1.168e+00	1.168e+00	1.168e+00	1.166e+00	1.163e+00	1.168e+00	1.168e+00	1.168e+00	1.167e+00	1.167e+00	1.167e+00	1.167e+00	1.167e+00	1.167e+00
am244	6.1513e+02	6.1513e+02	6.1513e+02	6.1513e+02	6.1513e+02	6.1513e+02	6.1513e+02	6.1513e+02	6.1513e+02	6.1513e+02	6.1513e+02	6.1513e+02	6.1513e+02	6.1513e+02
am245	2.242e-09	3.211e-09	3.179e-09	3.061e-09	2.758e-09	2.412e-09	1.388e-09	6.297e-10	2.856e-10	1.293e-10	7.717e-11	5.8631e-11	2.6591e-11	1.2061e-11
am246	5.442e-14	5.449e-14	5.448e-14	5.445e-14	5.442e-14	5.442e-14	5.441e-14	5.441e-14	5.441e-14	5.440e-14	5.440e-14	5.440e-14	5.439e-14	5.439e-14
am247	1.1101e+00	1.1101e+00	1.1101e+00	1.1101e+00	1.1101e+00	1.1101e+00	1.1101e+00	1.1101e+00	1.1101e+00	1.1101e+00	1.1101e+00	1.1101e+00	1.1101e+00	1.1101e+00
cm241	1.163e-05	1.155e-05	1.013e-05	7.001e-06	2.486e-06	6.849e-07	3.126e-09	398e-12	6.244e-16	7.931e-19	8.710e-22	1.220e-22	5.452e-26	4.36e-29
cm242	2.221e+03	1.211e+03	1.188e+03	1.130e+03	8.952e-02	6.907e-02	2.338e-02	4.993e-01	1.101e+01	2.759e+00	1.246e+00	1.019e+00	6.492e-01	5.687e-01
cm243	4.433e+00	4.433e+00	4.432e+00	4.430e+00	4.426e+00	4.426e+00	1.397e+00	1.364e+00	1.332e+00	1.300e+00	1.278e+00	1.270e+00	1.240e+00	1.211e+00
cm244	5.634e+02	5.634e+02	5.634e+02	5.634e+02	5.634e+02	5.634e+02	5.634e+02	5.634e+02	5.634e+02	5.634e+02	5.634e+02	5.634e+02	5.634e+02	5.634e+02
cm245	3.705e-02	3.705e-02	3.705e-02	3.705e-02	3.705e-02	3.705e-02	3.704e-02	3.704e-02	3.704e-02	3.703e-02	3.703e-02	3.703e-02	3.703e-02	3.703e-02
cm246	4.421e-02	4.421e-02	4.421e-02	4.421e-02	4.421e-02	4.421e-02	4.421e-02	4.420e-02	4.419e-02	4.419e-02	4.418e-02	4.418e-02	4.418e-02	4.417e-02
cm247	2.0492e+02	2.0492e+02	2.0492e+02	2.0492e+02	2.0492e+02	2.0492e+02	2.0492e+02	2.0492e+02	2.0492e+02	2.0492e+02	2.0492e+02	2.0492e+02	2.0492e+02	2.0492e+02
cm248	5.885e-08	5.885e-08	5.885e-08	5.885e-08	5.885e-08	5.885e-08	5.885e-08	5.887e-08	5.887e-08	5.888e-08	5.888e-08	5.888e-08	5.888e-08	5.888e-08
cm249	1.339e-13	1.239e-13	1.040e-13	5.262e-14	7.815e-15	7.276e-16	3.563e-20	0.000e+00	0.000e+00	0.000e+00	0.000e+00	0.000e+00	0.000e+00	0.000e+00
cm250	0.023e-10	0.023e-10	0.023e-10	0.023e-10	0.023e-10	0.023e-10	0.023e-10	0.023e-10	0.023e-10	0.022e-10	0.022e-10	0.022e-10	0.022e-10	0.022e-10
cm251	9.1313e+02	9.1313e+02	9.1313e+02	9.1313e+02	9.1313e+02	9.1313e+02	9.1313e+02	9.1313e+02	9.1313e+02	9.1313e+02	9.1313e+02	9.1313e+02	9.1313e+02	9.1313e+02
bk248	5.815e-11	5.802e-11	5.807e-11	5.785e-11	5.729e-11	5.652e-11	5.356e-11	4.959e-11	4.602e-11	4.251e-11	4.014e-11	3.936e-11	3.644e-11	3.374e-11

5 more years for cooled using fuel material										actinides										page	17
nuclide radioactivity, curies										basis= -15.1kgHM (nm/d) HNM 1/4-ass. at 1 MT)											
24.0 2.0 6.5										754.0 1119.0 1485.0 1757.0 1850.0 2215.0 2580.0											
2.232e-04 2.214e-04 2.192e-04 2.111e-04 1.898e-04 1.663e-04 9.573e-05 4.342e-05 1.969e-05 8.912e-06 4.944e-06 4.042e-06 1.833e-06 8.316e-07																					
bK249	1.784e-10	1.757e-10	1.755e-10	1.679e-10	1.485e-10	1.274e-10	6.710e-11	2.682e-11	1.073e-11	4.289e-12	2.176e-12	1.728e-12	7.046e-13	2.960e-13							
bK250	2.317e-10	2.289e-10	2.287e-10	2.199e-10	1.986e-10	1.740e-10	9.141e-11	3.592e-11	1.414e-11	5.615e-12	2.818e-12	1.477e-12	5.847e-13	2.365e-13							
cF248	3.857e-10	3.841e-10	3.806e-10	3.670e-10	3.314e-10	2.920e-10	1.719e-10	8.048e-11	3.769e-11	1.765e-11	1.001e-11	8.249e-12	3.863e-12	1.809e-12							
cF249	3.344e-07	3.368e-07	3.422e-07	3.652e-07	6.154e-07	6.738e-07	8.489e-07	9.777e-07	1.035e-06	1.060e-06	1.068e-06	1.070e-06	1.073e-06	1.074e-06							
cF250	7.214e-07	7.212e-06	7.207e-06	7.171e-06	7.138e-06	7.075e-06	6.818e-06	6.466e-06	6.133e-06	5.816e-06	5.591e-06	5.516e-06	5.231e-06	4.961e-06							
cF251	1.718e-08	5.718e-08	5.718e-08	5.718e-08	5.718e-08	5.718e-08	5.718e-08	5.158e-08	5.158e-08	5.158e-08	5.158e-08	5.158e-08	5.158e-08	5.158e-08							
cF252	5.466e-06	5.458e-06	5.440e-06	5.373e-06	5.187e-06	4.965e-06	4.135e-06	3.182e-06	2.449e-06	1.883e-06	1.549e-06	1.449e-06	1.115e-06	8.584e-07							
cF253	4.309e-11	3.986e-11	3.366e-11	1.693e-11	2.515e-12	2.341e-13	1.466e-17	7.617e-24	2.253e-30	0.000e+00	0.000e+00	0.000e+00	0.000e+00	0.000e+00							
cF254	2.306e-11	2.306e-11	2.306e-11	2.306e-11	2.306e-11	2.306e-11	2.306e-11	2.306e-11	2.306e-11	2.306e-11	2.306e-11	2.306e-11	2.306e-11	2.306e-11							
eB252	2.870e-14	2.861e-14	2.842e-14	2.770e-14	2.578e-14	2.357e-14	1.620e-14	9.476e-15	5.542e-15	3.237e-15	2.170e-15	1.893e-15	1.107e-15	6.475e-16							
eB253	7.660e-10	1.195e-10	6.221e-10	3.344e-10	7.216e-11	9.711e-12	1.928e-15	8.545e-21	3.664e-26	1.519e-31	0.000e+00	0.000e+00	0.000e+00	0.000e+00							
eB254	1.783e-10	1.774e-10	1.754e-10	1.678e-10	1.484e-10	1.273e-10	6.704e-11	2.678e-11	1.070e-11	4.262e-12	2.151e-12	1.720e-12	6.801e-13	2.717e-13							
eB255	1.783e-10	1.774e-10	1.754e-10	1.678e-10	1.484e-10	1.273e-10	6.704e-11	2.678e-11	1.070e-11	4.262e-12	2.151e-12	1.720e-12	6.801e-13	2.717e-13							
total	9.695e+03	9.684e+03	9.656e+03	9.552e+03	9.294e+03	9.026e+03	8.308e+03	7.764e+03	7.380e+03	7.042e+03	6.806e+03	6.723e+03	6.428e+03	6.144e+03							

5 more years for cooling used fuel material		element radioactivity, curies										actinides										page	18
		basis = 15.1kgHm (nmr'd) Hm 14/ass. at 1 MT)																					
		initial	2.0 d	6.5 d	24.0 d	73.0 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d								
0		1.61E-18	1.16E-18	1.16E-18	1.15E-18	1.15E-18	1.15E-18	1.15E-18	1.15E-18	1.15E-18	1.15E-18	1.15E-18	1.15E-18	1.15E-18	1.15E-18								
hg		1.379E-05	1.385E-05	1.388E-05	1.446E-05	1.665E-05	1.915E-05	3.049E-05	4.788E-05	6.495E-05	8.063E-05	9.111E-05	9.451E-05	1.01E-04	1.158E-04								
pl		3.836E-05	3.835E-05	3.861E-05	4.023E-05	4.632E-05	5.327E-05	8.482E-05	1.322E-04	1.807E-04	2.243E-04	2.535E-04	2.630E-04	2.951E-04	3.221E-04								
pb		8.386E-05	8.382E-05	8.622E-05	9.023E-05	1.079E-04	1.282E-04	1.832E-04	2.565E-04	3.681E-04	4.459E-04	4.634E-04	4.862E-04	5.285E-04	5.828E-04								
po		6.294E-05	6.293E-05	6.322E-05	6.428E-05	7.599E-05	8.740E-05	1.092E-04	1.353E-04	1.643E-04	1.951E-04	1.968E-04	1.971E-04	1.983E-04	1.995E-04								
fr		3.836E-05	3.837E-05	3.858E-05	4.023E-05	4.632E-05	5.327E-05	8.482E-05	1.322E-04	1.807E-04	2.243E-04	2.535E-04	2.630E-04	2.951E-04	3.221E-04								
rn		1.040E-09	1.040E-09	1.040E-09	1.039E-09	1.040E-09	1.043E-09	1.053E-09	1.069E-09	1.085E-09	1.102E-09	1.116E-09	1.119E-09	1.140E-09	1.160E-09								
ra		3.836E-05	3.836E-05	3.858E-05	4.023E-05	4.632E-05	5.327E-05	8.482E-05	1.322E-04	1.807E-04	2.243E-04	2.535E-04	2.630E-04	2.951E-04	3.221E-04								
th		7.989E-05	7.989E-05	8.013E-05	8.129E-05	9.299E-05	1.048E-04	1.393E-04	1.933E-04	2.655E-04	3.547E-04	4.168E-04	4.342E-04	4.622E-04	5.003E-04								
th		4.720E-05	4.720E-05	4.721E-05	4.723E-05	4.728E-05	4.735E-05	4.770E-05	4.815E-05	4.862E-05	4.906E-05	4.937E-05	4.944E-05	4.976E-05	5.003E-05								
pa		6.582E-05	6.582E-05	6.582E-05	6.582E-05	6.583E-05	6.584E-05	6.594E-05	6.606E-05	6.623E-05	6.644E-05	6.660E-05	6.668E-05	6.695E-05	6.726E-05								
u		2.064E-01	2.064E-01	2.063E-01	2.058E-01	2.046E-01	2.030E-01	1.966E-01	1.878E-01	1.794E-01	1.714E-01	1.657E-01	1.638E-01	1.566E-01	1.497E-01								
np		1.173E-09	1.173E-09	1.173E-09	1.173E-09	1.173E-09	1.173E-09	1.173E-09	1.173E-09	1.173E-09	1.172E-09	1.172E-09	1.172E-09	1.172E-09	1.172E-09								
pu		2.655E-05	2.655E-05	2.655E-05	2.655E-05	2.655E-05	2.655E-05	2.655E-05	2.655E-05	2.655E-05	2.655E-05	2.655E-05	2.655E-05	2.655E-05	2.655E-05								
am		2.388E-01	2.396E-01	2.412E-01	2.474E-01	2.648E-01	2.862E-01	3.741E-01	4.945E-01	6.091E-01	7.183E-01	7.959E-01	8.218E-01	9.022E-01	1.014E-02								
cm		1.406E-03	1.396E-03	1.373E-03	1.287E-03	1.079E-03	8.732E-04	4.115E-02	2.210E-02	1.957E-02	1.612E-02	1.553E-02	1.536E-02	1.4735E-02	1.419E-02								
bk		2.232E-04	2.214E-04	2.192E-04	2.111E-04	1.898E-04	1.663E-04	9.575E-05	4.342E-05	1.969E-05	8.912E-06	4.944E-06	4.042E-06	1.835E-06	8.316E-07								
fr		3.37E-05	3.37E-05	3.38E-05	3.41E-05	3.99E-05	4.57E-05	7.42E-05	1.04E-04	1.42E-04	1.79E-04	1.94E-04	1.98E-04	2.04E-04	2.07E-04								
es		4.742E-10	9.897E-10	8.001E-10	5.242E-10	2.214E-10	1.373E-10	6.706E-11	2.679E-11	1.070E-11	4.266E-12	2.153E-12	1.704E-12	6.812E-13	2.723E-13								
total		9.696E-05	9.696E-05	9.655E-05	9.552E-05	9.294E-05	9.026E-05	8.308E-05	7.764E-05	7.380E-05	7.042E-05	6.806E-05	6.727E-05	6.428E-05	6.143E-05								

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5 more years for cooling used fuel material fission products page 24
nuclide concentrations, grams

5 more years for cooling used for fuel material		nuclide concentrations, grams										fission products										page	25	
		basis =-15.1 g/kHM DTHM /4-a.s. at 1 MT)																						
initial		2.0	6.5	24.0	73.0	134.0	389.0	754.0	1119.0	1485.0	1757.0	1850.0	2215.0	2580.0										
ag105	2.155E-16	6.024E-16	1.932E-16	1.440E-16	6.328E-17	2.273E-17	1.343E-19	8.899E-22	4.497E-24	3.212E-27	3.340E-29	7.010E-30	1.530E-32	3.398E-35										
ar106	3.893E-19	8.947E-19	1.070E-18	1.070E-18	1.070E-18	1.070E-18	1.070E-18	1.070E-18	1.070E-18	1.070E-18	1.070E-18	1.070E-18	1.070E-18	1.070E-18										
br1356	0.365E-06	1.281E-06	3.591E-06	3.470E-06	1.712E-06	2.831E-06	1.760E-06	6.989E-07	4.537E-07	3.221E-07	1.374E-07	1.155E-07	5.848E-08	2.961E-08										
pd106	1.211E+01	1.212E+01	1.215E+01	1.228E+01	1.260E+01	1.296E+01	1.461E+01	1.504E+01	1.551E+01	1.574E+01	1.584E+01	1.586E+01	1.593E+01	1.596E+01										
cd166	4.616E-15	4.616E-15	4.616E-15	4.616E-15	4.616E-15	4.616E-15	4.616E-15	4.616E-15	4.616E-15	4.616E-15	4.616E-15	4.616E-15	4.616E-15	4.616E-15										
ce108	0.1018E-01	0.1018E-01	0.1018E-01	0.1018E-01	0.1018E-01	0.1018E-01	0.1018E-01	0.1018E-01	0.1018E-01	0.1018E-01	0.1018E-01	0.1018E-01	0.1018E-01	0.1018E-01										
ag107	2.255E-06	6.661E-06	7.748E-06	1.262E-06	6.722E-06	2.653E-06	3.411E-06	4.496E-06	5.581E-06	6.669E-06	7.777E-06	7.754E-06	8.838E-06	9.923E-06										
br138	7.044E+00	7.044E+00	7.044E+00	7.044E+00	7.044E+00	7.044E+00	7.044E+00	7.044E+00	7.044E+00	7.044E+00	7.044E+00	7.044E+00	7.044E+00	7.044E+00										
ag108	1.089E-14	1.089E-14	1.089E-14	1.089E-14	1.089E-14	1.089E-14	1.089E-14	1.089E-14	1.089E-14	1.089E-14	1.089E-14	1.089E-14	1.089E-14	1.089E-14										
ag109	1.029E-05	1.029E-05	1.029E-05	1.029E-05	1.029E-05	1.029E-05	1.029E-05	1.029E-05	1.029E-05	1.029E-05	1.029E-05	1.029E-05	1.029E-05	1.029E-05										
ar109	4.482E-19	4.482E-19	4.482E-19	4.482E-19	4.482E-19	4.482E-19	4.482E-19	4.482E-19	4.482E-19	4.482E-19	4.482E-19	4.482E-19	4.482E-19	4.482E-19										
ag109	3.487E+00	3.487E+00	3.487E+00	3.487E+00	3.487E+00	3.487E+00	3.487E+00	3.487E+00	3.487E+00	3.487E+00	3.487E+00	3.487E+00	3.487E+00	3.487E+00										
ag109m	3.444E-12	3.442E-12	3.411E-12	3.322E-12	3.307E-12	2.816E-12	1.920E-12	1.110E-12	6.412E-13	3.700E-13	2.459E-13	1.387E-13	1.236E-13	1.741E-14										
cd109	3.467E-06	3.457E-06	3.449E-06	3.345E-06	3.107E-06	2.835E-06	1.938E-06	1.117E-06	6.655E-07	3.725E-07	2.475E-07	2.125E-07	1.444E-07	7.982E-08										
ar110	3.204E-19	3.204E-19	3.204E-19	3.204E-19	3.204E-19	3.204E-19	3.204E-19	3.204E-19	3.204E-19	3.204E-19	3.204E-19	3.204E-19	3.204E-19	3.204E-19										
ag110	1.367E-10	7.341E-10	3.694E-10	3.351E-10	3.072E-10	2.593E-10	1.278E-10	4.605E-11	1.685E-11	1.102E-12	2.869E-12	2.126E-12	1.804E-12	2.922E-13										
ag110m	2.26E-02	2.413E-02	2.383E-02	2.270E-02	1.981E-02	1.673E-02	8.242E-03	2.993E-03	1.387E-03	3.936E-04	1.850E-04	1.429E-04	5.190E-05	1.885E-05										
cd110	4.208E-02	3.308E+00	2.308E+00	2.																				

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0 5 more years for cooling used fuel material				element concentrations, grams										fission products										page 29							
				basis =-51.1 kgHM dnm IHM 14/-ass. at 1 MR)																											
				initial		2.0 d		6.5 d		24.0 d		73.0 d		134.0 d		389.0 d		754.0 d		1119.0 d		1485.0 d		1757.0 d		1850.0 d		2215.0 d		2580.0 d	
				h	1.232E-03	1.232E-03	1.231E-03	1.231E-03	1.231E-03	1.231E-03	1.231E-03	1.231E-03	1.231E-03	1.231E-03	1.231E-03	1.231E-03	1.231E-03	1.231E-03	1.231E-03	1.231E-03	1.231E-03	1.231E-03	1.231E-03	1.231E-03	1.231E-03	1.231E-03	1.231E-03	1.231E-03	1.231E-03	1.231E-03	
				he	6.262E-02	6.262E-02	6.262E-02	6.262E-02	6.262E-02	6.262E-02	6.262E-02	6.262E-02	6.262E-02	6.262E-02	6.262E-02	6.262E-02	6.262E-02	6.262E-02	6.262E-02	6.262E-02	6.262E-02	6.262E-02	6.262E-02	6.262E-02	6.262E-02	6.262E-02	6.262E-02	6.262E-02	6.262E-02	6.262E-02	6.262E-02
				hu	6.654E-09	6.654E-09	6.654E-09	6.654E-09	6.654E-09	6.654E-09	6.654E-09	6.654E-09	6.654E-09	6.654E-09	6.654E-09	6.654E-09	6.654E-09	6.654E-09	6.654E-09	6.654E-09	6.654E-09	6.654E-09	6.654E-09	6.654E-09	6.654E-09	6.654E-09	6.654E-09	6.654E-09	6.654E-09	6.654E-09	6.654E-09
				zn	8.303E-05	8.303E-05	8.303E-05	8.303E-05	8.303E-05	8.303E-05	8.303E-05	8.303E-05	8.303E-05	8.303E-05	8.303E-05	8.303E-05	8.303E-05	8.303E-05	8.303E-05	8.303E-05	8.303E-05	8.303E-05	8.303E-05	8.303E-05	8.303E-05	8.303E-05	8.303E-05	8.303E-05	8.303E-05	8.303E-05	8.303E-05
				4	4.410E-04	4.410E-04	4.410E-04	4.410E-04	4.410E-04	4.410E-04	4.410E-04	4.410E-04	4.410E-04	4.410E-04	4.410E-04	4.410E-04	4.410E-04	4.410E-04	4.410E-04	4.410E-04	4.410E-04	4.410E-04	4.410E-04	4.410E-04	4.410E-04	4.410E-04	4.410E-04	4.410E-04	4.410E-04	4.410E-04	4.410E-04
				g	8.786E-03	8.786E-03	8.786E-03	8.786E-03	8.786E-03	8.786E-03	8.786E-03	8.786E-03	8.786E-03	8.786E-03	8.786E-03	8.786E-03	8.786E-03	8.786E-03	8.786E-03	8.786E-03	8.786E-03	8.786E-03	8.786E-03	8.786E-03	8.786E-03	8.786E-03	8.786E-03	8.786E-03	8.786E-03	8.786E-03	8.786E-03
				as	2.859E-03	2.859E-03	2.859E-03	2.859E-03	2.859E-03	2.859E-03	2.859E-03	2.859E-03	2.859E-03	2.859E-03	2.859E-03	2.859E-03	2.859E-03	2.859E-03	2.859E-03	2.859E-03	2.859E-03	2.859E-03	2.859E-03	2.859E-03	2.859E-03	2.859E-03	2.859E-03	2.859E-03	2.859E-03	2.859E-03	2.859E-03
				se	9.157E-01	9.157E-01	9.157E-01	9.157E-01	9.157E-01	9.157E-01	9.157E-01	9.157E-01	9.157E-01	9.157E-01	9.157E-01	9.157E-01	9.157E-01	9.157E-01	9.157E-01	9.157E-01	9.157E-01	9.157E-01	9.157E-01	9.157E-01	9.157E-01	9.157E-01	9.157E-01	9.157E-01	9.157E-01	9.157E-01	9.157E-01
				3	9.906E-03	9.906E-03	9.906E-03	9.906E-03	9.906E-03	9.906E-03	9.906E-03	9.906E-03	9.906E-03	9.906E-03	9.906E-03	9.906E-03	9.906E-03	9.906E-03	9.906E-03	9.906E-03	9.906E-03	9.906E-03	9.906E-03	9.906E-03	9.906E-03	9.906E-03	9.906E-03	9.906E-03	9.906E-03	9.906E-03	9.906E-03
				kr	4.543E+00	4.543E+00	4.543E+00	4.543E+00	4.542E+00	4.542E+00	4.540E+00	4.536E+00	4.536E+00	4.524E+00	4.524E+00	4.506E+00	4.490E+00	4.474E+00	4.464E+00	4.464E+00	4.464E+00	4.464E+00	4.464E+00	4.464E+00	4.464E+00	4.464E+00	4.464E+00	4.464E+00	4.464E+00	4.464E+00	4.464E+00
				zb	4.033E+00	4.033E+00	4.034E+00	4.034E+00	4.034E+00	4.034E+00	4.034E+00	4.034E+00	4.034E+00	4.034E+00	4.034E+00	4.034E+00	4.034E+00	4.034E+00	4.034E+00	4.034E+00	4.034E+00	4.034E+00	4.034E+00	4.034E+00	4.034E+00	4.034E+00	4.034E+00	4.034E+00	4.034E+00	4.034E+00	4.034E+00
				54	9.545E-03	9.545E-03	9.545E-03	9.545E-03	9.545E-03	9.545E-03	9.545E-03	9.545E-03	9.545E-03	9.545E-03	9.545E-03	9.545E-03	9.545E-03	9.545E-03	9.545E-03	9.545E-03	9.545E-03	9.545E-03	9.545E-03	9.545E-03	9.545E-03	9.545E-03	9.545E-03	9.545E-03	9.545E-03	9.545E-03	9.545E-03

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5 more years for cooling used fuel material fission products page 30

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nuclide radioactivity, curies															fission products															page	
basis --15.1 kgHM (nm'd IHM 1/4-ass. at 1 MT)																															
	initial	2.0 d	6.5 d	24.0 d	73.0 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d																	
xe133	7.199E-10	5.527E-10	3.048E-10	3.015E-11	4.634E-14	1.457E-17	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00																	
ba133	8.194E-04	8.191E-04	8.185E-04	8.189E-04	8.087E-04	7.999E-04	7.639E-04	7.152E-04	6.696E-04	6.268E-04	5.968E-04	5.686E-04	5.494E-04	5.144E-04																	
cs134	3.217E+03	3.211E+03	3.198E+03	3.147E+03	3.008E+03	2.844E+03	2.250E+03	1.609E+03	1.150E+03	8.219E+02	6.401E+02	5.877E+02	4.202E+02	3.005E+02																	
cs135	1.515E-02	1.515E-02	1.515E-02	1.515E-02	1.515E-02	1.515E-02	1.515E-02	1.515E-02	1.515E-02	1.515E-02	1.515E-02	1.515E-02	1.515E-02	1.515E-02																	
cs136	4.716E-03	4.244E-03	3.349E-03	1.332E-03	1.009E-04	4.058E-06	5.960E-12	2.667E-20	1.193E-28	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00																	
ba136m	5.222E-04	4.700E-04	3.708E-04	1.475E-04	1.117E-05	4.494E-07	6.600E-15	2.953E-21	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00																	
cs137	2.268E+03	2.267E+03	2.267E+03	2.264E+03	2.257E+03	2.249E+03	2.213E+03	2.162E+03	2.113E+03	2.065E+03	2.030E+03	2.018E+03	1.972E+03	1.927E+03																	
ba137m	2.147E+03	2.147E+03	2.147E+03	2.144E+03	2.138E+03	2.129E+03	2.095E+03	2.048E+03	2.001E+03	1.922E+03	1.911E+03	1.867E+03	1.825E+03	1.783E+03																	
la137	3.623E-07	3.623E-07	3.623E-07	3.623E-07	3.623E-07	3.623E-07	3.623E-07	3.623E-07	3.623E-07	3.623E-07	3.623E-07	3.623E-07	3.623E-07	3.623E-07																	
la138	1.161E-17	1.161E-17	1.161E-17	1.161E-17	1.161E-17	1.161E-17	1.161E-17	1.161E-17	1.161E-17	1.161E-17	1.161E-17	1.161E-17	1.161E-17	1.161E-17																	
ce139	1.911E-01	1.892E-01	1.849E-01	1.693E-01	1.323E-01	9.731E-02	2.694E-02	4.287E-03	6.821E-04	1.080E-04	2.745E-05	1.718E-05	2.734E-06	4.350E-07																	
ba140	6.251E-02	5.607E-02	4.391E-02	1.696E-02	1.183E-03	4.295E-05	1.093E-11	9.953E-20	2.411E-28	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00																	
la140	7.199E-02	6.457E-02	5.056E-02	1.957E-02	1.362E-03	4.946E-05	4.731E-11	1.146E-19	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00																	
ce141	1.628E-02	1.560E-02	1.417E-02	9.757E-01	1.432E-01	1.947E-04	4.067E-02	1.696E-05	7.068E-09	2.884E-12	8.735E-15	1.202E-15	5.013E-19	2.090E-22																	
pr143	1.208E-01	1.091E-01	8.670E-02	3.547E-02	2.903E-03	1.287E-04	2.836E-10	2.268E-18	1.814E-26	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00																	
cm143	1.006E-10	1.001E-10	9.993E-11	9.451E-11	8.834E-11	7.088E-11	6.368E-11	1.400E-11	5.390E-12	2.069E-12	1.016E-12	7.965E-13	3.066E-13	1.180E-13																	
ce144	1.070E-04	1.065E-04	1.053E-04	1.009E-04	8.959E-05	7.724E-05	4.153E-05	1.709E-05	7.032E-02	2.887E-02	1.489E-02	1.188E-02	4.887E-01	2.011E-01																	
pr144	1.070E-04	1.065E-04	1.053E-04	1.009E-04	8.959E-05	7.724E-05	4.153E-05	1.709E-05	7.032E-02	2.887E-02	1.489E-02	1.188E-02	4.887E-01	2.011E-01																	
pr144m	1.022E-02	1.017E-02	1.006E-02	9.638E-01	8.554E-01	7.375E-01	3.966E-01	1.632E-01	6.714E-04	2.756E-04	1.422E-04	1.134E-04	4.666E-01	1.920E-01																	
nd144	1.880E-11	1.881E-11	1.885E-11	1.900E-11	1.939E-11	1.981E-11	2.103E-11	2.186E-11	2.220E-11	2.239E-11	2.240E-11	2.242E-11	2.243E-11																		
pr144	2.193E-08	2.185E-08	2.166E-08	2.095E-08	1.908E-08	1.698E-08	1.044E-08	5.198E-09	2.589E-09	1.287E-09	7.656E-10	6.411E-10	3.193E-10	1.590E-10																	
pr145	8.333E-05	8.331E-05	8.270E-05	8.278E-05	8.233E-05	8.034E-05	7.744E-05	7.444E-05	7.173E-05	6.968E-05	6.968E-05	6.968E-05	6.968E-05	6.968E-05																	
am145	1.489E-05	1.483E-05	1.470E-05	1.418E-05	1.283E-05	1.133E-05	6.738E-06	3.202E-06	1.521E-06	7.213E-07	4.143E-07	4.427E-07	1.629E-07	7.738E-08																	
pr146	3.273E-03	3.270E-03	3.265E-03	3.246E-03	3.192E-03	3.126E-03	2.864E-03	2.527E-03	2.229E-03	1.961E-03	1.791E-03	1.735E-03	1.530E-03	1.350E-03																	
am146	1.317E-09	1.317E-09	1.317E-09	1.317E-09	1.318E-09	1.319E-09	1.324E-09	1.330E-09	1.336E-09	1.341E-09	1.344E-09	1.345E-09	1.349E-09	1.352E-09																	
nd147	9.232E-02	5.275E-03	3.939E-03	4.422E-04	2.993E-05	6.193E-07	6.320E-14	6.219E-24	6.249E-36	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00																	
ba147	7.746E-01	7.746E-01	7.746E-01	7.746E-01	7.746E-01	7.746E-01	7.746E-01	7.746E-01	7.746E-01	7.746E-01	7.746E-01	7.746E-01	7.746E-01	7.746E-01																	
am147	4.322E-04	4.322E-04	4.344E-04	4.429E-04	4.636E-04	4.940E-04	5.979E-08	7.710E-08	8.084E-08	8.787E-08	9.202E-08	9.326E-08	9.740E-08	1.006E-07																	
eu147	3.652E-15	3.448E-15	3.303E-15	3.831E-15	4.476E-17	7.417E-17	5.053E-20	1.394E-24	3.847E-29	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00																	
ba148	8.344E-01	8.696E-01	1.461E-01	5.577E-01	2.450E-01	8.808E-02	1.217E-03	2.656E-06	5.766E-09	1.244E-11	1.293E-13	2.714E-14	5.923E-17	1.292E-19																	
pr148	7.788E-01	7.788E-01	7.788E-01	7.788E-01	7.788E-01	7.788E-01	7.788E-01	7.788E-01	7.788E-01	7.788E-01	7.788E-01	7.788E-01	7.788E-01	7.788E-01																	
am148	1.085E-12	1.085E-12	1.085E-12	1.085E-12	1.085E-12	1.085E-12	1.085E-12	1.085E-12	1.085E-12	1.085E-12	1.085E-12	1.085E-12	1.085E-12	1.085E-12																	
eu149	1.335E-08	1.335E-08	1.272E-08	1.116E-08	7.751E-09	4.922E-09	7.737E-10	4.869E-11	3.215E-12	2.108E-13	2.782E-14	1.392E-14	9.915E-16	6.707E-17																	
nd150	1.387E-15	1.387E-15	1.387E-15	1.387E-15	1.387E-15	1.387E-15	1.387E-15	1.387E-15	1.387E-15	1.387E-15	1.387E-15	1.387E-15	1.387E-15	1.387E-15																	
pr150	1.087E-01	1.087E-01	1.087E-01	1.087E-01	1.087E-01	1.087E-01	1.087E-01	1.087E-01	1.087E-01	1.087E-01	1.087E-01	1.087E-01	1.087E-01	1.087E-01																	
gd151	1.02E-09	1.090E-05	1.063E-05	8.637E-06	3.288E-06	5.211E-06	1.253E-06	1.628E-07	2.117E-08	2.736E-09	5.981E-10	3.565E-10	4.632E-11	6.109E-12																	
eu152	1.088E-01	1.088E-01	1.087E-01	1.085E-01	1.077E-01	1.069E-01	1.031E-01	9.792E-02	9.303E-02	8.838E-02	8.873E-02	8.877E-02	7.978E-02	7.580E-02																	
gd152	2.790E-14	7.790E-14	7.790E-14	7.791E-14	7.794E-14	2.098E-14	2.810E-14	2.628E-14	2.845E-14	2.862E-14	2.870E-14	2.877E-14	2.892E-14	2.906E-14																	
pr152	9.707E-01	9.707E-01	9.707E-01	9.707E-01	9.707E-01	9.707E-01	9.707E-01	9.707E-01	9.707E-01	9.707E-01	9.707E-01	9.707E-01	9.707E-01	9.707E-01																	
eu154	2.566E+02	2.565E+02	2.562E+02	2.552E+02	2.525E+02	2.491E+02	2.365E+02	2.172E+02	2.004E+02	1.849E+02	1.741E+02	1.706E+02	1.574E+02	1.452E+02																	
eu155	1.125E+02	1.124E+02	1.122E+02	1.114E+02	1.092E+02	1.066E+02	9.935E+01	8.323E+01	7.044E+01	6.216E+01	5.577E+01	5.373E+01	4.645E+01	4.015E+01																	
eu156	1.058E-01	9.635E-02	7.861E-02	5.337E-02	3.781E-03	2.337E-04	2.066E-09	1.207E-16	7.050E-24	3.934E-31	0.000E+00	0.000E+00	0.000E+00	0.000E+00																	
pr157	4.145E-01	4.145E-01	4.145E-01	4.145E-01	4.145E-01	4.145E-01	4.145E-01	4.145E-01	4.145E-01	4.145E-01	4.145E-01	4.145E-01	4.145E-01	4.145E-01																	
tb258	2.235E-02	2.235E-02	2.235E-02	2.225E-02	2.221E-02	2.220E-02	2.214E-02	2.205E-02	2.197E-02	2.188E-02	2.182E-02	2.180E-02	2.171E-02	2.163E-02																	
dy159	2.834E-05	2.807E-05	2.745E-05	2.525E-05	1.996E-05	1.489E-05	4.379E-06	7.594E-07	1.317E-07	2.274E-08	6.159E-09	3.941E-09	6.834E-10	1.185E-10																	
tb160	4.030E+03	3.935E+03	3.766E+03	3.201E+03	2.001E+03	1.155E+03	9.674E-02	2.932E-03	8.833E-05	2.644E-06	1.949E-07	7.869E-08	2.414E-09	7.295E-11																	
pr160	1.569E-01	1.569E-01	1.569E-01	1.569E-01	1.569E-01	1.569E-01	1.569E-01	1.569E-01	1.569E-01	1.569E-01	1.569E-01	1.569E-01	1.569E-01	1.569E-01																	
ho163	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.78E-09																	
ho166m	1.864E-05	1.864E-05	1.864E-05	1.864E-05	1.864E-05	1.863E-05	1.863E-05	1.862E-05	1.860E-05	1.859E-05	1.859E-05	1.858E-05	1.857E-05	1.856E-05																	
tb167	3.056E-16	3.995E-16	4.176E-16	3.817E-17	9.971E-19	1.004E-20	5.049E-29	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00																	
pr167	1.509E-01	1.509E-01	1.509E-01	1.509E-01	1.509E-01	1.509E-01	1.509E-01	1.509E-01	1.509E-01	1.509E-01	1.509E-01	1.509E-01	1.509E-01	1.509E-01																	
er169	8.26E-10	7.399E-10	5.308E-10	1.459E-10	3.902E-12	4.348E-14	2.918E-22	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00																	

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		nucleide thermal power, watts																			
		basis =15.1 kgUHM (nm/d mHt 14-9/ass. at 1 MTR																			
		24.0 day 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100%																			
		initial	2.0 d	6.5 d	24.0 d	100 d	180 d	270 d	360 d	450 d	540 d	630 d	720 d	810 d	900 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d
ap106m	2.063E-18	1.697E-18	1.664E-18	1.648E-18	2.690E-19	4.450E-19	2.695E-19	3.444E-19	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
pd107	3.006E-17	3.063E-17	3.063E-17	3.063E-17	3.063E-17	3.063E-17	3.063E-17	3.063E-17	3.063E-17	3.063E-17	3.063E-17	3.063E-17	3.063E-17	3.063E-17	3.063E-17	3.063E-17	3.063E-17	3.063E-17	3.063E-17	3.063E-17	
ap108	2.850E-18	2.850E-18	2.850E-18	2.850E-18	2.850E-18	2.850E-18	2.850E-18	2.850E-18	2.850E-18	2.850E-18	2.850E-18	2.850E-18	2.850E-18	2.850E-18	2.850E-18	2.850E-18	2.850E-18	2.850E-18	2.850E-18	2.850E-18	
ap109	8.740E-07	8.740E-07	8.740E-07	8.696E-07	8.696E-07	8.696E-07	8.696E-07	8.696E-07	8.696E-07	8.696E-07	8.696E-07	8.696E-07	8.696E-07	8.696E-07	8.696E-07	8.696E-07	8.696E-07	8.696E-07	8.696E-07	8.696E-07	
ap110	6.448E-06	6.432E-06	6.432E-06	6.432E-06	6.432E-06	6.432E-06	6.432E-06	6.432E-06	6.432E-06	6.432E-06	6.432E-06	6.432E-06	6.432E-06	6.432E-06	6.432E-06	6.432E-06	6.432E-06	6.432E-06	6.432E-06	6.432E-06	
cd109	1.127E-06	1.123E-06	1.116E-06	1.087E-06	1.010E-06	9.212E-07	6.280E-07	3.627E-07	2.097E-07	1.210E-07	8.042E-08	6.994E-08	4.402E-08	2.366E-08	1.256E-08	6.622E-09	4.045E-09	2.405E-09	1.506E-09	9.323E-10	
ap114	1.214E-02	1.118E-02	1.114E-02	1.052E-02	1.917E-03	9.742E-03	3.819E-03	1.389E-03	1.369E-03	1.036E-03	1.824E-04	8.572E-05	6.622E-05	4.042E-05	8.783E-06	1.506E-06	9.323E-07	5.812E-08	3.627E-09	2.296E-10	
ap110m	1.938E+00	1.928E+00	1.904E+00	1.813E+00	1.583E+00	1.356E+00	1.265E+00	1.239E+00	1.168E+00	1.042E+00	8.572E-01	7.117E-01	5.812E-01	4.782E-01	3.917E-01	3.212E-01	2.622E-01	2.145E-01	1.756E-01	1.456E-01	
cd110	4.497E-07	4.497E-07	4.497E-07	4.497E-07	4.497E-07	4.497E-07	4.497E-07	4.497E-07	4.497E-07	4.497E-07	4.497E-07	4.497E-07	4.497E-07	4.497E-07	4.497E-07	4.497E-07	4.497E-07	4.497E-07	4.497E-07	4.497E-07	
cd113	1.285E-18	1.285E-18	1.285E-18	1.285E-18	1.285E-18	1.285E-18	1.285E-18	1.285E-18	1.285E-18	1.285E-18	1.285E-18	1.285E-18	1.285E-18	1.285E-18	1.285E-18	1.285E-18	1.285E-18	1.285E-18	1.285E-18	1.285E-18	
cd113m	2.090E-05	2.089E-05	2.088E-05	2.083E-05	2.069E-05	2.052E-05	1.983E-05	1.888E-05	1.798E-05	1.711E-05	1.650E-05	1.629E-05	1.551E-05	1.477E-05	1.400E-05	1.322E-05	1.244E-05	1.166E-05	1.088E-05	1.010E-05	
in113m	1.317E-11	1.317E-11	1.298E-11	1.269E-11	1.202E-11	1.136E-11	1.094E-11	1.321E-11	3.676E-14	4.056E-15	7.882E-16	4.502E-16	4.991E-17	5.546E-18	6.187E-19	6.944E-20	7.882E-21	8.944E-22	1.010E-22	1.136E-23	
in114	6.546E-07	6.762E-07	6.762E-07	6.349E-07	4.969E-07	2.503E-07	1.065E-07	2.999E-09	1.870E-11	1.093E-13	6.503E-16	1.443E-17	3.925E-								

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	initial	2.0 d	6.5 d	24.0 d	73.1 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d
ba133	2.221E+06	2.220E+06	2.218E+06	2.211E+06	2.192E+06	2.168E+06	2.070E+06	1.938E+06	1.815E+06	1.699E+06	1.617E+06	1.550E+06	1.489E+06	1.394E+06
ca134	3.277E+07	3.277E+07	3.275E+07	3.259E+07	3.230E+07	3.192E+07	3.032E+07	2.780E+07	2.540E+07	2.300E+07	2.080E+07	1.880E+07	1.700E+07	1.540E+07
ca135	3.796E+06	3.796E+06	3.796E+06	3.796E+06	3.796E+06	3.796E+06	3.796E+06	3.796E+06	3.796E+06	3.796E+06	3.796E+06	3.796E+06	3.796E+06	3.796E+06
ca136	5.523E+05	5.519E+05	5.471E+05	5.169E+05	4.526E+05	4.933E+05	7.245E+04	3.241E+22	1.405E+30	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba136m	6.739E+06	6.735E+06	6.401E+06	6.401E+06	6.177E+06	5.406E+09	7.940E+15	3.553E+23	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ca137	2.412E+07	2.412E+07	2.412E+07	2.412E+07	2.412E+07	2.412E+07	2.412E+07	2.412E+07	2.412E+07	2.412E+07	2.412E+07	2.412E+07	2.412E+07	2.412E+07
ba137m	8.419E+08	8.418E+08	8.416E+08	8.405E+08	8.381E+08	8.348E+08	8.215E+08	8.028E+08	7.845E+08	7.666E+08	7.536E+08	7.492E+08	7.321E+08	7.154E+08
la137	6.911E+11	6.911E+11	6.911E+11	6.911E+11	6.911E+11	6.911E+11	6.911E+11	6.911E+11	6.911E+11	6.911E+11	6.911E+11	6.911E+11	6.911E+11	6.911E+11
la138	8.698E+14	8.698E+14	8.698E+14	8.698E+14	8.698E+14	8.698E+14	8.698E+14	8.698E+14	8.698E+14	8.698E+14	8.698E+14	8.698E+14	8.698E+14	8.698E+14
ca138	2.177E+07	2.177E+07	2.177E+07	2.177E+07	2.177E+07	2.177E+07	2.177E+07	2.177E+07	2.177E+07	2.177E+07	2.177E+07	2.177E+07	2.177E+07	2.177E+07
ca140	1.854E+04	1.853E+04	1.839E+04	1.839E+04	1.839E+04	1.839E+04	1.839E+04	1.839E+04	1.839E+04	1.839E+04	1.839E+04	1.839E+04	1.839E+04	1.839E+04
ca141	1.214E+03	1.089E+03	8.273E+04	3.299E+04	2.296E+05	8.337E+07	5.976E+15	1.932E+21	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ce141	2.381E+01	2.282E+01	2.033E+01	1.428E+01	5.021E+02	1.368E+02	9.795E+03	1.248E+08	1.034E+11	4.220E+15	1.278E+17	1.759E+18	7.334E+22	3.058E+25
pr147	2.257E+07	2.257E+07	2.257E+07	2.257E+07	2.257E+07	2.257E+07	2.257E+07	2.257E+07	2.257E+07	2.257E+07	2.257E+07	2.257E+07	2.257E+07	2.257E+07
ca148	1.932E+13	9.222E+13	7.000E+13	8.151E+13	1.597E+13	1.361E+13	8.86E+14	6.89E+14	1.035E+14	3.974E+15	1.951E+15	1.530E+15	5.888E+16	2.266E+16
ca149	7.015E+06	6.981E+06	6.905E+06	6.617E+05	5.873E+05	5.063E+05	2.723E+06	1.120E+06	4.610E+01	1.892E+01	9.763E+02	7.786E+02	3.204E+02	1.318E+02
pr144	7.849E+01	7.811E+01	7.762E+01	7.404E+01	6.572E+01	5.655E+01	3.047E+01	1.254E+01	5.158E+00	2.117E+00	1.092E+00	8.712E+01	3.585E+01	1.475E+01
ca149m	2.541E+07	2.541E+07	2.541E+07	2.541E+07	2.541E+07	2.541E+07	2.541E+07	2.541E+07	2.541E+07	2.541E+07	2.541E+07	2.541E+07	2.541E+07	2.541E+07
ca1412	1.212E+13	1.233E+13	1.273E+13	1.214E										

```
1 yb169 5.445E-12 5.214E-12 4.730E-12 3.238E-12 1.121E-12 2.993E-13 1.198E-15 4.435E-19 1.641E-22 5.943E-26 1.647E-28 2.199E-29 8.139E-33 0.000E+00
0 5 more years for cooling used fuel material
nuclide thermal power, watts
basis --15.1 kgHM (nrm'd IHM 1/4-ass. at 1 MT)
initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d
tmi70 1.119E-05 1.107E-05 1.081E-05 9.835E-06 7.552E-06 5.436E-06 3.785E-06 1.921E-07 2.689E-08 3.739E-09 8.631E-10 5.229E-10 7.311E-11 1.022E-11
tmi71 4.543E-07 4.534E-07 4.514E-07 4.436E-07 3.979E-07 3.093E-07 2.156E-07 1.503E-07 1.047E-07 8.000E-08 7.297E-08 5.087E-08 3.547E-08
total 2.991E+02 2.974E+02 2.936E+02 2.799E+02 2.478E+02 2.168E+02 1.370E+02 7.944E+01 5.075E+01 3.570E+01 2.914E+01 2.746E+01 2.266E+01 1.969E+01
1
0 5 more years for cooling used fuel material
element thermal power, watts
basis --15.1 kgHM (nrm'd IHM 1/4-ass. at 1 MT)
initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d
h 4.022E-04 4.021E-04 4.018E-04 4.007E-04 3.977E-04 3.940E-04 3.788E-04 3.581E-04 3.385E-04 3.200E-04 3.068E-04 3.025E-04 2.859E-04 2.703E-04
ga 2.522E-19 2.509E-19 2.481E-19 2.372E-19 2.093E-19 1.790E-19 9.324E-20 3.665E-20 1.441E-20 5.649E-21 2.817E-21 2.220E-21 8.728E-22 3.431E-22
ge 2.534E-11 2.491E-11 2.396E-11 2.060E-11 1.350E-11 7.971E-12 8.822E-13 3.778E-14 1.618E-15 6.868E-17 6.564E-18 2.941E-18 1.259E-19 5.395E-21
aa 4.928E-11 4.580E-11 3.887E-11 2.089E-11 4.630E-12 1.420E-12 1.301E-13 5.569E-15 2.385E-16 1.012E-17 9.675E-19 4.335E-19 1.856E-20 7.950E-22
se 4.762E-07 4.761E-07 4.760E-07 4.754E-07 4.742E-07 4.731E-07 4.711E-07 4.703E-07 4.703E-07 4.703E-07 4.703E-07 4.703E-07 4.703E-07 4.703E-07
kr 1.756E-01 1.755E-01 1.754E-01 1.748E-01 1.733E-01 1.715E-01 1.639E-01 1.537E-01 1.441E-01 1.351E-01 1.288E-01 1.267E-01 1.188E-01 1.114E-01
rb 2.001E-05 1.860E-05 1.577E-05 8.332E-06 1.442E-06 1.903E-07 3.428E-09 2.842E-10 1.257E-10 1.173E-10 1.169E-10 1.169E-10 1.168E-10 1.168E-10
sr 2.123E+00 2.091E+00 2.021E+00 1.786E+00 1.361E+00 1.107E+00 9.073E-01 8.801E-01 8.592E-01 8.387E-01 8.238E-01 8.187E-01 7.993E-01 7.803E-01
y 7.217E+00 7.150E+00 7.007E+00 6.515E+00 5.570E+00 4.944E+00 4.325E+00 4.195E+00 4.095E+00 3.997E+00 3.926E+00 3.902E+00 3.810E+00 3.719E+00
zr 9.229E+00 9.031E+00 8.602E+00 7.117E+00 4.188E+00 2.164E+00 1.369E-01 2.636E-03 5.370E-05 4.036E-06 3.123E-06 3.091E-06 3.073E-06 3.072E-06
nb 1.816E+01 1.779E+01 1.699E+01 1.419E+01 8.508E+00 4.459E+00 2.870E-01 5.709E-03 1.109E-04 3.282E-06 1.409E-06 1.378E-06 1.482E-06 1.617E-06
mo 6.594E-13 6.594E-13 6.594E-13 6.594E-13 6.594E-13 6.593E-13 6.593E-13 6.591E-13 6.590E-13 6.589E-13 6.588E-13 6.587E-13 6.586E-13 6.586E-13
tc 9.110E-05 9.110E-05 9.110E-05 9.110E-05 9.109E-05 9.109E-05 9.108E-05 9.108E-05 9.108E-05 9.108E-05 9.108E-05 9.108E-05 9.108E-05 9.108E-05
ru 2.495E+00 2.432E+00 2.298E+00 1.864E+00 1.144E+00 7.583E-01 3.723E-01 1.876E-01 9.500E-02 4.801E-02 2.892E-02 2.431E-02 1.231E-02 6.234E-03
rh 1.237E+02 1.232E+02 1.222E+02 1.182E+02 1.079E+02 9.625E+01 5.983E+01 3.029E+01 1.534E+01 7.753E+00 4.669E+00 3.926E+00 1.988E+00 1.007E+00
pd 3.074E-07 3.073E-07 3.072E-07 3.067E-07 3.064E-07 3.063E-07 3.063E-07 3.063E-07 3.063E-07 3.063E-07 3.063E-07 3.063E-07 3.063E-07 3.063E-07
ag 1.950E+00 1.939E+00 1.915E+00 1.824E+00 1.592E+00 1.344E+00 6.623E-01 2.405E-01 8.734E-02 3.163E-02 1.487E-02 1.149E-02 4.172E-03 1.516E-03
cd 1.528E-03 1.482E-03 1.383E-03 1.059E-03 5.055E-04 2.087E-04 2.401E-05 1.926E-05 1.819E-05 1.723E-05 1.658E-05 1.636E-05 1.555E-05 1.479E-05
in 9.857E-07 9.583E-07 8.992E-07 7.022E-07 3.515E-07 1.486E-07 4.090E-09 2.448E-11 1.811E-13 5.253E-15 1.153E-15 8.017E-16 3.963E-16 3.519E-16
sn 4.087E-02 4.046E-02 3.954E-02 3.616E-02 2.820E-02 2.077E-02 6.218E-03 1.648E-03 8.536E-04 6.734E-04 6.254E-04 6.151E-04 5.885E-04 5.727E-04
ab 8.029E-01 8.014E-01 7.981E-01 7.855E-01 7.537E-01 7.190E-01 6.001E-01 4.667E-01 3.631E-01 2.823E-01 2.342E-01 2.196E-01 1.709E-01 1.330E-01
te 1.720E-01 1.696E-01 1.646E-01 1.475E-01 1.141E-01 8.905E-02 4.789E-02 3.192E-02 2.431E-02 1.885E-02 1.562E-02 1.466E-02 1.140E-02 8.869E-03
i 4.404E-07 4.298E-07 4.118E-07 3.821E-07 3.738E-07 3.736E-07 3.736E-07 3.736E-07 3.736E-07 3.736E-07 3.736E-07 3.736E-07 3.736E-07 3.736E-07
xe 5.933E-07 5.328E-07 4.195E-07 1.726E-07 2.465E-08 5.637E-09 4.227E-11 4.050E-14 3.880E-17 3.647E-20 2.054E-22 3.495E-23 3.348E-26 3.208E-29
cs 3.518E+01 3.512E+01 3.499E+01 3.446E+01 3.304E+01 3.136E+01 2.527E+01 1.869E+01 1.397E+01 1.057E+01 8.680E+00 8.133E+00 6.378E+00 5.111E+00
ba 8.419E+00 8.418E+00 8.416E+00 8.407E+00 8.381E+00 8.348E+00 8.215E+00 8.028E+00 7.845E+00 7.666E+00 7.536E+00 7.492E+00 7.321E+00 7.155E+00
la 1.214E-03 1.089E-03 8.523E-04 3.299E-04 2.296E-05 8.337E-07 6.999E-11 6.920E-11 6.919E-11 6.919E-11 6.919E-11 6.919E-11 6.919E-11 6.919E-11
ce 7.253E+00 7.209E+00 7.112E+00 6.760E+00 5.924E+00 5.077E+00 2.723E+00 1.120E+00 4.610E-01 1.892E-01 9.763E-02 7.786E-02 3.204E-02 1.318E-02
pr 7.853E+01 7.815E+01 7.729E+01 7.407E+01 6.575E+01 5.668E+01 3.048E+01 1.254E+01 5.161E+00 2.118E+00 1.093E+00 8.716E-01 3.587E-01 1.476E-01
nd 7.140E-06 6.293E-06 4.737E-06 1.569E-06 7.117E-08 1.513E-09 2.374E-13 2.467E-13 2.505E-13 2.521E-13 2.527E-13 2.528E-13 2.530E-13 2.531E-13
pm 1.233E+00 1.225E+00 1.205E+00 1.141E+00 1.021E+00 9.368E-01 7.594E-01 5.829E-01 4.476E-01 3.435E-01 2.822E-01 2.638E-01 2.026E-01 1.556E-01
sm 1.301E-03 1.301E-03 1.301E-03 1.301E-03 1.299E-03 1.298E-03 1.291E-03 1.281E-03 1.271E-03 1.261E-03 1.254E-03 1.251E-03 1.242E-03 1.232E-03
eu 2.389E+00 2.388E+00 2.386E+00 2.376E+00 2.349E+00 2.317E+00 2.187E+00 2.014E+00 1.854E+00 1.707E+00 1.606E+00 1.573E+00 1.449E+00 1.335E+00
gd 1.719E-04 1.709E-04 1.687E-04 1.604E-04 1.393E-04 1.168E-04 5.600E-05 1.955E-05 6.825E-06 2.376E-06 1.084E-06 8.293E-07 2.895E-07 1.011E-07
tb 3.302E-02 3.240E-02 3.103E-02 2.624E-02 1.640E-02 9.139E-03 7.929E-04 2.408E-05 8.430E-07 1.402E-07 1.198E-07 1.187E-07 1.177E-07 1.172E-07
dy 9.579E-09 9.488E-09 9.285E-09 8.537E-09 6.747E-09 5.035E-09 1.480E-09 2.567E-10 4.452E-11 7.689E-12 2.082E-12 1.332E-12 2.310E-13 4.007E-14
ho 1.921E-07 1.921E-07 1.921E-07 1.920E-07 1.920E-07 1.920E-07 1.919E-07 1.918E-07 1.917E-07 1.916E-07 1.915E-07 1.915E-07 1.914E-07 1.913E-07
er 5.221E-13 4.504E-13 3.231E-13 8.882E-14 2.388E-15 2.647E-17 1.776E-25 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
tm 1.165E-05 1.153E-05 1.126E-05 1.028E-05 7.975E-06 5.834E-06 1.685E-06 4.079E-07 1.772E-07 1.084E-07 8.086E-08 7.350E-08 5.095E-08 3.548E-08
yb 5.445E-12 5.214E-12 4.730E-12 3.238E-12 1.121E-12 2.993E-13 1.198E-15 4.435E-19 1.641E-22 5.943E-26 1.647E-28 2.199E-29 8.139E-33 0.000E+00
totals 2.991E+02 2.974E+02 2.936E+02 2.799E+02 2.478E+02 2.168E+02 1.370E+02 7.944E+01 5.075E+01 3.570E+01 2.914E+01 2.746E+01 2.266E+01 1.969E+01
569 array 20 entries read
0t
0 * normal termination of execution *
0 table of contents for material tables
0 case or subcase printed page
1 1
```

B.5 ORIGEN RESULTS FOR COOLING MOX FUEL ROD K5

```

*
*          SCALE 6.1.3
*          -----
*          October 2013
*
*  SCALE:  A Comprehensive Modeling and Simulation Suite
*          for Nuclear Safety Analysis and Design
*
*          Reactor and Nuclear Systems Division
*          Oak Ridge National Laboratory
*
*          http://scale.ornl.gov
*          scalehelp@ornl.gov
*
*-----
*
*-----
*
* Job Information
*-----
Job started on jupiter on Mon 21/10/2013 11:34:03
Working directory: /tmp/scale.8re.31386
Input file name : /home/8re/MOX/k5xmox.inp
Output file name : /home/8re/MOX/k5xmox.out
*-----
*
* primary module access and input record ( Scale 6.1 driver )
*
*
* module shell will be called at 11:34:03.940 on 10/21/2013.
* sequence specification record:#shell
*
* Input Data:
*
* cp $RTNDR/ft71_mox_k5x ft71f001
*
* module shell is finished. completion code 0. total cpu time used .04 seconds.
*
* module origins will be called at 11:34:03.973 on 10/21/2013.
* sequence specification record:#origens
*
* Input Data:
*
* 0$ all 71 e t
* Decay Case
* 3$ Z1 1 1 0 a16 2 a33 0 e t
* 35$ 0 t
* 54$ a1 1 a8 1 a11 0 e
* 56$ a2 13 a6 1 a10 0 a13 ~43 a15 3 a17 2 e
* 57+ 0 a3 0.0 e
* 95$ 0 t
* 5 more years for cooling used fuel material
* ~15.1 kgIHM (nrm'd IHM 1/4-ass. at 1 MT)
*
*
*
*      14      365      365      366      272      93
*
*      xxx xxx 1/22/09 3/12/09 5/12/09 1/22/10 1/22/11 1/22/12 1/22/13 10/21/13 1/22/14 1/22/15 1/22/16
*      240+2xxx xxx 1/22/09 3/12/09 5/12/09 1/22/10 1/22/11 1/22/12 1/22/13 10/21/13 1/22/14 1/22/15 1/22/16
* 60+ 2      6.5 24      73      134      389      754      1119      1485      1757      1850      2215      2580
*
* 60+ 2 6.5 24 73 134 389 754 1119 1485 1757 1850 2215 2580
* 61+ le-20 le-20 Srie-20
* 65$
* Gram-Atoms Grams Curies Watts-All Watts-Gamma
* 0 0 0 1 1 0 1 1 0 1 1 0 3z 6z
* 0 0 0 1 1 0 1 1 0 1 1 0 3z 6z
* 0 0 0 1 1 0 1 1 0 1 1 0 3z 6z
*
* t
* 56$ f0 t
*
* module origins is finished. completion code 0. total cpu time used .14 seconds.
*
* Scale is finished at 11:34:04.115 on 10/21/2013
1

```

```

*-----
*
*-----
*
* program verification information
*-----
*
* code system: SCALE version: 6.1
*-----
*
*-----
*
* program: origen
*-----
*
* creation date: 21_feb_2013
*-----
*
* library: /scale/scale6.1/Linux_x86_64/bin
*-----
*
* production code: origen
*-----
*
* revision: 6.1.2
*-----
*
* jobname: 8re
*-----
*
* machine name: jupiter.ornl.gov
*-----
*
* date of execution: 21_oct_2013
*-----
*
* time of execution: 11:34:03.98
*-----
*
*-----
*
*-----
*
*
* * input echo * (with break between col. 1-72 and 73-80)
* note: only comments are permitted after column 72.
*-----only this is used as input data.-----
*-----columns 1-72.....73-80.
*
* 0$ all 71 e t
* Decay Case
* 3$ Z1 1 1 0 a16 2 a33 0 e t
* 35$ 0 t
* 54$ a1 1 a8 1 a11 0 e
* 56$ a2 13 a6 1 a10 0 a13 ~43 a15 3 a17 2 e
* 57+ 0 a3 0.0 e
* 95$ 0 t
* 5 more years for cooling used fuel material
* ~15.1 kgIHM (nrm'd IHM 1/4-ass. at 1 MT)
*
*
*

```

B-64

0 5 more years for cooling used fuel material element concentrations, grams light elements page 4

basis =-15.1 kgTHM /nHM /144-ass. at 1 MP)

	initial	2.0 d	6.5 d	24.0 d	73.0 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d
h	9.949E-05	9.949E-05	9.949E-05	9.949E-05	9.948E-05	9.948E-05	9.945E-05	9.942E-05	9.938E-05	9.935E-05	9.933E-05	9.932E-05	9.929E-05	9.927E-05
he	7.475E-02	7.475E-02	7.475E-02	7.475E-02	7.475E-02	7.475E-02	7.475E-02	7.475E-02	7.475E-02	7.475E-02	7.475E-02	7.475E-02	7.475E-02	7.475E-02
li	3.061E-12	3.061E-12	3.061E-12	3.061E-12	3.061E-12	3.061E-12	3.061E-12	3.061E-12	3.061E-12	3.061E-12	3.061E-12	3.061E-12	3.061E-12	3.061E-12
be	1.344E-06	1.344E-06	1.344E-06	1.344E-06	1.344E-06	1.344E-06	1.344E-06	1.344E-06	1.344E-06	1.344E-06	1.344E-06	1.344E-06	1.344E-06	1.344E-06
b	7.447E-10	7.447E-10	7.447E-10	7.447E-10	7.447E-10	7.447E-10	7.453E-10	7.459E-10	7.465E-10	7.471E-10	7.476E-10	7.478E-10	7.484E-10	7.490E-10
ca	1.448E-05	1.448E-05	1.448E-05	1.448E-05	1.448E-05	1.448E-05	1.448E-05	1.448E-05	1.448E-05	1.448E-05	1.448E-05	1.448E-05	1.448E-05	1.448E-05
n	1.434E-04	1.434E-04	1.434E-04	1.434E-04	1.434E-04	1.434E-04	1.434E-04	1.434E-04	1.434E-04	1.434E-04	1.434E-04	1.434E-04	1.434E-04	1.434E-04
o	0.2025E+03	0.2025E+03	0.2025E+03	0.2025E+03	0.2025E+03	0.2025E+03	0.2025E+03	0.2025E+03	0.2025E+03	0.2025E+03	0.2025E+03	0.2025E+03	0.2025E+03	0.2025E+03
0.023E+01	0.023E+01	0.023E+01	0.023E+01	0.023E+01	0.023E+01	0.023E+01	0.023E+01	0.023E+01	0.023E+01	0.023E+01	0.023E+01	0.023E+01	0.023E+01	0.023E+01
na	6.288E-16	6.288E-16	6.288E-16	6.288E-16	6.288E-16	6.288E-16	6.288E-16	6.288E-16	6.288E-16	6.288E-16	6.288E-16	6.288E-16	6.288E-16	6.288E-16
mg	2.052E-15	2.052E-15	2.052E-15	2.052E-15	2.052E-15	2.052E-15	2.052E-15	2.052E-15	2.052E-15	2.052E-15	2.052E-15	2.052E-15	2.052E-15	2.052E-15
al	7.384E-13	7.384E-13	7.384E-13	7.384E-13	7.384E-13	7.384E-13	7.384E-13	7.384E-13	7.384E-13	7.384E-13	7.384E-13	7.384E-13	7.384E-13	7.384E-13
s	2.394E-15	2.394E-15	2.394E-15	2.394E-15	2.394E-15	2.394E-15	2.394E-15	2.394E-15	2.394E-15	2.394E-15	2.394E-15	2.394E-15	2.394E-15	2.394E-15
p	8.483E-16	8.483E-16	8.483E-16	8.483E-16	8.483E-16	8.483E-16	8.483E-16	8.483E-16	8.483E-16	8.483E-16	8.483E-16	8.483E-16	8.483E-16	8.483E-16
si	3.692E-15	3.692E-15	3.692E-15	3.692E-15	3.692E-15	3.692E-15	3.692E-15	3.692E-15	3.692E-15	3.692E-15	3.692E-15	3.692E-15	3.692E-15	3.692E-15
cl	1.980E-15	1.980E-15	1.980E-15	1.980E-15	1.980E-15	1.980E-15	1.980E-15	1.980E-15	1.980E-15	1.980E-15	1.980E-15	1.980E-15	1.980E-15	1.980E-15
3.116E-15	3.116E-15	3.116E-15	3.116E-15	3.116E-15	3.116E-15	3.116E-15	3.116E-15	3.116E-15	3.116E-15	3.116E-15	3.116E-15	3.116E-15	3.116E-15	3.116E-15
k	3.274E-15	3.274E-15	3.274E-15	3.274E-15	3.274E-15	3.274E-15	3.274E-15	3.274E-15	3.274E-15	3.274E-15	3.274E-15	3.274E-15	3.274E-15	3.274E-15
ca	7.192E-15	7.192E-15	7.192E-15	7.192E-15	7									

5 more years for cooling used fuel material

1
5 more years for cooling used fuel material light elements page 6

1 5 more years for cooling used fuel material light elements page 7

hg194 7.1010E-27 7.0100E-27 7.0090E-27 7.0070E-27 7.0060E-27 6.9980E-27 6.9970E-27 6.9760E-27 6.9650E-27 6.9570E-27 6.9540E-27 6.9440E-27 6.9330E-27
hg203 2.3720E-28 2.3020E-28 2.1530E-18 1.6600E-18 8.0060E-19 3.2310E-19 7.2750E-21 3.1890E-21 1.3980E-25 6.0370E-28 1.0560E-29 2.6460E-30 1.1600E-32 0.0000E+00
t1202 6.6460E-27 5.9540E-27 4.6210E-27 1.7250E-27 1.0930E-28 3.5530E-30 0.0000E+00 0.0000E+00 0.0000E+00 0.0710E-32 0.0000E+00 0.0000E+00
t1204 3.7420E-19 3.7390E-19 3.7300E-19 3.6980E-19 3.6080E-19 3.4990E-19 3.0790E-19 2.5640E-19 2.1350E-19 1.7770E-19 1.5500E-19 1.4790E-19 1.2320E-19 1.0260E-19
total 2.2800E-07 2.2800E-07 2.2780E-07 2.2720E-07 2.2560E-07 2.2350E-07 2.0370E-07 1.9290E-07 1.8270E-07 1.7540E-07 1.7300E-07 1.6390E-07 1.5520E-07

5 more years for cooling used fuel material										light elements										page 11													
										element thermal power, watts																							
										basis --15.1 kgHM (nmr'd IHM 1/4-ass. at 1 MT)																							
										initial	2.0 d	6.5 d	24.0 d	73.0 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d										
h	2.220E-07	2.219E-07	2.217E-07	2.215E-07	2.213E-07	2.195E-07	2.174E-07	2.160E-07	2.147E-07	1.976E-07	1.868E-07	1.766E-07	1.693E-07	1.639E-07	1.578E-07	1.492E-07																	
be	3.7400E-11	3.7400E-11	3.7400E-11	3.7400E-11	3.7400E-11	3.7400E-11	3.7400E-11	3.7400E-11	3.7400E-11	3.7400E-11	3.7400E-11	3.7400E-11	3.7400E-11	3.7400E-11	3.7400E-11	3.7400E-11																	
c	6.046E-09	6.046E-09	6.046E-09	6.046E-09	6.046E-09	6.046E-09	6.046E-09	6.046E-09	6.046E-09	6.046E-09	6.046E-09	6.046E-09	6.046E-09	6.046E-09	6.046E-09	6.046E-09																	
na	1.192E-22	1.190E-22	1.187E-22	1.171E-22	1.130E-22	1.081E-22	8.977E-23	6.880E-23	5.272E-23	4.037E-23	3.311E-23	3.094E-23	2.371E-23	1.817E-23																			
ai	9.0750E-27	9.0750E-27	9.0750E-27	9.0750E-27	9.0750E-27	9.0750E-27	9.0750E-27	9.0750E-27	9.0750E-27	9.0750E-27	9.0750E-27	9.0750E-27	9.0750E-27	9.0750E-27	9.0750E-27	9.0750E-27																	
si	1.8290E-24	1.8290E-24	1.8280E-24	1.8280E-24	1.8280E-24	1.8280E-24	1.8280E-24	1.8280E-24	1.8280E-24	1.8280E-24	1.8280E-24	1.8280E-24	1.8280E-24	1.8280E-24	1.8280E-24	1.8280E-24																	
s	2.854E-21	2.692E-21	2.363E-21	1.434E-21	3.750E-22	8.469E-23	1.855E-23	1.840E-23	1.832E-23	1.832E-23	1.832E-23	1.832E-23	1.832E-23	1.832E-23	1.832E-23	1.832E-23																	
a	5.9470E-19	5.8530E-19	5.6480E-19	4.9170E-19	3.3350E-19	2.0570E-19	2.7300E-20	1.5150E-21	8.4130E-23	4.6330E-24	5.3730E-25	2.5720E-25	1.4280E-26	7.9270E-28																			
cl	2.3940E-16	2.3940E-16	2.3940E-16	2.3940E-16	2.3940E-16	2.3940E-16	2.3940E-16	2.3940E-16	2.3940E-16	2.3940E-16	2.3940E-16	2.3940E-16	2.3940E-16	2.3940E-16	2.3940E-16	2.3940E-16																	
k	7.5050E-20	7.4910E-20	7.4630E-20	7.3740E-20	7.2390E-20	7.1790E-20	7.1420E-20	7.1240E-20	7.1050E-20	7.0870E-20	7.0730E-20	7.0690E-20	7.0510E-20	7.0330E-20																			
cr	3.0280E-23	3.0280E-23	3.0280E-23	3.0280E-23	3.0280E-23	3.0270E-23	3.0260E-23	3.0250E-23	3.0230E-23	3.0210E-23	3.0200E-23	3.0200E-23	3.0190E-23	3.0170E-23																			
ca	1.1030E-18	1.0940E-18	1.0730E-18	9.9590E-19	8.0820E-19	6.2310E-19	2.1010E-19	4.4340E-20	9.3570E-21	1.9670E-21	6.1740E-22	4.1560E-22	8.8310E-23	1.9260E-23																			
ac	2.8010E-16	2.7550E-16	2.6540E-16	2.2960E-16	1.5310E-16	9.2440E-17	1.5080E-17	5.4080E-19	2.6080E-20	1.2950E-21	1.5680E-22	6.3210E-23	3.0870E-24	1.5080E-25																			
v	1.5550E-22	1.5480E-22	1.5340E-22	1.4780E-22	1.3340E-22	1.1730E-22	6.8670E-23	3.1900E-23	1.4820E-23	6.8700E-24	3.8800E-24	3.1920E-24	1.4830E-24	6.8880E-25																			
cz	5.4870E-20	5.2190E-20	4.6630E-20	3.0100E-20	8.8310E-21	1.9190E-21	3.2510E-24	3.5110E-28	3.2790E-32	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00																			
mn	1.2170E-17	1.2120E-17	1.2000E-17	1.1540E-17	1.0350E-17	8.0380E-18	5.1300E-18	2.2800E-18	1.0140E-18	4.4960E-19	2.4570E-19	1.9980E-19	8.8830E-20	3.9490E-20																			
fe	7.4580E-16	7.2390E-16	7.1580E-16	7.1510E-16	7.1510E-16	7.1510E-16	7.1510E-16	7.1510E-16	7.1510E-16	7.1510E-16	7.1510E-16	7.1510E-16	7.1510E-16	7.1510E-16																			
co	2.1950E-15	2.1930E-15	2.1900E-15	2.1760E-15	2.1370E-15	2.0900E-15	1.9060E-15	1.6710E-15	1.4660E-15	1.2850E-15	1.1650E-15	1.1260E-15	9.8780E-16	8.6610E-16																			
ni	1.3880E-19	1.3880E-19	1.3880E-19	1.3870E-19	1.3860E-19	1.3840E-19	1.3780E-19	1.3690E-19	1.3600E-19	1.3510E-19	1.3440E-19	1.3420E-19	1.3330E-19	1.3240E-19																			
zn	3.9010E-20	3.8790E-20	3.8300E-20	3.6440E-20	3.1700E-20	2.6660E-20	1.2920E-20	4.5780E-21	1.6230E-21	5.7350E-22	2.6480E-22	2.0330E-22	7.2050E-23	2.5540E-23																			
al	4.2460E-24	4.2430E-24	4.2410E-24	4.2310E-24	4.2060E-24	4.1770E-24	4.1081E-24	3.9830E-24	3.9060E-24	3.8390E-24	3.7920E-24	3.7660E-24	3.7160E-24	3.6750E-24																			
sa	3.9650E-22	3.2890E-22	3.1260E-22	2.5660E-22	1.4820E-22	7.6050E-23	8.2710E-24	3.5730E-24	2.7370E-24	2.1270E-24	1.7640E-24	1.6550E-24	1.2870E-24	1.0010E-24																			
te	1.0520E-19	1.0880E-19	1.0510E-19	9.2050E-20	6.4220E-20	4.1930E-20	8.3100E-21	2.9200E-22	1.1490E-22	1.3800E-23	2.9260E-24	1.7450E-24	2.8160E-25	9.0020E-26																			
i	5.9320E-23	5.7950E-23	5.4990E-23	4.4820E-23	2.5300E-23	1.2420E-23	6.3340E-25	8.9520E-27	1.2698E-28	2.0890E-30	3.9570E-31	3.4680E-31	3.2220E-31	3.2180E-31																			
la	1.4440E-23	1.3890E-23	1.2740E-22	9.101E-23	3.5710E-23	1.1170E-23	8.6950E-26	8.0310E-29	7.9820E-32	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00																			
cs	2.1260E-19	1.1210E-19	2.1110E-19	2.0760E-19	1.9830E-19	1.8750E-19	1.4830E-19	1.0610E-19	7.5840E-20	5.4180E-20	4.2200E-20	3.8740E-20	2.7700E-20	1.9810E-20																			
ba	2.0530E-20	2.0350E-20	2.0030E-20	1.9310E-20	1.8820E-20	1.8590E-20	1.7760E-20	1.6620E-20	1.5560E-20	1.4770E-20	1.3870E-20	1.3640E-20	1.2770E-20	1.1960E-20																			
la	1.8320E-21	1.8320E-21	1.8320E-21	1.8320E-21	1.8320E-21	1.8320E-21	1.8320E-21	1.8320E-21	1.8320E-21	1.8320E-21	1.8320E-21	1.8320E-21	1.8320E-21	1.8320E-21																			
tm	6.1110E-23	6.0460E-23	6.0460E-23	6.0460E-23	6.0460E-23	6.0460E-23	6.0460E-23	6.0460E-23	6.0460E-23	6.0460E-23	6.0460E-23	6.0460E-23	6.0460E-23	6.0460E-23																			
lt	4.1100E-25	4.1020E-25	4.0830E-25	4.0120E-25	3.8200E-25	3.5940E-25	2.7890E-25	1.9430E-25	1.3540E-25	9.4330E-26	7.2090E-26	6.5760E-26	4.5840E-26	3.1960E-26																			
lu	1.3910E-18	1.3800E-18	1.3570E-18	1.2690E-18	1.0560E-18	8.4480E-19	3.6310E-19	1.4870E-19	8.5400E-20	5.8800E-20	4.6910E-20	4.3650E-20	3.3430E-20	2.6020E-20																			
hf	5.0330E-16	4.9310E-16	4.7090E-16	3.9380E-16	2.3970E-16	1.3010E-16	1.0860E-17	4.5130E-19	4.5240E-20	8.0220E-21	2.4340E-21	1.6270E-21	3.3860E-22	7.3350E-23																			
tr	7.6970E-16	7.6040E-16	7.4010E-16	6.6820E-16	4.9520E-16	3.4260E-16	7.3410E-17	8.0930E-18	8.9230E-19	9.7820E-20	1.6940E-20	1.0810E-20	1.2180E-21	1.5750E-22																			
v	1.3260E-17	1.3010E-17	1.2480E-17	1.0620E-17	6.7570E-18	3.8480E-18	3.6620E-19	1.2790E-20	4.6000E-22	1.9150E-23	2.1410E-24	1.0640E-24	8.6840E-26	9.2130E-27																			
re	1.6650E-18	1.6320E-18	1.5610E-18	1.3140E-18	8.1160E-19	4.4660E-19	3.9070E-20	2.0280E-21	3.4390E-22	1.4270E-22	1.0780E-22	1.0250E-22	9.3660E-23	9.6180E-24																			
os	1.0260E-19	1.0110E-19	9.7740E-20	8.5860E-20	5.9730E-20	3.8020E-20	2.3970E-21	1.4880E-21	8.4050E-22	4.1120E-22	4.1260E-22	7.9680E-23	6.2050E-23	4.5360E-23																			
ir	4.0410E-16	3.9660E-16	3.8010E-16	3.2250E-16	2.0360E-16	1.4480E-16	1.0480E-17	3.4050E-19	1.1120E-20	4.1260E-22	7.9680E-23	6.2050E-23	4.5360E-23	4.0090E-23																			
pt	5.2370E-19	5.2370E-19	5.2360E-19	5.2320E-19	5.2320E-19	5.2320E-19	5.2320E-19	5.2320E-19	5.2320E-19	5.2320E-19	5.2320E-19	5.2320E-19	5.2320E-19	5.2320E-19																			
au	1.3450E-20	1.3350E-20	1.3130E-20	1.2300E-20	1.0250E-20	8.6110E-21	3.6080E-21	8.1200E-22	2.0910E-22	5.4100E-23	2.0150E-23	1.4480E-23	4.3110E-24	1.6990E-24																			
cr	3.7320E-19	3.7020E-19	3.6300E-19	3.4600E-19	3.0200E-19	2.0730E-19	1.3080E-19	7.3400E-20	4.0700E-20	2.3400E-20	1.3400E-20	8.6000E-21	5.2000E-21	3.0000E-21																			
ti	3.7420E-19	3.7390E-19	3.7300E-19	3.6980E-19	3.6080E-19	3.4990E-19	3.0790E-19	2.5640E-19	2.1350E-19	1.7770E-19	1.5500E-19	1.4790E-19	1.2320E-19	1.0260E-19																			
total	2.2800E-07	2.28																															

	5 more years for cooling used fuel material														element concentrations, grams basis =15.1 kg HMH /m ³ HMM /4-las. att (1 MP)														actinides														page	14
	initial	2.0 d	6.5 d	24.0 d	73.0 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d																														
he	3.079E-02	3.084E-02	3.096E-02	3.139E-02	3.246E-02	3.359E-02	3.670E-02	3.930E-02	4.137E-02	4.337E-02	4.487E-02	4.539E-02	4.745E-02	4.954E-02																														
hl	1.462E-16	4.482E-16	4.482E-16	4.482E-16	4.482E-16	4.482E-16	4.482E-16	4.482E-16	4.482E-16	4.482E-16	4.482E-16	4.482E-16	4.482E-16	4.482E-16																														
ho	4.420E-11	3.840E-11	3.840E-11	4.510E-11	4.510E-11	4.510E-11	4.510E-11	4.510E-11	4.510E-11	4.510E-11	4.510E-11	4.510E-11	4.510E-11	4.510E-11																														
ha	8.445E-09	8.550E-09	8.655E-09	9.234E-09	1.096E-08	1.342E-08	2.777E-08	6.068E-08	1.085E-07	1.706E-07	2.251E-07	2.452E-07	3.308E-07	4.256E-07																														
bz	2.896E-12	2.896E-12	2.905E-12	3.001E-12	3.32E-12	3.757E-12	5.586E-12	8.387E-12	1.115E-11	1.372E-11	1.546E-11	1.603E-11	1.801E-11	1.973E-11																														
pj	9.935E-15	9.945E-15	9.956E-15	1.015E-14	1.051E-14	1.080E-14	1.138E-14	1.161E-14	1.180E-14	1.211E-14	1.245E-14	1.259E-14	1.331E-14	1.429E-14																														
pn	3.069E-14	3.070E-14	3.087E-14	3.125E-14	3.273E-14	3.723E-14	4.004E-14	4.193E-14	4.49E-14	4.85E-14	5.20E-14	5.39E-14	5.78E-14	6.27E-14																														
fz	4.15E-18	4.15E-18	4.15E-18	4.16E-18	4.17E-18	4.233E-18	4.404E-18	4.649E-18	4.901E-18	5.161E-18	5.359E-18	5.421E-18	5.699E-18	5.979E-18																														
ra	2.001E-10	2.002E-10	2.013E-10	2.098E-10	2.404E-10	2.758E-10	4.376E-10	6.898E-10	9.436E-10	1.185E-09	1.353E-09	1.409E-09	1.608E-09	1.791E-09																														
ac	1.099E-11	1.103E-11	1.113E-11	1.149E-11	1.252E-11	1.380E-11	1.937E-11	2.695E-11	3.482E-11	4.281E-11	4.880E-11	5.068E-11	5.901E-11	6.721E-11																														
th	4.416E-06	4.319E-06	4.327E-06	4.357E-06	4.443E-06	4.551E-06	5.022E-06	5.746E-06	6.526E-06	7.360E-06	8.013E-06	8.242E-06	9.175E-06	1.016E-05																														
ut	4.650E-07	4.650E-07	4.650E-07	4.654E-07	4.684E-07	4.740E-07	4.974E-07	5.40E-07	5.97E-07	6.53E-07	6.84E-07	7.00E-07	7.880E-07	8.80E-07																														
iu	1.390E-04	1.390E-04	1.390E-04	1.390E-04	1.390E-04	1.390E-04	1.390E-04	1.390E-04	1.390E-04	1.390E-04	1.390E-04	1.390E-04	1.390E-04	1.390E-04																														
nu	2.406E+00	2.406E+00	2.406E+00	2.407E+00	2.418E+00	2.410E+00	2.419E+00	2.437E+00	2.460E+00	2.489E+00	2.512E+00	2.521E+00	2.558E+00	2.600E+00																														
pu	5.197E+02	5.197E+02	5.196E+02	5.195E+02	5.200E+02	5.185E+02	5.162E+02	5.129E+02	5.097E+02	5.066E+02	5.044E+02	5.037E+02	5.009E+02	4.982E+02																														
uo	1.008E+04	1.008E+04	1.008E+04	1.008E+04	1.008E+04	1.008E+04	1.008E+04	1.008E+04	1.008E+04	1.008E+04	1.008E+04	1.008E+04	1.008E+04	1.008E+04																														
cm	1.785E+08	1.783E+08	1.777E+08	1.753E+08	1.695E+08	1.637E+08	1.489E+08	1.395E+08	1.338E+08	1.291E+08	1.257E+08	1.246E+08	1.204E+08	1.164E+08																														
bk	3.690E-08	3.674E-08	3.638E-08	3.503E-08	3.150E-08	2.670E-08	1.589E-08	7.206E-09	3.268E-09	1.479E-09	8.207E-10	6.710E-10	3.043E-10	1.381E-10																														
c	6.026E-08	6.041E-08	6.075E-08	6.203E-08	6.537E-08	6.905E-08	7.984E-08	8.730E-08	9.013E-08	9.089E-08	9.038E-08	9.038E-08	9.075E-08	8.957E-08																														
es	1.291E-14	1.802E-14	1.671E-14	1.490E-14	1.170E-14	9.697E-15	5.074E-15	2.427E-15	1.207E-15	6.135E-16	3.163E-16	1.630E-16	8.03E-17	4.06E-17																														
trf	4.444E-04	4.444E-04	4.444E-04	4.444E-04	4.444E-04	4.444E-04	4.444E-04	4.444E-04	4.444E-04	4.444E-04	4.444E-04	4.444E-04	4.444E-04	4.444E-04																														

5 more years for cooling used fuel material				nuclide radioactivity, curies				actinides				page		
				basis =15.1 kgHM (nm ² d/3H9.14-aaa, at 1 MT)								16		
	initial	2.0 d	6.5 d	24.0 d	73.0 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d
pa230	1.329E-12	1.228E-12	1.026E-12	5.110E-13	7.256E-14	6.388E-15	2.476E-19	1.199E-25	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pa231	1.812E-08	1.511E-08	1.218E-08	5.918E-09	8.318E-09	7.171E-09	3.02E-09	1.352E-09	5.717E-10	2.471E-10	1.065E-10	4.742E-11	2.027E-11	9.074E-12
pa232	9.006E-11	9.006E-11	9.006E-11	9.006E-11	9.006E-11	9.006E-11	9.006E-11	9.005E-11	9.005E-11	9.005E-11	9.005E-11	9.005E-11	9.005E-11	9.005E-11
pa233	1.693E-03	1.693E-03	1.693E-03	1.693E-03	1.694E-03	1.696E-03	1.702E-03	1.716E-03	1.732E-03	1.752E-03	1.766E-03	1.772E-03	1.801E-03	1.830E-03
pa234m	1.669E-03	1.470E-03	1.470E-03	1.470E-03	1.469E-03	1.469E-03	1.467E-03	1.470E-03	1.470E-03	1.470E-03	1.470E-03	1.470E-03	1.470E-03	1.470E-03
pa234	4.717E-03	4.717E-03	4.717E-03	4.717E-03	4.717E-03	4.717E-03	4.717E-03	4.717E-03	4.717E-03	4.717E-03	4.717E-03	4.717E-03	4.717E-03	4.717E-03
u230	2.473E-12	2.320E-12	2.009E-12	1.146E-12	2.347E-13	3.199E-14	6.944E-18	3.623E-23	1.890E-28	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
u232	1.071E-04	1.071E-04	1.082E-04	1.110E-04	1.188E-04	1.281E-04	1.628E-04	2.027E-04	2.332E-04	2.565E-04	2.700E-04	2.740E-04	2.870E-04	2.965E-04
u234	6.687E-08	6.631E-08	6.570E-08	6.510E-08	6.384E-08	6.357E-08	7.474E-08	8.266E-08	9.126E-08	9.966E-08	1.054E-07	1.073E-07	1.119E-07	1.142E-07
u235	1.470E-04	1.470E-04	1.472E-04	1.477E-04	1.483E-04	1.488E-04	1.493E-04	1.498E-04	1.503E-04	1.508E-04	1.513E-04	1.518E-04	1.523E-04	1.528E-04
u238	3.680E-05	3.680E-05	3.680E-05	3.680E-05	3.681E-05	3.681E-05	3.682E-05	3.684E-05	3.686E-05	3.687E-05	3.688E-05	3.689E-05	3.691E-05	3.692E-05
u236	2.615E-04	2.615E-04	2.615E-04	2.616E-04	2.617E-04	2.619E-04	2.626E-04	2.636E-04	2.646E-04	2.656E-04	2.663E-04	2.668E-04	2.676E-04	2.686E-04
u238m	1.908E-08	1.908E-08	1.908E-08	1.908E-08	1.907E-08	1.907E-08	1.907E-08	1.907E-08	1.907E-08	1.907E-08	1.907E-08	1.907E-08	1.907E-08	1.907E-08
u238	4.669E-03	4.669E-03	4.669E-03	4.669E-03	4.669E-03	4.669E-03	4.669E-03	4.669E-03	4.669E-03	4.669E-03	4.669E-03	4.669E-03	4.669E-03	4.669E-03
u240	1.787E-08	1.787E-08	1.787E-08	1.787E-08	1.788E-08	1.787E-08	1.787E-08	1.787E-08	1.787E-08	1.787E-08	1.787E-08	1.787E-08	1.787E-08	1.787E-08
pu235	8.850E-05	8.386E-05	8.386E-05	8.361E-05	8.388E-05	8.405E-05	1.949E-05	1.029E-05	5.434E-06	2.865E-06	1.780E-06	1.513E-06	7.989E-07	4.217E-07
pu236	5.403E-09	5.403E-09	5.403E-09	5.403E-09	5.403E-09	5.403E-09	5.403E-09	5.403E-09	5.403E-09	5.403E-09	5.403E-09	5.403E-09	5.403E-09	5.403E-09
pu237	1.694E-03	1.694E-03	1.694E-03	1.694E-03	1.695E-03	1.696E-03	1.703E-03	1.716E-03	1.732E-03	1.752E-03	1.768E-03	1.775E-03	1.801E-03	1.830E-03
pu238	2.971E-03	2.971E-03	2.970E-03	2.970E-03	2.968E-03	2.965E-03	2.955E-03	2.941E-03	2.926E-03	2.912E-03	2.901E-03	2.898E-03	2.883E-03	2.869E-03
pu239	1.818E-01	1.818E-01	1.818E-01	1.818E-01	1.818E-01	1.818E-01	1.818E-01	1.8179E-01	1.8178E-01	1.8178E-01	1.8178E-01	1.8177E-01	1.8177E-01	1.8176E-01
pu240m	1.787E-08	1.787E-08	1.787E-08	1.787E-08	1.787E-08	1.787E-08	1.787E-08	1.787E-08	1.787E-08	1.787E-08	1.787E-08	1.787E-08	1.787E-08	1.787E-08
pu240	2.144E-11	2.144E-11	2.144E-11	2.144E-11	2.144E-11	2.144E-11	2.144E-11	2.144E-11	2.144E-11	2.144E-11	2.144E-11	2.144E-11	2.144E-11	2.144E-11
pu236	6.052E-03	6.044E-03	6.026E-03	5.957E-03	5.766E-03	5.537E-03	4.675E-03	3.668E-03	2.879E-03	2.258E-03	1.885E-03	1.772E-03	1.390E-03	1.091E-03
pu237	2.485E-03	2.411E-03	2.251E-03	1.726E-03	8.200E-04	5.247E-04	6.754E-06	2.643E-08	1.034E-10	3.986E-13	6.405E-15	1.560E-15	6.105E-18	2.389E-20
pu238	4.008E-01	4.013E-01	4.022E-01	4.055E-01	4.050E-01	4.050E-01	4.050E-01	4.374E-01	4.349E-01	4.341E-01	4.340E-01	4.340E-01	4.340E-01	4.340E-01
pu239	1.715E-01	1.715E-01	1.715E-01	1.715E-01	1.715E-01	1.715E-01	1.715E-01	1.715E-01	1.715E-01	1.715E-01	1.715E-01	1.715E-01	1.715E-01	1.715E-01
pu240	3.376E-01	3.376E-01	3.376E-01	3.376E-01	3.376E-01	3.376E-01	3.376E-01	3.377E-01	3.378E-01	3.379E-01	3.379E-01	3.379E-01	3.380E-01	3.380E-01
pu241	7.791E-09	7.791E-09	7.792E-09	7.794E-09	7.794E-09	7.794E-09	7.642E-09	7.387E-09	7.038E-09	6.705E-09	6.387E-09	6.160E-09	6.085E-09	5.927E-09
pu242	9.598E-09	9.598E-09	9.598E-09	9.598E-09	9.598E-09	9.598E-09	9.598E-09	9.598E-09	9.598E-09	9.598E-09	9.598E-09	9.598E-09	9.598E-09	9.598E-09
pu243	2.791E-09	2.791E-09	2.791E-09	2.791E-09	2.791E-09	2.791E-09	2.791E-09	2.791E-09	2.791E-09	2.791E-09	2.791E-09	2.791E-09	2.791E-09	2.791E-09
pu244	1.799E-08	1.799E-08	1.799E-08	1.799E-08	1.799E-08	1.799E-08	1.799E-08	1.799E-08	1.799E-08	1.799E-08	1.799E-08	1.799E-08	1.799E-08	1.799E-08
pu246	1.260E-11	1.260E-11	1.260E-11	1.260E-11	1.260E-11	1.260E-11	1.260E-11	1.260E-11	1.260E-11	1.260E-11	1.260E-11	1.260E-11	1.260E-11	1.260E-11
pu248	1.385E-01	1.385E-01	1.385E-01	1.385E-01	1.385E-01	1.385E-01	1.385E-01	1.385E-01	1.385E-01	1.385E-01	1.385E-01	1.385E-01	1.385E-01	1.385E-01

am242m 6.472E-01 6.471E-01 6.471E-01 6.469E-01 6.465E-01 6.471E-01 6.430E-01 6.438E-01 6.406E-01 6.375E-01 6.344E-01 6.320E-01 6.312E-01 6.282E-01 6.251E-01
am242 6.442E-01 6.442E-01 6.441E-01 6.440E-01 6.436E-01 6.430E-01 6.408E-01 6.377E-01 6.346E-01 6.314E-01 6.291E-01 6.284E-01 6.253E-01 6.222E-01
am243 8.181E-01 8.181E-01 8.181E-01 8.181E-01 8.181E-01 8.181E-01 8.180E-01 8.178E-01 8.178E-01 8.177E-01 8.177E-01 8.177E-01 8.176E-01
am244 1.346E-11 1.346E-11 1.345E-11 1.340E-11 1.326E-11 1.309E-11 1.240E-11 1.148E-11 1.063E-11 9.842E-12 9.293E-12 9.112E-12 8.437E-12 7.811E-12
am245 8.774E-10 8.736E-10 8.651E-10 8.329E-10 7.491E-10 6.563E-10 3.778E-10 1.713E-10 7.772E-11 3.517E-11 1.951E-11 1.595E-11 7.236E-12 3.282E-12
am246m 1.260E-14 1.262E-14 1.262E-14 1.261E-14 1.260E-14 1.260E-14 1.260E-14 1.260E-14 1.260E-14 1.260E-14 1.260E-14 1.260E-14 1.260E-14 1.260E-14
cm240 8.052E-09 7.649E-09 6.814E-09 4.348E-09 2.236E-09 2.582E-09 1.060E-09 1.953E-09 1.047E-09 1.007E-09 9.69E-10 9.330E-10 9.068E-10 8.880E-10 8.319E-10
cm241 8.623E-06 8.266E-06 7.516E-06 5.193E-06 1.844E-06 5.080E-07 2.320E-09 1.037E-12 4.631E-16 2.026E-19 6.460E-22 9.051E-23 4.044E-26 1.807E-29
cm242 9.938E+02 9.853E+02 9.667E+02 8.974E+02 7.286E+02 5.622E+02 1.904E+02 4.071E+01 9.031E+00 2.316E+00 1.085E+00 8.999E-01 5.982E-01 5.324E-01
cm243 1.039E+00 1.038E+00 1.038E+00 1.037E+00 1.034E+00 1.030E+00 1.013E+00 9.888E-01 9.655E-01 9.427E-01 9.262E-01 9.206E-01 8.989E-01 8.778E-01
cm244 1.090E+02 1.090E+02 1.089E+02 1.087E+02 1.084E+02 1.082E+02 1.079E+02 1.076E+02 1.074E+02 1.072E+02 1.070E+02 1.068E+02 1.066E+02 1.064E+02
cm245 1.931E-02 1.931E-02 1.931E-02 1.931E-02 1.930E-02 1.930E-02 1.930E-02 1.930E-02 1.930E-02 1.930E-02 1.930E-02 1.930E-02 1.929E-02
cm246 1.832E-03 1.832E-03 1.832E-03 1.832E-03 1.832E-03 1.832E-03 1.831E-03 1.831E-03 1.831E-03 1.831E-03 1.831E-03 1.831E-03 1.830E-03 1.830E-03
cm247 7.291E-09 7.291E-09 7.291E-09 7.291E-09 7.291E-09 7.291E-09 7.291E-09 7.291E-09 7.291E-09 7.291E-09 7.291E-09 7.291E-09 7.291E-09 7.291E-09
cm248 1.766E-08 1.766E-08 1.766E-08 1.766E-08 1.766E-08 1.767E-08 1.767E-08 1.767E-08 1.767E-08 1.767E-08 1.767E-08 1.767E-08 1.767E-08 1.767E-08
cm249 2.145E-14 1.985E-14 1.666E-14 8.431E-15 1.252E-15 1.166E-16 5.708E-21 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
cm250 7.001E-14 7.001E-14 7.001E-14 7.001E-14 7.001E-14 7.001E-14 7.001E-14 7.000E-14 7.000E-14 6.999E-14 6.999E-14 6.998E-14 6.998E-14 6.997E-14
bk247 2.074E-15 2.074E-15 2.074E-15 2.074E-15 2.074E-15 2.074E-15 2.073E-15 2.072E-15 2.071E-15 2.070E-15 2.069E-15 2.068E-15 2.067E-15
bk248 1.346E-11 1.346E-11 1.344E-11 1.339E-11 1.326E-11 1.309E-11 1.240E-11 1.148E-11 1.063E-11 9.841E-12 9.292E-12 9.111E-12 8.436E-12 7.810E-12

1	5 more years for cooling used fuel material	actinides	page	17
0	nuclide radioactivity, curies			
	basis --15.1 kgHM (nm ² d IHM 1/4-ass. at 1 MT)			
	initial	2.0 d	6.5 d	24.0 d
	73.0 d	134.0 d	389.0 d	754.0 d
	1119.0 d	1485.0 d	1757.0 d	1850.0 d
	2215.0 d	2580.0 d		
bk249	6.049E-05	6.023E-05	5.965E-05	5.743E-05
bk250	2.518E-11	2.505E-11	2.477E-11	2.370E-11
bk251	2.874E-14	2.776E-14	2.566E-14	1.087E-14
cf248	8.673E-11	8.637E-11	8.556E-11	8.251E-11
cf249	1.445E-07	1.451E-07	1.466E-07	1.521E-07
cf250	1.729E-06	1.728E-06	1.727E-06	1.723E-06
cf251	1.585E-08	1.585E-08	1.585E-08	1.585E-08
cf252	9.921E-07	9.907E-07	9.875E-07	9.752E-07
cf253	6.904E-12	6.874E-12	6.812E-12	6.713E-12
cf254	4.495E-11	4.393E-11	4.172E-11	3.414E-11
es252	4.127E-15	4.127E-15	4.127E-15	4.127E-15
es253	1.128E-10	1.152E-10	9.974E-11	5.682E-11
es254	2.512E-11	2.503E-11	2.475E-11	2.369E-11
es255	3.589E-13	3.466E-13	3.205E-13	2.363E-13
total	8.997E+03	8.987E+03	8.964E+03	8.877E+03

1	5 more years for cooling used fuel material	actinides	page	18
0	element radioactivity, curies			
	basis --15.1 kgHM (nm ² d IHM 1/4-ass. at 1 MT)			
	initial	2.0 d	6.5 d	24.0 d
	73.0 d	134.0 d	389.0 d	754.0 d
	1119.0 d	1485.0 d	1757.0 d	1850.0 d
	2215.0 d	2580.0 d		
hg	9.981E-19	9.981E-19	9.979E-19	9.971E-19
pl	1.013E-05	1.017E-05	1.020E-05	1.064E-05
tl	2.819E-05	2.817E-05	2.838E-05	2.960E-05
bl	2.819E-05	2.830E-05	2.838E-05	2.960E-05
po	4.624E-05	4.632E-05	4.653E-05	4.856E-05
at	6.725E-10	6.726E-10	6.718E-10	6.720E-10
rn	2.818E-05	2.819E-05	2.835E-05	2.960E-05
fr	6.835E-10	6.836E-10	6.834E-10	6.836E-10
ra	2.819E-05	2.819E-05	2.835E-05	2.960E-05
ac	1.467E-09	1.470E-09	1.477E-09	1.503E-09
pa	6.370E-03	6.370E-03	6.370E-03	6.370E-03
u	1.970E-01	1.969E-01	1.968E-01	1.964E-01
np	8.228E-01	8.228E-01	8.228E-01	8.228E-01
pu	7.870E+03	7.868E+03	7.864E+03	7.796E+03
am	2.244E+01	2.250E+01	2.266E+01	2.328E+01
cm	1.104E+03	1.095E+03	1.077E+03	1.007E+03
bk	6.049E-05	6.023E-05	5.965E-05	5.743E-05
cf	2.877E-06	2.876E-06	2.873E-06	2.862E-06
es	1.483E-10	1.406E-10	1.248E-10	8.078E-11
total	8.997E+03	8.987E+03	8.964E+03	8.877E+03

1	5 more years for cooling used fuel material	actinides	page	19
0	nuclide thermal power, watts			
	basis --15.1 kgHM (nm ² d IHM 1/4-ass. at 1 MT)			
	initial	2.0 d	6.5 d	24.0 d
	73.0 d	134.0 d	389.0 d	754.0 d
	1119.0 d	1485.0 d	1757.0 d	1850.0 d
	2215.0 d	2580.0 d		
tl206	2.252E-19	2.253E-19	2.252E-19	2.249E-19
tl207	2.211E-12	2.211E-12	2.210E-12	2.209E-12
tl208	2.388E-07	2.398E-07	2.404E-07	2.507E-07
tl209	2.477E-13	2.477E-13	2.476E-13	2.474E-13
tl210	1.082E-16	1.083E-16	1.087E-16	1.113E-16
pb209	7.967E-13	7.968E-13	7.972E-13	7.985E-13
pb210	1.383E-14	1.382E-14	1.382E-14	1.381E-14
pb211	2.303E-12	2.303E-12	2.306E-12	2.349E-12
pb212	5.253E-08	5.251E-08	5.289E-08	5.517E-08
tl214	7.140E-14	7.147E-14	7.174E-14	7.340E-14
bl207	4.439E-21	4.438E-21	4.437E-21	4.433E-21
bl210	1.213E-13	1.213E-13	1.212E-13	1.211E-13
bl211	3.020E-11	3.020E-11	3.024E-11	3.081E-11
bl212	4.720E-07	4.740E-07	4.752E-07	4.753E-07
bl213	2.761E-12	2.761E-12	2.760E-12	2.758E-12
bl214	2.903E-13	2.905E-13	2.915E-13	2.984E-13
po209	8.113E-120	8.113E-120	8.113E-120	8.110E-120
po210	1.420E-12	1.420E-12	1.420E-12	1.420E-12
po211	9.403E-14	9.402E-14	9.415E-14	9.593E-14
po212	9.579E-07	9.619E-07	9.645E-07	1.006E-06
po213	3.327E-11	3.327E-11	3.326E-11	3.323E-11
po214	1.378E-11	1.378E-11	1.378E-11	1.378E-11
po215	3.377E-11	3.377E-11	3.381E-11	3.445E-11
po216	1.153E-06	1.154E-06	1.160E-06	1.211E-06
po218	8.300E-13	8.307E-13	8.335E-13	8.533E-13
at217	2.868E-11	2.868E-11	2.867E-11	2.865E-11
at218	1.865E-16	1.867E-16	1.872E-16	1.917E-16
rn217	2.200E-15	2.200E-15	2.199E-15	2.198E-15
rn218	1.065E-13	9.993E-14	8.654E-14	4.936E-14
rn219	1.178E-11	3.115E-11	3.119E-11	3.178E-11
rn220	1.070E-06	1.070E-06	1.076E-06	1.123E-06
rn222	7.590E-13	7.593E-13	7.620E-13	7.802E-13
fr221	2.594E-11	2.595E-11	2.594E-11	2.592E-11
fr223	2.730E-14	2.741E-14	2.764E-14	2.855E-14
ra222	7.990E-14	7.988E-14	7.957E-14	4.538E-14
ra223	2.678E-11	2.678E-11	2.682E-11	2.732E-11
ra224	9.668E-07	9.696E-07	9.724E-07	1.015E-06
ra225	4.714E-13	4.714E-13	4.713E-13	4.713E-13
ra226	6.614E-13	6.634E-13	6.679E-13	6.854E-13
ra228	6.691E-18	6.699E-18	6.716E-18	6.785E-18
ac225	2.365E-11	2.364E-11	2.364E-11	2.362E-11
ac226	1.444E-19	1.056E-19	8.627E-20	4.396E-20
ac227	4.041E-13	4.056E-13	4.091E-13	4.225E-13
ac228	8.141E-16	8.148E-16	8.178E-16	8.256E-16
th226	9.456E-14	8.874E-14	7.685E-14	4.383E-14
th227	2.744E-11	2.755E-11	2.780E-11	2.876E-11
th228	9.200E-07	9.252E-07	9.368E-07	9.824E-07
th229	2.091E-11	2.091E-11	2.091E-11	2.092E-11
th230	8.155E-10	8.170E-10	8.204E-10	8.338E-10
th231	3.606E-08	3.606E-08	3.606E-08	3.606E-08
th232	7.098E-15	7.101E-15	7.104E-15	7.119E-15
th234	1.841E-06	1.841E-06	1.841E-06	1.841E-06

1	5 more years for cooling used fuel material	actinides	page	20
0	nuclide thermal power, watts			
	basis --15.1 kgHM (nm ² d IHM 1/4-ass. at 1 MT)			
	initial	2.0 d	6.5 d	24.0 d
	73.0 d	134.0 d	389.0 d	754.0 d
	1119.0 d	1485.0 d	1757.0 d	1850.0 d
	2215.0 d	2580.0 d		
pa230	5.783E-15	5.340E-15	4.464E-15	2.223E-15
pa231	5.458E-10	5.459E-10	5.462E-10	5.476E-10
pa232	5.855E-13	5.855E-13	5.855E-13	5.855E-13
pa233	4.161E-06	4.161E-06	4.161E-06	4.161E-06
pa234m	2.293E-05	2.293E-05	2.293E-05	2.293E-05
u234	8.784E-14	8.241E-14	7.136E-14	4.070E-14
u232	3.436E-06	3.446E-06	3.470E-06	3.561E-06
u233	1.940E-09	1.941E-09	1.944E-09	1.954E-09
u234	3.079E-05	3.080E-05	3.075E-05	3.070E-05
u235	1.008E-06	1.008E-06	1.008E-06	1.008E-06
u236	7.072E-06	7.072E-06	7.072E-06	7.072E-06
u237	3.488E-04	3.487E-04	3.485E-04	3.477E-04
u238	1.818E-04	1.818E-04	1.818E-04	1.818E-04
u240	1.420E-11	1.420E-11	1.420E-11	1.420E-11
np235	3.698E-09	3.685E-09	3.659E-09	3.546E-09

5 more years for cooling used fuel material				nuclide thermal power, watts										actinides										page
				basis = 15.1 kgHM (nm ³ HM/14-ans. at 1 MT)																				21
	initial	2.0 d	6.5 d	24 d	73.0 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d										
bk249	1.164E-08	1.159E-08	1.148E-08	1.105E-08	9.940E-09	8.710E-09	5.013E-09	2.274E-09	1.031E-09	4.667E-10	2.589E-10	2.117E-10	9.602E-11	4.355E-11										
bk250	1.777E-13	1.798E-13	1.748E-13	1.678E-13	1.479E-13	1.269E-13	6.684E-14	2.672E-14	1.070E-14	4.286E-15	2.183E-15	1.736E-15	7.172E-16	3.102E-16										
bk251	9.312E-10	9.17E-10	8.75E-10	7.95E-10	6.65E-10	5.25E-10	2.851E-10	1.24E-10	4.54E-11	2.54E-11	5.00E-12	0.00E+00	0.00E+00	0.00E+00										
cf248	3.271E-12	3.257E-12	3.227E-12	3.112E-12	2.811E-12	2.476E-12	1.457E-12	6.825E-13	3.196E-13	1.494E-13	8.487E-14	6.995E-14	3.276E-14	1.534E-14										
cf249	5.370E-05	5.394E-05	5.448E-05	5.653E-05	6.188E-05	6.779E-05	8.550E-05	9.852E-05	0.00E+00	1.068E-08	1.077E-08	1.078E-08	1.082E-08	1.082E-08										
cf250	6.273E-08	6.271E-08	6.267E-08	6.251E-08	6.207E-08	6.152E-08	5.929E-08	5.622E-08	5.333E-08	5.051E-08	4.862E-08	4.796E-08	4.549E-08	4.310E-08										
cf251	4.227E-10	4.227E-10	4.227E-10	4.227E-10	4.227E-10	4.226E-10	4.224E-10	4.221E-10	4.217E-10	4.214E-10	4.212E-10	4.211E-10	4.209E-10	4.204E-10										
cf252	1.184E-08	1.748E-08	1.731E-08	7.061E-08	1.061E-07	1.291E-07	1.419E-07	2.198E-07	2.475E-07	2.636E-07	1.90E-08	1.46E-08	1.46E-08	1.12E-08										
cf253	4.661E-15	4.312E-15	3.691E-15	1.831E-15	2.720E-16	2.532E-17	1.240E-21	8.395E-28	5.684E-34	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00										
cf254	5.152E-11	5.192E-11	4.931E-11	4.035E-11	2.302E-11	1.144E-11	6.162E-12	9.941E-13	1.437E-16	2.169E-18	9.614E-20	3.313E-20	5.058E-22	7.725E-24										
ae252	1.337E-16	1.333E-16	1.344E-16	1.291E-16	1.201E-16	1.098E-16	7.549E-17	4.415E-17	2.582E-17	1.508E-17	1.011E-17	8.620E-18	5.158E-18	3.017E-18										
ae253	1.907E-12	4.603E-12	4.639E-12	2.271E-12	4.623E-13	6.220E-14	5.479E-13	2.547E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00										
ae254	9.803E-13	9.754E-13	9.644E-13	9.229E-13	8.159E-13	6.999E-13	3.668E-13	1.473E-13	5.882E-14	2.00E-14	1.181E-14	9.362E-15	7.600E-15	4.994E-15										
ae255	1.493E-15	1.440E-15	1.331E-15	9.81E-16	4.181E-16	1.445E-16	1.703E-18	9.954E-21	5.125E-24	8.78E-27	7.658E-29	1.516E-29	2.630E-32	0.00E+00										
total	4.433E+01	4.403E+01	4.334E+01	4.081E+01	3.466E+01	2.860E+01	1.552E+01	9.857E+00	5.925E+00	8.856E+00	8.950E+00	8.989E+00	9.152E+00	9.314E+00										

5 more years for cooling used fuel material		nucleide concentrations, grams										fission products										page 23	
		basis --15.1 g/kW (nm ²) JHM 1/4-ass. at 1 MT)																					
		initial	2.0	6.5	24.0	73.0	134.0	389.0	754.0	1119.0	1485.0	1757.0	1850.0	2215.0	2580.0								
h	3	1.059E-03	1.059E-03	1.059E-03	1.056E-03	1.048E-03	1.038E-03	9.978E-04	9.433E-04	8.917E-04	8.428E-04	8.082E-04	7.967E-04	7.532E-04	7.120E-04								
he	3	6.285E-05	6.318E-05	6.391E-05	6.675E-05	7.470E-05	8.048E-05	1.245E-04	1.790E-04	2.306E-04	2.795E-04	3.141E-04	3.256E-04	3.691E-04	4.103E-04								
h	26	2.260E-02	2.260E-02	2.260E-02	2.260E-02	2.260E-02	2.260E-02	2.260E-02	2.260E-02	2.260E-02	2.260E-02	2.260E-02	2.260E-02	2.260E-02	2.260E-02								
h	65	5.618E-09	5.618E-09	5.618E-09	5.618E-09	5.618E-09	5.618E-09	5.618E-09	5.618E-09	5.618E-09	5.618E-09	5.618E-09	5.618E-09	5.618E-09	5.618E-09								
zn	66	1.905E-06	1.905E-06	1.905E-06	1.905E-06	1.905E-06	1.905E-06	1.905E-06	1.905E-06	1.905E-06	1.905E-06	1.905E-06	1.905E-06	1.905E-06	1.905E-06								
zn	67	5.326E-06	5.326E-06	5.326E-06	5.326E-06	5.326E-06	5.326E-06	5.326E-06	5.326E-06	5.326E-06	5.326E-06	5.326E-06	5.326E-06	5.326E-06	5.326E-06								
zn	68	1.066E-06	1.066E-06	1.066E-06	1.066E-06	1.066E-06	1.066E-06	1.066E-06	1.066E-06	1.066E-06	1.066E-06	1.066E-06	1.066E-06	1.066E-06	1.066E-06								
zn	69	2.175E-07	2.175E-07	2.175E-07	2.175E-07	2.175E-07	2.175E-07	2.175E-07	2.175E-07	2.175E-07	2.175E-07	2.175E-07	2.175E-07	2.175E-07	2.175E-07								
zn	70	5.325E-05	5.325E-05	5.325E-05	5.325E-05	5.325E-05	5.325E-05	5.325E-05	5.325E-05	5.325E-05	5.325E-05	5.325E-05	5.325E-05	5.325E-05	5.325E-05								
zn	70	2.174E-07	2.174E-07	2.174E-07	2.174E-07	2.174E-07	2.174E-07	2.174E-07	2.174E-07	2.174E-07	2.174E-07	2.174E-07	2.174E-07	2.174E-07	2.174E-07								
ga	71	9.901E-05	9.901E-05	9.901E-05	9.901E-05	9.901E-05	9.901E-05	9.901E-05	9.901E-05	9.901E-05	9.901E-05	9.901E-05	9.901E-05	9.901E-05	9.901E-05								
ga	72	2.307E-11	2.307E-11	2.307E-11	2.307E-11	2.307E-11	2.307E-11	2.307E-11	2.307E-11	2.307E-11	2.307E-11	2.307E-11	2.307E-11	2.307E-11	2.307E-11								
ga	72	5.434E-04	5.434E-04	5.434E-04	5.434E-04	5.434E-04	5.434E-04	5.434E-04	5.434E-04	5.434E-04	5.434E-04	5.434E-04	5.434E-04	5.434E-04	5.434E-04								
ga	73	5.259E-04	5.259E-04	5.259E-04	5.259E-04	5.259E-04	5.259E-04	5.259E-04	5.259E-04	5.259E-04	5.259E-04	5.259E-04	5.259E-04	5.259E-04	5.259E-04								
ga	73m	2.071E-19	2.035E-19	1.958E-19	1.683E-19	1.103E-19	6.512E-20	7.028E-21	3.086E-22	1.322E-23	5.611E-25	5.253E-26	2.403E-26	1.029E-27	4.406E-28								

1 5 more years for cooling used fuel material fission products page 24
0 nuclide concentrations, grams

1
5 more years for cooling used fuel material fission products page 27

1 5 more years for cooling used fuel material fission products page 29

y	4.296E+00	4.296E+00	4.295E+00	4.292E+00	4.286E+00	4.282E+00	4.278E+00	4.277E+00	4.277E+00	4.277E+00	4.277E+00	4.277E+00	4.277E+00	4.277E+00	4.277E+00
zr	4.671E+01	4.670E+01	4.670E+01	4.670E+01	4.670E+01	4.671E+01	4.678E+01	4.690E+01	4.701E+01	4.712E+01	4.720E+01	4.723E+01	4.733E+01	4.744E+01	4.744E+01
nb	9.200E-02	9.014E-02	8.608E-02	7.190E-02	4.313E-02	2.263E-02	1.513E-03	9.248E-05	6.857E-05	7.228E-05	7.543E-05	7.651E-05	8.078E-05	8.499E-05	8.499E-05
mo	5.793E+01	5.793E+01	5.794E+01	5.797E+01	5.802E+01	5.806E+01	5.810E+01	5.810E+01	5.810E+01	5.810E+01	5.810E+01	5.810E+01	5.810E+01	5.810E+01	5.810E+01
tc	1.430E+01	1.430E+01	1.430E+01	1.430E+01	1.430E+01	1.430E+01	1.430E+01	1.430E+01	1.430E+01	1.430E+01	1.430E+01	1.430E+01	1.430E+01	1.430E+01	1.430E+01
cu	5.450E+01	5.449E+01	5.446E+01	5.435E+01	5.405E+01	5.375E+01	5.358E+01	5.346E+01	5.325E+01	5.316E+01	5.314E+01	5.308E+01	5.308E+01	5.308E+01	5.308E+01
zr	1.372E+01	1.372E+01	1.372E+01	1.372E+01	1.373E+01	1.373E+01	1.373E+01	1.373E+01	1.373E+01	1.373E+01	1.373E+01	1.373E+01	1.373E+01	1.373E+01	1.373E+01
pd	4.519E+01	4.520E+01	4.523E+01	4.534E+01	4.563E+01	4.595E+01	4.697E+01	4.780E+01	4.822E+01	4.843E+01	4.854E+01	4.859E+01	4.862E+01	4.862E+01	4.862E+01
ag	3.111E+00	3.110E+00	3.110E+00	3.109E+00	3.107E+00	3.105E+00	3.098E+00	3.094E+00	3.092E+00	3.092E+00	3.092E+00	3.092E+00	3.092E+00	3.092E+00	3.091E+00
cd	3.714E+00	3.714E+00	3.714E+00	3.715E+00	3.717E+00	3.720E+00	3.726E+00	3.731E+00	3.732E+00	3.733E+00	3.733E+00	3.733E+00	3.733E+00	3.733E+00	3.733E+00
in	5.269E-02	5.269E-02	5.269E-02	5.269E-02	5.269E-02	5.270E-02	5.270E-02	5.270E-02	5.270E-02	5.270E-02	5.270E-02	5.270E-02	5.270E-02	5.270E-02	5.270E-02
sn	1.596E+00	1.596E+00	1.596E+00	1.596E+00	1.596E+00	1.595E+00	1.595E+00	1.594E+00	1.594E+00	1.594E+00	1.594E+00	1.594E+00	1.594E+00	1.594E+00	1.594E+00
sb	4.831E-01	4.828E-01	4.822E-01	4.798E-01	4.732E-01	4.651E-01	4.436E-01	3.988E-01	3.709E-01	3.492E-01	3.363E-01	3.324E-01	3.193E-01	3.092E-01	3.092E-01
te	1.032E+01	1.032E+01	1.032E+01	1.032E+01	1.033E+01	1.034E+01	1.037E+01	1.040E+01	1.043E+01	1.045E+01	1.046E+01	1.047E+01	1.048E+01	1.049E+01	1.049E+01
l	5.549E+00	5.550E+00	5.550E+00	5.550E+00	5.552E+00	5.553E+00	5.555E+00	5.555E+00	5.555E+00	5.555E+00	5.555E+00	5.555E+00	5.555E+00	5.555E+00	5.555E+00
x	9.760E+01	9.760E+01	9.760E+01	9.760E+01	9.760E+01	9.760E+01	9.760E+01	9.760E+01	9.760E+01	9.760E+01	9.760E+01	9.760E+01	9.760E+01	9.760E+01	9.760E+01
cs	5.820E+01	5.819E+01	5.818E+01	5.812E+01	5.797E+01	5.779E+01	5.708E+01	5.620E+01	5.544E+01	5.477E+01	5.431E+01	5.416E+01	5.361E+01	5.309E+01	5.309E+01
ba	2.541E+01	2.542E+01	2.543E+01	2.549E+01	2.564E+01	2.582E+01	2.653E+01	2.741E+01	2.817E+01	2.884E+01	2.930E+01	2.945E+01	3.001E+01	3.052E+01	3.052E+01
la	2.075E+02	2.075E+02	2.075E+02	2.075E+02	2.075E+02	2.075E+02	2.075E+02	2.076E+02	2.076E+02	2.076E+02	2.076E+02	2.076E+02	2.076E+02	2.076E+02	2.076E+02
ce	4.268E+01	4.268E+01	4.263E+01	4.250E+01	4.218E+01	4.182E+01	4.081E+01	4.011E+01	3.982E+01	3.971E+01	3.967E+01	3.966E+01	3.964E+01	3.963E+01	3.963E+01
pr	1.905E+01	1.905E+01	1.905E+01	1.905E+01	1.905E+01	1.905E+01	1.905E+01	1.905E+01	1.905E+01	1.905E+01	1.905E+01	1.905E+01	1.905E+01	1.905E+01	1.905E+01
nd	6.115E+01	6.117E+01	6.120E+01	6.132E+01	6.165E+01	6.200E+01	6.302E+01	6.371E+01	6.400E+01	6.412E+01	6.416E+01	6.416E+01	6.418E+01	6.419E+01	6.419E+01
pm	2.808E+01	2.808E+01	2.795E+01	2.760E+01	2.613E+01	2.548E+01	2.119E+01	1.627E+01	1.250E+01	9.589E-01	7.877E-01	7.364E-01	5.655E-01	4.343E-01	4.343E-01
sm	1.378E+01	1.378E+01	1.379E+01	1.383E+01	1.392E+01	1.404E+01	1.447E+01	1.495E+01	1.533E+01	1.562E+01	1.578E+01	1.584E+01	1.600E+01	1.613E+01	1.613E+01
eu	3.771E+00	3.771E+00	3.770E+00	3.766E+00	3.754E+00	3.741E+00	3.728E+00	3.712E+00	3.697E+00	3.687E+00	3.677E+00	3.667E+00	3.655E+00	3.642E+00	3.642E+00
gd	2.621E+00	2.622E+00	2.623E+00	2.627E+00	2.639E+00	2.653E+00	2.711E+00	2.787E+00	2.856E+00	2.918E+00	2.961E+00	2.975E+00	3.026E+00	3.073E+00	3.073E+00
g	9.490E-08	9.489E-08	9.489E-08	9.489E-08	9.489E-08	9.489E-08	9.489E-08	9.489E-08	9.489E-08	9.489E-08	9.489E-08	9.489E-08	9.489E-08	9.489E-08	9.489E-08
dy	4.878E-02	4.879E-02	4.880E-02	4.884E-02	4.892E-02	4.898E-02	4.905E-02	4.906E-02	4.906E-02	4.906E-02	4.906E-02	4.906E-02	4.906E-02	4.906E-02	4.906E-02
ho	2.779E-03	2.779E-03	2.779E-03	2.779E-03	2.779E-03	2.779E-03	2.779E-03	2.779E-03	2.779E-03	2.779E-03	2.779E-03	2.779E-03	2.779E-03	2.779E-03	2.779E-03
er	1.083E-03	1.083E-03	1.083E-03	1.083E-03	1.083E-03	1.083E-03	1.083E-03	1.083E-03	1.083E-03	1.083E-03	1.083E-03	1.083E-03	1.083E-03	1.083E-03	1.083E-03
yb	1.635E-05	1.635E-05	1.635E-05	1.635E-05	1.635E-05	1.635E-05	1.635E-05	1.635E-05	1.635E-05	1.635E-05	1.635E-05	1.635E-05	1.635E-05	1.635E-05	1.635E-05
yt	1.568E-05	1.570E-05	1.573E-05	1.583E-05	1.609E-05	1.658E-05	1.706E-05	1.760E-05	1.793E-05	1.815E-05	1.827E-05	1.831E-05	1.842E-05	1.849E-05	1.849E-05
totals	6.264E+02	6.264E+02	6.264E+02	6.264E+02	6.264E+02	6.264E+02	6.264E+02	6.264E+02	6.264E+02	6.264E+02	6.264E+02	6.264E+02	6.264E+02	6.264E+02	6.264E+02

5 more years for cooling used fuel material															page 30
nuclide radioactivity, curies															fission products
basis ==15.1 kgHM (nm'd IHM 1/4-ass. at 1 MT)															
	initial	2.0 d	6.5 d	24.0 d	73.0 d	134.0 d	389.0 d	754.0 d	1119.0 d	1485.0 d	1757.0 d	1850.0 d	2215.0 d	2580.0 d	
h	3	1.025E+01	1.025E+01	1.024E+01	1.023E+01	1.021E+01	1.018E+01	1.014E+01	1.009E+01	1.003E+01	9.96E+00	9.89E+00	9.81E+00	9.72E+00	fission products
g	68	1.519E-17	1.511E-17	1.494E-17	1.428E-17	1.260E-17	1.078E-17	5.615E-18	2.207E-18	8.675E-19	3.401E-19	1.696E-19	1.337E-19	5.255E-20	
ge	68	1.519E-17	1.511E-17	1.494E-17	1.428E-17	1.260E-17	1.078E-17	5.614E-18	2.207E-18	8.674E-19	3.401E-19	1.696E-19	1.337E-19	5.254E-20	
g	71	3.714E-12	3.290E-12	2.504E-12	8.665E-13	4.438E-14	1.098E-15	2.112E-22	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	fission products
g	73m	6.415E-08	6.306E-08	6.065E-08	5.215E-08	3.416E-08	2.018E-08	2.233E-09	9.563E-11	4.095E-12	1.739E-13	1.662E-14	7.445E-15	3.188E-16	
as	73	6.415E-08	6.406E-08	6.065E-08	5.215E-08	3.416E-08	2.018E-08	2.233E-09	9.563E-11	4.095E-12	1.739E-13	1.662E-14	7.445E-15	3.188E-16	
as	74	6.347E-09	5.871E-09	4.269E-09	2.489E-09	3.681E-10	3.408E-11	1.632E-15	1.070E-21	7.017E-28	0.000E+00	0.000E+00	0.000E+00	0.000E+00	fission products
se	75	1.773E-06	1.753E-06	1.708E-06	1.544E-06	8.167E-07	1.868E-07	2.260E-08	2.734E-09	3.289E-10	6.815E-11	3.979E-11	4.814E-12	5.825E-13	
se	79	1.252E-03	1.252E-03	1.252E-03	1.252E-03	1.252E-03	1.252E-03	1.252E-03	1.252E-03	1.252E-03	1.252E-03	1.252E-03	1.252E-03	1.252E-03	fission products
kr	81	1.098E-08	1.098E-08	1.098E-08	1.098E-08	1.098E-08	1.098E-08	1.098E-08	1.098E-08	1.098E-08	1.098E-08	1.098E-08	1.098E-08	1.098E-08	
kr	83m	1.803E-05	1.774E-05	1.711E-05	1.486E-05	1.002E-05	6.137E-06	7.896E-07	4.195E-08	2.229E-09	1.175E-10	1.318E-11	6.241E-12	3.316E-13	
rb	83	2.425E-05	2.386E-05	2.302E-05	2.000E-05	1.348E-05	8.256E-06	1.062E-06	5.644E-08	2.999E-09	1.580E-10	1.774E-11	8.396E-12	4.461E-13	fission products
rb	84	7.056E-05	6.764E-05	6.151E-05	4.250E-05	1.510E-05	4.164E-06	1.908E-08	8.564E-12	3.844E-15	1.690E-18	5.407E-21	7.585E-22	3.405E-25	
kr	85	1.019E-02	1.019E-02	1.018E-02	1.015E-02	1.015E-02	1.015E-02	1.015E-02	1.015E-02	1.015E-02	1.015E-02	1.015E-02	1.015E-02	1.015E-02	
er	85	5.663E-06	5.544E-06	5.283E-06	4.382E-06	2.595E-06	1.352E-06	8.852E-08	1.788E-09	3.613E-11	7.222E-13	3.943E-14	1.459E-16	2.948E-16	fission products
rb	86	3.350E-03	3.310E-03	2.630E-03	1.372E-03	2.216E-04	2.290E-05	1.737E-09	2.199E-15	2.784E-21	3.396E-27	1.368E-31	0.000E+00	0.000E+00	
rb	87	2.085E-07	2.085E-07	2.085E-07	2.085E-07	2.085E-07	2.085E-07	2.085E-07	2.085E-07	2.085E-07	2.085E-07	2.085E-07	2.085E-07	2.085E-07	fission products
y	88	5.595E-03	5.481E-03	5.264E-03	4.787E-03	3.641E-03	2.461E-03	1.613E-03	9.593E-04	5.490E-04	3.145E-04	1.923E-04	1.135E-04	6.725E-05	
zr	88	2.320E-09	2.282E-09	2.198E-09	1.901E-09	1.265E-09	7.619E-10	9.151E-11	4.406E-12	2.121E-13	1.013E-14	1.056E-15	4.875E-16	2.347E-17	
sr	89	3.310E-02	3.220E-02	3.027E-02	2.381E-02	1.216E-02	5.266E-03	1.593E-04	1.066E-02	7.134E-05	4.709E-07	1.128E-08	3.351E-09	2.108E-11	fission products
y	89m	3.191E-02	3.104E-02	2.918E-02	2.296E-02	1.172E-02	5.076E-03	1.536E-04	1.028E-06	6.877E-09	4.539E-11	1.088E-12	3.037E-13	2.032E-15	
er	90	6.902E+02	6.910E+02	6.899E+02	6.891E+02	6.869E+02	6.842E+02	6.728E+02	6.568E+02	6.411E+02	6.259E+02	6.147E+02	6.110E+02	5.965E+02	5.823E+02
y	90	6.904E+02	6.903E+02	6.901E+02	6.893E+02	6.871E+02	6.843E+02	6.729E+02	6.569E+02	6.413E+02	6.260E+02	6.149E+02	6.111E+02	5.966E+02	5.824E+02
zr	91	4.745E-02	4.700E-02	4.530E-02	3.940E-02	2.500E-02	1.280E-02	6.840E-03	3.970E-03	2.240E-03	6.622E-04	3.977E-04	3.003E-04	3.977E-04	fission products
nb	91	8.836E-10	8.836E-10	8.836E-10	8.836E-10	8.836E-10	8.836E-10	8.836E-10	8.836E-10	8.836E-10	8.836E-10	8.836E-10	8.836E-10	8.836E-10	
nb	91m	2.798E-12	2.750E-12	2.598E-12	2.129E-12	1.218E-12	6.081E-13	3.332E-14	5.215E-16	8.163E-18	1.263E-19	5.703E-21	1.977E-22	3.095E-23	
nb	92	1.500E-12	1.500E-12	1.500E-12	1.500E-12	1.500E-12	1.500E-12	1.500E-12	1.500E-12	1.500E-12	1.500E-12	1.500E-12	1.500E-12	1.500E-12	fission products
zr	92	5.429E-02	5.429E-02	5.429E-02	5.429E-02	5.429E-02	5.429E-02	5.429E-02	5.429E-02	5.429E-02	5.429E-02	5.429E-02	5.429E-02	5.429E-02	
zr	93	2.354E-02	2.354E-02	2.354E-02	2.354E-02	2.354E-02	2.354E-02	2.354E-02	2.354E-02	2.354E-02	2.354E-02	2.354E-02	2.354E-02	2.354E-02	
nb	93m	1.954E-03	2.000E-03	2.011E-03	2.054E-03	2.174E-03	2.323E-03	2.932E-03	3.774E-03	4.580E-03	5.355E-03	5.909E-03	6.095E-03	6.803E-03	7.482E-03
mo	93	4.971E-09	4.971E-09	4.971E-09	4.971E-09	4.971E-09	4.971E-09	4.971E-09	4.969E-09	4.969E-09	4.968E-09	4.967E-09	4.967E-09	4.966E-09	4.965E-09
zr	94	4.463E-02	4.463E-02	4.463E-02	4.463E-02	4.463E-02	4.463E-02	4.463E-02	4.463E-02	4.463E-02	4.463E-02	4.463E-02	4.463E-02	4.463E-02	fission products
zr	95	1.749E-03	1.712E-03	1.631E-03	1.497E-03	1.398E-03	1.401E+02	2.959E-01	4.990E-01	9.598E-01	1.826E-04	9.610E-06	3.512E-06	6.754E-08	
nb	95	3.611E-03	3.598E-03	3.379E-03	2.822E-03	1.692E-03	8.667E-02	5.707E-01	1.135E+00	2.186E-02	4.158E-04	2.124E-05	7.748E-06	1.537E-07	
nb	95m	2.033E+01	1.960E+01	1.875E+01	1.544E+01	9.088E+00	4.895E+00	2.970E-01	5.713E-03	1.099E-04	2.090E-06	1.100E-07	4.020E-08	1.487E-11	fission products
zr	96	4.472E-02	4.472E-02	4.472E-02	4.472E-02	4.472E-02	4.472E-02	4.472E-02	4.472E-02	4.472E-02	4.472E-02	4.472E-02	4.472E-02	4.472E-02	
tc	95m	3.742E-12	3.658E-12	3.475E-12	2.849E-12	1.632E-12	8.162E-13	4.502E-14	7.114E-16	1.124E-17	1.756E-19	7.986E-21	2.776E-21	3.87E-23	
zr	96	2.330E-15	2.330E-15	2.330E-15	2.330E-15	2.330E-15	2.330E-15	2.330E-15	2.330E-15	2.330E-15	2.330E-15	2.330E-15	2.330E-15	2.330E-15	fission products
zr	97	1.141E-02	1.141E-02	1.141E-02	1.141E-02	1.141E-02	1.141E-02	1.141E-02	1.141E-02	1.141E-02	1.141E-02	1.141E-02	1.141E-02	1.141E-02	
tc	97m	2.528E-05	2.244E-05	2.149E-05	1.881E-05	1.295E-05	8.136E-06	1.166E-06	7.235E-08	4.487E-09	2.762E-10	3.479E-11	1.713E-11	1.063E-12	
tc	98	1.152E-07	1.152E-07	1.152E-07	1.152E-07	1.152E-07	1.152E-07	1.152E-07	1.152E-07	1.152E-07	1.152E-07	1.152E-07	1.152E-07	1.152E-07	fission products
zr	99	2.447E-01	2.447E-01	2.447E-01	2.447E-01	2.447E-01	2.447E-01	2.447E-01	2.447E-01	2.447E-01	2.447E-01	2.447E-01	2.447E-01	2.447E-01	
h	100	1.194E-01	1.194E-01	1.194E-01	1.194E-01	1.194E-01	1.194E-01	1.194E-01	1.194E-01	1.194E-01	1.194E-01	1.194E-01	1.194E-01	1.194E-01	
mo	100	8.614E-18	8.614E-18	8.614E-18	8.614E-18	8.614E-18	8.614E-18	8.614E-18	8.614E-18	8.614E-18	8.614E-18	8.614E-18	8.614E-18	8.614E-18	fission products
h	101	8.09E-09	8.09E-09	8.07E-09	7.97E-09	7.705E-09	7.507E-09	6.483E-09	5.256E-09	4.261E-09	3.452E-09	2.952E-09	2.798E-09	2.269E-09	
h	102	7.616E-07	7.610E-07	7.496E-07	7.097E-07	6.033E-07	4.896E-07	2.090E-07	6.198E-08	1.854E-08	5.662E-04	2.432E-04	1.845E-04	6.866E-05	
h	103	5.505E-05	5.505E-05	5.505E-05	5.505E-05	5.505E-05	5.505E-05	5.505E-05	5.505E-05	5.505E-05	5.505E-05	5.505E-05	5.505E-05	5.505E-05	fission products
h	103	4.925E+02	4.754E+02	4.391E+02	3.224E+02	1.357E+02	4.620E+01	5.114E-01	8.111E-04	1.287E-06	2.005E-09	1.644E-11	3.818E-12	5.046E-15	
h	103m	4.872E+02	4.703E+02	4.344E+02	3.189E+02	1.342E+02	4.570E+01	5.059E-01	8.024E-04	1.273E-06	1.984E-09	1.626E-11	3.478E-12	4.992E-15	
p	103	6.432E+06	6.827E+06	6.850E+06	2.755E+06	3.218E+07	2.672E-08	8.108E-13	2.768E-19	9.449E-26	0.000E+00	0.000E+00	0.000E+00	0.000E+00	fission products
h	104	7.743E-01	7.743E-01	7.743E-01	7.743E-01	7.743E-01	7.743E-01	7.743E-01	7.743E-01	7.743E-01	7.743E-01	7.743E-01	7.743E-01	7.743E-01	
h	106	1.647E+04	1.143E+04	1.133E+04	1.097E+04	1.001E+04	8.935E+03	5.554E+03	2.812E+03	1.424E+03	7.197E+02	4.334E+02	3.644E+02	1.845E+02	

y 91 2.696E+00 2.623E+00 2.200E+00 2.021E+00 1.131E+00 5.491E-01 2.677E-02 3.546E+04 4.697E+06 6.149E+08 8.145E+10 1.079E+11 1.429E+13
nb 91 2.297E+14 2.297E+14 2.297E+14 2.297E+14 2.295E+14 2.294E+14 2.287E+14 2.278E+14 2.268E+14 2.259E+14 2.252E+14 2.249E+14 2.240E+14 2.231E+14
nb 91m 2.095E+15 2.048E+15 1.946E+15 1.594E+15 9.123E+16 4.554E+16 2.495E+17 3.906E+19 6.114E+21 9.461E+23 2.318E+26 3.629E+28
nb 92 1.343E+14 1.343E+14 1.343E+14 1.343E+14 1.343E+14 1.343E+14 1.343E+14 1.343E+14 1.343E+14 1.343E+14 1.343E+14 1.343E+14 1.343E+14 1.343E+14
nb 92m 8.913E+17 7.775E+17 5.718E+17 1.731E+17 6.095E+19 9.458E+21 2.588E+28 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
zr 93 2.659E+06 2.659E+06 2.659E+06 2.659E+06 2.659E+06 2.659E+06 2.659E+06 2.659E+06 2.659E+06 2.659E+06 2.659E+06 2.659E+06 2.659E+06
nb 93m 3.463E+07 3.472E+07 3.491E+07 3.566E+07 3.774E+07 4.037E+07 5.091E+07 6.253E+07 7.953E+07 9.297E+07 1.026E+08 1.058E+08 1.181E+08 2.299E+06
mo 93 4.757E+13 4.757E+13 4.757E+13 4.757E+13 4.757E+13 4.757E+13 4.756E+13 4.755E+13 4.754E+13 4.754E+13 4.753E+13 4.752E+13 4.751E+13
zr 94 8.829E+08 8.829E+08 8.829E+08 8.829E+08 8.829E+08 8.828E+08 8.828E+08 8.827E+08 8.827E+08 8.827E+08 8.827E+08 8.827E+08 8.827E+08
nb 95 8.816E+00 8.627E+00 8.217E+00 6.779E+00 4.000E+00 2.067E+00 1.308E+01 2.515E+03 4.836E+05 9.202E+07 4.843E+08 1.770E+08 3.404E+10 6.546E+12
nb 95 1.732E+01 1.697E+01 1.620E+01 1.535E+01 8.114E+00 4.252E+00 2.737E+00 1.494E+00 1.048E+00 1.994E+06 1.019E+07 3.166E+08 7.368E+10 1.419E+11
nb 95m 2.960E+02 2.866E+02 2.759E+02 2.283E+02 1.343E+02 6.939E+03 4.390E+04 8.443E+06 1.624E+07 3.089E+09 1.626E+10 5.941E+11 1.143E+12 2.198E+14
tc 95 7.009E+16 6.852E+16 6.510E+16 5.366E+16 3.058E+16 1.529E+16 8.433E+18 1.333E+19 2.106E+21 3.291E+23 1.496E+24 5.200E+25 8.218E+27 0.000E+00
tc 95m 1.560E+14 1.525E+14 1.449E+14 1.188E+14 6.806E+15 3.403E+15 1.877E+16 2.966E+18 4.687E+20 7.324E+22 3.330E+23 1.157E+23 1.829E+25 2.890E+27
zr 96 2.312E+17 2.312E+17 2.312E+17 2.325E+17 2.528E+17 2.774E+17 4.037E+17 5.091E+17 6.253E+17 7.953E+17 9.297E+17 1.026E+18 1.058E+18 1.181E+18
tc 97 1.189E+14 1.189E+14 1.190E+14 1.191E+14 1.195E+14 1.198E+14 1.202E+14 1.203E+14 1.203E+14 1.203E+14 1.203E+14 1.203E+14 1.203E+14 1.203E+14
tc 97m 1.240E+08 1.222E+08 1.180E+08 1.033E+08 7.113E+09 4.469E+09 6.407E+10 3.974E+11 2.465E+12 1.517E+13 1.911E+14 9.411E+15 5.837E+16 3.620E+17
tc 98 1.035E+09 1.035E+09 1.035E+09 1.035E+09 1.035E+09 1.035E+09 1.035E+09 1.035E+09 1.035E+09 1.035E+09 1.035E+09 1.035E+09 1.035E+09
tc 99 8.007E+05 8.007E+05 8.007E+05 8.007E+05 8.007E+05 8.007E+05 8.007E+05 8.007E+05 8.007E+05 8.007E+05 8.007E+05 8.007E+05 8.007E+05
rh 99 1.763E+18 1.618E+18 1.333E+18 6.275E+19 7.611E+20 5.507E+21 9.397E+26 1.407E+32 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
mo100 7.746E+07 7.746E+07 7.746E+07 7.746E+07 7.746E+07 7.746E+07 7.746E+07 7.746E+07 7.746E+07 7.746E+07 7.746E+07 7.746E+07 7.746E+07
rh101 1.507E+08 1.506E+08 1.502E+08 1.487E+08 1.445E+08 1.395E+08 1.205E+08 9.770E+09 7.920E+09 6.417E+09 5.487E+09 5.202E+09 4.217E+09 3.418E+09
rh102 3.044E+04 3.024E+04 2.978E+04 2.809E+04 2.385E+04 1.143E+04 8.305E+05 5.523E+05 7.367E+06 2.250E+06 9.664E+07 7.329E+07 2.736E+07 1.294E+07
rh102m 3.213E+04 3.210E+04 3.203E+04 3.175E+04 3.097E+04 3.002E+04 2.638E+04 2.192E+04 1.822E+04 1.513E+04 1.318E+04 1.257E+04 1.045E+04 8.684E+05
rh103 1.641E+00 1.584E+00 1.473E+00 1.074E+00 4.522E+01 1.540E+01 3.092E+02 4.288E+09 6.683E+12 5.479E+14 1.060E+15 1.682E+17 2.668E+20
rh103m 1.124E+01 1.085E+01 1.002E+01 7.355E+02 3.566E+02 1.054E+02 1.167E+04 1.851E+07 2.936E+10 4.576E+13 3.751E+15 7.259E+16 1.151E+18 1.826E+21
pd103 7.578E+05 7.895E+05 1.151E+06 1.520E+06 1.935E+06 2.517E+06 3.001E+06 3.491E+06 3.972E+06 4.451E+06 4.932E+06 5.413E+06 5.894E+06 6.375E+06
ag105 1.397E+14 1.351E+14 1.253E+14 9.339E+15 4.103E+15 1.473E+15 2.038E+17 1.448E+20 9.706E+23 2.083E+25 2.166E+27 4.545E+28 9.918E+31 2.164E+33
ru106 6.820E+01 6.794E+01 6.737E+01 6.521E+01 5.952E+01 5.312E+01 3.302E+01 1.672E+01 8.467E+02 4.279E+02 2.577E+02 2.167E+02 1.097E+02 5.556E+03
rh106 1.101E+02 1.097E+02 1.088E+02 1.053E+02 9.610E+01 8.577E+01 5.532E+01 2.700E+01 1.367E+01 6.909E+00 4.161E+00 3.499E+00 1.772E+00 8.970E+01

5 more years for cooling used fuel material										fission products										page 36									
nuclide thermal power, watts										nuclide thermal power, watts										nuclide thermal power, watts									
basis --15.1 kgHM (nm/d IHM 1/4-ass. at 1 MT)										basis --15.1 kgHM (nm/d IHM 1/4-ass. at 1 MT)										basis --15.1 kgHM (nm/d IHM 1/4-ass. at 1 MT)									
initial 2.0 d 6.5 d										initial 2.0 d 6.5 d										initial 2.0 d 6.5 d									
adi06m	1.707E+18	1.444E+18	9.904E+19	2.289E+19	3.785E+21	2.293E+23	1.229E+32	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
pd107	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	2.640E+07	
adi108	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	2.269E+08	
adi108m	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	6.814E+07	
adi109m	3.110E+06	3.100E+06	3.079E+06	2.999E+06	2.787E+06	2.543E+06	7.736E+06	1.002E+06	5.789E+07	3.340E+07	2.220E+07	1.930E+07	1.116E+07	6.447E+08															
cd109	7.540E+07	7.518E+07	7.467E+07	7.273E+07	6.757E+07	6.165E+07	4.203E+07	2.429E+07	1.404E+07	8.100E+08	5.383E+08	4.681E+08	2.705E+08	1.563E+08															
adi110	8.866E+03	8.861E+03	8.708E+03	8.295E+03	7.240E+03	6.113E+03	3.012E+03	1.094E+03	3.972E+04	1.439E+04	6.762E+05	5.224E+05	1.897E+05	6.888E+06															
adi110m	1.529E+00	1.521E+00	1.502E+00	1.430E+00	1.249E+00	1.054E+00	5.194E+01	1.886E+01	6.850E+02	2.481E+02	1.166E+02	9.008E+03	3.271E+03	1.188E+03															
adi111	7.795E+09	6.725E+09	3.750E+09	1.358E+09	4.357E+08	1.358E+08	3.001E+07	1.491E+06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00															
adi113	1.367E+18	1.367E+18	1.367E+18	1.367E+18	1.367E+18	1.367E+18	1.367E+18	1.367E+18	1.367E+18	1.367E+18	1.367E+18	1.367E+18	1.367E+18	1.367E+18															
adi113m	2.136E+05	2.136E+05	2.134E+05	2.129E+05	2.115E+05	2.098E+05	2.027E+05	1.930E+05	1.838E+05	1.749E+05	1.686E+05	1.665E+05	1.586E+05	1.510E+05															
ini12m	2.382E+11	2.354E+11	2.291E+11	2.062E+11	1.535E+11	1.063E+11	2.288E+12	2.540E+13	2.819E+14	3.110E+15	6.044E+16	3.452E+16	3.832E+17	4.253E+18															
ini13	1.809E+12	1.787E+12	1.739E+12	1.645E+12	1.465E+12	1.071E+13	1.738E+13	7.213E+14	2.141E+15	2.362E+16	4.590E+17	6.241E+17	2.909E+18	3.229E+19															
ini14	6.488E+07	6.309E+07	5.923E+07	4.636E+07	2.335E+07	9.939E+08	2.798E+09	1.689E+11	1.019E+13	6.067E+16	1.346E+17	3.661E+18	2.210E+20	1.334E+22															
ini14m	1.925E+07	1.872E+07	1.757E+07	1.376E+07	6.927E+08	2.949E+08	8.302E+10	5.011E+12	3.024E+14	1.800E+16	3.994E+18	1.086E+18	6.557E+21	3.957E+23															
cd115m	1.388E+03	1.346E+03	1.255E+03	9.557E+04	4.460E+04	9.724E+06	1.727E+04	3.270E+06	1.119E+08	8.827E+11	1.289E+13	1.874E+15	4.410E+16	1.509E+18	5.162E+21														
ini15	3.391E+16	3.391E+16	3.391E+16	3.391E+16	3.391E+16	3.391E+16	3.391E+16	3.391E+16	3.391E+16	3.391E+16	3.391E+16	3.391E+16	3.391E+16	3.391E+16															
ini15m	7.738E+08	7.505E+08	6.994E+08	5.327E+08	2.486E+08	9.624E+09	1.822E+10	6.235E+13	2.133E+15	7.185E+18	1.045E+19	2.458E+20	8.410E+23	2.877E+25															
cd116	1.317E+19	1.317E+19	1.317E+19	1.317E+19	1.317E+19	1.317E+19	1.317E+19	1.317E+19	1.317E+19	1.317E+19	1.317E+19	1.317E+19	1.317E+19	1.317E+19															
ini17m	1.861E+08	1.681E+08	1.336E+08	5.477E+09	4.508E+10	2.013E+11	4.564E+17	3.804E+25	3.170E+33	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00															
ini19m	1.932E+03	1.932E+03	1.932E+03	1.932E+03	1.932E+03	1.932E+03	1.932E+03	1.932E+03	1.932E+03	1.932E+03	1.932E+03	1.932E+03	1.932E+03	1.932E+03															
adi20m	5.050E+18	3.970E+18	2.310E+18	2.812E+19	7.730E+22	5.014E+25	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00															
adi21	3.836E+04	3.835E+04	3.835E+04	3.832E+04	3.824E+04	3.813E+04	3.772E+04	3.713E+04	3.654E+04	3.597E+04	3.555E+04	3.541E+04	3.485E+04	3.431E+04															
adi21m	1.621E+04	1.621E+04	1.621E+04	1.619E+04	1.616E+04	1.612E+04	1.594E+04	1.569E+04	1.544E+04	1.520E+04	1.502E+04	1.486E+04	1.473E+04	1.450E+04															
te121	7.727E+08	3.310E+08	1.772E+08	6.659E+04	5.414E+08	1.484E+08	1.426E+08	3.055E+09	6.544E+10	1.396E+10	4.428E+11	2.990E+11	6.405E+12	3.721E+12															
te121m	3.691E+08	3.663E+08	3.591E+08	3.336E+08	2.712E+08	2.097E+08	7.145E+09	1.531E+09	3.279E+10	6.994E+11	2.281E+11	1.489E+11	3.209E+12	6.874E+13															
ini123	3.702E+02	3.630E+02	3.575E+02	3.255E+02	2.502E+02	1.804E+02	4.593E+03	6.481E+04	9.145E+05	1.284E+05	2.983E+06	1.681E+06	1.191E+07	2.556E+07	3.607E+08														
ini123m	0.033E+02	0.033E+02	0.033E+02	0.033E+02	0.033E+02	0.033E+02	0.033E+02	0.033E+02	0.033E+02	0.033E+02	0.033E+02	0.033E+02	0.033E+02	0.033E+02															
adi24	1.488E+02	1.454E+02	1.381E+02	1.129E+02	6.422E+03	3.181E+03	1.688E+04	2.525E+06	3.777E+08	5.583E+10	2.436E+11	8.350E+12	1.249E+13	1.868E+15															
ini125	4.974E+08	4.308E+08	3.117E+08	8.856E+09	2.632E+10	3.253E+12	3.542E+20	1.417E+31	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00															
adi25m	6.965E+02	6.965E+02	6.965E+02	6.965E+02	6.965E+02	6.965E+02	6.965E+02	6.965E+02	6.965E+02	6.965E+02	6.965E+02	6.965E+02	6.965E+02	6.965E+02															
te155m	6.618E+02	6.612E+02	4.599E+02	2.500E+02	2.039E+02	2.355E+02	2.558E+02	2.68E+02	2.544E+02	2.744E+02	2.899E+02	3.032E+02	3.032E+02	1.013E+02	7.883E+03														
ini125	1.655E+10	1.425E+10	1.172E+10	9.557E+11	5.395E+11	2.647E+11	1.351E+12	1.909E+14	2.698E+16	3.768E+18	1.576E+19	5.325E+20	7.526E+22	1.064E+23															
ini126	7.323E+06	7.323E+06	7.323E+06	7.323E+06	7.323E+06	7.323E+06	7.323E+06	7.323E+06	7.323E+06	7.323E+06	7.323E+06	7.323E+06	7.323E+06	7.323E+06															
te136m	1.987E+05	1.986E+05	1.980E+05	1.963E+05	1.935E+05	1.905E+05	1.875E+05	1.845E+05	1.815E+05	1.785E+05	1.755E+05	1.725E+05	1.695E+05	1.665E+05															
ini136m	8.200E+05	8.200E+05	8.200E+05	8.200E+05	8.200E+05	8.200E+05	8.200E+05	8.200E+05	8.200E+05	8.200E+05	8.200E+05	8.200E+05	8.200E+05	8.200E+05															
ini126	2.586E+10	2.323E+10	1.875E+10	1.434E+11	5.156E+12	1.963E+13	2.270E+19	7.215E+28	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00															
adi27	2.168E+18	1.512E+18	6.726E+19	2.880E+20	4.247E+24	7.220E+29	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00															
te137m	7.731E+02	7.731E+02	7.731E+02	7.731E+02	7.731E+02	7.731E+02	7.731E+02	7.731E+02	7.731E+02	7.731E+02	7.731E+02	7.731E+02	7.731E+02	7.731E+02															
adi27m	2.761E+02	2.766E+02	2.499E+02	2.770E+02	2.36E+02	1.177E+02	2.27E+03	2.284E+04	2.245E+05	1.87E+06	3.87E+07	1.47E+07	1.07E+08	2.069E+09															
xe127	4.632E+08	4.594E+08	4.095E+08	2.933E+08	1.154E+08	3.611E+09	2.810E+11	2.692E+14	2.579E+17	2.425E+20	1.365E+22	2.323E+23	2.226E+26	2.312E+29															
te128	1.914E+18	1.914E+18	1.914E+18	1.914E+18	1.914E+18	1.914E+18	1.914E+18	1.914E+18	1.914E+18	1.914E+18	1.914E+18	1.914E+18	1.914E+18	1.914E+18															
te128m	1.452E+02	1.393E+02	1.270E+02	8.848E+01	3.220E+01	1.951E+01	4.750E+01	2.550E+01	1.410E+01	7.200E+01	1.200E+01	6.633E+01	3.865E+01	2.072E+01	1.144E+01														


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1 yb169 3.688E-12 3.532E-12 3.204E-12 2.194E-12 7.594E-13 2.027E-13 8.118E-16 3.004E-19 1.112E-22 4.026E-26 1.116E-28 1.490E-29 5.514E-33 0.000E+00
0 5 more years for cooling used fuel material fission products page 38
    nuclide thermal power, watts
    basis --15.1 kgHM (nrm'd IHM 1/4-ass. at 1 MT)
    initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d
    tml70 8.897E-06 8.801E-06 8.590E-06 7.817E-06 6.003E-06 4.321E-06 1.093E-06 1.528E-07 2.137E-08 2.972E-09 6.861E-10 4.156E-10 5.811E-11 8.126E-12
    tml71 3.745E-07 3.738E-07 3.721E-07 3.657E-07 3.484E-07 3.281E-07 2.550E-07 1.777E-07 1.239E-07 8.630E-08 6.595E-08 6.016E-08 4.194E-08 2.924E-08
    total 2.651E+02 2.635E+02 2.601E+02 2.475E+02 2.182E+02 1.902E+02 1.191E+02 6.833E+01 4.326E+01 3.025E+01 2.463E+01 2.320E+01 1.915E+01 1.667E+01
1
0 5 more years for cooling used fuel material fission products page 39
    element thermal power, watts
    basis --15.1 kgHM (nrm'd IHM 1/4-ass. at 1 MT)
    initial 2.0 d 6.5 d 24.0 d 73.0 d 134.0 d 389.0 d 754.0 d 1119.0 d 1485.0 d 1757.0 d 1850.0 d 2215.0 d 2580.0 d
    h 3.458E-04 3.457E-04 3.456E-04 3.445E-04 3.419E-04 3.387E-04 3.257E-04 3.079E-04 2.910E-04 2.751E-04 2.639E-04 2.600E-04 2.458E-04 2.324E-04
    ga 1.522E-19 1.515E-19 1.497E-19 1.432E-19 1.263E-19 1.081E-19 5.628E-20 2.212E-20 8.696E-21 3.409E-21 1.700E-21 1.340E-21 5.268E-22 2.071E-22
    ge 2.516E-11 2.473E-11 2.379E-11 2.045E-11 1.340E-11 7.914E-12 8.758E-13 3.751E-14 1.606E-15 6.818E-17 6.516E-18 2.920E-18 1.250E-19 5.355E-21
    ga 4.224E-11 3.928E-11 3.341E-11 1.812E-11 4.209E-12 1.373E-12 1.291E-13 5.529E-15 2.367E-16 1.005E-17 9.605E-19 4.304E-19 1.843E-20 7.892E-22
    se 4.185E-07 4.184E-07 4.183E-07 4.179E-07 4.170E-07 4.162E-07 4.147E-07 4.143E-07 4.142E-07 4.142E-07 4.142E-07 4.142E-07 4.142E-07 4.142E-07
    kr 1.528E-01 1.527E-01 1.526E-01 1.521E-01 1.508E-01 1.492E-01 1.426E-01 1.337E-01 1.254E-01 1.175E-01 1.120E-01 1.102E-01 1.033E-01 9.690E-02
    rb 1.564E-05 1.454E-05 1.233E-05 6.520E-06 1.135E-06 1.540E-07 3.375E-09 2.682E-10 1.099E-10 1.015E-10 1.010E-10 1.010E-10 1.010E-10 1.010E-10
    sr 1.949E+00 1.918E+00 1.851E+00 1.626E+00 1.219E+00 9.768E-01 7.864E-01 7.623E-01 7.441E-01 7.264E-01 7.135E-01 7.091E-01 6.923E-01 6.758E-01
    y 6.505E+00 6.441E+00 6.304E+00 5.834E+00 4.931E+00 4.334E+00 3.748E+00 3.634E+00 3.547E+00 3.462E+00 3.401E+00 3.380E+00 3.300E+00 3.221E+00
    zr 8.816E+00 8.627E+00 8.217E+00 6.799E+00 4.000E+00 2.067E+00 1.308E-01 2.517E-03 5.102E-05 3.579E-06 2.707E-06 2.676E-06 2.659E-06 2.659E-06
    nb 1.735E-01 1.700E-01 1.623E-01 1.355E-01 8.127E-02 4.259E-02 2.741E-01 5.453E-03 1.059E-04 3.015E-06 1.216E-06 1.184E-06 1.270E-06 1.387E-06
    mo 4.758E-13 4.758E-13 4.758E-13 4.758E-13 4.757E-13 4.757E-13 4.756E-13 4.755E-13 4.754E-13 4.754E-13 4.754E-13 4.753E-13 4.752E-13
    tc 8.008E-05 8.008E-05 8.008E-05 8.008E-05 8.007E-05 8.007E-05 8.007E-05 8.007E-05 8.007E-05 8.007E-05 8.007E-05 8.006E-05 8.006E-05
    ru 2.323E+00 2.264E+00 2.137E+00 1.726E+00 1.047E+00 6.852E-01 3.319E-01 1.672E-01 8.467E-02 4.279E-02 2.577E-02 2.167E-02 1.097E-02 5.556E-03
    rh 1.102E+02 1.098E+02 1.089E+02 1.054E+02 9.613E+01 8.578E+01 5.332E+01 2.700E+01 1.367E+01 6.909E+00 4.161E+00 3.499E+00 1.772E+00 8.971E-01
    pd 2.648E-07 2.647E-07 2.646E-07 2.643E-07 2.640E-07 2.640E-07 2.640E-07 2.640E-07 2.640E-07 2.640E-07 2.640E-07 2.640E-07 2.640E-07 2.640E-07
    ag 1.538E+00 1.529E+00 1.510E+00 1.439E+00 1.256E+00 1.060E+00 5.225E-01 1.897E-01 6.890E-02 2.495E-02 1.173E-02 9.061E-03 3.291E-03 1.195E-03
    cd 1.410E-03 1.368E-03 1.277E-03 9.777E-04 4.678E-04 1.943E-04 2.396E-05 1.955E-05 1.852E-05 1.757E-05 1.692E-05 1.670E-05 1.588E-05 1.511E-05
    in 9.187E-07 8.931E-07 8.380E-07 6.545E-07 3.276E-07 1.385E-07 3.813E-09 2.278E-11 1.628E-13 4.243E-15 9.611E-16 6.892E-16 3.775E-16 3.434E-16
    sn 3.951E-02 3.910E-02 3.821E-02 3.493E-02 2.720E-02 2.000E-02 5.906E-03 1.508E-03 7.555E-04 5.895E-04 5.463E-04 5.371E-04 5.137E-04 4.998E-04
    ab 7.116E-01 7.103E-01 7.074E-01 6.966E-01 6.690E-01 6.386E-01 5.333E-01 4.148E-01 3.227E-01 2.509E-01 2.081E-01 1.952E-01 1.519E-01 1.182E-01
    te 1.674E-01 1.650E-01 1.601E-01 1.430E-01 1.096E-01 8.451E-02 4.360E-02 2.847E-02 2.161E-02 1.675E-02 1.389E-02 1.303E-02 1.013E-02 7.883E-03
    i 3.903E-07 3.802E-07 3.629E-07 3.346E-07 3.266E-07 3.264E-07 3.264E-07 3.264E-07 3.264E-07 3.264E-07 3.264E-07 3.264E-07 3.264E-07 3.264E-07
    xe 5.436E-07 4.869E-07 3.809E-07 1.514E-07 1.847E-08 3.806E-09 2.810E-11 2.692E-14 2.579E-17 2.425E-20 1.365E-22 2.323E-23 2.226E-26 2.132E-29
    cs 2.715E+01 2.710E+01 2.700E+01 2.660E+01 2.551E+01 2.423E+01 1.956E+01 1.452E+01 1.090E+01 8.298E+00 6.849E+00 6.430E+00 5.083E+00 4.108E+00
    ba 7.257E+00 7.256E+00 7.254E+00 7.246E+00 7.224E+00 7.196E+00 7.081E+00 6.920E+00 6.762E+00 6.608E+00 6.495E+00 6.457E+00 6.310E+00 6.167E+00
    la 1.150E-03 1.031E-03 8.076E-04 3.126E-04 2.175E-05 7.900E-07 6.269E-11 6.194E-11 6.194E-11 6.194E-11 6.194E-11 6.194E-11 6.193E-11 6.193E-11
    ce 6.585E+00 6.545E+00 6.456E+00 6.134E+00 5.372E+00 4.603E+00 2.468E+00 1.016E+00 4.179E-01 1.715E-01 8.850E-02 7.058E-02 2.904E-02 1.195E-02
    pr 7.118E+01 7.083E+01 7.006E+01 6.714E+01 5.960E+01 5.138E+01 2.763E+01 1.137E+01 4.678E+00 1.920E+00 9.907E-01 7.901E-01 3.251E-01 1.338E-01
    nd 6.746E-06 5.946E-06 4.475E-06 1.485E-06 6.724E-08 1.430E-09 1.969E-13 2.052E-13 2.088E-13 2.102E-13 2.107E-13 2.108E-13 2.110E-13 2.111E-13
    pm 1.173E+00 1.164E+00 1.146E+00 1.084E+00 9.689E-01 8.886E-01 7.200E-01 5.527E-01 4.244E-01 3.257E-01 2.675E-01 2.501E-01 1.921E-01 1.475E-01
    sm 1.314E-03 1.314E-03 1.314E-03 1.314E-03 1.312E-03 1.311E-03 1.304E-03 1.294E-03 1.284E-03 1.274E-03 1.267E-03 1.264E-03 1.255E-03 1.245E-03
    eu 1.921E+00 1.920E+00 1.918E+00 1.910E+00 1.889E+00 1.863E+00 1.758E+00 1.619E+00 1.491E+00 1.373E+00 1.291E+00 1.264E+00 1.165E+00 1.073E+00
    gd 1.719E-04 1.709E-04 1.687E-04 1.604E-04 1.393E-04 1.168E-04 5.600E-05 1.955E-05 6.825E-06 2.376E-06 1.084E-06 8.293E-07 2.895E-07 1.011E-07
    tb 2.523E-02 2.475E-02 2.371E-02 2.005E-02 1.253E-02 6.983E-03 6.059E-04 1.840E-05 6.490E-07 1.121E-07 9.645E-08 9.564E-08 9.479E-08 9.441E-08
    dy 6.929E-09 6.863E-09 6.716E-09 6.175E-09 4.881E-09 3.642E-09 1.071E-09 1.857E-10 3.220E-11 5.557E-12 1.506E-12 9.637E-13 1.671E-13 2.898E-14
    ho 1.367E-07 1.367E-07 1.367E-07 1.367E-07 1.367E-07 1.367E-07 1.366E-07 1.365E-07 1.364E-07 1.364E-07 1.363E-07 1.363E-07 1.362E-07 1.361E-07
    er 4.314E-13 3.722E-13 2.670E-13 7.339E-14 1.973E-15 2.187E-17 1.468E-25 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
    tm 9.272E-06 9.176E-06 8.964E-06 8.184E-06 6.352E-06 4.649E-06 1.348E-06 3.306E-07 1.453E-07 8.927E-08 6.664E-08 6.058E-08 4.200E-08 2.925E-08
    yb 3.688E-12 3.532E-12 3.204E-12 2.194E-12 7.594E-13 2.027E-13 8.118E-16 3.004E-19 1.112E-22 4.026E-26 1.116E-28 1.490E-29 5.514E-33 0.000E+00
    totals 2.651E+02 2.635E+02 2.601E+02 2.475E+02 2.182E+02 1.902E+02 1.191E+02 6.833E+01 4.326E+01 3.025E+01 2.463E+01 2.320E+01 1.915E+01 1.667E+01
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APPENDIX C.

MOX FUEL ROD NUCLIDE WEIGHT FRACTIONS AND ACTIVITIES

APPENDIX C. MOX FUEL ROD NUCLIDE WEIGHT FRACTIONS AND ACTIVITIES

Table C-1. MOX Fuel Rod B4 (high Pu): Nuclide mass in grams per MTIHM

	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ac225	1.169E-12	1.215E-12	1.217E-12	1.232E-12	1.246E-12
ac227	7.377E-10	3.125E-09	3.255E-09	3.769E-09	4.286E-09
ag105	9.491E-15	2.200E-27	4.618E-28	1.008E-30	2.199E-33
ag107	1.543E-04	4.958E-04	5.142E-04	5.861E-04	6.581E-04
ag108	7.206E-13	7.153E-13	7.153E-13	7.140E-13	7.126E-13
ag108m	8.011E-04	7.952E-04	7.952E-04	7.939E-04	7.926E-04
ag109	2.314E+02	2.314E+02	2.314E+02	2.314E+02	2.314E+02
ag109m	2.195E-10	1.624E-11	1.412E-11	8.163E-12	4.716E-12
ag110	2.327E-08	1.897E-10	1.466E-10	5.321E-11	1.933E-11
ag110m	1.501E+00	1.224E-02	9.451E-03	3.432E-03	1.246E-03
ag111	1.708E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
al27	4.876E-14	4.876E-14	4.876E-14	4.876E-14	4.876E-14
am241	4.308E+02	1.495E+03	1.545E+03	1.736E+03	1.917E+03
am242	5.635E-05	5.505E-05	5.498E-05	5.471E-05	5.444E-05
am242m	4.368E+00	4.267E+00	4.261E+00	4.241E+00	4.220E+00
am243	3.849E+02	3.848E+02	3.847E+02	3.847E+02	3.847E+02
am244	2.919E-15	2.024E-15	1.985E-15	1.838E-15	1.702E-15
am245	3.154E-14	7.391E-16	6.040E-16	2.740E-16	1.242E-16
ar36	6.445E-14	6.445E-14	6.445E-14	6.445E-14	6.445E-14
ar38	6.862E-14	6.862E-14	6.862E-14	6.862E-14	6.862E-14
ar39	1.202E-16	1.188E-16	1.187E-16	1.184E-16	1.180E-16
ar40	7.258E-14	7.258E-14	7.258E-14	7.258E-14	7.258E-14
as73	1.565E-10	4.988E-17	2.235E-17	9.570E-19	4.098E-20
as74	1.962E-12	0.000E+00	0.000E+00	0.000E+00	0.000E+00
as75	1.898E-01	1.898E-01	1.898E-01	1.898E-01	1.898E-01
au197	2.289E-13	2.289E-13	2.289E-13	2.289E-13	2.289E-13
b10	6.123E-11	3.283E-10	3.426E-10	3.989E-10	4.551E-10
b11	6.961E-08	6.961E-08	6.961E-08	6.961E-08	6.961E-08
ba130	1.896E-13	1.896E-13	1.896E-13	1.896E-13	1.896E-13
ba131	4.764E-18	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba132	3.311E-04	3.311E-04	3.311E-04	3.311E-04	3.311E-04
ba133	2.104E-04	1.539E-04	1.513E-04	1.417E-04	1.326E-04
ba134	1.188E+02	2.470E+02	2.497E+02	2.582E+02	2.644E+02
ba135	5.269E-01	5.280E-01	5.281E-01	5.284E-01	5.286E-01
ba136	5.189E+01	5.189E+01	5.189E+01	5.189E+01	5.189E+01
ba136m	3.638E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba137	9.128E+01	2.705E+02	2.795E+02	3.146E+02	3.489E+02

Table C-1. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
bal37m	2.643E-04	2.369E-04	2.355E-04	2.302E-04	2.249E-04
ba138	1.726E+03	1.726E+03	1.726E+03	1.726E+03	1.726E+03
ba140	1.537E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00
be10	1.226E-04	1.226E-04	1.226E-04	1.226E-04	1.226E-04
be9	2.370E-06	2.370E-06	2.370E-06	2.370E-06	2.370E-06
bi208	1.121E-15	1.121E-15	1.121E-15	1.121E-15	1.121E-15
bi209	1.026E-10	2.354E-10	2.427E-10	2.715E-10	3.006E-10
bi210	3.253E-14	3.318E-14	3.351E-14	3.522E-14	3.767E-14
bi210m	1.493E-15	1.493E-15	1.493E-15	1.493E-15	1.493E-15
bi211	1.191E-16	5.440E-16	5.556E-16	6.560E-16	7.457E-16
bi212	1.816E-10	1.144E-09	1.186E-09	1.331E-09	1.453E-09
bi213	3.504E-15	3.642E-15	3.648E-15	3.691E-15	3.733E-15
bk247	5.591E-13	5.578E-13	5.578E-13	5.575E-13	5.572E-13
bk248	2.315E-11	1.606E-11	1.575E-11	1.458E-11	1.350E-11
bk249	8.276E-06	1.939E-07	1.586E-07	7.192E-08	3.262E-08
bk250	2.713E-15	3.515E-17	2.790E-17	1.139E-17	4.785E-18
br79	3.356E-03	3.424E-03	3.428E-03	3.442E-03	3.457E-03
br81	2.591E+01	2.591E+01	2.591E+01	2.591E+01	2.591E+01
c12	7.655E-02	7.655E-02	7.655E-02	7.655E-02	7.655E-02
c13	1.209E+01	1.209E+01	1.209E+01	1.209E+01	1.209E+01
c14	3.707E-04	3.705E-04	3.705E-04	3.704E-04	3.704E-04
ca40	7.206E-14	7.206E-14	7.206E-14	7.206E-14	7.206E-14
ca41	4.008E-17	4.008E-17	4.008E-17	4.008E-17	4.008E-17
ca42	7.602E-14	7.602E-14	7.602E-14	7.602E-14	7.602E-14
ca43	7.661E-14	7.661E-14	7.661E-14	7.661E-14	7.661E-14
ca44	8.058E-14	8.058E-14	8.058E-14	8.058E-14	8.058E-14
ca46	8.302E-14	8.302E-14	8.302E-14	8.302E-14	8.302E-14
ca48	8.659E-14	8.659E-14	8.659E-14	8.659E-14	8.659E-14
cd106	3.078E-13	3.078E-13	3.078E-13	3.078E-13	3.078E-13
cd108	1.643E-03	1.643E-03	1.643E-03	1.643E-03	1.643E-03
cd109	2.209E-04	1.635E-05	1.422E-05	8.216E-06	4.748E-06
cd110	1.527E+02	1.542E+02	1.542E+02	1.542E+02	1.542E+02
cd111	7.278E+01	7.278E+01	7.278E+01	7.278E+01	7.278E+01
cd112	3.424E+01	3.424E+01	3.424E+01	3.424E+01	3.424E+01
cd113	3.966E-01	3.966E-01	3.966E-01	3.966E-01	3.966E-01
cd113m	5.619E-03	4.450E-03	4.395E-03	4.184E-03	3.984E-03
cd114	3.650E+01	3.650E+01	3.650E+01	3.650E+01	3.650E+01
cd115m	7.133E-04	1.399E-15	3.292E-16	1.126E-18	3.853E-21

Table C-1. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
cd116	1.220E+01	1.220E+01	1.220E+01	1.220E+01	1.220E+01
ce136	2.271E-13	2.271E-13	2.271E-13	2.271E-13	2.271E-13
ce138	1.164E-05	1.164E-05	1.164E-05	1.164E-05	1.164E-05
ce139	1.641E-03	2.660E-07	1.666E-07	2.650E-08	4.216E-09
ce140	1.636E+03	1.636E+03	1.636E+03	1.636E+03	1.636E+03
ce141	2.270E-01	2.032E-17	2.798E-18	1.166E-21	4.862E-25
ce142	1.422E+03	1.422E+03	1.422E+03	1.422E+03	1.422E+03
ce144	2.102E+02	3.101E+00	2.473E+00	1.018E+00	4.187E-01
cf248	1.491E-11	4.066E-13	3.352E-13	1.570E-13	7.351E-14
cf249	8.844E-06	1.679E-05	1.682E-05	1.687E-05	1.687E-05
cf250	4.207E-06	3.272E-06	3.228E-06	3.061E-06	2.903E-06
cf251	2.083E-06	2.076E-06	2.075E-06	2.074E-06	2.072E-06
cf252	6.355E-07	1.833E-07	1.715E-07	1.320E-07	1.015E-07
cf253	3.692E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cf254	1.857E-12	4.423E-21	1.524E-21	2.327E-23	3.554E-25
cl35	6.019E-14	6.019E-14	6.019E-14	6.019E-14	6.019E-14
cl36	3.264E-15	3.264E-15	3.264E-15	3.264E-15	3.264E-15
cl37	6.743E-14	6.743E-14	6.743E-14	6.743E-14	6.743E-14
cm240	1.960E-11	9.339E-31	8.579E-32	0.000E+00	0.000E+00
cm241	2.794E-08	3.477E-24	4.871E-25	2.176E-28	9.722E-32
cm242	2.199E+01	2.495E-02	2.041E-02	1.303E-02	1.143E-02
cm243	1.859E+00	1.660E+00	1.650E+00	1.612E+00	1.573E+00
cm244	1.483E+02	1.236E+02	1.224E+02	1.179E+02	1.135E+02
cm245	1.411E+01	1.411E+01	1.411E+01	1.410E+01	1.410E+01
cm246	9.398E-01	9.392E-01	9.392E-01	9.392E-01	9.385E-01
cm247	1.429E-02	1.429E-02	1.429E-02	1.429E-02	1.429E-02
cm248	9.141E-04	9.147E-04	9.147E-04	9.147E-04	9.147E-04
cm250	1.121E-10	1.121E-10	1.121E-10	1.121E-10	1.121E-10
co59	1.065E-13	1.065E-13	1.065E-13	1.065E-13	1.065E-13
co60	9.834E-15	5.270E-15	5.097E-15	4.469E-15	3.919E-15
cr50	8.857E-14	8.857E-14	8.857E-14	8.857E-14	8.857E-14
cr52	9.385E-14	9.385E-14	9.385E-14	9.385E-14	9.385E-14
cr53	9.379E-14	9.379E-14	9.379E-14	9.379E-14	9.379E-14
cr54	9.966E-14	9.966E-14	9.966E-14	9.966E-14	9.966E-14
cs131	2.039E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs132	1.767E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs133	1.586E+03	1.586E+03	1.586E+03	1.586E+03	1.586E+03
cs134	1.610E+02	3.274E+01	3.006E+01	2.149E+01	1.537E+01

Table C-1. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
cs135	8.758E+02	8.758E+02	8.758E+02	8.758E+02	8.758E+02
cs136	1.211E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs137	1.730E+03	1.551E+03	1.542E+03	1.507E+03	1.472E+03
cu63	1.127E-13	1.128E-13	1.128E-13	1.128E-13	1.128E-13
cu65	4.401E-07	4.401E-07	4.401E-07	4.401E-07	4.401E-07
dy156	4.008E-12	4.008E-12	4.008E-12	4.008E-12	4.008E-12
dy158	1.499E-07	5.023E-07	5.210E-07	5.944E-07	6.677E-07
dy159	2.944E-07	7.179E-11	4.595E-11	7.972E-12	1.382E-12
dy160	9.623E-01	9.808E-01	9.808E-01	9.808E-01	9.808E-01
dy161	1.300E+00	1.300E+00	1.300E+00	1.300E+00	1.300E+00
dy162	7.992E-01	7.992E-01	7.992E-01	7.992E-01	7.992E-01
dy163	6.657E-01	6.657E-01	6.657E-01	6.657E-01	6.657E-01
dy164	2.703E-01	2.703E-01	2.703E-01	2.703E-01	2.703E-01
er162	4.631E-12	4.631E-12	4.631E-12	4.631E-12	4.631E-12
er164	3.222E-06	3.222E-06	3.222E-06	3.222E-06	3.222E-06
er166	8.414E-02	8.414E-02	8.414E-02	8.414E-02	8.414E-02
er167	4.228E-03	4.228E-03	4.228E-03	4.228E-03	4.228E-03
er168	1.329E-02	1.329E-02	1.329E-02	1.329E-02	1.329E-02
er169	1.172E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
er170	6.564E-04	6.564E-04	6.564E-04	6.564E-04	6.564E-04
es252	1.594E-15	1.248E-16	1.089E-16	6.370E-17	3.726E-17
es253	8.883E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
es254	5.673E-12	7.272E-14	5.755E-14	2.299E-14	9.180E-15
es255	9.266E-15	7.232E-28	1.431E-28	2.483E-31	4.309E-34
eu147	3.275E-18	0.000E+00	0.000E+00	0.000E+00	0.000E+00
eu149	7.932E-11	1.976E-16	9.887E-17	6.530E-18	4.312E-19
eu151	2.024E-01	1.209E+00	1.261E+00	1.468E+00	1.674E+00
eu152	4.193E-02	3.288E-02	3.246E-02	3.084E-02	2.930E-02
eu153	2.180E+02	2.180E+02	2.180E+02	2.180E+02	2.180E+02
eu154	6.265E+01	4.275E+01	4.187E+01	3.864E+01	3.565E+01
eu155	1.520E+01	7.609E+00	7.331E+00	6.335E+00	5.476E+00
eu156	4.232E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00
f19	9.167E-14	9.167E-14	9.167E-14	9.167E-14	9.167E-14
fe54	9.715E-14	9.715E-14	9.715E-14	9.715E-14	9.715E-14
fe55	1.854E-16	5.592E-17	5.244E-17	4.074E-17	3.165E-17
fe56	1.061E-13	1.061E-13	1.061E-13	1.061E-13	1.061E-13
fe57	1.030E-13	1.030E-13	1.030E-13	1.030E-13	1.030E-13
fe58	3.029E-13	3.029E-13	3.029E-13	3.029E-13	3.029E-13

Table C-1. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
fr221	3.907E-16	4.063E-16	4.069E-16	4.116E-16	4.163E-16
ga69	1.681E-03	1.681E-03	1.681E-03	1.681E-03	1.681E-03
ga71	7.661E-03	7.661E-03	7.661E-03	7.661E-03	7.661E-03
gd151	9.207E-08	5.716E-12	3.399E-12	4.418E-13	5.743E-14
gd152	8.560E-02	8.811E-02	8.824E-02	8.870E-02	8.910E-02
gd153	3.456E-03	2.335E-05	1.787E-05	6.235E-06	2.177E-06
gd154	9.319E+00	2.923E+01	3.010E+01	3.333E+01	3.633E+01
gd155	1.928E+00	9.517E+00	9.795E+00	1.079E+01	1.164E+01
gd156	1.662E+02	1.662E+02	1.662E+02	1.662E+02	1.662E+02
gd157	3.936E-01	3.936E-01	3.936E-01	3.936E-01	3.936E-01
gd158	4.935E+01	4.935E+01	4.935E+01	4.935E+01	4.935E+01
gd160	3.421E+00	3.421E+00	3.421E+00	3.421E+00	3.421E+00
ge70	1.983E-05	1.983E-05	1.983E-05	1.983E-05	1.983E-05
ge71	4.883E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ge72	1.940E-02	1.940E-02	1.940E-02	1.940E-02	1.940E-02
ge73	3.985E-02	3.985E-02	3.985E-02	3.985E-02	3.985E-02
ge73m	1.126E-17	3.588E-24	1.608E-24	6.882E-26	2.948E-27
ge74	9.530E-02	9.530E-02	9.530E-02	9.530E-02	9.530E-02
ge76	4.283E-01	4.283E-01	4.283E-01	4.283E-01	4.283E-01
h1	6.412E-03	6.412E-03	6.412E-03	6.412E-03	6.412E-03
h2	1.370E-03	1.370E-03	1.370E-03	1.370E-03	1.370E-03
h3	8.144E-02	6.234E-02	6.145E-02	5.809E-02	5.492E-02
he3	4.998E-03	2.409E-02	2.497E-02	2.834E-02	3.152E-02
he4	8.154E+00	9.308E+00	9.352E+00	9.527E+00	9.702E+00
hf174	1.463E-13	1.463E-13	1.463E-13	1.463E-13	1.463E-13
hf175	9.649E-16	3.401E-23	1.355E-23	3.648E-25	9.828E-27
hf176	3.283E-13	3.283E-13	3.283E-13	3.283E-13	3.283E-13
hf177	5.313E-14	5.314E-14	5.314E-14	5.314E-14	5.314E-14
hf178	3.389E-13	3.389E-13	3.389E-13	3.389E-13	3.389E-13
hf179	7.569E-13	7.569E-13	7.569E-13	7.569E-13	7.569E-13
hf180	5.860E-13	5.860E-13	5.860E-13	5.860E-13	5.860E-13
hf181	2.335E-17	1.152E-29	2.517E-30	6.440E-33	0.000E+00
hf182	9.881E-16	9.881E-16	9.881E-16	9.881E-16	9.881E-16
hg196	2.619E-14	2.619E-14	2.619E-14	2.619E-14	2.619E-14
hg198	6.599E-13	6.599E-13	6.599E-13	6.599E-13	6.599E-13
hg199	1.136E-13	1.136E-13	1.136E-13	1.136E-13	1.136E-13
hg200	7.648E-13	7.648E-13	7.648E-13	7.648E-13	7.648E-13
hg201	3.506E-13	3.506E-13	3.506E-13	3.506E-13	3.506E-13

Table C-1. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
hg202	3.775E-13	3.775E-13	3.775E-13	3.775E-13	3.775E-13
hg204	3.672E-13	3.672E-13	3.672E-13	3.672E-13	3.672E-13
ho163	2.459E-07	2.457E-07	2.457E-07	2.456E-07	2.456E-07
ho165	2.633E-01	2.633E-01	2.633E-01	2.633E-01	2.633E-01
ho166m	6.869E-04	6.849E-04	6.849E-04	6.849E-04	6.842E-04
i125	1.174E-09	1.936E-18	6.541E-19	9.246E-21	1.306E-22
i126	2.019E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
i127	1.012E+02	1.015E+02	1.015E+02	1.015E+02	1.015E+02
i129	3.185E+02	3.185E+02	3.185E+02	3.185E+02	3.185E+02
i131	1.310E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
in113	9.550E-04	2.123E-03	2.178E-03	2.388E-03	2.588E-03
in113m	4.585E-14	1.344E-18	7.675E-19	8.520E-20	9.458E-21
in114	5.218E-12	1.515E-22	4.121E-23	2.487E-25	1.501E-27
in114m	3.209E-07	9.313E-18	2.534E-18	1.529E-20	9.227E-23
in115	3.576E+00	3.577E+00	3.577E+00	3.577E+00	3.577E+00
in115m	3.179E-10	6.233E-22	1.467E-22	5.020E-25	1.717E-27
ir191	1.088E-14	1.088E-14	1.088E-14	1.088E-14	1.088E-14
ir192	2.325E-16	1.996E-23	8.335E-24	2.708E-25	8.797E-27
ir193	1.761E-13	1.773E-13	1.774E-13	1.777E-13	1.779E-13
k39	7.014E-14	7.014E-14	7.014E-14	7.014E-14	7.014E-14
k40	6.955E-14	6.955E-14	6.955E-14	6.955E-14	6.955E-14
k41	7.642E-14	7.642E-14	7.642E-14	7.642E-14	7.642E-14
kr78	2.022E-13	2.022E-13	2.022E-13	2.022E-13	2.022E-13
kr80	5.531E-04	5.531E-04	5.531E-04	5.531E-04	5.531E-04
kr81	4.748E-05	4.748E-05	4.748E-05	4.748E-05	4.748E-05
kr82	1.021E+00	1.021E+00	1.021E+00	1.021E+00	1.021E+00
kr83	4.230E+01	4.230E+01	4.230E+01	4.230E+01	4.230E+01
kr83m	4.786E-11	4.245E-17	2.010E-17	1.068E-18	5.673E-20
kr84	9.550E+01	9.550E+01	9.550E+01	9.550E+01	9.550E+01
kr85	1.977E+01	1.456E+01	1.433E+01	1.343E+01	1.260E+01
kr86	1.426E+02	1.426E+02	1.426E+02	1.426E+02	1.426E+02
la137	5.529E-04	5.529E-04	5.529E-04	5.529E-04	5.529E-04
la138	3.028E-02	3.028E-02	3.028E-02	3.028E-02	3.028E-02
la139	1.599E+03	1.599E+03	1.599E+03	1.599E+03	1.599E+03
la140	2.334E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00
li6	2.547E-10	2.547E-10	2.547E-10	2.547E-10	2.547E-10
li7	2.423E-11	2.423E-11	2.423E-11	2.423E-11	2.423E-11
lu175	2.967E-13	2.977E-13	2.977E-13	2.977E-13	2.977E-13

Table C-1. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
lu176	7.272E-15	7.272E-15	7.272E-15	7.272E-15	7.272E-15
mg24	4.338E-14	4.338E-14	4.338E-14	4.338E-14	4.338E-14
mg25	4.515E-14	4.515E-14	4.515E-14	4.515E-14	4.515E-14
mg26	4.699E-14	4.699E-14	4.699E-14	4.699E-14	4.699E-14
mn54	2.242E-17	4.773E-19	3.882E-19	1.725E-19	7.668E-20
mn55	9.729E-14	9.742E-14	9.742E-14	9.742E-14	9.742E-14
mo100	1.353E+03	1.353E+03	1.353E+03	1.353E+03	1.353E+03
mo92	6.763E-12	6.763E-12	6.763E-12	6.763E-12	6.763E-12
mo93	4.741E-07	4.737E-07	4.737E-07	4.736E-07	4.736E-07
mo94	1.579E-02	1.579E-02	1.579E-02	1.579E-02	1.579E-02
mo95	8.632E+02	8.725E+02	8.725E+02	8.725E+02	8.725E+02
mo96	4.736E+01	4.736E+01	4.736E+01	4.736E+01	4.736E+01
mo97	1.047E+03	1.047E+03	1.047E+03	1.047E+03	1.047E+03
mo98	1.147E+03	1.147E+03	1.147E+03	1.147E+03	1.147E+03
n14	4.700E-06	4.913E-06	4.925E-06	4.970E-06	5.015E-06
n15	1.129E-02	1.129E-02	1.129E-02	1.129E-02	1.129E-02
na23	4.152E-14	4.152E-14	4.152E-14	4.152E-14	4.152E-14
nb91	1.155E-08	1.149E-08	1.149E-08	1.148E-08	1.147E-08
nb91m	7.562E-15	2.026E-23	7.027E-24	1.100E-25	1.721E-27
nb92	1.004E-06	1.004E-06	1.004E-06	1.004E-06	1.004E-06
nb92m	1.892E-18	0.000E+00	0.000E+00	0.000E+00	0.000E+00
nb93	1.181E-04	4.255E-04	4.489E-04	5.467E-04	6.541E-04
nb93m	6.803E-04	1.915E-03	1.975E-03	2.202E-03	2.419E-03
nb94	3.608E-03	3.607E-03	3.607E-03	3.607E-03	3.607E-03
nb95	4.985E+00	3.752E-08	1.369E-08	2.715E-10	5.227E-12
nb95m	2.815E-03	2.005E-11	7.325E-12	1.409E-13	2.711E-15
nd142	2.148E+01	2.148E+01	2.148E+01	2.148E+01	2.148E+01
nd143	1.068E+03	1.068E+03	1.068E+03	1.068E+03	1.068E+03
nd144	1.160E+03	1.367E+03	1.368E+03	1.369E+03	1.370E+03
nd145	8.031E+02	8.031E+02	8.031E+02	8.031E+02	8.031E+02
nd146	8.758E+02	8.758E+02	8.758E+02	8.758E+02	8.758E+02
nd147	5.261E-07	0.000E+00	0.000E+00	0.000E+00	0.000E+00
nd148	5.165E+02	5.165E+02	5.165E+02	5.165E+02	5.165E+02
nd150	3.047E+02	3.047E+02	3.047E+02	3.047E+02	3.047E+02
ni58	1.040E-13	1.040E-13	1.040E-13	1.040E-13	1.040E-13
ni59	8.454E-14	8.454E-14	8.454E-14	8.454E-14	8.454E-14
ni60	1.303E-13	1.349E-13	1.351E-13	1.357E-13	1.363E-13
ni61	1.102E-13	1.102E-13	1.102E-13	1.102E-13	1.102E-13

Table C-1. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ni62	1.106E-13	1.106E-13	1.106E-13	1.106E-13	1.106E-13
ni63	1.843E-15	1.785E-15	1.781E-15	1.769E-15	1.757E-15
ni64	1.161E-13	1.161E-13	1.161E-13	1.161E-13	1.161E-13
np235	2.244E-06	1.082E-07	9.194E-08	4.855E-08	2.564E-08
np236	3.546E-04	3.546E-04	3.546E-04	3.546E-04	3.546E-04
np237	1.810E+02	1.884E+02	1.890E+02	1.916E+02	1.945E+02
np238	8.104E-07	7.919E-07	7.906E-07	7.866E-07	7.833E-07
np239	3.314E-04	3.312E-04	3.312E-04	3.312E-04	3.312E-04
np240	1.899E-16	1.899E-16	1.899E-16	1.899E-16	1.899E-16
np240m	1.845E-14	1.845E-14	1.845E-14	1.845E-14	1.845E-14
o16	1.344E+05	1.344E+05	1.344E+05	1.344E+05	1.344E+05
o17	3.168E-02	3.168E-02	3.168E-02	3.168E-02	3.168E-02
o18	1.228E-07	1.228E-07	1.228E-07	1.228E-07	1.228E-07
os186	2.113E-13	2.113E-13	2.113E-13	2.113E-13	2.113E-13
os187	3.323E-14	3.323E-14	3.323E-14	3.323E-14	3.323E-14
os188	1.313E-13	1.313E-13	1.313E-13	1.313E-13	1.313E-13
os189	8.527E-15	8.527E-15	8.527E-15	8.527E-15	8.527E-15
os190	2.204E-15	2.204E-15	2.204E-15	2.204E-15	2.204E-15
os192	9.128E-15	9.134E-15	9.134E-15	9.134E-15	9.134E-15
p31	5.603E-14	5.603E-14	5.603E-14	5.603E-14	5.603E-14
pa230	1.109E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pa231	2.490E-05	2.938E-05	2.962E-05	3.057E-05	3.151E-05
pa232	1.647E-14	1.647E-14	1.647E-14	1.647E-14	1.647E-14
pa233	6.128E-06	6.372E-06	6.392E-06	6.489E-06	6.587E-06
pa234	2.467E-10	2.467E-10	2.467E-10	2.467E-10	2.467E-10
pa234m	4.445E-10	4.446E-10	4.445E-10	4.445E-10	4.445E-10
pb204	3.673E-13	3.673E-13	3.673E-13	3.673E-13	3.673E-13
pb205	1.188E-15	1.189E-15	1.189E-15	1.189E-15	1.189E-15
pb206	1.901E-12	9.346E-12	9.755E-12	1.142E-11	1.316E-11
pb207	6.415E-11	3.252E-10	3.485E-10	4.495E-10	5.657E-10
pb208	8.540E-07	1.971E-05	2.147E-05	2.890E-05	3.711E-05
pb209	1.472E-14	1.530E-14	1.533E-14	1.551E-14	1.568E-14
pb210	5.260E-11	5.364E-11	5.417E-11	5.695E-11	6.090E-11
pb211	2.008E-15	9.174E-15	9.372E-15	1.107E-14	1.258E-14
pb212	1.915E-09	1.206E-08	1.251E-08	1.403E-08	1.532E-08
pd102	1.040E-03	1.249E-03	1.249E-03	1.250E-03	1.250E-03
pd103	3.111E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pd104	4.175E+02	4.175E+02	4.175E+02	4.175E+02	4.175E+02

Table C-1. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
pd105	1.044E+03	1.044E+03	1.044E+03	1.044E+03	1.044E+03
pd106	8.137E+02	1.049E+03	1.051E+03	1.055E+03	1.057E+03
pd107	6.750E+02	6.750E+02	6.750E+02	6.750E+02	6.750E+02
pd108	4.669E+02	4.669E+02	4.669E+02	4.669E+02	4.669E+02
pd110	1.527E+02	1.527E+02	1.527E+02	1.527E+02	1.527E+02
pm143	1.806E-12	1.941E-14	1.522E-14	5.858E-15	2.255E-15
pm144	5.543E-10	2.026E-11	1.696E-11	8.447E-12	4.208E-12
pm145	3.955E-05	3.314E-05	3.281E-05	3.156E-05	3.035E-05
pm146	4.887E-04	2.697E-04	2.612E-04	2.304E-04	2.033E-04
pm147	1.933E+02	5.519E+01	5.160E+01	3.962E+01	3.043E+01
pm148	2.255E-04	5.230E-17	1.098E-17	2.395E-20	5.228E-23
pm148m	3.594E-02	8.335E-15	1.749E-15	3.817E-18	8.328E-21
po210	7.807E-13	8.896E-13	8.962E-13	9.346E-13	9.907E-13
po216	7.384E-15	4.650E-14	4.824E-14	5.414E-14	5.909E-14
pr141	1.460E+03	1.461E+03	1.461E+03	1.461E+03	1.461E+03
pr143	3.493E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pr144	8.850E-03	1.306E-04	1.042E-04	4.286E-05	1.763E-05
pr144m	3.522E-05	5.197E-07	4.144E-07	1.705E-07	7.014E-08
pt192	1.569E-13	1.571E-13	1.571E-13	1.571E-13	1.571E-13
pt193	1.985E-14	1.859E-14	1.852E-14	1.826E-14	1.801E-14
pt194	3.211E-13	3.211E-13	3.211E-13	3.211E-13	3.211E-13
pt195	2.549E-15	2.549E-15	2.549E-15	2.549E-15	2.549E-15
pt196	3.811E-16	3.811E-16	3.811E-16	3.811E-16	3.811E-16
pu236	9.623E-04	3.045E-04	2.862E-04	2.246E-04	1.763E-04
pu237	1.234E-05	4.578E-17	1.115E-17	4.362E-20	1.707E-22
pu238	1.996E+02	2.133E+02	2.129E+02	2.112E+02	2.096E+02
pu239	1.595E+04	1.595E+04	1.595E+04	1.595E+04	1.595E+04
pu240	9.960E+03	9.980E+03	9.980E+03	9.980E+03	9.986E+03
pu241	5.212E+03	4.141E+03	4.090E+03	3.897E+03	3.712E+03
pu242	1.516E+03	1.516E+03	1.516E+03	1.516E+03	1.516E+03
pu243	5.093E-13	5.093E-13	5.093E-13	5.093E-13	5.093E-13
pu244	1.110E-01	1.110E-01	1.110E-01	1.110E-01	1.110E-01
ra223	9.676E-13	4.422E-12	4.516E-12	5.332E-12	6.064E-12
ra224	1.670E-08	1.051E-07	1.091E-07	1.224E-07	1.337E-07
ra225	1.741E-12	1.811E-12	1.814E-12	1.835E-12	1.856E-12
ra226	1.468E-09	9.108E-09	9.781E-09	1.273E-08	1.621E-08
ra228	3.193E-14	5.689E-14	5.810E-14	6.278E-14	6.730E-14
rb83	7.278E-08	6.457E-14	3.057E-14	1.624E-15	8.626E-17

Table C-1. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
rb85	8.038E+01	8.560E+01	8.579E+01	8.672E+01	8.751E+01
rb84	7.609E-08	9.676E-24	1.357E-24	6.092E-28	2.735E-31
rb87	1.872E+02	1.872E+02	1.872E+02	1.872E+02	1.872E+02
re185	6.737E-14	6.750E-14	6.750E-14	6.750E-14	6.750E-14
re186m	1.993E-16	1.993E-16	1.993E-16	1.993E-16	1.993E-16
re187	3.538E-13	3.538E-13	3.538E-13	3.538E-13	3.538E-13
rh101	6.366E-07	2.350E-07	2.227E-07	1.806E-07	1.464E-07
rh102	9.504E-04	3.280E-06	2.489E-06	9.339E-07	4.409E-07
rh102m	2.251E-03	9.346E-04	8.916E-04	7.410E-04	6.157E-04
rh103	1.005E+03	1.005E+03	1.005E+03	1.005E+03	1.005E+03
rh103m	6.849E-04	3.492E-17	6.757E-18	1.072E-20	1.700E-23
rh106	2.304E-04	9.108E-06	7.655E-06	3.877E-06	1.963E-06
rn220	2.884E-12	1.816E-11	1.884E-11	2.114E-11	2.308E-11
rn222	9.352E-15	5.854E-14	6.286E-14	8.183E-14	1.042E-13
ru100	1.691E+02	1.691E+02	1.691E+02	1.691E+02	1.691E+02
ru101	1.170E+03	1.170E+03	1.170E+03	1.170E+03	1.170E+03
ru102	1.347E+03	1.347E+03	1.347E+03	1.347E+03	1.347E+03
ru103	6.968E-01	3.555E-14	6.875E-15	1.091E-17	1.730E-20
ru104	1.276E+03	1.276E+03	1.276E+03	1.276E+03	1.276E+03
ru106	2.462E+02	9.729E+00	8.177E+00	4.141E+00	2.097E+00
ru96	1.720E-13	1.720E-13	1.720E-13	1.720E-13	1.720E-13
ru98	1.922E-06	1.931E-06	1.931E-06	1.933E-06	1.935E-06
ru99	4.563E-02	6.244E-02	6.334E-02	6.690E-02	7.041E-02
s32	5.774E-14	5.774E-14	5.774E-14	5.774E-14	5.774E-14
s33	5.933E-14	5.933E-14	5.933E-14	5.933E-14	5.933E-14
s34	6.147E-14	6.147E-14	6.147E-14	6.147E-14	6.147E-14
s36	6.502E-14	6.502E-14	6.502E-14	6.502E-14	6.502E-14
sb121	8.903E+00	8.962E+00	8.962E+00	8.976E+00	8.989E+00
sb123	1.173E+01	1.182E+01	1.182E+01	1.182E+01	1.182E+01
sb124	4.112E-03	8.877E-12	3.041E-12	4.549E-14	6.803E-16
sb125	1.559E+01	4.733E+00	4.440E+00	3.454E+00	2.687E+00
sb126	9.643E-07	9.590E-07	9.590E-07	9.590E-07	9.590E-07
sb126m	7.377E-09	7.377E-09	7.377E-09	7.377E-09	7.377E-09
sc45	7.879E-14	7.886E-14	7.886E-14	7.886E-14	7.886E-14
sc46	4.026E-17	2.392E-23	1.108E-23	5.411E-25	2.642E-26
se74	4.363E-07	4.364E-07	4.364E-07	4.364E-07	4.364E-07
se75	9.451E-09	4.173E-13	2.436E-13	2.948E-14	3.567E-15
se76	8.857E-03	8.857E-03	8.857E-03	8.857E-03	8.857E-03

Table C-1. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
se77	1.006E+00	1.006E+00	1.006E+00	1.006E+00	1.006E+00
se78	2.858E+00	2.858E+00	2.858E+00	2.858E+00	2.858E+00
se79	6.151E+00	6.150E+00	6.150E+00	6.150E+00	6.150E+00
se80	1.405E+01	1.405E+01	1.405E+01	1.405E+01	1.405E+01
se82	3.666E+01	3.666E+01	3.666E+01	3.666E+01	3.666E+01
si28	5.058E-14	5.058E-14	5.058E-14	5.058E-14	5.058E-14
si29	5.245E-14	5.245E-14	5.245E-14	5.245E-14	5.245E-14
si30	5.449E-14	5.449E-14	5.449E-14	5.449E-14	5.449E-14
sm144	6.459E-11	6.459E-11	6.459E-11	6.459E-11	6.459E-11
sm145	3.549E-07	1.037E-08	8.579E-09	4.076E-09	1.936E-09
sm146	3.671E-03	3.745E-03	3.748E-03	3.758E-03	3.767E-03
sm147	1.282E+02	2.664E+02	2.699E+02	2.820E+02	2.911E+02
sm148	2.080E+02	2.081E+02	2.081E+02	2.081E+02	2.081E+02
sm149	6.605E+00	6.605E+00	6.605E+00	6.605E+00	6.605E+00
sm150	4.357E+02	4.357E+02	4.357E+02	4.357E+02	4.357E+02
sm151	2.804E+01	2.703E+01	2.697E+01	2.677E+01	2.656E+01
sm152	1.686E+02	1.686E+02	1.686E+02	1.686E+02	1.686E+02
sm154	8.659E+01	8.659E+01	8.659E+01	8.659E+01	8.659E+01
sn112	3.648E-09	3.648E-09	3.648E-09	3.648E-09	3.648E-09
sn113	7.635E-11	2.238E-15	1.279E-15	1.419E-16	1.575E-17
sn114	1.863E-04	1.866E-04	1.866E-04	1.866E-04	1.866E-04
sn115	5.306E-01	5.306E-01	5.306E-01	5.306E-01	5.306E-01
sn116	4.343E+00	4.343E+00	4.343E+00	4.343E+00	4.343E+00
sn117	1.086E+01	1.086E+01	1.086E+01	1.086E+01	1.086E+01
sn117m	2.904E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sn118	9.405E+00	9.405E+00	9.405E+00	9.405E+00	9.405E+00
sn119	8.976E+00	9.048E+00	9.048E+00	9.048E+00	9.048E+00
sn119m	7.060E-02	1.171E-03	9.398E-04	3.962E-04	1.671E-04
sn120	9.042E+00	9.042E+00	9.042E+00	9.042E+00	9.042E+00
sn121	4.426E-05	4.107E-05	4.090E-05	4.026E-05	3.963E-05
sn121m	8.117E-01	7.536E-01	7.503E-01	7.384E-01	7.272E-01
sn122	1.213E+01	1.213E+01	1.213E+01	1.213E+01	1.213E+01
sn123	8.599E-02	7.879E-06	4.786E-06	6.750E-07	9.530E-08
sn124	1.968E+01	1.968E+01	1.968E+01	1.968E+01	1.968E+01
sn125	8.236E-10	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sn126	4.659E+01	4.659E+01	4.659E+01	4.659E+01	4.659E+01
sr84	8.804E-06	8.804E-06	8.804E-06	8.804E-06	8.804E-06
sr85	1.567E-08	1.411E-16	5.220E-17	1.055E-18	2.131E-20

Table C-1. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
sr86	5.116E-01	5.116E-01	5.116E-01	5.116E-01	5.116E-01
sr87	5.740E-03	5.740E-03	5.740E-03	5.740E-03	5.740E-03
sr88	2.488E+02	2.488E+02	2.488E+02	2.488E+02	2.488E+02
sr89	5.673E-01	2.688E-11	7.509E-12	5.023E-14	3.361E-16
sr90	3.822E+02	3.409E+02	3.388E+02	3.308E+02	3.229E+02
ta180m	2.007E-17	2.007E-17	2.007E-17	2.007E-17	2.007E-17
ta181	1.811E-13	1.812E-13	1.812E-13	1.812E-13	1.812E-13
ta182	7.021E-16	1.997E-20	1.140E-20	1.288E-21	1.730E-22
tb157	9.154E-07	8.745E-07	8.718E-07	8.632E-07	8.553E-07
tb158	1.172E-04	1.151E-04	1.151E-04	1.146E-04	1.141E-04
tb159	7.490E+00	7.490E+00	7.490E+00	7.490E+00	7.490E+00
tb160	1.873E-02	1.140E-09	4.674E-10	1.413E-11	4.269E-13
tb161	7.893E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00
tc95	6.148E-18	1.724E-26	5.991E-27	9.464E-29	0.000E+00
tc95m	1.144E-14	3.207E-23	1.115E-23	1.761E-25	2.784E-27
tc97	1.144E-05	1.154E-05	1.154E-05	1.154E-05	1.154E-05
tc97m	1.042E-07	1.927E-13	9.491E-14	5.887E-15	3.651E-16
tc98	1.179E-02	1.179E-02	1.179E-02	1.179E-02	1.179E-02
tc99	1.079E+03	1.079E+03	1.079E+03	1.079E+03	1.079E+03
te120	2.588E-09	2.588E-09	2.588E-09	2.588E-09	2.588E-09
te121	3.455E-08	2.297E-11	1.551E-11	3.323E-12	7.120E-13
te121m	2.949E-07	1.961E-10	1.324E-10	2.837E-11	6.077E-12
te122	7.873E-01	7.873E-01	7.873E-01	7.873E-01	7.873E-01
te123	9.630E-03	1.009E-02	1.009E-02	1.009E-02	1.009E-02
te123m	4.520E-04	1.899E-08	1.106E-08	1.324E-09	1.586E-10
te124	5.641E-01	5.682E-01	5.682E-01	5.682E-01	5.682E-01
te125	1.085E+01	2.186E+01	2.216E+01	2.316E+01	2.394E+01
te125m	2.165E-01	6.603E-02	6.194E-02	4.818E-02	3.748E-02
te126	1.127E+00	1.127E+00	1.127E+00	1.127E+00	1.128E+00
te127	1.049E-03	1.716E-08	9.497E-09	9.326E-10	9.154E-11
te127m	2.996E-01	4.902E-06	2.713E-06	2.664E-07	2.615E-08
te128	1.798E+02	1.798E+02	1.798E+02	1.798E+02	1.798E+02
te129	7.972E-06	2.371E-21	3.481E-22	1.869E-25	1.003E-28
te129m	8.784E-03	2.613E-18	3.836E-19	2.059E-22	1.106E-25
te130	5.996E+02	5.996E+02	5.996E+02	5.996E+02	5.996E+02
th227	1.625E-12	7.252E-12	7.457E-12	8.751E-12	9.947E-12
th228	3.288E-06	2.036E-05	2.110E-05	2.370E-05	2.587E-05
th229	3.189E-07	3.316E-07	3.325E-07	3.360E-07	3.399E-07

Table C-1. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
th230	8.804E-05	2.863E-04	2.999E-04	3.561E-04	4.169E-04
th231	3.941E-09	3.950E-09	3.950E-09	3.952E-09	3.954E-09
th232	1.995E-04	2.403E-04	2.425E-04	2.512E-04	2.600E-04
th234	1.331E-05	1.331E-05	1.331E-05	1.331E-05	1.331E-05
ti46	8.560E-14	8.560E-14	8.560E-14	8.560E-14	8.560E-14
ti47	8.480E-14	8.480E-14	8.480E-14	8.480E-14	8.480E-14
ti48	8.619E-14	8.619E-14	8.619E-14	8.619E-14	8.619E-14
ti49	8.923E-14	8.923E-14	8.923E-14	8.923E-14	8.923E-14
ti50	9.048E-14	9.048E-14	9.048E-14	9.048E-14	9.048E-14
tl203	2.751E-15	2.756E-15	2.756E-15	2.756E-15	2.756E-15
tl204	5.270E-17	2.209E-17	2.109E-17	1.756E-17	1.462E-17
tl205	1.315E-15	1.315E-15	1.315E-15	1.315E-15	1.315E-15
tl207	2.596E-16	1.186E-15	1.211E-15	1.431E-15	1.627E-15
tl208	3.228E-12	2.034E-11	2.110E-11	2.367E-11	2.584E-11
tm168	1.055E-09	2.629E-15	1.316E-15	8.685E-17	5.737E-18
tm169	1.016E-03	1.016E-03	1.016E-03	1.016E-03	1.016E-03
tm170	5.528E-05	4.852E-09	2.939E-09	4.109E-10	5.746E-11
tm171	1.744E-04	3.146E-05	2.870E-05	2.001E-05	1.395E-05
u230	2.975E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
u232	4.373E-04	1.046E-03	1.061E-03	1.110E-03	1.147E-03
u233	4.883E-04	7.846E-04	7.998E-04	8.665E-04	9.339E-04
u234	1.112E+01	1.903E+01	1.945E+01	2.110E+01	2.273E+01
u235	9.689E+02	9.715E+02	9.715E+02	9.722E+02	9.722E+02
u236	2.930E+02	2.979E+02	2.981E+02	2.992E+02	3.002E+02
u237	1.626E-04	1.292E-04	1.276E-04	1.216E-04	1.158E-04
u238	9.167E+05	9.167E+05	9.167E+05	9.167E+05	9.167E+05
u240	2.162E-12	2.162E-12	2.162E-12	2.162E-12	2.162E-12
v50	5.768E-17	5.768E-17	5.768E-17	5.768E-17	5.768E-17
v51	1.768E-15	1.768E-15	1.768E-15	1.768E-15	1.768E-15
w182	2.810E-13	2.817E-13	2.817E-13	2.817E-13	2.817E-13
w183	6.447E-13	6.447E-13	6.447E-13	6.447E-13	6.447E-13
w184	5.542E-13	5.542E-13	5.542E-13	5.542E-13	5.542E-13
w185	1.159E-16	1.311E-23	5.556E-24	1.913E-25	6.586E-27
w186	2.131E-13	2.131E-13	2.131E-13	2.131E-13	2.131E-13
xe124	2.368E-13	2.368E-13	2.368E-13	2.368E-13	2.368E-13
xe126	3.738E-04	3.738E-04	3.738E-04	3.738E-04	3.738E-04
xe127	5.560E-08	2.588E-22	4.404E-23	4.220E-26	4.043E-29
xe128	8.461E+00	8.461E+00	8.461E+00	8.461E+00	8.461E+00

Table C-1. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
xe129	5.459E-02	5.465E-02	5.466E-02	5.467E-02	5.469E-02
xe129m	2.824E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe130	1.089E+01	1.089E+01	1.089E+01	1.089E+01	1.089E+01
xe131	3.234E-14	3.234E-14	3.234E-14	3.234E-14	3.234E-14
xe131	6.869E+02	6.869E+02	6.869E+02	6.869E+02	6.869E+02
xe131m	1.048E-07	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe132	1.323E-14	1.323E-14	1.323E-14	1.323E-14	1.323E-14
xe132	1.709E+03	1.709E+03	1.709E+03	1.709E+03	1.709E+03
xe133	1.067E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe134	2.093E+03	2.093E+03	2.093E+03	2.093E+03	2.093E+03
xe136	3.109E+03	3.109E+03	3.109E+03	3.109E+03	3.109E+03
y88	2.973E-05	3.808E-10	2.080E-10	1.940E-11	1.808E-12
y89	3.273E+02	3.278E+02	3.278E+02	3.278E+02	3.278E+02
y89m	1.962E-10	9.299E-21	2.596E-21	1.737E-23	1.162E-25
y90	9.696E-02	8.645E-02	8.593E-02	8.388E-02	8.190E-02
y91	1.589E+00	1.927E-09	6.405E-10	8.480E-12	1.123E-13
yb168	2.160E-12	2.266E-12	2.266E-12	2.266E-12	2.266E-12
yb169	3.475E-12	1.767E-28	2.360E-29	8.738E-33	0.000E+00
yb170	6.981E-04	7.536E-04	7.536E-04	7.536E-04	7.536E-04
yb171	2.152E-04	3.583E-04	3.610E-04	3.697E-04	3.758E-04
yb172	4.374E-04	4.374E-04	4.374E-04	4.374E-04	4.374E-04
yb176	1.137E-16	1.137E-16	1.137E-16	1.137E-16	1.137E-16
zn64	4.143E-16	4.143E-16	4.143E-16	4.143E-16	4.143E-16
zn66	1.487E-04	1.487E-04	1.487E-04	1.487E-04	1.487E-04
zn67	4.152E-04	4.152E-04	4.152E-04	4.152E-04	4.152E-04
zn68	8.315E-04	8.315E-04	8.315E-04	8.315E-04	8.315E-04
zn70	4.107E-03	4.107E-03	4.107E-03	4.107E-03	4.107E-03
zr88	7.153E-12	3.975E-18	1.835E-18	8.837E-20	4.253E-21
zr90	2.125E+01	6.251E+01	6.460E+01	7.265E+01	8.051E+01
zr91	4.773E+02	4.789E+02	4.789E+02	4.789E+02	4.789E+02
zr92	5.800E+02	5.800E+02	5.800E+02	5.800E+02	5.800E+02
zr93	7.179E+02	7.179E+02	7.179E+02	7.179E+02	7.179E+02
zr94	8.243E+02	8.243E+02	8.243E+02	8.243E+02	8.243E+02
zr95	4.362E+00	3.107E-08	1.135E-08	2.183E-10	4.199E-12
zr96	9.616E+02	9.616E+02	9.616E+02	9.616E+02	9.616E+02
Total	1.1347E+06	1.1347E+06	1.1347E+06	1.1347E+06	1.1347E+06

Table C-2. MOX Fuel Rod Al (low Pu): Nuclide mass in grams per MTIHM

	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ac225	1.483E-12	1.526E-12	1.528E-12	1.542E-12	1.556E-12
ac227	6.761E-10	2.843E-09	2.960E-09	3.417E-09	3.874E-09
ag105	7.308E-15	1.694E-27	3.557E-28	7.763E-31	1.694E-33
ag107	1.286E-04	4.074E-04	4.223E-04	4.811E-04	5.398E-04
ag108	5.837E-13	5.794E-13	5.791E-13	5.782E-13	5.773E-13
ag108m	6.488E-04	6.440E-04	6.438E-04	6.427E-04	6.417E-04
ag109	1.832E+02	1.832E+02	1.832E+02	1.832E+02	1.832E+02
ag109m	2.009E-10	1.487E-11	1.293E-11	7.473E-12	4.318E-12
ag110	1.990E-08	1.622E-10	1.253E-10	4.551E-11	1.652E-11
ag110m	1.284E+00	1.046E-02	8.080E-03	2.935E-03	1.066E-03
ag111	1.301E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
al 27	4.869E-14	4.869E-14	4.869E-14	4.869E-14	4.869E-14
am241	2.861E+02	1.004E+03	1.038E+03	1.166E+03	1.289E+03
am242	3.632E-05	3.548E-05	3.544E-05	3.526E-05	3.509E-05
am242m	2.815E+00	2.750E+00	2.747E+00	2.733E+00	2.719E+00
am243	4.170E+02	4.168E+02	4.168E+02	4.168E+02	4.167E+02
am244	9.188E-15	6.374E-15	6.250E-15	5.787E-15	5.358E-15
am245	9.300E-14	2.179E-15	1.782E-15	8.080E-16	3.665E-16
ar 36	6.419E-14	6.419E-14	6.419E-14	6.419E-14	6.419E-14
ar 38	6.853E-14	6.853E-14	6.853E-14	6.853E-14	6.853E-14
ar 39	1.282E-16	1.266E-16	1.265E-16	1.262E-16	1.259E-16
ar 40	7.262E-14	7.262E-14	7.262E-14	7.262E-14	7.262E-14
as 73	1.134E-10	3.613E-17	1.619E-17	6.932E-19	2.969E-20
as 74	1.481E-12	0.000E+00	0.000E+00	0.000E+00	0.000E+00
as 75	1.544E-01	1.544E-01	1.544E-01	1.544E-01	1.544E-01
au197	1.817E-13	1.817E-13	1.817E-13	1.817E-13	1.817E-13
b 10	6.939E-11	3.785E-10	3.952E-10	4.603E-10	5.254E-10
b 11	8.106E-08	8.106E-08	8.106E-08	8.106E-08	8.106E-08
ba130	1.828E-13	1.828E-13	1.828E-13	1.828E-13	1.828E-13
ba131	3.873E-18	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba132	2.871E-04	2.871E-04	2.871E-04	2.871E-04	2.871E-04
ba133	2.169E-04	1.586E-04	1.560E-04	1.460E-04	1.367E-04
ba134	1.152E+02	2.315E+02	2.340E+02	2.417E+02	2.473E+02
ba135	5.762E-01	5.770E-01	5.771E-01	5.772E-01	5.774E-01
ba136	3.883E+01	3.883E+01	3.883E+01	3.883E+01	3.883E+01
ba136m	2.460E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba137	7.777E+01	2.266E+02	2.342E+02	2.633E+02	2.918E+02

Table C-2. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ba137m	2.195E-04	1.968E-04	1.956E-04	1.911E-04	1.868E-04
ba138	1.442E+03	1.442E+03	1.442E+03	1.442E+03	1.442E+03
ba140	1.172E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00
be 9	2.587E-06	2.587E-06	2.587E-06	2.587E-06	2.587E-06
be 10	1.419E-04	1.419E-04	1.419E-04	1.419E-04	1.419E-04
bi208	1.514E-15	1.514E-15	1.514E-15	1.514E-15	1.514E-15
bi209	1.369E-10	3.045E-10	3.136E-10	3.497E-10	3.861E-10
bi210	3.253E-14	3.279E-14	3.309E-14	3.462E-14	3.684E-14
bi210m	2.165E-15	2.165E-15	2.165E-15	2.165E-15	2.165E-15
bi211	1.090E-16	4.950E-16	5.054E-16	5.948E-16	6.741E-16
bi212	2.125E-10	1.268E-09	1.315E-09	1.472E-09	1.604E-09
bi213	4.444E-15	4.574E-15	4.580E-15	4.621E-15	4.663E-15
bk247	1.824E-12	1.819E-12	1.819E-12	1.818E-12	1.817E-12
bk248	7.288E-11	5.056E-11	4.958E-11	4.591E-11	4.250E-11
bk249	2.442E-05	5.721E-07	4.677E-07	2.121E-07	9.623E-08
bk250	1.669E-14	2.153E-16	1.707E-16	6.899E-17	2.836E-17
br 79	2.716E-03	2.772E-03	2.775E-03	2.786E-03	2.798E-03
br 81	2.095E+01	2.095E+01	2.095E+01	2.095E+01	2.095E+01
c 12	8.265E-02	8.265E-02	8.265E-02	8.265E-02	8.265E-02
c 13	1.301E+01	1.301E+01	1.301E+01	1.301E+01	1.301E+01
c 14	4.199E-04	4.197E-04	4.196E-04	4.196E-04	4.196E-04
ca 40	7.196E-14	7.196E-14	7.196E-14	7.196E-14	7.196E-14
ca 41	5.450E-17	5.450E-17	5.450E-17	5.450E-17	5.450E-17
ca 42	7.598E-14	7.598E-14	7.598E-14	7.598E-14	7.598E-14
ca 43	7.612E-14	7.612E-14	7.612E-14	7.612E-14	7.612E-14
ca 44	8.087E-14	8.087E-14	8.087E-14	8.087E-14	8.087E-14
ca 46	8.291E-14	8.291E-14	8.291E-14	8.291E-14	8.291E-14
ca 48	8.647E-14	8.647E-14	8.647E-14	8.647E-14	8.647E-14
cd106	2.959E-13	2.959E-13	2.959E-13	2.959E-13	2.959E-13
cd108	1.394E-03	1.395E-03	1.395E-03	1.395E-03	1.395E-03
cd109	2.022E-04	1.497E-05	1.301E-05	7.519E-06	4.346E-06
cd110	1.407E+02	1.419E+02	1.419E+02	1.419E+02	1.419E+02
cd111	6.153E+01	6.153E+01	6.153E+01	6.153E+01	6.153E+01
cd112	2.921E+01	2.921E+01	2.921E+01	2.921E+01	2.921E+01
cd113	2.690E-01	2.690E-01	2.690E-01	2.690E-01	2.690E-01
cd113m	3.905E-03	3.093E-03	3.054E-03	2.907E-03	2.768E-03
cd114	3.118E+01	3.118E+01	3.118E+01	3.118E+01	3.118E+01
cd115m	5.691E-04	1.116E-15	2.626E-16	8.984E-19	3.074E-21

Table C-2. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
cd116	1.025E+01	1.025E+01	1.025E+01	1.025E+01	1.025E+01
ce136	2.237E-13	2.237E-13	2.237E-13	2.237E-13	2.237E-13
ce138	1.012E-05	1.012E-05	1.012E-05	1.012E-05	1.012E-05
ce139	1.325E-03	2.148E-07	1.345E-07	2.140E-08	3.405E-09
ce140	1.375E+03	1.375E+03	1.375E+03	1.375E+03	1.375E+03
ce141	1.727E-01	1.547E-17	2.129E-18	8.878E-22	3.700E-25
ce142	1.188E+03	1.188E+03	1.188E+03	1.188E+03	1.188E+03
ce144	1.685E+02	2.486E+00	1.983E+00	8.159E-01	3.357E-01
cf248	4.936E-11	1.346E-12	1.109E-12	5.196E-13	2.433E-13
cf249	2.663E-05	5.007E-05	5.015E-05	5.030E-05	5.032E-05
cf250	1.485E-05	1.155E-05	1.140E-05	1.081E-05	1.025E-05
cf251	7.691E-06	7.664E-06	7.664E-06	7.658E-06	7.651E-06
cf252	3.139E-06	9.050E-07	8.469E-07	6.516E-07	5.015E-07
cf253	1.944E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cf254	1.177E-11	2.805E-20	9.663E-21	1.476E-22	2.254E-24
cl 35	5.893E-14	5.893E-14	5.893E-14	5.893E-14	5.893E-14
cl 36	4.475E-15	4.475E-15	4.475E-15	4.475E-15	4.475E-15
cl 37	6.748E-14	6.748E-14	6.748E-14	6.748E-14	6.748E-14
cm240	1.465E-11	6.985E-31	6.414E-32	0.000E+00	0.000E+00
cm241	2.039E-08	2.536E-24	3.553E-25	1.588E-28	7.091E-32
cm242	1.716E+01	1.795E-02	1.442E-02	8.667E-03	7.420E-03
cm243	1.623E+00	1.450E+00	1.441E+00	1.408E+00	1.374E+00
cm244	1.952E+02	1.628E+02	1.612E+02	1.552E+02	1.493E+02
cm245	2.018E+01	2.018E+01	2.018E+01	2.018E+01	2.018E+01
cm246	1.855E+00	1.855E+00	1.854E+00	1.854E+00	1.854E+00
cm247	3.272E-02	3.272E-02	3.272E-02	3.272E-02	3.272E-02
cm248	2.613E-03	2.616E-03	2.616E-03	2.616E-03	2.616E-03
cm250	3.792E-10	3.791E-10	3.791E-10	3.791E-10	3.790E-10
co 59	1.080E-13	1.080E-13	1.080E-13	1.080E-13	1.080E-13
co 60	1.238E-14	6.635E-15	6.415E-15	5.625E-15	4.932E-15
cr 50	8.779E-14	8.779E-14	8.779E-14	8.779E-14	8.779E-14
cr 52	9.366E-14	9.366E-14	9.366E-14	9.366E-14	9.366E-14
cr 53	9.294E-14	9.294E-14	9.294E-14	9.294E-14	9.294E-14
cr 54	1.003E-13	1.003E-13	1.003E-13	1.003E-13	1.003E-13
cs131	1.530E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs132	1.334E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs133	1.286E+03	1.286E+03	1.286E+03	1.286E+03	1.286E+03
cs134	1.460E+02	2.971E+01	2.727E+01	1.950E+01	1.394E+01

Table C-2. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
cs135	5.684E+02	5.684E+02	5.684E+02	5.684E+02	5.684E+02
cs136	8.192E-07	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs137	1.437E+03	1.288E+03	1.281E+03	1.251E+03	1.223E+03
cu 63	1.123E-13	1.124E-13	1.124E-13	1.124E-13	1.124E-13
cu 65	4.828E-07	4.828E-07	4.828E-07	4.828E-07	4.828E-07
dy156	2.849E-12	2.849E-12	2.849E-12	2.849E-12	2.849E-12
dy158	1.191E-07	3.892E-07	4.036E-07	4.598E-07	5.158E-07
dy159	2.325E-07	5.671E-11	3.628E-11	6.293E-12	1.091E-12
dy160	8.911E-01	9.076E-01	9.076E-01	9.076E-01	9.076E-01
dy161	1.070E+00	1.070E+00	1.070E+00	1.070E+00	1.070E+00
dy162	6.787E-01	6.787E-01	6.787E-01	6.787E-01	6.787E-01
dy163	5.874E-01	5.874E-01	5.874E-01	5.874E-01	5.874E-01
dy164	2.183E-01	2.183E-01	2.183E-01	2.183E-01	2.183E-01
er162	3.026E-12	3.026E-12	3.026E-12	3.026E-12	3.026E-12
er164	3.165E-06	3.165E-06	3.165E-06	3.165E-06	3.165E-06
er166	8.984E-02	8.984E-02	8.984E-02	8.984E-02	8.984E-02
er167	4.007E-03	4.007E-03	4.007E-03	4.007E-03	4.007E-03
er168	1.314E-02	1.314E-02	1.314E-02	1.314E-02	1.314E-02
er169	1.051E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
er170	6.586E-04	6.587E-04	6.587E-04	6.587E-04	6.587E-04
es252	8.608E-15	6.741E-16	5.880E-16	3.439E-16	2.012E-16
es253	4.688E-12	0.000E+00	0.000E+00	0.000E+00	0.000E+00
es254	3.492E-11	4.475E-13	3.543E-13	1.415E-13	5.652E-14
es255	6.154E-14	4.801E-27	9.505E-28	1.649E-30	2.861E-33
eu147	2.416E-18	0.000E+00	0.000E+00	0.000E+00	0.000E+00
eu149	4.356E-11	1.085E-16	5.430E-17	3.586E-18	2.368E-19
eu151	1.371E-01	8.416E-01	8.786E-01	1.024E+00	1.167E+00
eu152	2.289E-02	1.795E-02	1.772E-02	1.684E-02	1.600E-02
eu153	1.811E+02	1.811E+02	1.811E+02	1.811E+02	1.811E+02
eu154	5.121E+01	3.494E+01	3.423E+01	3.158E+01	2.913E+01
eu155	1.300E+01	6.508E+00	6.271E+00	5.421E+00	4.686E+00
eu156	3.765E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00
f 19	1.556E-13	1.556E-13	1.556E-13	1.556E-13	1.556E-13
fe 54	9.689E-14	9.689E-14	9.689E-14	9.689E-14	9.689E-14
fe 55	2.431E-16	7.335E-17	6.873E-17	5.341E-17	4.149E-17
fe 56	1.072E-13	1.072E-13	1.072E-13	1.072E-13	1.072E-13
fe 57	1.028E-13	1.028E-13	1.028E-13	1.028E-13	1.028E-13
fe 58	2.977E-13	2.977E-13	2.977E-13	2.977E-13	2.977E-13

Table C-2. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
fr221	4.956E-16	5.101E-16	5.108E-16	5.154E-16	5.200E-16
ga 69	1.601E-03	1.601E-03	1.601E-03	1.601E-03	1.601E-03
ga 71	6.787E-03	6.787E-03	6.787E-03	6.787E-03	6.787E-03
gd151	4.919E-08	3.053E-12	1.815E-12	2.360E-13	3.067E-14
gd152	4.936E-02	5.074E-02	5.080E-02	5.105E-02	5.128E-02
gd153	1.929E-03	1.304E-05	9.973E-06	3.481E-06	1.215E-06
gd154	8.186E+00	2.446E+01	2.517E+01	2.781E+01	3.026E+01
gd155	1.627E+00	8.120E+00	8.357E+00	9.208E+00	9.940E+00
gd156	1.673E+02	1.673E+02	1.673E+02	1.673E+02	1.673E+02
gd157	2.938E-01	2.938E-01	2.938E-01	2.938E-01	2.938E-01
gd158	4.432E+01	4.432E+01	4.432E+01	4.432E+01	4.432E+01
gd160	2.861E+00	2.861E+00	2.861E+00	2.861E+00	2.861E+00
ge 70	2.146E-05	2.146E-05	2.146E-05	2.146E-05	2.146E-05
ge 71	4.694E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ge 72	1.623E-02	1.623E-02	1.623E-02	1.623E-02	1.623E-02
ge 73	3.332E-02	3.332E-02	3.332E-02	3.332E-02	3.332E-02
ge 73m	8.159E-18	2.599E-24	1.164E-24	4.986E-26	2.135E-27
ge 74	7.843E-02	7.843E-02	7.843E-02	7.843E-02	7.843E-02
ge 76	3.498E-01	3.498E-01	3.498E-01	3.498E-01	3.498E-01
h 1	6.919E-03	6.919E-03	6.919E-03	6.919E-03	6.919E-03
h 2	1.481E-03	1.481E-03	1.481E-03	1.481E-03	1.481E-03
h3	6.727E-02	5.152E-02	5.079E-02	4.802E-02	4.539E-02
he3	3.977E-03	1.974E-02	2.047E-02	2.325E-02	2.587E-02
he4	7.829E+00	8.934E+00	8.977E+00	9.149E+00	9.320E+00
hf174	1.134E-13	1.134E-13	1.134E-13	1.134E-13	1.134E-13
hf175	8.410E-16	2.965E-23	1.181E-23	3.179E-25	8.561E-27
hf176	3.301E-13	3.301E-13	3.301E-13	3.301E-13	3.301E-13
hf177	4.318E-14	4.319E-14	4.319E-14	4.319E-14	4.319E-14
hf178	2.739E-13	2.739E-13	2.739E-13	2.739E-13	2.739E-13
hf179	7.836E-13	7.836E-13	7.836E-13	7.836E-13	7.836E-13
hf180	6.532E-13	6.532E-13	6.532E-13	6.532E-13	6.532E-13
hf181	2.733E-17	1.348E-29	2.946E-30	7.539E-33	0.000E+00
hf182	1.493E-15	1.493E-15	1.493E-15	1.493E-15	1.493E-15
hg196	7.856E-15	7.856E-15	7.856E-15	7.856E-15	7.856E-15
hg198	6.649E-13	6.649E-13	6.649E-13	6.649E-13	6.649E-13
hg199	8.120E-14	8.120E-14	8.120E-14	8.120E-14	8.120E-14
hg200	8.548E-13	8.548E-13	8.548E-13	8.548E-13	8.548E-13
hg201	3.485E-13	3.485E-13	3.485E-13	3.485E-13	3.485E-13

Table C-2. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
hg202	3.788E-13	3.788E-13	3.788E-13	3.788E-13	3.788E-13
hg204	3.664E-13	3.664E-13	3.664E-13	3.664E-13	3.664E-13
ho163	1.785E-07	1.784E-07	1.784E-07	1.784E-07	1.783E-07
ho165	2.712E-01	2.712E-01	2.712E-01	2.712E-01	2.712E-01
ho166m	6.179E-04	6.163E-04	6.161E-04	6.158E-04	6.154E-04
i125	8.509E-10	1.403E-18	4.740E-19	6.701E-21	9.465E-23
i126	1.452E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
i127	7.922E+01	7.948E+01	7.948E+01	7.948E+01	7.948E+01
i129	2.564E+02	2.564E+02	2.564E+02	2.564E+02	2.564E+02
i131	9.947E-10	0.000E+00	0.000E+00	0.000E+00	0.000E+00
in113	5.810E-04	1.392E-03	1.431E-03	1.577E-03	1.716E-03
in113m	3.351E-14	9.821E-19	5.610E-19	6.227E-20	6.913E-21
in114	3.279E-12	9.525E-23	2.590E-23	1.563E-25	9.432E-28
in114m	2.017E-07	5.856E-18	1.593E-18	9.610E-21	5.802E-23
in115	2.754E+00	2.754E+00	2.754E+00	2.754E+00	2.754E+00
in115m	2.536E-10	4.973E-22	1.171E-22	4.004E-25	1.370E-27
ir191	4.460E-15	4.460E-15	4.460E-15	4.460E-15	4.460E-15
ir192	9.709E-17	8.337E-24	3.481E-24	1.131E-25	3.674E-27
ir193	1.501E-13	1.513E-13	1.514E-13	1.516E-13	1.519E-13
k 39	6.992E-14	6.998E-14	6.998E-14	6.998E-14	6.998E-14
k 40	6.840E-14	6.840E-14	6.840E-14	6.840E-14	6.840E-14
k 41	7.730E-14	7.730E-14	7.730E-14	7.730E-14	7.730E-14
kr 78	1.787E-13	1.787E-13	1.787E-13	1.787E-13	1.787E-13
kr 80	4.765E-04	4.765E-04	4.765E-04	4.765E-04	4.765E-04
kr 81	4.076E-05	4.076E-05	4.076E-05	4.076E-05	4.076E-05
kr 82	9.129E-01	9.129E-01	9.129E-01	9.129E-01	9.129E-01
kr 83	3.403E+01	3.403E+01	3.403E+01	3.403E+01	3.403E+01
kr 83m	3.450E-11	3.060E-17	1.448E-17	7.697E-19	4.089E-20
kr 84	8.324E+01	8.324E+01	8.324E+01	8.324E+01	8.324E+01
kr 85	1.662E+01	1.224E+01	1.204E+01	1.129E+01	1.059E+01
kr 86	1.224E+02	1.224E+02	1.224E+02	1.224E+02	1.224E+02
la137	1.939E-14	1.939E-14	1.939E-14	1.939E-14	1.939E-14
la137	4.201E-04	4.201E-04	4.201E-04	4.201E-04	4.201E-04
la138	2.514E-02	2.514E-02	2.514E-02	2.514E-02	2.514E-02
la139	1.336E+03	1.336E+03	1.336E+03	1.336E+03	1.336E+03
la140	1.780E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00
li6	2.700E-10	2.700E-10	2.700E-10	2.700E-10	2.700E-10
li7	3.333E-11	3.333E-11	3.333E-11	3.333E-11	3.333E-11

Table C-2. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
lu175	2.932E-13	2.940E-13	2.940E-13	2.940E-13	2.940E-13
lu176	6.077E-15	6.077E-15	6.077E-15	6.077E-15	6.077E-15
mg 24	4.334E-14	4.334E-14	4.334E-14	4.334E-14	4.334E-14
mg 25	4.508E-14	4.508E-14	4.508E-14	4.508E-14	4.508E-14
mg 26	4.692E-14	4.692E-14	4.692E-14	4.692E-14	4.692E-14
mn 54	2.264E-17	4.820E-19	3.921E-19	1.743E-19	7.750E-20
mn 55	9.650E-14	9.670E-14	9.670E-14	9.670E-14	9.670E-14
mo 92	6.205E-12	6.205E-12	6.205E-12	6.205E-12	6.205E-12
mo 93	4.148E-07	4.144E-07	4.144E-07	4.143E-07	4.142E-07
mo 94	1.386E-02	1.386E-02	1.386E-02	1.386E-02	1.386E-02
mo 95	7.150E+02	7.223E+02	7.223E+02	7.223E+02	7.223E+02
mo 96	4.619E+01	4.619E+01	4.619E+01	4.619E+01	4.619E+01
mo 97	8.720E+02	8.720E+02	8.720E+02	8.720E+02	8.720E+02
mo 98	9.551E+02	9.551E+02	9.551E+02	9.551E+02	9.551E+02
mo100	1.124E+03	1.124E+03	1.124E+03	1.124E+03	1.124E+03
n 14	5.025E-06	5.267E-06	5.280E-06	5.331E-06	5.382E-06
n 15	1.220E-02	1.220E-02	1.220E-02	1.220E-02	1.220E-02
na 23	4.146E-14	4.146E-14	4.146E-14	4.146E-14	4.146E-14
nb 91	8.911E-09	8.872E-09	8.865E-09	8.858E-09	8.852E-09
nb 91m	5.542E-15	1.485E-23	5.149E-24	8.060E-26	1.262E-27
nb 92	7.711E-07	7.711E-07	7.711E-07	7.711E-07	7.711E-07
nb 92m	1.528E-18	0.000E+00	0.000E+00	0.000E+00	0.000E+00
nb 93	9.689E-05	3.580E-04	3.778E-04	4.606E-04	5.514E-04
nb 93m	5.859E-04	1.622E-03	1.672E-03	1.863E-03	2.045E-03
nb 94	2.942E-03	2.941E-03	2.941E-03	2.941E-03	2.941E-03
nb 95	3.795E+00	2.856E-08	1.042E-08	2.067E-10	3.979E-12
nb 95m	2.143E-03	1.526E-11	5.578E-12	1.072E-13	2.063E-15
nd142	2.195E+01	2.195E+01	2.195E+01	2.195E+01	2.195E+01
nd143	8.416E+02	8.416E+02	8.416E+02	8.416E+02	8.416E+02
nd144	1.043E+03	1.210E+03	1.210E+03	1.211E+03	1.212E+03
nd145	6.622E+02	6.622E+02	6.622E+02	6.622E+02	6.622E+02
nd146	7.572E+02	7.572E+02	7.572E+02	7.572E+02	7.572E+02
nd147	4.031E-07	0.000E+00	0.000E+00	0.000E+00	0.000E+00
nd148	4.369E+02	4.369E+02	4.369E+02	4.369E+02	4.369E+02
nd150	2.563E+02	2.563E+02	2.563E+02	2.563E+02	2.563E+02
ni 58	1.036E-13	1.036E-13	1.036E-13	1.036E-13	1.036E-13
ni 59	7.941E-14	7.941E-14	7.941E-14	7.941E-14	7.941E-14
ni 60	1.355E-13	1.412E-13	1.414E-13	1.422E-13	1.429E-13

Table C-2. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ni 61	1.102E-13	1.102E-13	1.102E-13	1.102E-13	1.102E-13
ni 62	1.098E-13	1.098E-13	1.098E-13	1.098E-13	1.098E-13
ni 63	2.543E-15	2.462E-15	2.457E-15	2.440E-15	2.424E-15
ni 64	1.161E-13	1.161E-13	1.161E-13	1.161E-13	1.161E-13
np235	2.407E-06	1.160E-07	9.861E-08	5.207E-08	2.750E-08
np236	3.295E-04	3.295E-04	3.295E-04	3.295E-04	3.295E-04
np237	1.929E+02	1.978E+02	1.982E+02	1.999E+02	2.019E+02
np238	5.224E-07	5.103E-07	5.097E-07	5.072E-07	5.047E-07
np239	3.589E-04	3.588E-04	3.588E-04	3.588E-04	3.588E-04
np240	2.559E-16	2.559E-16	2.559E-16	2.559E-16	2.559E-16
np240m	2.487E-14	2.487E-14	2.487E-14	2.487E-14	2.487E-14
o 16	1.344E+05	1.344E+05	1.344E+05	1.344E+05	1.344E+05
o 17	4.422E-02	4.422E-02	4.422E-02	4.422E-02	4.422E-02
o 18	2.210E-07	2.210E-07	2.210E-07	2.210E-07	2.210E-07
os186	2.122E-13	2.122E-13	2.122E-13	2.122E-13	2.122E-13
os187	4.033E-14	4.033E-14	4.033E-14	4.033E-14	4.033E-14
os188	1.598E-13	1.598E-13	1.598E-13	1.598E-13	1.598E-13
os189	1.178E-14	1.178E-14	1.178E-14	1.178E-14	1.178E-14
os190	3.570E-15	3.570E-15	3.570E-15	3.570E-15	3.570E-15
os192	7.678E-15	7.684E-15	7.684E-15	7.684E-15	7.684E-15
p 31	5.596E-14	5.596E-14	5.596E-14	5.596E-14	5.596E-14
pa230	9.525E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pa231	2.299E-05	2.634E-05	2.652E-05	2.723E-05	2.793E-05
pa232	1.531E-14	1.530E-14	1.530E-14	1.530E-14	1.530E-14
pa233	6.530E-06	6.695E-06	6.708E-06	6.774E-06	6.840E-06
pa234	2.520E-10	2.520E-10	2.520E-10	2.520E-10	2.520E-10
pa234m	4.540E-10	4.541E-10	4.540E-10	4.540E-10	4.540E-10
pb204	3.666E-13	3.666E-13	3.666E-13	3.666E-13	3.666E-13
pb205	1.423E-15	1.424E-15	1.424E-15	1.424E-15	1.424E-15
pb206	2.017E-12	9.445E-12	9.854E-12	1.150E-11	1.321E-11
pb207	7.137E-11	3.101E-10	3.313E-10	4.231E-10	5.282E-10
pb208	1.038E-06	2.216E-05	2.410E-05	3.232E-05	4.140E-05
pb209	1.867E-14	1.921E-14	1.924E-14	1.941E-14	1.958E-14
pb210	5.261E-11	5.302E-11	5.350E-11	5.598E-11	5.957E-11
pb211	1.840E-15	8.350E-15	8.529E-15	1.003E-14	1.138E-14
pb212	2.241E-09	1.337E-08	1.386E-08	1.552E-08	1.691E-08
pd102	8.568E-04	1.014E-03	1.014E-03	1.014E-03	1.015E-03
pd103	2.838E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Table C-2. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
pd104	4.049E+02	4.049E+02	4.049E+02	4.049E+02	4.049E+02
pd105	8.370E+02	8.370E+02	8.370E+02	8.370E+02	8.370E+02
pd106	7.025E+02	8.904E+02	8.918E+02	8.951E+02	8.964E+02
pd107	5.511E+02	5.511E+02	5.511E+02	5.511E+02	5.511E+02
pd108	3.841E+02	3.841E+02	3.841E+02	3.841E+02	3.841E+02
pd110	1.274E+02	1.274E+02	1.274E+02	1.274E+02	1.274E+02
pm143	1.490E-12	1.601E-14	1.256E-14	4.833E-15	1.861E-15
pm144	4.549E-10	1.663E-11	1.392E-11	6.932E-12	3.454E-12
pm145	3.239E-05	2.712E-05	2.685E-05	2.582E-05	2.483E-05
pm146	3.035E-04	1.675E-04	1.622E-04	1.431E-04	1.262E-04
pm147	1.477E+02	4.218E+01	3.944E+01	3.029E+01	2.326E+01
pm148	1.596E-04	3.699E-17	7.763E-18	1.694E-20	3.697E-23
pm148m	2.541E-02	5.893E-15	1.237E-15	2.699E-18	5.890E-21
po210	7.909E-13	8.812E-13	8.872E-13	9.208E-13	9.716E-13
po216	8.641E-15	5.155E-14	5.345E-14	5.984E-14	6.522E-14
pr141	1.212E+03	1.213E+03	1.213E+03	1.213E+03	1.213E+03
pr143	2.665E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pr144	7.097E-03	1.047E-04	8.350E-05	3.436E-05	1.414E-05
pr144m	2.824E-05	4.166E-07	3.322E-07	1.367E-07	5.625E-08
pt192	1.280E-13	1.280E-13	1.280E-13	1.280E-13	1.280E-13
pt193	1.992E-14	1.865E-14	1.859E-14	1.833E-14	1.808E-14
pt194	3.816E-13	3.816E-13	3.816E-13	3.816E-13	3.816E-13
pt195	3.520E-15	3.520E-15	3.520E-15	3.520E-15	3.520E-15
pt196	6.198E-16	6.198E-16	6.198E-16	6.198E-16	6.198E-16
pu236	1.041E-03	3.293E-04	3.095E-04	2.429E-04	1.906E-04
pu237	1.103E-05	4.092E-17	9.966E-18	3.900E-20	1.526E-22
pu238	1.928E+02	2.021E+02	2.017E+02	2.001E+02	1.986E+02
pu239	1.027E+04	1.027E+04	1.027E+04	1.027E+04	1.027E+04
pu240	5.657E+03	5.686E+03	5.687E+03	5.693E+03	5.698E+03
pu241	3.516E+03	2.793E+03	2.758E+03	2.628E+03	2.504E+03
pu242	1.446E+03	1.446E+03	1.446E+03	1.446E+03	1.446E+03
pu243	1.166E-12	1.166E-12	1.166E-12	1.166E-12	1.166E-12
pu244	1.496E-01	1.496E-01	1.496E-01	1.496E-01	1.496E-01
pu246	2.402E-16	2.401E-16	2.401E-16	2.401E-16	2.400E-16
ra223	8.865E-13	4.024E-12	4.108E-12	4.835E-12	5.482E-12
ra224	1.954E-08	1.166E-07	1.209E-07	1.353E-07	1.475E-07
ra225	2.208E-12	2.274E-12	2.278E-12	2.297E-12	2.318E-12
ra226	1.349E-09	8.456E-09	9.083E-09	1.185E-08	1.510E-08

Table C-2. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ra228	4.291E-14	7.137E-14	7.275E-14	7.803E-14	8.317E-14
rb 83	5.247E-08	4.654E-14	2.203E-14	1.171E-15	6.219E-17
rb 84	6.066E-08	7.717E-24	1.082E-24	4.859E-28	2.181E-31
rb 85	6.807E+01	7.242E+01	7.262E+01	7.341E+01	7.407E+01
rb 86	1.193E-06	1.189E-34	0.000E+00	0.000E+00	0.000E+00
rb 87	1.601E+02	1.601E+02	1.601E+02	1.601E+02	1.601E+02
re185	5.330E-14	5.343E-14	5.343E-14	5.343E-14	5.343E-14
re186m	1.816E-16	1.816E-16	1.816E-16	1.816E-16	1.816E-16
re187	3.451E-13	3.451E-13	3.451E-13	3.451E-13	3.451E-13
rh101	5.049E-07	1.863E-07	1.766E-07	1.432E-07	1.161E-07
rh102	7.170E-04	2.487E-06	1.890E-06	7.143E-07	3.408E-07
rh102m	1.770E-03	7.348E-04	7.011E-04	5.827E-04	4.842E-04
rh103	7.691E+02	7.697E+02	7.697E+02	7.697E+02	7.697E+02
rh103m	5.190E-04	2.647E-17	5.122E-18	8.126E-21	1.289E-23
rh106	1.831E-04	7.236E-06	6.085E-06	3.081E-06	1.560E-06
rn220	3.375E-12	2.014E-11	2.088E-11	2.338E-11	2.547E-11
rn222	8.601E-15	5.434E-14	5.838E-14	7.612E-14	9.703E-14
ru 96	1.714E-13	1.714E-13	1.714E-13	1.714E-13	1.714E-13
ru 98	1.751E-06	1.759E-06	1.760E-06	1.761E-06	1.763E-06
ru 99	3.797E-02	5.169E-02	5.243E-02	5.532E-02	5.821E-02
ru100	1.614E+02	1.614E+02	1.614E+02	1.614E+02	1.614E+02
ru101	9.670E+02	9.670E+02	9.670E+02	9.670E+02	9.670E+02
ru102	1.131E+03	1.131E+03	1.131E+03	1.131E+03	1.131E+03
ru103	5.285E-01	2.695E-14	5.215E-15	8.271E-18	1.312E-20
ru104	1.055E+03	1.055E+03	1.055E+03	1.055E+03	1.055E+03
ru106	1.956E+02	7.730E+00	6.500E+00	3.291E+00	1.667E+00
s 32	5.765E-14	5.765E-14	5.765E-14	5.765E-14	5.765E-14
s 33	5.921E-14	5.921E-14	5.921E-14	5.921E-14	5.921E-14
s 34	6.142E-14	6.142E-14	6.142E-14	6.142E-14	6.142E-14
s 36	6.493E-14	6.493E-14	6.493E-14	6.493E-14	6.493E-14
sb121	7.592E+00	7.638E+00	7.638E+00	7.651E+00	7.658E+00
sb123	1.001E+01	1.007E+01	1.007E+01	1.007E+01	1.007E+01
sb124	3.517E-03	7.592E-12	2.601E-12	3.890E-14	5.818E-16
sb125	1.262E+01	3.831E+00	3.593E+00	2.795E+00	2.175E+00
sb126	7.816E-07	7.777E-07	7.777E-07	7.777E-07	7.777E-07
sb126m	5.980E-09	5.980E-09	5.980E-09	5.980E-09	5.980E-09
sc 45	7.777E-14	7.777E-14	7.777E-14	7.777E-14	7.777E-14
sc 46	4.601E-17	2.733E-23	1.266E-23	6.183E-25	3.019E-26

Table C-2. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
se 74	3.477E-07	3.477E-07	3.477E-07	3.477E-07	3.477E-07
se 75	7.803E-09	3.447E-13	2.012E-13	2.435E-14	2.946E-15
se 76	8.087E-03	8.087E-03	8.087E-03	8.087E-03	8.087E-03
se 77	8.100E-01	8.100E-01	8.100E-01	8.100E-01	8.100E-01
se 78	2.360E+00	2.360E+00	2.360E+00	2.360E+00	2.360E+00
se 79	4.961E+00	4.961E+00	4.961E+00	4.961E+00	4.961E+00
se 80	1.152E+01	1.152E+01	1.152E+01	1.152E+01	1.152E+01
se 82	3.048E+01	3.048E+01	3.048E+01	3.048E+01	3.048E+01
si 28	5.052E-14	5.052E-14	5.052E-14	5.052E-14	5.052E-14
si 29	5.238E-14	5.238E-14	5.238E-14	5.238E-14	5.238E-14
si 30	5.446E-14	5.446E-14	5.446E-14	5.446E-14	5.446E-14
sm144	5.355E-11	5.355E-11	5.355E-11	5.355E-11	5.355E-11
sm145	2.690E-07	7.862E-09	6.502E-09	3.090E-09	1.468E-09
sm146	2.925E-03	2.971E-03	2.973E-03	2.979E-03	2.985E-03
sm147	9.966E+01	2.053E+02	2.080E+02	2.171E+02	2.242E+02
sm148	1.811E+02	1.812E+02	1.812E+02	1.812E+02	1.812E+02
sm149	4.663E+00	4.663E+00	4.663E+00	4.663E+00	4.663E+00
sm150	3.766E+02	3.766E+02	3.766E+02	3.766E+02	3.766E+02
sm151	1.963E+01	1.892E+01	1.888E+01	1.875E+01	1.860E+01
sm152	1.282E+02	1.282E+02	1.282E+02	1.282E+02	1.282E+02
sm154	7.308E+01	7.308E+01	7.308E+01	7.308E+01	7.308E+01
sn112	2.504E-09	2.504E-09	2.504E-09	2.504E-09	2.504E-09
sn113	5.579E-11	1.636E-15	9.340E-16	1.037E-16	1.151E-17
sn114	1.290E-04	1.292E-04	1.292E-04	1.292E-04	1.292E-04
sn115	4.525E-01	4.525E-01	4.525E-01	4.525E-01	4.525E-01
sn116	3.941E+00	3.941E+00	3.941E+00	3.941E+00	3.941E+00
sn117	9.122E+00	9.122E+00	9.122E+00	9.122E+00	9.122E+00
sn117m	2.326E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sn118	8.205E+00	8.205E+00	8.205E+00	8.205E+00	8.205E+00
sn119	7.770E+00	7.829E+00	7.829E+00	7.829E+00	7.829E+00
sn119m	5.866E-02	9.722E-04	7.803E-04	3.291E-04	1.388E-04
sn120	7.889E+00	7.889E+00	7.889E+00	7.889E+00	7.889E+00
sn121	3.668E-05	3.403E-05	3.390E-05	3.336E-05	3.284E-05
sn121m	6.728E-01	6.243E-01	6.218E-01	6.120E-01	6.025E-01
sn122	1.036E+01	1.036E+01	1.036E+01	1.036E+01	1.036E+01
sn123	6.274E-02	5.750E-06	3.491E-06	4.927E-07	6.952E-08
sn124	1.638E+01	1.638E+01	1.638E+01	1.638E+01	1.638E+01
sn125	6.163E-10	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Table C-2. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
sn126	3.777E+01	3.777E+01	3.777E+01	3.777E+01	3.777E+01
sr 84	7.922E-06	7.922E-06	7.922E-06	7.922E-06	7.922E-06
sr 85	1.336E-08	1.202E-16	4.447E-17	8.984E-19	1.815E-20
sr 86	4.905E-01	4.905E-01	4.905E-01	4.905E-01	4.905E-01
sr 87	4.930E-03	4.930E-03	4.930E-03	4.930E-03	4.930E-03
sr 88	2.127E+02	2.127E+02	2.127E+02	2.127E+02	2.127E+02
sr 89	4.384E-01	2.077E-11	5.800E-12	3.881E-14	2.597E-16
sr 90	3.264E+02	2.912E+02	2.894E+02	2.826E+02	2.758E+02
ta180m	2.065E-17	2.065E-17	2.065E-17	2.065E-17	2.065E-17
ta181	1.680E-13	1.680E-13	1.680E-13	1.680E-13	1.680E-13
ta182	5.749E-16	1.638E-20	9.360E-21	1.079E-21	1.658E-22
tb157	6.146E-07	5.868E-07	5.853E-07	5.796E-07	5.740E-07
tb158	8.990E-05	8.825E-05	8.819E-05	8.779E-05	8.746E-05
tb159	6.372E+00	6.372E+00	6.372E+00	6.372E+00	6.372E+00
tb160	1.622E-02	9.874E-10	4.048E-10	1.224E-11	3.696E-13
tb161	6.327E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00
tc 95	4.804E-18	1.347E-26	4.681E-27	7.394E-29	0.000E+00
tc 95m	8.937E-15	2.506E-23	8.713E-24	1.377E-25	2.175E-27
tc 97	9.775E-06	9.848E-06	9.848E-06	9.848E-06	9.848E-06
tc 97m	8.100E-08	1.498E-13	7.374E-14	4.575E-15	2.838E-16
tc 98	1.012E-02	1.012E-02	1.012E-02	1.012E-02	1.012E-02
tc 99	8.812E+02	8.812E+02	8.812E+02	8.812E+02	8.812E+02
te120	2.553E-09	2.553E-09	2.553E-09	2.553E-09	2.553E-09
te121	3.339E-08	2.220E-11	1.499E-11	3.212E-12	6.880E-13
te121m	2.850E-07	1.896E-10	1.280E-10	2.742E-11	5.874E-12
te122	7.631E-01	7.631E-01	7.631E-01	7.631E-01	7.631E-01
te123	9.815E-03	1.027E-02	1.027E-02	1.027E-02	1.027E-02
te123m	4.505E-04	1.893E-08	1.102E-08	1.320E-09	1.580E-10
te124	5.471E-01	5.506E-01	5.506E-01	5.506E-01	5.506E-01
te125	9.083E+00	1.799E+01	1.824E+01	1.904E+01	1.968E+01
te125m	1.753E-01	5.344E-02	5.013E-02	3.900E-02	3.033E-02
te126	9.426E-01	9.432E-01	9.432E-01	9.432E-01	9.432E-01
te127	7.368E-04	1.206E-08	6.675E-09	6.551E-10	6.431E-11
te127m	2.105E-01	3.444E-06	1.906E-06	1.871E-07	1.837E-08
te128	1.468E+02	1.468E+02	1.468E+02	1.468E+02	1.468E+02
te129	5.944E-06	1.768E-21	2.596E-22	1.394E-25	7.486E-29
te129m	6.549E-03	1.948E-18	2.861E-19	1.536E-22	8.245E-26
te130	4.955E+02	4.955E+02	4.955E+02	4.955E+02	4.955E+02

Table C-2. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2/15	1/22/2016
th227	1.489E-12	6.603E-12	6.781E-12	7.935E-12	8.997E-12
th228	3.846E-06	2.256E-05	2.337E-05	2.620E-05	2.855E-05
th229	4.043E-07	4.165E-07	4.173E-07	4.208E-07	4.244E-07
th230	8.113E-05	2.673E-04	2.801E-04	3.331E-04	3.903E-04
th231	2.951E-09	2.956E-09	2.957E-09	2.958E-09	2.959E-09
th232	2.446E-04	2.895E-04	2.919E-04	3.014E-04	3.110E-04
th234	1.359E-05	1.360E-05	1.359E-05	1.359E-05	1.359E-05
ti 46	8.647E-14	8.647E-14	8.647E-14	8.647E-14	8.647E-14
ti 47	8.469E-14	8.469E-14	8.469E-14	8.469E-14	8.469E-14
ti 48	8.581E-14	8.581E-14	8.581E-14	8.581E-14	8.581E-14
ti 49	8.944E-14	8.944E-14	8.944E-14	8.944E-14	8.944E-14
ti 50	9.050E-14	9.050E-14	9.050E-14	9.050E-14	9.050E-14
tl203	3.657E-15	3.662E-15	3.662E-15	3.662E-15	3.662E-15
tl204	8.364E-17	3.506E-17	3.346E-17	2.786E-17	2.320E-17
tl205	1.592E-15	1.592E-15	1.592E-15	1.592E-15	1.592E-15
tl207	2.378E-16	1.080E-15	1.102E-15	1.297E-15	1.471E-15
tl208	3.779E-12	2.254E-11	2.337E-11	2.617E-11	2.851E-11
tm168	8.627E-10	2.150E-15	1.076E-15	7.104E-17	4.690E-18
tm169	9.195E-04	9.195E-04	9.195E-04	9.195E-04	9.195E-04
tm170	5.103E-05	4.479E-09	2.713E-09	3.793E-10	5.304E-11
tm171	1.745E-04	3.146E-05	2.870E-05	2.001E-05	1.394E-05
u230	2.560E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
u232	4.959E-04	1.153E-03	1.169E-03	1.222E-03	1.261E-03
u233	4.479E-04	7.618E-04	7.777E-04	8.476E-04	9.182E-04
u234	1.040E+01	1.791E+01	1.830E+01	1.987E+01	2.142E+01
u235	7.256E+02	7.269E+02	7.269E+02	7.275E+02	7.275E+02
u236	3.243E+02	3.271E+02	3.272E+02	3.278E+02	3.284E+02
u237	1.097E-04	8.713E-05	8.608E-05	8.199E-05	7.810E-05
u238	9.360E+05	9.360E+05	9.360E+05	9.360E+05	9.360E+05
u240	2.914E-12	2.914E-12	2.914E-12	2.914E-12	2.914E-12
v 50	6.103E-17	6.103E-17	6.103E-17	6.103E-17	6.103E-17
v 51	2.440E-15	2.440E-15	2.440E-15	2.440E-15	2.440E-15
w182	2.384E-13	2.390E-13	2.390E-13	2.390E-13	2.390E-13
w183	6.550E-13	6.550E-13	6.550E-13	6.550E-13	6.550E-13
w184	6.019E-13	6.019E-13	6.019E-13	6.019E-13	6.019E-13
w185	1.278E-16	1.446E-23	6.129E-24	2.110E-25	7.262E-27
w186	1.963E-13	1.963E-13	1.963E-13	1.963E-13	1.963E-13
xe124	1.778E-13	1.778E-13	1.778E-13	1.778E-13	1.778E-13

Table C-2. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
xe126	2.917E-04	2.917E-04	2.917E-04	2.917E-04	2.917E-04
xe127	4.680E-08	2.178E-22	3.707E-23	3.551E-26	3.402E-29
xe128	7.572E+00	7.572E+00	7.572E+00	7.572E+00	7.572E+00
xe129	5.827E-02	5.833E-02	5.833E-02	5.834E-02	5.835E-02
xe129m	2.597E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe130	1.086E+01	1.086E+01	1.086E+01	1.086E+01	1.086E+01
xe131	5.246E+02	5.246E+02	5.246E+02	5.246E+02	5.246E+02
xe131m	7.935E-08	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe132	1.456E+03	1.456E+03	1.456E+03	1.456E+03	1.456E+03
xe133	8.139E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe134	1.749E+03	1.749E+03	1.749E+03	1.749E+03	1.749E+03
xe136	2.756E+03	2.756E+03	2.756E+03	2.756E+03	2.756E+03
y 88	2.481E-05	3.178E-10	1.736E-10	1.619E-11	1.509E-12
y 89	2.802E+02	2.807E+02	2.807E+02	2.807E+02	2.807E+02
y 89m	1.516E-10	7.183E-21	2.006E-21	1.342E-23	8.984E-26
y 90	8.278E-02	7.387E-02	7.341E-02	7.170E-02	6.998E-02
y 91	1.227E+00	1.487E-09	4.943E-10	6.547E-12	8.674E-14
yb168	1.822E-12	1.908E-12	1.908E-12	1.908E-12	1.908E-12
yb169	3.324E-12	1.691E-28	2.257E-29	8.350E-33	0.000E+00
yb170	7.031E-04	7.539E-04	7.539E-04	7.539E-04	7.539E-04
yb171	2.286E-04	3.716E-04	3.744E-04	3.831E-04	3.891E-04
yb172	4.828E-04	4.828E-04	4.828E-04	4.828E-04	4.828E-04
yb176	1.336E-16	1.336E-16	1.336E-16	1.336E-16	1.336E-16
zn 64	5.306E-16	5.306E-16	5.306E-16	5.306E-16	5.306E-16
zn 66	1.549E-04	1.549E-04	1.549E-04	1.549E-04	1.549E-04
zn 67	4.368E-04	4.368E-04	4.368E-04	4.368E-04	4.368E-04
zn 68	8.482E-04	8.482E-04	8.482E-04	8.482E-04	8.482E-04
zn 70	3.686E-03	3.686E-03	3.686E-03	3.686E-03	3.686E-03
zr 88	5.158E-12	2.866E-18	1.323E-18	6.369E-20	3.066E-21
zr 90	1.878E+01	5.403E+01	5.581E+01	6.269E+01	6.939E+01
zr 91	4.072E+02	4.084E+02	4.084E+02	4.084E+02	4.084E+02
zr 92	4.919E+02	4.919E+02	4.919E+02	4.919E+02	4.919E+02
zr 93	6.035E+02	6.035E+02	6.035E+02	6.035E+02	6.035E+02
zr 94	6.899E+02	6.899E+02	6.899E+02	6.899E+02	6.899E+02
zr 95	3.320E+00	2.365E-08	8.641E-09	1.662E-10	3.196E-12
zr 96	8.073E+02	8.073E+02	8.073E+02	8.073E+02	8.073E+02
Total	1.1339E+06	1.1339E+06	1.1339E+06	1.1339E+06	1.1339E+06

Table C-3. MOX Fuel Rod CI (medium Pu): Nuclide mass in grams per MTIHM

	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ac225	1.319E-12	1.363E-12	1.365E-12	1.379E-12	1.393E-12
ac227	7.086E-10	2.991E-09	3.115E-09	3.601E-09	4.089E-09
ag105	8.136E-15	1.887E-27	3.960E-28	8.641E-31	1.886E-33
ag107	1.368E-04	4.360E-04	4.521E-04	5.151E-04	5.782E-04
ag108	6.262E-13	6.214E-13	6.212E-13	6.202E-13	6.192E-13
ag108m	6.959E-04	6.906E-04	6.906E-04	6.893E-04	6.886E-04
ag109	1.993E+02	1.993E+02	1.993E+02	1.993E+02	1.993E+02
ag109m	2.046E-10	1.514E-11	1.317E-11	7.611E-12	4.398E-12
ag110	2.104E-08	1.715E-10	1.325E-10	4.812E-11	1.748E-11
ag110m	1.357E+00	1.106E-02	8.548E-03	3.104E-03	1.127E-03
ag111	1.442E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
al 27	4.908E-14	4.908E-14	4.908E-14	4.908E-14	4.908E-14
am241	3.407E+02	1.189E+03	1.229E+03	1.381E+03	1.526E+03
am242	4.416E-05	4.315E-05	4.309E-05	4.288E-05	4.267E-05
am242m	3.423E+00	3.344E+00	3.339E+00	3.324E+00	3.307E+00
am243	4.006E+02	4.004E+02	4.004E+02	4.004E+02	4.003E+02
am244	5.450E-15	3.781E-15	3.707E-15	3.433E-15	3.178E-15
am245	5.730E-14	1.342E-15	1.097E-15	4.977E-16	2.257E-16
ar 36	6.478E-14	6.478E-14	6.478E-14	6.478E-14	6.478E-14
ar 38	6.906E-14	6.906E-14	6.906E-14	6.906E-14	6.906E-14
ar 39	1.251E-16	1.236E-16	1.235E-16	1.232E-16	1.228E-16
ar 40	7.312E-14	7.312E-14	7.312E-14	7.312E-14	7.312E-14
as 73	1.270E-10	4.048E-17	1.814E-17	7.764E-19	3.326E-20
as 74	1.637E-12	0.000E+00	0.000E+00	0.000E+00	0.000E+00
as 75	1.658E-01	1.658E-01	1.658E-01	1.658E-01	1.658E-01
au197	2.057E-13	2.057E-13	2.057E-13	2.057E-13	2.057E-13
b 10	6.460E-11	3.500E-10	3.653E-10	4.254E-10	4.856E-10
b 11	7.471E-08	7.471E-08	7.471E-08	7.471E-08	7.471E-08
ba130	1.872E-13	1.872E-13	1.872E-13	1.872E-13	1.872E-13
ba131	4.133E-18	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba132	2.987E-04	2.987E-04	2.987E-04	2.987E-04	2.987E-04
ba133	2.097E-04	1.534E-04	1.508E-04	1.412E-04	1.322E-04
ba134	1.150E+02	2.348E+02	2.373E+02	2.453E+02	2.511E+02
ba135	5.465E-01	5.475E-01	5.476E-01	5.478E-01	5.480E-01
ba136	4.371E+01	4.371E+01	4.371E+01	4.371E+01	4.371E+01
ba136m	2.898E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba137	8.196E+01	2.404E+02	2.485E+02	2.795E+02	3.099E+02

Table C-3. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ba137m	2.338E-04	2.096E-04	2.083E-04	2.036E-04	1.989E-04
ba138	1.531E+03	1.531E+03	1.531E+03	1.531E+03	1.531E+03
ba140	1.297E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00
be 9	2.467E-06	2.467E-06	2.467E-06	2.467E-06	2.467E-06
be 10	1.310E-04	1.310E-04	1.310E-04	1.310E-04	1.310E-04
bi208	1.304E-15	1.304E-15	1.304E-15	1.304E-15	1.304E-15
bi209	1.191E-10	2.685E-10	2.766E-10	3.089E-10	3.415E-10
bi210	3.256E-14	3.300E-14	3.331E-14	3.493E-14	3.725E-14
bi210m	1.820E-15	1.820E-15	1.820E-15	1.820E-15	1.820E-15
bi211	1.143E-16	5.207E-16	5.318E-16	6.267E-16	7.119E-16
bi212	1.958E-10	1.198E-09	1.243E-09	1.393E-09	1.520E-09
bi213	3.952E-15	4.087E-15	4.092E-15	4.134E-15	4.175E-15
bk247	1.064E-12	1.062E-12	1.062E-12	1.061E-12	1.061E-12
bk248	4.323E-11	2.999E-11	2.941E-11	2.723E-11	2.521E-11
bk249	1.504E-05	3.524E-07	2.881E-07	1.307E-07	5.926E-08
bk250	7.458E-15	9.638E-17	7.644E-17	3.100E-17	1.285E-17
br 79	2.923E-03	2.983E-03	2.987E-03	2.999E-03	3.012E-03
br 81	2.256E+01	2.256E+01	2.256E+01	2.256E+01	2.256E+01
c 12	7.930E-02	7.930E-02	7.930E-02	7.930E-02	7.930E-02
c 13	1.250E+01	1.250E+01	1.250E+01	1.250E+01	1.250E+01
c 14	3.937E-04	3.934E-04	3.934E-04	3.934E-04	3.934E-04
ca 40	7.252E-14	7.252E-14	7.252E-14	7.252E-14	7.252E-14
ca 41	4.767E-17	4.767E-17	4.767E-17	4.767E-17	4.767E-17
ca 42	7.657E-14	7.657E-14	7.657E-14	7.657E-14	7.657E-14
ca 43	7.691E-14	7.691E-14	7.691E-14	7.691E-14	7.691E-14
ca 44	8.129E-14	8.129E-14	8.129E-14	8.129E-14	8.129E-14
ca 46	8.355E-14	8.355E-14	8.355E-14	8.355E-14	8.355E-14
ca 48	8.714E-14	8.714E-14	8.714E-14	8.714E-14	8.714E-14
cd106	2.993E-13	2.993E-13	2.993E-13	2.993E-13	2.993E-13
cd108	1.465E-03	1.466E-03	1.466E-03	1.466E-03	1.466E-03
cd109	2.060E-04	1.524E-05	1.325E-05	7.657E-06	4.427E-06
cd110	1.436E+02	1.450E+02	1.450E+02	1.450E+02	1.450E+02
cd111	6.503E+01	6.503E+01	6.503E+01	6.503E+01	6.503E+01
cd112	3.075E+01	3.075E+01	3.075E+01	3.075E+01	3.075E+01
cd113	3.128E-01	3.128E-01	3.128E-01	3.128E-01	3.128E-01
cd113m	4.495E-03	3.560E-03	3.516E-03	3.347E-03	3.187E-03
cd114	3.281E+01	3.281E+01	3.281E+01	3.281E+01	3.281E+01
cd115m	6.174E-04	1.210E-15	2.849E-16	9.745E-19	3.335E-21

Table C-3. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
cd116	1.086E+01	1.086E+01	1.086E+01	1.086E+01	1.086E+01
ce136	2.269E-13	2.269E-13	2.269E-13	2.269E-13	2.269E-13
ce138	1.052E-05	1.052E-05	1.052E-05	1.052E-05	1.052E-05
ce139	1.426E-03	2.311E-07	1.447E-07	2.303E-08	3.663E-09
ce140	1.457E+03	1.457E+03	1.457E+03	1.457E+03	1.457E+03
ce141	1.911E-01	1.711E-17	2.355E-18	9.818E-22	4.093E-25
ce142	1.262E+03	1.262E+03	1.262E+03	1.262E+03	1.262E+03
ce144	1.823E+02	2.690E+00	2.146E+00	8.827E-01	3.633E-01
cf248	2.856E-11	7.784E-13	6.418E-13	3.006E-13	1.408E-13
cf249	1.623E-05	3.066E-05	3.072E-05	3.081E-05	3.082E-05
cf250	8.455E-06	6.575E-06	6.487E-06	6.152E-06	5.835E-06
cf251	4.302E-06	4.286E-06	4.285E-06	4.282E-06	4.279E-06
cf252	1.539E-06	4.438E-07	4.152E-07	3.195E-07	2.459E-07
cf253	9.299E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cf254	5.200E-12	1.239E-20	4.269E-21	6.518E-23	9.951E-25
cl 35	5.998E-14	5.998E-14	5.998E-14	5.998E-14	5.998E-14
cl 36	3.901E-15	3.901E-15	3.901E-15	3.901E-15	3.901E-15
cl 37	6.793E-14	6.793E-14	6.793E-14	6.793E-14	6.793E-14
cm240	1.669E-11	7.957E-31	7.305E-32	0.000E+00	0.000E+00
cm241	2.345E-08	2.917E-24	4.088E-25	1.827E-28	8.163E-32
cm242	1.922E+01	2.080E-02	1.684E-02	1.039E-02	8.993E-03
cm243	1.728E+00	1.543E+00	1.533E+00	1.498E+00	1.462E+00
cm244	1.718E+02	1.432E+02	1.419E+02	1.365E+02	1.314E+02
cm245	1.722E+01	1.721E+01	1.721E+01	1.721E+01	1.720E+01
cm246	1.364E+00	1.363E+00	1.363E+00	1.363E+00	1.363E+00
cm247	2.249E-02	2.249E-02	2.249E-02	2.249E-02	2.249E-02
cm248	1.628E-03	1.629E-03	1.629E-03	1.629E-03	1.629E-03
cm250	2.200E-10	2.200E-10	2.200E-10	2.200E-10	2.200E-10
co 59	1.079E-13	1.079E-13	1.079E-13	1.079E-13	1.079E-13
co 60	1.121E-14	6.009E-15	5.812E-15	5.096E-15	4.468E-15
cr 50	8.880E-14	8.880E-14	8.880E-14	8.880E-14	8.880E-14
cr 52	9.445E-14	9.445E-14	9.445E-14	9.445E-14	9.445E-14
cr 53	9.399E-14	9.399E-14	9.399E-14	9.399E-14	9.399E-14
cr 54	1.007E-13	1.007E-13	1.007E-13	1.007E-13	1.007E-13
cs131	1.699E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs132	1.477E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs133	1.384E+03	1.384E+03	1.384E+03	1.384E+03	1.384E+03
cs134	1.504E+02	3.059E+01	2.808E+01	2.008E+01	1.436E+01

Table C-3. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
cs135	6.807E+02	6.807E+02	6.807E+02	6.807E+02	6.807E+02
cs136	9.651E-07	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs137	1.530E+03	1.372E+03	1.364E+03	1.333E+03	1.302E+03
cu 63	1.133E-13	1.134E-13	1.134E-13	1.134E-13	1.134E-13
cu 65	4.610E-07	4.610E-07	4.610E-07	4.610E-07	4.610E-07
dy156	3.193E-12	3.193E-12	3.193E-12	3.193E-12	3.193E-12
dy158	1.287E-07	4.251E-07	4.408E-07	5.024E-07	5.639E-07
dy159	2.515E-07	6.132E-11	3.924E-11	6.807E-12	1.180E-12
dy160	9.080E-01	9.253E-01	9.253E-01	9.253E-01	9.253E-01
dy161	1.145E+00	1.145E+00	1.145E+00	1.145E+00	1.145E+00
dy162	7.126E-01	7.126E-01	7.126E-01	7.126E-01	7.126E-01
dy163	6.081E-01	6.081E-01	6.081E-01	6.081E-01	6.081E-01
dy164	2.356E-01	2.356E-01	2.356E-01	2.356E-01	2.356E-01
er162	3.476E-12	3.476E-12	3.476E-12	3.476E-12	3.476E-12
er164	3.092E-06	3.092E-06	3.092E-06	3.092E-06	3.092E-06
er166	8.515E-02	8.515E-02	8.515E-02	8.515E-02	8.515E-02
er167	3.982E-03	3.982E-03	3.982E-03	3.982E-03	3.982E-03
er168	1.288E-02	1.288E-02	1.288E-02	1.288E-02	1.288E-02
er169	1.083E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
er170	6.476E-04	6.477E-04	6.477E-04	6.477E-04	6.477E-04
es252	4.044E-15	3.168E-16	2.763E-16	1.616E-16	9.452E-17
es253	2.239E-12	0.000E+00	0.000E+00	0.000E+00	0.000E+00
es254	1.560E-11	1.999E-13	1.583E-13	6.322E-14	2.525E-14
es255	2.672E-14	2.085E-27	4.127E-28	7.159E-31	1.242E-33
eu147	2.747E-18	0.000E+00	0.000E+00	0.000E+00	0.000E+00
eu149	5.484E-11	1.367E-16	6.840E-17	4.515E-18	2.982E-19
eu151	1.589E-01	9.651E-01	1.008E+00	1.173E+00	1.338E+00
eu152	2.894E-02	2.270E-02	2.241E-02	2.129E-02	2.023E-02
eu153	1.937E+02	1.937E+02	1.937E+02	1.937E+02	1.937E+02
eu154	5.540E+01	3.780E+01	3.703E+01	3.417E+01	3.152E+01
eu155	1.375E+01	6.886E+00	6.632E+00	5.733E+00	4.955E+00
eu156	3.926E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00
f 19	1.200E-13	1.200E-13	1.200E-13	1.200E-13	1.200E-13
fe 54	9.771E-14	9.771E-14	9.771E-14	9.771E-14	9.771E-14
fe 55	2.164E-16	6.525E-17	6.119E-17	4.754E-17	3.693E-17
fe 56	1.075E-13	1.075E-13	1.075E-13	1.075E-13	1.075E-13
fe 57	1.036E-13	1.036E-13	1.036E-13	1.036E-13	1.036E-13
fe 58	3.025E-13	3.025E-13	3.025E-13	3.025E-13	3.025E-13

Table C-3. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
fr221	4.408E-16	4.557E-16	4.564E-16	4.610E-16	4.656E-16
ga 69	1.612E-03	1.612E-03	1.612E-03	1.612E-03	1.612E-03
ga 71	7.033E-03	7.033E-03	7.033E-03	7.033E-03	7.033E-03
gd151	6.389E-08	3.965E-12	2.358E-12	3.065E-13	3.984E-14
gd152	6.192E-02	6.366E-02	6.374E-02	6.405E-02	6.435E-02
gd153	2.466E-03	1.666E-05	1.275E-05	4.450E-06	1.553E-06
gd154	8.581E+00	2.618E+01	2.695E+01	2.982E+01	3.246E+01
gd155	1.731E+00	8.595E+00	8.847E+00	9.751E+00	1.053E+01
gd156	1.638E+02	1.638E+02	1.638E+02	1.638E+02	1.638E+02
gd157	3.288E-01	3.288E-01	3.288E-01	3.288E-01	3.288E-01
gd158	4.551E+01	4.551E+01	4.551E+01	4.551E+01	4.551E+01
gd160	3.038E+00	3.038E+00	3.038E+00	3.038E+00	3.038E+00
ge 70	2.041E-05	2.041E-05	2.041E-05	2.041E-05	2.041E-05
ge 71	4.671E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ge 72	1.721E-02	1.721E-02	1.721E-02	1.721E-02	1.721E-02
ge 73	3.536E-02	3.536E-02	3.536E-02	3.536E-02	3.536E-02
ge 73m	9.140E-18	2.911E-24	1.305E-24	5.586E-26	2.392E-27
ge 74	8.375E-02	8.375E-02	8.375E-02	8.375E-02	8.375E-02
ge 76	3.750E-01	3.750E-01	3.750E-01	3.750E-01	3.750E-01
h 1	6.640E-03	6.640E-03	6.640E-03	6.640E-03	6.640E-03
h 2	1.420E-03	1.420E-03	1.420E-03	1.420E-03	1.420E-03
h3	7.185E-02	5.501E-02	5.422E-02	5.126E-02	4.846E-02
he3	4.310E-03	2.114E-02	2.192E-02	2.489E-02	2.769E-02
he4	7.879E+00	8.987E+00	9.031E+00	9.199E+00	9.369E+00
hf174	1.296E-13	1.296E-13	1.296E-13	1.296E-13	1.296E-13
hf175	9.153E-16	3.226E-23	1.285E-23	3.460E-25	9.319E-27
hf176	3.314E-13	3.314E-13	3.314E-13	3.314E-13	3.314E-13
hf177	4.699E-14	4.700E-14	4.700E-14	4.700E-14	4.700E-14
hf178	3.042E-13	3.042E-13	3.042E-13	3.042E-13	3.042E-13
hf179	7.804E-13	7.804E-13	7.804E-13	7.804E-13	7.804E-13
hf180	6.265E-13	6.265E-13	6.265E-13	6.265E-13	6.265E-13
hf181	2.578E-17	1.272E-29	2.779E-30	7.112E-33	0.000E+00
hf182	1.247E-15	1.247E-15	1.247E-15	1.247E-15	1.247E-15
hg196	1.451E-14	1.451E-14	1.451E-14	1.451E-14	1.451E-14
hg198	6.700E-13	6.700E-13	6.700E-13	6.700E-13	6.700E-13
hg199	9.612E-14	9.612E-14	9.612E-14	9.612E-14	9.612E-14
hg200	8.183E-13	8.183E-13	8.183E-13	8.183E-13	8.183E-13
hg201	3.519E-13	3.519E-13	3.519E-13	3.519E-13	3.519E-13

Table C-3. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
hg202	3.809E-13	3.809E-13	3.809E-13	3.809E-13	3.809E-13
hg204	3.694E-13	3.694E-13	3.694E-13	3.694E-13	3.694E-13
ho163	1.984E-07	1.983E-07	1.983E-07	1.983E-07	1.982E-07
ho165	2.627E-01	2.627E-01	2.627E-01	2.627E-01	2.627E-01
ho166m	6.331E-04	6.314E-04	6.313E-04	6.309E-04	6.306E-04
i125	9.558E-10	1.577E-18	5.327E-19	7.531E-21	1.064E-22
i126	1.638E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
i127	8.661E+01	8.681E+01	8.681E+01	8.681E+01	8.681E+01
i129	2.769E+02	2.769E+02	2.769E+02	2.769E+02	2.769E+02
i131	1.100E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
in113	7.099E-04	1.644E-03	1.688E-03	1.856E-03	2.017E-03
in113m	3.766E-14	1.104E-18	6.305E-19	6.999E-20	7.770E-21
in114	3.953E-12	1.148E-22	3.121E-23	1.884E-25	1.137E-27
in114m	2.431E-07	7.059E-18	1.920E-18	1.159E-20	6.993E-23
in115	3.023E+00	3.024E+00	3.024E+00	3.024E+00	3.024E+00
in115m	2.751E-10	5.395E-22	1.270E-22	4.345E-25	1.486E-27
ir191	6.886E-15	6.886E-15	6.886E-15	6.886E-15	6.886E-15
ir192	1.492E-16	1.281E-23	5.349E-24	1.738E-25	5.645E-27
ir193	1.630E-13	1.643E-13	1.644E-13	1.646E-13	1.648E-13
k 39	7.053E-14	7.053E-14	7.053E-14	7.053E-14	7.053E-14
k 40	6.946E-14	6.946E-14	6.946E-14	6.946E-14	6.946E-14
k 41	7.737E-14	7.737E-14	7.737E-14	7.737E-14	7.737E-14
kr 78	1.864E-13	1.864E-13	1.864E-13	1.864E-13	1.864E-13
kr 80	4.987E-04	4.987E-04	4.987E-04	4.987E-04	4.987E-04
kr 81	4.268E-05	4.268E-05	4.268E-05	4.268E-05	4.268E-05
kr 82	9.432E-01	9.432E-01	9.432E-01	9.432E-01	9.432E-01
kr 83	3.681E+01	3.681E+01	3.681E+01	3.681E+01	3.681E+01
kr 83m	3.873E-11	3.435E-17	1.626E-17	8.641E-19	4.590E-20
kr 84	8.674E+01	8.674E+01	8.674E+01	8.674E+01	8.674E+01
kr 85	1.761E+01	1.297E+01	1.276E+01	1.196E+01	1.121E+01
kr 86	1.285E+02	1.285E+02	1.285E+02	1.285E+02	1.285E+02
la137	4.646E-04	4.646E-04	4.646E-04	4.646E-04	4.646E-04
la138	2.667E-02	2.667E-02	2.667E-02	2.667E-02	2.667E-02
la139	1.420E+03	1.420E+03	1.420E+03	1.420E+03	1.420E+03
la140	1.969E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00
li6	2.598E-10	2.598E-10	2.598E-10	2.598E-10	2.598E-10
li7	2.849E-11	2.849E-11	2.849E-11	2.849E-11	2.849E-11
lu175	2.971E-13	2.981E-13	2.981E-13	2.981E-13	2.981E-13

Table C-3. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
lu176	6.589E-15	6.589E-15	6.589E-15	6.589E-15	6.589E-15
mg 24	4.366E-14	4.366E-14	4.366E-14	4.366E-14	4.366E-14
mg 25	4.543E-14	4.543E-14	4.543E-14	4.543E-14	4.543E-14
mg 26	4.729E-14	4.729E-14	4.729E-14	4.729E-14	4.729E-14
mn 54	2.259E-17	4.810E-19	3.912E-19	1.739E-19	7.731E-20
mn 55	9.758E-14	9.771E-14	9.771E-14	9.771E-14	9.778E-14
mo 92	6.275E-12	6.275E-12	6.275E-12	6.275E-12	6.275E-12
mo 93	4.301E-07	4.297E-07	4.297E-07	4.297E-07	4.296E-07
mo 94	1.435E-02	1.435E-02	1.435E-02	1.435E-02	1.435E-02
mo 95	7.624E+02	7.704E+02	7.704E+02	7.704E+02	7.704E+02
mo 96	4.608E+01	4.608E+01	4.608E+01	4.608E+01	4.608E+01
mo 97	9.279E+02	9.279E+02	9.279E+02	9.279E+02	9.279E+02
mo 98	1.016E+03	1.016E+03	1.016E+03	1.016E+03	1.016E+03
mo100	1.196E+03	1.196E+03	1.196E+03	1.196E+03	1.196E+03
n 14	4.846E-06	5.073E-06	5.085E-06	5.133E-06	5.181E-06
n 15	1.170E-02	1.170E-02	1.170E-02	1.170E-02	1.170E-02
na 23	4.178E-14	4.178E-14	4.178E-14	4.178E-14	4.178E-14
nb 91	9.798E-09	9.751E-09	9.745E-09	9.738E-09	9.725E-09
nb 91m	6.219E-15	1.666E-23	5.778E-24	9.047E-26	1.416E-27
nb 92	8.488E-07	8.488E-07	8.488E-07	8.488E-07	8.488E-07
nb 92m	1.644E-18	0.000E+00	0.000E+00	0.000E+00	0.000E+00
nb 93	1.037E-04	3.791E-04	4.000E-04	4.874E-04	5.833E-04
nb 93m	6.143E-04	1.713E-03	1.766E-03	1.968E-03	2.162E-03
nb 94	3.143E-03	3.143E-03	3.143E-03	3.143E-03	3.143E-03
nb 95	4.196E+00	3.159E-08	1.153E-08	2.285E-10	4.400E-12
nb 95m	2.370E-03	1.688E-11	6.168E-12	1.186E-13	2.281E-15
nd142	2.137E+01	2.137E+01	2.137E+01	2.137E+01	2.137E+01
nd143	9.193E+02	9.193E+02	9.193E+02	9.193E+02	9.193E+02
nd144	1.072E+03	1.252E+03	1.252E+03	1.254E+03	1.254E+03
nd145	7.079E+02	7.079E+02	7.079E+02	7.079E+02	7.079E+02
nd146	7.923E+02	7.923E+02	7.923E+02	7.923E+02	7.923E+02
nd147	4.452E-07	0.000E+00	0.000E+00	0.000E+00	0.000E+00
nd148	4.616E+02	4.616E+02	4.616E+02	4.616E+02	4.616E+02
nd150	2.715E+02	2.715E+02	2.715E+02	2.715E+02	2.715E+02
ni 58	1.046E-13	1.046E-13	1.046E-13	1.046E-13	1.046E-13
ni 59	8.242E-14	8.242E-14	8.242E-14	8.242E-14	8.242E-14
ni 60	1.339E-13	1.391E-13	1.393E-13	1.401E-13	1.407E-13
ni 61	1.110E-13	1.110E-13	1.110E-13	1.110E-13	1.110E-13

Table C-3. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ni 62	1.110E-13	1.110E-13	1.110E-13	1.110E-13	1.110E-13
ni 63	2.211E-15	2.140E-15	2.136E-15	2.122E-15	2.107E-15
ni 64	1.169E-13	1.169E-13	1.169E-13	1.169E-13	1.169E-13
np235	2.315E-06	1.116E-07	9.485E-08	5.009E-08	2.645E-08
np236	3.378E-04	3.378E-04	3.378E-04	3.378E-04	3.378E-04
np237	1.870E+02	1.928E+02	1.934E+02	1.954E+02	1.977E+02
np238	6.352E-07	6.206E-07	6.198E-07	6.167E-07	6.137E-07
np239	3.448E-04	3.446E-04	3.446E-04	3.446E-04	3.446E-04
np240	2.222E-16	2.222E-16	2.222E-16	2.222E-16	2.222E-16
np240m	2.160E-14	2.160E-14	2.160E-14	2.160E-14	2.160E-14
o 16	1.344E+05	1.344E+05	1.344E+05	1.344E+05	1.344E+05
o 17	3.796E-02	3.796E-02	3.796E-02	3.796E-02	3.796E-02
o 18	1.683E-07	1.683E-07	1.683E-07	1.683E-07	1.683E-07
os186	2.138E-13	2.138E-13	2.138E-13	2.138E-13	2.138E-13
os187	3.740E-14	3.740E-14	3.740E-14	3.740E-14	3.740E-14
os188	1.473E-13	1.473E-13	1.473E-13	1.473E-13	1.473E-13
os189	1.027E-14	1.027E-14	1.027E-14	1.027E-14	1.027E-14
os190	2.901E-15	2.901E-15	2.901E-15	2.901E-15	2.901E-15
os192	8.435E-15	8.448E-15	8.448E-15	8.448E-15	8.448E-15
p 31	5.639E-14	5.639E-14	5.639E-14	5.639E-14	5.639E-14
pa230	1.024E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pa231	2.402E-05	2.791E-05	2.812E-05	2.893E-05	2.976E-05
pa232	1.569E-14	1.569E-14	1.569E-14	1.569E-14	1.569E-14
pa233	6.331E-06	6.525E-06	6.541E-06	6.618E-06	6.694E-06
pa234	2.502E-10	2.503E-10	2.502E-10	2.502E-10	2.502E-10
pa234m	4.509E-10	4.511E-10	4.509E-10	4.509E-10	4.509E-10
pb204	3.696E-13	3.696E-13	3.696E-13	3.696E-13	3.696E-13
pb205	1.320E-15	1.321E-15	1.321E-15	1.321E-15	1.321E-15
pb206	1.967E-12	9.412E-12	9.824E-12	1.147E-11	1.321E-11
pb207	6.727E-11	3.178E-10	3.401E-10	4.367E-10	5.476E-10
pb208	9.392E-07	2.081E-05	2.265E-05	3.042E-05	3.902E-05
pb209	1.660E-14	1.717E-14	1.719E-14	1.737E-14	1.754E-14
pb210	5.266E-11	5.336E-11	5.386E-11	5.647E-11	6.023E-11
pb211	1.928E-15	8.787E-15	8.973E-15	1.058E-14	1.200E-14
pb212	2.064E-09	1.264E-08	1.310E-08	1.469E-08	1.602E-08
pd102	9.126E-04	1.087E-03	1.087E-03	1.087E-03	1.088E-03
pd103	2.909E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pd104	4.052E+02	4.052E+02	4.052E+02	4.052E+02	4.052E+02

Table C-3. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
pd105	9.067E+02	9.067E+02	9.067E+02	9.067E+02	9.067E+02
pd106	7.345E+02	9.386E+02	9.399E+02	9.439E+02	9.452E+02
pd107	5.915E+02	5.915E+02	5.915E+02	5.915E+02	5.915E+02
pd108	4.110E+02	4.110E+02	4.110E+02	4.110E+02	4.110E+02
pd110	1.355E+02	1.355E+02	1.355E+02	1.355E+02	1.355E+02
pm143	1.597E-12	1.716E-14	1.345E-14	5.179E-15	1.993E-15
pm144	4.839E-10	1.769E-11	1.481E-11	7.378E-12	3.674E-12
pm145	3.457E-05	2.896E-05	2.868E-05	2.758E-05	2.652E-05
pm146	3.623E-04	1.999E-04	1.936E-04	1.708E-04	1.507E-04
pm147	1.631E+02	4.654E+01	4.351E+01	3.341E+01	2.566E+01
pm148	1.831E-04	4.245E-17	8.907E-18	1.944E-20	4.242E-23
pm148m	2.917E-02	6.760E-15	1.419E-15	3.098E-18	6.760E-21
po210	7.870E-13	8.860E-13	8.920E-13	9.279E-13	9.811E-13
po216	7.963E-15	4.874E-14	5.054E-14	5.665E-14	6.178E-14
pr141	1.292E+03	1.292E+03	1.292E+03	1.292E+03	1.292E+03
pr143	2.947E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pr144	7.677E-03	1.133E-04	9.040E-05	3.718E-05	1.530E-05
pr144m	3.055E-05	4.508E-07	3.595E-07	1.479E-07	6.087E-08
pt192	1.427E-13	1.428E-13	1.428E-13	1.428E-13	1.428E-13
pt193	2.026E-14	1.897E-14	1.890E-14	1.864E-14	1.839E-14
pt194	3.564E-13	3.564E-13	3.564E-13	3.564E-13	3.564E-13
pt195	3.070E-15	3.071E-15	3.071E-15	3.071E-15	3.071E-15
pt196	5.021E-16	5.021E-16	5.021E-16	5.021E-16	5.021E-16
pu236	9.957E-04	3.149E-04	2.961E-04	2.324E-04	1.823E-04
pu237	1.135E-05	4.214E-17	1.026E-17	4.017E-20	1.572E-22
pu238	1.944E+02	2.055E+02	2.051E+02	2.035E+02	2.019E+02
pu239	1.202E+04	1.202E+04	1.202E+04	1.202E+04	1.202E+04
pu240	7.066E+03	7.092E+03	7.092E+03	7.099E+03	7.099E+03
pu241	4.156E+03	3.302E+03	3.261E+03	3.106E+03	2.959E+03
pu242	1.471E+03	1.471E+03	1.471E+03	1.471E+03	1.471E+03
pu243	8.016E-13	8.016E-13	8.016E-13	8.016E-13	8.016E-13
pu244	1.299E-01	1.299E-01	1.299E-01	1.299E-01	1.299E-01
pu246	1.394E-16	1.393E-16	1.393E-16	1.393E-16	1.393E-16
ra223	9.293E-13	4.233E-12	4.323E-12	5.095E-12	5.784E-12
ra224	1.801E-08	1.102E-07	1.143E-07	1.281E-07	1.397E-07
ra225	1.964E-12	2.031E-12	2.035E-12	2.055E-12	2.076E-12
ra226	1.407E-09	8.761E-09	9.406E-09	1.225E-08	1.561E-08
ra228	3.758E-14	6.464E-14	6.595E-14	7.099E-14	7.591E-14

Table C-3. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
rb 83	5.890E-08	5.224E-14	2.473E-14	1.314E-15	6.979E-17
rb 84	6.561E-08	8.349E-24	1.171E-24	5.255E-28	2.359E-31
rb 85	7.185E+01	7.651E+01	7.671E+01	7.750E+01	7.824E+01
rb 86	1.272E-06	1.268E-34	0.000E+00	0.000E+00	0.000E+00
rb 87	1.684E+02	1.684E+02	1.684E+02	1.684E+02	1.684E+02
re185	5.988E-14	6.000E-14	6.000E-14	6.000E-14	6.000E-14
re186m	1.912E-16	1.912E-16	1.912E-16	1.912E-16	1.912E-16
re187	3.520E-13	3.520E-13	3.520E-13	3.520E-13	3.520E-13
rh101	5.473E-07	2.020E-07	1.915E-07	1.552E-07	1.258E-07
rh102	7.943E-04	2.749E-06	2.088E-06	7.863E-07	3.735E-07
rh102m	1.924E-03	7.990E-04	7.624E-04	6.335E-04	5.264E-04
rh103	8.482E+02	8.488E+02	8.488E+02	8.488E+02	8.488E+02
rh103m	5.748E-04	2.931E-17	5.672E-18	9.000E-21	1.427E-23
rh106	1.988E-04	7.857E-06	6.606E-06	3.345E-06	1.694E-06
rn220	3.109E-12	1.903E-11	1.974E-11	2.212E-11	2.413E-11
rn222	8.967E-15	5.629E-14	6.045E-14	7.877E-14	1.003E-13
ru 96	1.729E-13	1.729E-13	1.729E-13	1.729E-13	1.729E-13
ru 98	1.781E-06	1.790E-06	1.790E-06	1.792E-06	1.794E-06
ru 99	4.039E-02	5.512E-02	5.591E-02	5.901E-02	6.211E-02
ru100	1.623E+02	1.623E+02	1.623E+02	1.623E+02	1.623E+02
ru101	1.032E+03	1.032E+03	1.032E+03	1.032E+03	1.032E+03
ru102	1.199E+03	1.199E+03	1.199E+03	1.199E+03	1.199E+03
ru103	5.852E-01	2.985E-14	5.775E-15	9.160E-18	1.453E-20
ru104	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03
ru106	2.124E+02	8.395E+00	7.059E+00	3.573E+00	1.809E+00
s 32	5.810E-14	5.810E-14	5.810E-14	5.810E-14	5.810E-14
s 33	5.969E-14	5.969E-14	5.969E-14	5.969E-14	5.969E-14
s 34	6.188E-14	6.188E-14	6.188E-14	6.188E-14	6.188E-14
s 36	6.543E-14	6.543E-14	6.543E-14	6.543E-14	6.543E-14
sb121	7.990E+00	8.043E+00	8.050E+00	8.056E+00	8.070E+00
sb123	1.054E+01	1.060E+01	1.060E+01	1.060E+01	1.060E+01
sb124	3.720E-03	8.030E-12	2.751E-12	4.115E-14	6.154E-16
sb125	1.358E+01	4.121E+00	3.866E+00	3.008E+00	2.340E+00
sb126	8.409E-07	8.362E-07	8.362E-07	8.362E-07	8.362E-07
sb126m	6.432E-09	6.432E-09	6.432E-09	6.432E-09	6.432E-09
sc 45	7.883E-14	7.883E-14	7.883E-14	7.883E-14	7.883E-14
sc 46	4.386E-17	2.606E-23	1.207E-23	5.895E-25	2.878E-26
se 74	3.756E-07	3.756E-07	3.756E-07	3.756E-07	3.756E-07

Table C-3. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
se 75	8.342E-09	3.683E-13	2.150E-13	2.602E-14	3.148E-15
se 76	8.282E-03	8.282E-03	8.282E-03	8.282E-03	8.282E-03
se 77	8.741E-01	8.741E-01	8.741E-01	8.741E-01	8.741E-01
se 78	2.519E+00	2.519E+00	2.519E+00	2.519E+00	2.519E+00
se 79	5.350E+00	5.350E+00	5.350E+00	5.350E+00	5.350E+00
se 80	1.233E+01	1.233E+01	1.233E+01	1.233E+01	1.233E+01
se 82	3.244E+01	3.244E+01	3.244E+01	3.244E+01	3.244E+01
si 28	5.091E-14	5.091E-14	5.091E-14	5.091E-14	5.091E-14
si 29	5.278E-14	5.278E-14	5.278E-14	5.278E-14	5.278E-14
si 30	5.486E-14	5.486E-14	5.486E-14	5.486E-14	5.486E-14
sm144	5.679E-11	5.679E-11	5.679E-11	5.679E-11	5.679E-11
sm145	2.983E-07	8.714E-09	7.212E-09	3.426E-09	1.628E-09
sm146	3.169E-03	3.224E-03	3.226E-03	3.234E-03	3.240E-03
sm147	1.093E+02	2.258E+02	2.289E+02	2.390E+02	2.467E+02
sm148	1.898E+02	1.898E+02	1.898E+02	1.898E+02	1.898E+02
sm149	5.346E+00	5.346E+00	5.346E+00	5.346E+00	5.346E+00
sm150	3.945E+02	3.945E+02	3.945E+02	3.945E+02	3.945E+02
sm151	2.247E+01	2.166E+01	2.162E+01	2.146E+01	2.129E+01
sm152	1.412E+02	1.412E+02	1.412E+02	1.412E+02	1.412E+02
sm154	7.731E+01	7.731E+01	7.731E+01	7.731E+01	7.731E+01
sn112	2.852E-09	2.852E-09	2.852E-09	2.852E-09	2.852E-09
sn113	6.269E-11	1.838E-15	1.050E-15	1.165E-16	1.294E-17
sn114	1.490E-04	1.493E-04	1.493E-04	1.493E-04	1.493E-04
sn115	4.766E-01	4.766E-01	4.766E-01	4.766E-01	4.766E-01
sn116	4.047E+00	4.047E+00	4.047E+00	4.047E+00	4.047E+00
sn117	9.665E+00	9.665E+00	9.665E+00	9.665E+00	9.665E+00
sn117m	2.517E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sn118	8.555E+00	8.555E+00	8.555E+00	8.555E+00	8.555E+00
sn119	8.129E+00	8.189E+00	8.189E+00	8.189E+00	8.189E+00
sn119m	6.246E-02	1.036E-03	8.309E-04	3.504E-04	1.478E-04
sn120	8.222E+00	8.222E+00	8.222E+00	8.222E+00	8.222E+00
sn121	3.909E-05	3.627E-05	3.612E-05	3.555E-05	3.500E-05
sn121m	7.172E-01	6.654E-01	6.626E-01	6.523E-01	6.420E-01
sn122	1.090E+01	1.090E+01	1.090E+01	1.090E+01	1.090E+01
sn123	7.026E-02	6.438E-06	3.909E-06	5.516E-07	7.784E-08
sn124	1.742E+01	1.742E+01	1.742E+01	1.742E+01	1.742E+01
sn125	6.827E-10	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sn126	4.063E+01	4.063E+01	4.063E+01	4.063E+01	4.063E+01

Table C-3. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
sr 84	8.103E-06	8.109E-06	8.109E-06	8.109E-06	8.109E-06
sr 85	1.399E-08	1.258E-16	4.656E-17	9.406E-19	1.900E-20
sr 86	4.913E-01	4.913E-01	4.913E-01	4.913E-01	4.913E-01
sr 87	5.154E-03	5.154E-03	5.154E-03	5.154E-03	5.154E-03
sr 88	2.237E+02	2.237E+02	2.237E+02	2.237E+02	2.237E+02
sr 89	4.822E-01	2.285E-11	6.381E-12	4.270E-14	2.857E-16
sr 90	3.435E+02	3.064E+02	3.046E+02	2.973E+02	2.902E+02
ta180m	2.048E-17	2.048E-17	2.048E-17	2.048E-17	2.048E-17
ta181	1.751E-13	1.751E-13	1.751E-13	1.751E-13	1.751E-13
ta182	6.353E-16	1.809E-20	1.033E-20	1.178E-21	1.690E-22
tb157	7.112E-07	6.793E-07	6.773E-07	6.707E-07	6.644E-07
tb158	9.858E-05	9.685E-05	9.671E-05	9.632E-05	9.598E-05
tb159	6.714E+00	6.714E+00	6.714E+00	6.714E+00	6.714E+00
tb160	1.705E-02	1.038E-09	4.255E-10	1.286E-11	3.885E-13
tb161	6.866E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00
tc 95	5.342E-18	1.498E-26	5.205E-27	8.229E-29	0.000E+00
tc 95m	9.937E-15	2.786E-23	9.685E-24	1.531E-25	2.419E-27
tc 97	1.024E-05	1.032E-05	1.032E-05	1.032E-05	1.032E-05
tc 97m	8.854E-08	1.638E-13	8.063E-14	5.003E-15	3.103E-16
tc 98	1.058E-02	1.058E-02	1.058E-02	1.058E-02	1.058E-02
tc 99	9.452E+02	9.452E+02	9.452E+02	9.452E+02	9.452E+02
te120	2.511E-09	2.511E-09	2.511E-09	2.511E-09	2.511E-09
te121	3.326E-08	2.211E-11	1.493E-11	3.199E-12	6.853E-13
te121m	2.839E-07	1.888E-10	1.275E-10	2.731E-11	5.850E-12
te122	7.618E-01	7.618E-01	7.618E-01	7.618E-01	7.618E-01
te123	9.612E-03	1.006E-02	1.006E-02	1.006E-02	1.006E-02
te123m	4.461E-04	1.874E-08	1.091E-08	1.307E-09	1.565E-10
te124	5.458E-01	5.495E-01	5.495E-01	5.495E-01	5.495E-01
te125	9.645E+00	1.923E+01	1.949E+01	2.036E+01	2.104E+01
te125m	1.886E-01	5.750E-02	5.393E-02	4.196E-02	3.264E-02
te126	1.000E+00	1.000E+00	1.001E+00	1.001E+00	1.001E+00
te127	8.395E-04	1.374E-08	7.604E-09	7.465E-10	7.332E-11
te127m	2.399E-01	3.925E-06	2.173E-06	2.133E-07	2.094E-08
te128	1.573E+02	1.573E+02	1.573E+02	1.573E+02	1.573E+02
te129	6.615E-06	1.968E-21	2.889E-22	1.551E-25	8.329E-29
te129m	7.292E-03	2.169E-18	3.184E-19	1.710E-22	9.180E-26
te130	5.286E+02	5.286E+02	5.286E+02	5.286E+02	5.286E+02
th227	1.560E-12	6.946E-12	7.139E-12	8.362E-12	9.492E-12

Table C-3. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
th228	3.544E-06	2.133E-05	2.209E-05	2.480E-05	2.705E-05
th229	3.596E-07	3.720E-07	3.728E-07	3.764E-07	3.801E-07
th230	8.442E-05	2.758E-04	2.889E-04	3.432E-04	4.018E-04
th231	3.419E-09	3.425E-09	3.426E-09	3.427E-09	3.429E-09
th232	2.243E-04	2.675E-04	2.699E-04	2.790E-04	2.883E-04
th234	1.350E-05	1.351E-05	1.350E-05	1.350E-05	1.350E-05
ti 46	8.661E-14	8.668E-14	8.668E-14	8.668E-14	8.668E-14
ti 47	8.535E-14	8.535E-14	8.535E-14	8.535E-14	8.535E-14
ti 48	8.661E-14	8.661E-14	8.661E-14	8.661E-14	8.661E-14
ti 49	9.000E-14	9.000E-14	9.000E-14	9.000E-14	9.000E-14
ti 50	9.113E-14	9.113E-14	9.113E-14	9.113E-14	9.113E-14
tl203	3.232E-15	3.237E-15	3.237E-15	3.237E-15	3.237E-15
tl204	6.827E-17	2.861E-17	2.731E-17	2.274E-17	1.893E-17
tl205	1.470E-15	1.470E-15	1.470E-15	1.470E-15	1.470E-15
tl207	2.493E-16	1.135E-15	1.160E-15	1.367E-15	1.552E-15
tl208	3.481E-12	2.131E-11	2.209E-11	2.477E-11	2.701E-11
tm168	9.180E-10	2.287E-15	1.145E-15	7.558E-17	4.991E-18
tm169	9.425E-04	9.425E-04	9.425E-04	9.425E-04	9.425E-04
tm170	5.204E-05	4.567E-09	2.766E-09	3.869E-10	5.409E-11
tm171	1.719E-04	3.100E-05	2.828E-05	1.972E-05	1.375E-05
u230	2.749E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
u232	4.638E-04	1.093E-03	1.108E-03	1.159E-03	1.196E-03
u233	4.656E-04	7.704E-04	7.857E-04	8.541E-04	9.233E-04
u234	1.073E+01	1.836E+01	1.876E+01	2.035E+01	2.193E+01
u235	8.409E+02	8.422E+02	8.428E+02	8.428E+02	8.435E+02
u236	3.117E+02	3.152E+02	3.154E+02	3.161E+02	3.169E+02
u237	1.297E-04	1.030E-04	1.018E-04	9.691E-05	9.233E-05
u238	9.299E+05	9.299E+05	9.299E+05	9.299E+05	9.299E+05
u240	2.531E-12	2.531E-12	2.531E-12	2.531E-12	2.531E-12
v 50	5.954E-17	5.954E-17	5.954E-17	5.954E-17	5.954E-17
v 51	2.121E-15	2.121E-15	2.121E-15	2.121E-15	2.121E-15
w182	2.588E-13	2.594E-13	2.594E-13	2.594E-13	2.594E-13
w183	6.561E-13	6.561E-13	6.561E-13	6.561E-13	6.561E-13
w184	5.841E-13	5.841E-13	5.841E-13	5.841E-13	5.841E-13
w185	1.238E-16	1.400E-23	5.934E-24	2.043E-25	7.033E-27
w186	2.055E-13	2.055E-13	2.055E-13	2.055E-13	2.055E-13
xe124	1.972E-13	1.972E-13	1.972E-13	1.972E-13	1.972E-13
xe126	3.184E-04	3.184E-04	3.184E-04	3.184E-04	3.184E-04

Table C-3. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
xe127	4.963E-08	2.310E-22	3.931E-23	3.766E-26	3.608E-29
xe128	7.830E+00	7.830E+00	7.830E+00	7.830E+00	7.830E+00
xe129	5.578E-02	5.584E-02	5.585E-02	5.586E-02	5.587E-02
xe129m	2.664E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe130	1.067E+01	1.067E+01	1.067E+01	1.067E+01	1.067E+01
xe131	5.788E+02	5.788E+02	5.788E+02	5.788E+02	5.788E+02
xe131m	8.787E-08	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe132	1.593E-14	1.593E-14	1.593E-14	1.593E-14	1.593E-14
xe132	1.535E+03	1.535E+03	1.535E+03	1.535E+03	1.535E+03
xe133	8.993E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe134	1.858E+03	1.858E+03	1.858E+03	1.858E+03	1.858E+03
xe136	2.852E+03	2.852E+03	2.852E+03	2.852E+03	2.852E+03
y 88	2.632E-05	3.371E-10	1.841E-10	1.717E-11	1.601E-12
y 89	2.945E+02	2.950E+02	2.950E+02	2.950E+02	2.950E+02
y 89m	1.668E-10	7.903E-21	2.207E-21	1.477E-23	9.884E-26
y 90	8.714E-02	7.770E-02	7.724E-02	7.544E-02	7.365E-02
y 91	1.350E+00	1.637E-09	5.439E-10	7.205E-12	9.545E-14
yb168	1.899E-12	1.991E-12	1.991E-12	1.991E-12	1.991E-12
yb169	3.315E-12	1.686E-28	2.251E-29	8.335E-33	0.000E+00
yb170	6.880E-04	7.405E-04	7.405E-04	7.405E-04	7.405E-04
yb171	2.190E-04	3.599E-04	3.627E-04	3.712E-04	3.772E-04
yb172	4.573E-04	4.573E-04	4.573E-04	4.573E-04	4.573E-04
yb176	1.252E-16	1.252E-16	1.252E-16	1.252E-16	1.252E-16
zn 64	4.771E-16	4.771E-16	4.771E-16	4.771E-16	4.771E-16
zn 66	1.508E-04	1.508E-04	1.508E-04	1.508E-04	1.508E-04
zn 67	4.236E-04	4.236E-04	4.236E-04	4.236E-04	4.236E-04
zn 68	8.315E-04	8.315E-04	8.315E-04	8.315E-04	8.315E-04
zn 70	3.798E-03	3.798E-03	3.798E-03	3.798E-03	3.798E-03
zr 88	5.792E-12	3.218E-18	1.486E-18	7.152E-20	3.442E-21
zr 90	1.947E+01	5.656E+01	5.843E+01	6.567E+01	7.272E+01
zr 91	4.287E+02	4.300E+02	4.300E+02	4.300E+02	4.300E+02
zr 92	5.191E+02	5.191E+02	5.191E+02	5.191E+02	5.191E+02
zr 93	6.393E+02	6.393E+02	6.392E+02	6.392E+02	6.392E+02
zr 94	7.325E+02	7.325E+02	7.325E+02	7.325E+02	7.325E+02
zr 95	3.672E+00	2.616E-08	9.558E-09	1.838E-10	3.535E-12
zr 96	8.561E+02	8.561E+02	8.561E+02	8.561E+02	8.561E+02
Total	1.1344E+06	1.1344E+06	1.1344E+06	1.1344E+06	1.1344E+06

Table C-4. MOX Fuel Rod B14 (high Pu): Nuclide mass in grams per MTIHM

	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ac225	1.174E-12	1.220E-12	1.222E-12	1.236E-12	1.250E-12
ac227	7.363E-10	3.120E-09	3.251E-09	3.763E-09	4.280E-09
ag105	9.544E-15	2.214E-27	4.646E-28	1.014E-30	2.212E-33
ag107	1.542E-04	4.956E-04	5.139E-04	5.858E-04	6.577E-04
ag108	7.211E-13	7.158E-13	7.151E-13	7.145E-13	7.131E-13
ag108m	8.013E-04	7.953E-04	7.953E-04	7.940E-04	7.927E-04
ag109	2.311E+02	2.311E+02	2.311E+02	2.311E+02	2.311E+02
ag109m	2.202E-10	1.630E-11	1.417E-11	8.192E-12	4.733E-12
ag110	2.332E-08	1.901E-10	1.469E-10	5.333E-11	1.937E-11
ag110m	1.504E+00	1.226E-02	9.471E-03	3.440E-03	1.249E-03
ag111	1.709E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
al 27	4.893E-14	4.893E-14	4.893E-14	4.893E-14	4.893E-14
am241	4.289E+02	1.489E+03	1.539E+03	1.729E+03	1.910E+03
am242	5.610E-05	5.480E-05	5.474E-05	5.447E-05	5.420E-05
am242m	4.348E+00	4.248E+00	4.242E+00	4.222E+00	4.201E+00
am243	3.875E+02	3.874E+02	3.874E+02	3.873E+02	3.873E+02
am244	3.014E-15	2.091E-15	2.051E-15	1.899E-15	1.758E-15
am245	3.250E-14	7.615E-16	6.225E-16	2.823E-16	1.280E-16
ar 36	6.467E-14	6.467E-14	6.467E-14	6.467E-14	6.467E-14
ar 38	6.886E-14	6.886E-14	6.886E-14	6.886E-14	6.886E-14
ar 39	1.208E-16	1.194E-16	1.193E-16	1.190E-16	1.186E-16
ar 40	7.284E-14	7.284E-14	7.284E-14	7.284E-14	7.284E-14
as 73	1.562E-10	4.977E-17	2.230E-17	9.551E-19	4.090E-20
as 74	1.962E-12	0.000E+00	0.000E+00	0.000E+00	0.000E+00
as 75	1.895E-01	1.895E-01	1.895E-01	1.895E-01	1.895E-01
au197	2.289E-13	2.289E-13	2.289E-13	2.289E-13	2.289E-13
b 10	6.137E-11	3.294E-10	3.438E-10	4.002E-10	4.567E-10
b 11	6.986E-08	6.986E-08	6.986E-08	6.986E-08	6.986E-08
ba130	1.901E-13	1.901E-13	1.901E-13	1.901E-13	1.901E-13
ba131	4.781E-18	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba132	9.292E-17	9.292E-17	9.292E-17	9.292E-17	9.292E-17
ba132	3.315E-04	3.315E-04	3.315E-04	3.315E-04	3.315E-04
ba133	2.115E-04	1.547E-04	1.521E-04	1.424E-04	1.334E-04
ba134	1.192E+02	2.477E+02	2.504E+02	2.589E+02	2.651E+02
ba135	5.302E-01	5.313E-01	5.314E-01	5.317E-01	5.319E-01
ba136	5.184E+01	5.184E+01	5.184E+01	5.184E+01	5.184E+01
ba136m	3.633E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba137	9.126E+01	2.703E+02	2.794E+02	3.145E+02	3.488E+02

Table C-4. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ba137m	2.641E-04	2.368E-04	2.354E-04	2.300E-04	2.248E-04
ba138	1.725E+03	1.725E+03	1.725E+03	1.725E+03	1.725E+03
ba140	1.536E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00
be 9	2.375E-06	2.375E-06	2.375E-06	2.375E-06	2.375E-06
be 10	1.231E-04	1.231E-04	1.231E-04	1.231E-04	1.231E-04
bi208	1.129E-15	1.129E-15	1.129E-15	1.129E-15	1.129E-15
bi209	1.031E-10	2.365E-10	2.438E-10	2.727E-10	3.018E-10
bi210	3.259E-14	3.322E-14	3.355E-14	3.526E-14	3.770E-14
bi210m	1.506E-15	1.506E-15	1.506E-15	1.506E-15	1.506E-15
bi211	1.188E-16	5.432E-16	5.548E-16	6.551E-16	7.450E-16
bi212	1.819E-10	1.147E-09	1.190E-09	1.335E-09	1.457E-09
bi213	3.518E-15	3.657E-15	3.662E-15	3.705E-15	3.747E-15
bk247	5.780E-13	5.766E-13	5.765E-13	5.762E-13	5.760E-13
bk248	2.391E-11	1.659E-11	1.626E-11	1.506E-11	1.394E-11
bk249	8.530E-06	1.999E-07	1.634E-07	7.410E-08	3.362E-08
bk250	2.851E-15	3.694E-17	2.933E-17	1.196E-17	5.024E-18
br 79	3.352E-03	3.420E-03	3.423E-03	3.438E-03	3.452E-03
br 81	2.588E+01	2.588E+01	2.588E+01	2.588E+01	2.588E+01
c 12	7.668E-02	7.668E-02	7.668E-02	7.668E-02	7.668E-02
c 13	1.212E+01	1.212E+01	1.212E+01	1.212E+01	1.212E+01
c 14	3.716E-04	3.714E-04	3.714E-04	3.714E-04	3.713E-04
ca 40	7.231E-14	7.231E-14	7.231E-14	7.231E-14	7.231E-14
ca 41	4.046E-17	4.046E-17	4.046E-17	4.046E-17	4.046E-17
ca 42	7.629E-14	7.629E-14	7.629E-14	7.629E-14	7.629E-14
ca 43	7.688E-14	7.688E-14	7.688E-14	7.688E-14	7.688E-14
ca 44	8.086E-14	8.086E-14	8.086E-14	8.086E-14	8.086E-14
ca 46	8.331E-14	8.331E-14	8.331E-14	8.331E-14	8.331E-14
ca 48	8.689E-14	8.689E-14	8.689E-14	8.689E-14	8.689E-14
cd106	3.089E-13	3.089E-13	3.089E-13	3.089E-13	3.089E-13
cd108	1.645E-03	1.645E-03	1.645E-03	1.646E-03	1.646E-03
cd109	2.217E-04	1.640E-05	1.426E-05	8.245E-06	4.764E-06
cd110	1.531E+02	1.546E+02	1.546E+02	1.546E+02	1.546E+02
cd111	7.277E+01	7.277E+01	7.277E+01	7.277E+01	7.277E+01
cd112	3.425E+01	3.425E+01	3.425E+01	3.425E+01	3.425E+01
cd113	3.940E-01	3.940E-01	3.940E-01	3.940E-01	3.940E-01
cd113m	5.587E-03	4.424E-03	4.369E-03	4.160E-03	3.960E-03
cd114	3.651E+01	3.651E+01	3.651E+01	3.651E+01	3.651E+01
cd115m	7.131E-04	1.399E-15	3.293E-16	1.127E-18	3.854E-21

Table C-4. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
cd116	1.219E+01	1.219E+01	1.219E+01	1.219E+01	1.219E+01
ce136	2.279E-13	2.279E-13	2.279E-13	2.279E-13	2.279E-13
ce138	1.165E-05	1.165E-05	1.165E-05	1.165E-05	1.165E-05
ce139	1.644E-03	2.664E-07	1.668E-07	2.654E-08	4.223E-09
ce140	1.636E+03	1.636E+03	1.636E+03	1.636E+03	1.636E+03
ce141	2.269E-01	2.031E-17	2.796E-18	1.166E-21	4.859E-25
ce142	1.422E+03	1.422E+03	1.422E+03	1.422E+03	1.422E+03
ce144	2.101E+02	3.100E+00	2.472E+00	1.017E+00	4.186E-01
cf248	1.540E-11	4.199E-13	3.462E-13	1.621E-13	7.589E-14
cf249	9.113E-06	1.730E-05	1.732E-05	1.738E-05	1.738E-05
cf250	4.356E-06	3.387E-06	3.342E-06	3.170E-06	3.006E-06
cf251	2.160E-06	2.152E-06	2.151E-06	2.150E-06	2.148E-06
cf252	6.634E-07	1.913E-07	1.790E-07	1.378E-07	1.060E-07
cf253	3.871E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cf254	1.958E-12	4.665E-21	1.607E-21	2.454E-23	3.748E-25
cl 35	6.039E-14	6.039E-14	6.039E-14	6.039E-14	6.039E-14
cl 36	3.296E-15	3.296E-15	3.296E-15	3.296E-15	3.296E-15
cl 37	6.767E-14	6.767E-14	6.767E-14	6.767E-14	6.767E-14
cm240	1.972E-11	9.398E-31	8.629E-32	0.000E+00	0.000E+00
cm241	2.808E-08	3.493E-24	4.895E-25	2.186E-28	9.769E-32
cm242	2.206E+01	2.493E-02	2.039E-02	1.299E-02	1.138E-02
cm243	1.874E+00	1.674E+00	1.664E+00	1.625E+00	1.587E+00
cm244	1.500E+02	1.251E+02	1.238E+02	1.192E+02	1.147E+02
cm245	1.430E+01	1.429E+01	1.429E+01	1.429E+01	1.429E+01
cm246	9.597E-01	9.590E-01	9.584E-01	9.584E-01	9.584E-01
cm247	1.463E-02	1.463E-02	1.463E-02	1.463E-02	1.463E-02
cm248	9.411E-04	9.418E-04	9.418E-04	9.418E-04	9.418E-04
cm250	1.163E-10	1.162E-10	1.162E-10	1.162E-10	1.162E-10
co 59	1.069E-13	1.069E-13	1.069E-13	1.069E-13	1.069E-13
co 60	9.915E-15	5.313E-15	5.138E-15	4.506E-15	3.950E-15
cr 50	8.888E-14	8.888E-14	8.888E-14	8.888E-14	8.888E-14
cr 52	9.418E-14	9.418E-14	9.418E-14	9.418E-14	9.418E-14
cr 53	9.411E-14	9.411E-14	9.411E-14	9.411E-14	9.411E-14
cr 54	1.000E-13	1.001E-13	1.001E-13	1.001E-13	1.001E-13
cs131	2.041E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs132	1.768E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs133	3.474E-17	3.554E-17	3.558E-17	3.572E-17	3.585E-17
cs133	1.584E+03	1.584E+03	1.584E+03	1.584E+03	1.584E+03

Table C-4. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
cs134	1.614E+02	3.283E+01	3.014E+01	2.155E+01	1.541E+01
cs135	8.715E+02	8.715E+02	8.715E+02	8.715E+02	8.715E+02
cs136	1.210E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs137	1.729E+03	1.550E+03	1.541E+03	1.506E+03	1.471E+03
cu 63	1.131E-13	1.132E-13	1.132E-13	1.132E-13	1.132E-13
cu 65	2.368E-16	2.369E-16	2.369E-16	2.369E-16	2.369E-16
cu 65	4.410E-07	4.410E-07	4.410E-07	4.410E-07	4.410E-07
dy156	4.022E-12	4.022E-12	4.022E-12	4.022E-12	4.022E-12
dy158	1.497E-07	5.017E-07	5.204E-07	5.936E-07	6.668E-07
dy159	2.941E-07	7.171E-11	4.591E-11	7.960E-12	1.381E-12
dy160	9.643E-01	9.836E-01	9.836E-01	9.836E-01	9.836E-01
dy161	1.300E+00	1.300E+00	1.300E+00	1.300E+00	1.300E+00
dy162	7.993E-01	7.993E-01	7.993E-01	7.993E-01	7.993E-01
dy163	6.661E-01	6.661E-01	6.661E-01	6.661E-01	6.661E-01
dy164	2.700E-01	2.700E-01	2.700E-01	2.700E-01	2.700E-01
er162	4.638E-12	4.638E-12	4.638E-12	4.638E-12	4.638E-12
er164	3.235E-06	3.235E-06	3.235E-06	3.235E-06	3.235E-06
er166	8.450E-02	8.450E-02	8.450E-02	8.450E-02	8.450E-02
er167	4.233E-03	4.233E-03	4.233E-03	4.233E-03	4.233E-03
er168	1.332E-02	1.332E-02	1.332E-02	1.332E-02	1.332E-02
er169	1.175E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
er170	6.573E-04	6.573E-04	6.573E-04	6.573E-04	6.573E-04
es252	1.671E-15	1.309E-16	1.141E-16	6.674E-17	3.905E-17
es253	9.312E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
es254	5.963E-12	7.642E-14	6.049E-14	2.416E-14	9.650E-15
es255	9.809E-15	7.655E-28	1.515E-28	2.629E-31	4.560E-34
eu147	3.292E-18	0.000E+00	0.000E+00	0.000E+00	0.000E+00
eu149	7.860E-11	1.958E-16	9.796E-17	6.469E-18	4.272E-19
eu151	2.010E-01	1.202E+00	1.254E+00	1.460E+00	1.664E+00
eu152	4.136E-02	3.244E-02	3.202E-02	3.042E-02	2.890E-02
eu153	2.179E+02	2.179E+02	2.179E+02	2.179E+02	2.179E+02
eu154	6.265E+01	4.274E+01	4.187E+01	3.863E+01	3.564E+01
eu155	1.521E+01	7.615E+00	7.337E+00	6.341E+00	5.481E+00
eu156	4.252E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00
f 19	9.259E-14	9.259E-14	9.259E-14	9.259E-14	9.259E-14
fe 54	9.749E-14	9.749E-14	9.749E-14	9.749E-14	9.749E-14
fe 55	1.872E-16	5.645E-17	5.294E-17	4.113E-17	3.195E-17
fe 56	1.065E-13	1.065E-13	1.065E-13	1.065E-13	1.065E-13

Table C-4. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
fe 57	1.033E-13	1.033E-13	1.033E-13	1.033E-13	1.033E-13
fe 58	3.039E-13	3.039E-13	3.039E-13	3.039E-13	3.039E-13
fr221	3.923E-16	4.078E-16	4.085E-16	4.132E-16	4.179E-16
ga 69	1.682E-03	1.682E-03	1.682E-03	1.682E-03	1.682E-03
ga 71	7.662E-03	7.662E-03	7.662E-03	7.662E-03	7.662E-03
gd151	9.153E-08	5.682E-12	3.378E-12	4.392E-13	5.708E-14
gd152	8.490E-02	8.742E-02	8.755E-02	8.795E-02	8.841E-02
gd153	3.430E-03	2.318E-05	1.773E-05	6.190E-06	2.161E-06
gd154	9.325E+00	2.923E+01	3.010E+01	3.334E+01	3.633E+01
gd155	1.929E+00	9.524E+00	9.802E+00	1.080E+01	1.166E+01
gd156	1.669E+02	1.669E+02	1.669E+02	1.669E+02	1.669E+02
gd157	3.924E-01	3.924E-01	3.924E-01	3.924E-01	3.924E-01
gd158	4.942E+01	4.942E+01	4.942E+01	4.942E+01	4.942E+01
gd160	3.421E+00	3.421E+00	3.421E+00	3.421E+00	3.421E+00
ge 70	1.989E-05	1.989E-05	1.989E-05	1.989E-05	1.989E-05
ge 71	4.906E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ge 72	1.939E-02	1.939E-02	1.939E-02	1.939E-02	1.939E-02
ge 73	3.980E-02	3.980E-02	3.980E-02	3.980E-02	3.980E-02
ge 73m	1.123E-17	3.580E-24	1.604E-24	6.866E-26	2.941E-27
ge 74	9.524E-02	9.524E-02	9.524E-02	9.524E-02	9.524E-02
ge 76	4.278E-01	4.278E-01	4.278E-01	4.278E-01	4.278E-01
h1	6.424E-03	6.424E-03	6.424E-03	6.424E-03	6.424E-03
h2	1.373E-03	1.373E-03	1.373E-03	1.373E-03	1.373E-03
h3	8.144E-02	6.235E-02	6.147E-02	5.811E-02	5.493E-02
he3	4.987E-03	2.406E-02	2.495E-02	2.831E-02	3.149E-02
he4	8.179E+00	9.337E+00	9.382E+00	9.557E+00	9.733E+00
hf174	1.462E-13	1.462E-13	1.462E-13	1.462E-13	1.462E-13
hf175	9.696E-16	3.419E-23	1.361E-23	3.667E-25	9.875E-27
hf176	3.295E-13	3.295E-13	3.295E-13	3.295E-13	3.295E-13
hf177	5.304E-14	5.305E-14	5.305E-14	5.305E-14	5.305E-14
hf178	3.390E-13	3.390E-13	3.390E-13	3.390E-13	3.390E-13
hf179	7.602E-13	7.602E-13	7.602E-13	7.602E-13	7.602E-13
hf180	5.894E-13	5.894E-13	5.894E-13	5.894E-13	5.894E-13
hf181	2.358E-17	1.163E-29	2.542E-30	6.504E-33	0.000E+00
hf182	9.995E-16	9.995E-16	9.995E-16	9.995E-16	9.995E-16
hg196	2.578E-14	2.578E-14	2.578E-14	2.578E-14	2.578E-14
hg198	6.626E-13	6.626E-13	6.626E-13	6.626E-13	6.626E-13
hg199	1.134E-13	1.134E-13	1.134E-13	1.134E-13	1.134E-13

Table C-4. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
hg200	7.688E-13	7.688E-13	7.688E-13	7.688E-13	7.688E-13
hg201	3.517E-13	3.517E-13	3.517E-13	3.517E-13	3.517E-13
hg202	3.789E-13	3.789E-13	3.789E-13	3.789E-13	3.789E-13
hg204	3.685E-13	3.685E-13	3.685E-13	3.685E-13	3.685E-13
ho163	2.454E-07	2.452E-07	2.452E-07	2.452E-07	2.452E-07
ho165	2.646E-01	2.646E-01	2.646E-01	2.646E-01	2.646E-01
ho166m	6.880E-04	6.860E-04	6.860E-04	6.853E-04	6.853E-04
i125	1.172E-09	1.933E-18	6.531E-19	9.232E-21	1.304E-22
i126	2.017E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
i127	1.010E+02	1.013E+02	1.013E+02	1.013E+02	1.013E+02
i129	3.182E+02	3.182E+02	3.182E+02	3.182E+02	3.182E+02
i131	1.310E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
in113	9.484E-04	2.109E-03	2.164E-03	2.373E-03	2.572E-03
in113m	4.587E-14	1.345E-18	7.682E-19	8.523E-20	9.464E-21
in114	5.199E-12	1.510E-22	4.107E-23	2.478E-25	1.496E-27
in114m	3.197E-07	9.285E-18	2.525E-18	1.524E-20	9.199E-23
in115	3.565E+00	3.566E+00	3.566E+00	3.566E+00	3.566E+00
in115m	3.180E-10	6.235E-22	1.467E-22	5.021E-25	1.717E-27
ir191	1.074E-14	1.074E-14	1.074E-14	1.074E-14	1.074E-14
ir192	2.303E-16	1.977E-23	8.258E-24	2.682E-25	8.715E-27
ir193	1.762E-13	1.774E-13	1.775E-13	1.778E-13	1.780E-13
k 39	7.039E-14	7.039E-14	7.039E-14	7.039E-14	7.039E-14
k 40	6.979E-14	6.979E-14	6.979E-14	6.979E-14	6.979E-14
k 41	7.675E-14	7.675E-14	7.675E-14	7.675E-14	7.675E-14
kr 78	2.029E-13	2.029E-13	2.029E-13	2.029E-13	2.029E-13
kr 80	5.535E-04	5.535E-04	5.535E-04	5.535E-04	5.535E-04
kr 81	4.751E-05	4.751E-05	4.751E-05	4.751E-05	4.751E-05
kr 82	1.023E+00	1.023E+00	1.023E+00	1.023E+00	1.023E+00
kr 83	4.223E+01	4.223E+01	4.223E+01	4.223E+01	4.223E+01
kr 83m	4.775E-11	4.236E-17	2.005E-17	1.065E-18	5.660E-20
kr 84	9.551E+01	9.551E+01	9.551E+01	9.551E+01	9.551E+01
kr 85	1.976E+01	1.456E+01	1.432E+01	1.343E+01	1.259E+01
kr 86	1.426E+02	1.426E+02	1.426E+02	1.426E+02	1.426E+02
la137	5.518E-04	5.518E-04	5.518E-04	5.518E-04	5.518E-04
la138	3.028E-02	3.028E-02	3.028E-02	3.028E-02	3.028E-02
la139	1.599E+03	1.599E+03	1.599E+03	1.599E+03	1.599E+03
la140	2.333E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00
li6	2.552E-10	2.552E-10	2.552E-10	2.552E-10	2.552E-10

Table C-4. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
li7	2.439E-11	2.439E-11	2.439E-11	2.439E-11	2.439E-11
lu175	2.977E-13	2.987E-13	2.987E-13	2.987E-13	2.987E-13
lu176	7.251E-15	7.251E-15	7.251E-15	7.251E-15	7.251E-15
mg 24	4.354E-14	4.354E-14	4.354E-14	4.354E-14	4.354E-14
mg 25	4.531E-14	4.531E-14	4.531E-14	4.531E-14	4.531E-14
mg 26	4.715E-14	4.715E-14	4.715E-14	4.715E-14	4.715E-14
mn 54	2.254E-17	4.799E-19	3.904E-19	1.735E-19	7.715E-20
mn 55	9.763E-14	9.776E-14	9.776E-14	9.776E-14	9.776E-14
mo 92	6.793E-12	6.793E-12	6.793E-12	6.793E-12	6.793E-12
mo 93	4.749E-07	4.745E-07	4.745E-07	4.745E-07	4.743E-07
mo 94	1.581E-02	1.581E-02	1.581E-02	1.581E-02	1.581E-02
mo 95	8.629E+02	8.722E+02	8.722E+02	8.722E+02	8.722E+02
mo 96	4.751E+01	4.751E+01	4.751E+01	4.751E+01	4.751E+01
mo 97	1.047E+03	1.047E+03	1.047E+03	1.047E+03	1.047E+03
mo 98	1.146E+03	1.146E+03	1.146E+03	1.146E+03	1.146E+03
mo100	1.351E+03	1.351E+03	1.351E+03	1.351E+03	1.351E+03
n 14	4.707E-06	4.921E-06	4.933E-06	4.978E-06	5.023E-06
n 15	1.131E-02	1.131E-02	1.131E-02	1.131E-02	1.131E-02
na 23	4.167E-14	4.167E-14	4.167E-14	4.167E-14	4.167E-14
nb 91	1.153E-08	1.148E-08	1.147E-08	1.146E-08	1.145E-08
nb 91m	7.569E-15	2.027E-23	7.032E-24	1.100E-25	1.723E-27
nb 92	1.002E-06	1.002E-06	1.002E-06	1.002E-06	1.002E-06
nb 92m	1.896E-18	0.000E+00	0.000E+00	0.000E+00	0.000E+00
nb 93	1.180E-04	4.252E-04	4.486E-04	5.464E-04	6.537E-04
nb 93m	6.800E-04	1.915E-03	1.974E-03	2.201E-03	2.418E-03
nb 94	3.605E-03	3.605E-03	3.605E-03	3.605E-03	3.605E-03
nb 95	4.982E+00	3.750E-08	1.368E-08	2.713E-10	5.223E-12
nb 95m	2.813E-03	2.004E-11	7.324E-12	1.408E-13	2.709E-15
nd142	2.157E+01	2.157E+01	2.157E+01	2.157E+01	2.157E+01
nd143	1.066E+03	1.066E+03	1.066E+03	1.066E+03	1.066E+03
nd144	1.161E+03	1.368E+03	1.369E+03	1.370E+03	1.371E+03
nd145	8.020E+02	8.020E+02	8.020E+02	8.020E+02	8.020E+02
nd146	8.762E+02	8.762E+02	8.762E+02	8.762E+02	8.762E+02
nd147	5.259E-07	0.000E+00	0.000E+00	0.000E+00	0.000E+00
nd148	5.164E+02	5.164E+02	5.164E+02	5.164E+02	5.164E+02
nd150	3.046E+02	3.046E+02	3.046E+02	3.046E+02	3.046E+02
ni 58	1.044E-13	1.044E-13	1.044E-13	1.044E-13	1.044E-13
ni 59	8.470E-14	8.470E-14	8.470E-14	8.470E-14	8.470E-14

Table C-4. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ni 60	1.309E-13	1.355E-13	1.357E-13	1.363E-13	1.369E-13
ni 61	1.106E-13	1.106E-13	1.106E-13	1.106E-13	1.106E-13
ni 62	1.109E-13	1.109E-13	1.109E-13	1.109E-13	1.109E-13
ni 63	1.862E-15	1.802E-15	1.799E-15	1.787E-15	1.774E-15
ni 64	1.165E-13	1.165E-13	1.165E-13	1.165E-13	1.165E-13
np235	2.251E-06	1.085E-07	9.219E-08	4.869E-08	2.572E-08
np236	3.541E-04	3.541E-04	3.541E-04	3.541E-04	3.541E-04
np237	1.813E+02	1.886E+02	1.892E+02	1.918E+02	1.947E+02
np238	8.066E-07	7.880E-07	7.874E-07	7.834E-07	7.794E-07
np239	3.336E-04	3.334E-04	3.334E-04	3.334E-04	3.334E-04
np240	1.921E-16	1.921E-16	1.921E-16	1.921E-16	1.921E-16
np240m	1.868E-14	1.868E-14	1.868E-14	1.868E-14	1.868E-14
o 16	1.343E+05	1.343E+05	1.343E+05	1.343E+05	1.343E+05
o 17	3.187E-02	3.187E-02	3.187E-02	3.187E-02	3.187E-02
o 18	1.241E-07	1.241E-07	1.241E-07	1.241E-07	1.241E-07
os186	2.122E-13	2.122E-13	2.122E-13	2.122E-13	2.122E-13
os187	3.350E-14	3.350E-14	3.350E-14	3.350E-14	3.350E-14
os188	1.323E-13	1.323E-13	1.323E-13	1.323E-13	1.323E-13
os189	8.616E-15	8.616E-15	8.616E-15	8.616E-15	8.616E-15
os190	2.234E-15	2.234E-15	2.234E-15	2.234E-15	2.234E-15
os192	9.140E-15	9.153E-15	9.153E-15	9.153E-15	9.153E-15
p 31	5.623E-14	5.623E-14	5.623E-14	5.623E-14	5.623E-14
pa230	1.110E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pa231	2.487E-05	2.933E-05	2.958E-05	3.051E-05	3.146E-05
pa232	1.645E-14	1.644E-14	1.644E-14	1.644E-14	1.644E-14
pa233	6.136E-06	6.379E-06	6.399E-06	6.495E-06	6.593E-06
pa234	2.466E-10	2.468E-10	2.466E-10	2.466E-10	2.466E-10
pa234m	4.444E-10	4.446E-10	4.444E-10	4.444E-10	4.444E-10
pb204	1.689E-17	4.698E-17	4.797E-17	5.144E-17	5.433E-17
pb204	3.686E-13	3.686E-13	3.686E-13	3.686E-13	3.686E-13
pb205	1.196E-15	1.197E-15	1.197E-15	1.197E-15	1.198E-15
pb206	1.905E-12	9.358E-12	9.776E-12	1.144E-11	1.319E-11
pb207	6.426E-11	3.250E-10	3.482E-10	4.491E-10	5.651E-10
pb208	8.556E-07	1.976E-05	2.152E-05	2.896E-05	3.721E-05
pb209	1.478E-14	1.536E-14	1.538E-14	1.556E-14	1.574E-14
pb210	5.270E-11	5.370E-11	5.424E-11	5.701E-11	6.096E-11
pb211	2.005E-15	9.166E-15	9.358E-15	1.105E-14	1.257E-14
pb212	1.918E-09	1.209E-08	1.254E-08	1.407E-08	1.536E-08

Table C-4. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
pd102	1.040E-03	1.249E-03	1.249E-03	1.249E-03	1.250E-03
pd103	3.128E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pd104	4.189E+02	4.189E+02	4.189E+02	4.189E+02	4.189E+02
pd105	1.043E+03	1.043E+03	1.043E+03	1.043E+03	1.043E+03
pd106	8.139E+02	1.050E+03	1.051E+03	1.056E+03	1.058E+03
pd107	6.747E+02	6.747E+02	6.747E+02	6.747E+02	6.747E+02
pd108	4.669E+02	4.669E+02	4.669E+02	4.669E+02	4.669E+02
pd110	1.527E+02	1.527E+02	1.527E+02	1.527E+02	1.527E+02
pm143	1.817E-12	1.953E-14	1.532E-14	5.895E-15	2.269E-15
pm144	5.556E-10	2.031E-11	1.700E-11	8.470E-12	4.218E-12
pm145	3.955E-05	3.314E-05	3.281E-05	3.156E-05	3.035E-05
pm146	4.856E-04	2.680E-04	2.595E-04	2.290E-04	2.020E-04
pm147	1.929E+02	5.506E+01	5.148E+01	3.953E+01	3.036E+01
pm148	2.248E-04	5.212E-17	1.094E-17	2.387E-20	5.209E-23
pm148m	3.582E-02	8.305E-15	1.743E-15	3.804E-18	8.298E-21
po210	7.821E-13	8.908E-13	8.974E-13	9.358E-13	9.915E-13
po216	7.397E-15	4.662E-14	4.836E-14	5.427E-14	5.925E-14
pr141	1.459E+03	1.460E+03	1.460E+03	1.460E+03	1.460E+03
pr143	3.491E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pr144	8.848E-03	1.306E-04	1.041E-04	4.285E-05	1.763E-05
pr144m	3.521E-05	5.195E-07	4.143E-07	1.705E-07	7.012E-08
pt192	1.570E-13	1.572E-13	1.572E-13	1.572E-13	1.572E-13
pt193	1.996E-14	1.869E-14	1.862E-14	1.837E-14	1.811E-14
pt194	3.232E-13	3.232E-13	3.232E-13	3.232E-13	3.232E-13
pt195	2.574E-15	2.574E-15	2.574E-15	2.574E-15	2.574E-15
pt196	3.861E-16	3.861E-16	3.861E-16	3.861E-16	3.861E-16
pu236	9.650E-04	3.053E-04	2.870E-04	2.252E-04	1.768E-04
pu237	1.237E-05	4.592E-17	1.118E-17	4.376E-20	1.713E-22
pu238	2.004E+02	2.141E+02	2.137E+02	2.120E+02	2.104E+02
pu239	1.580E+04	1.580E+04	1.580E+04	1.580E+04	1.580E+04
pu240	9.882E+03	9.902E+03	9.902E+03	9.908E+03	9.908E+03
pu241	5.194E+03	4.126E+03	4.075E+03	3.883E+03	3.699E+03
pu242	1.523E+03	1.523E+03	1.523E+03	1.523E+03	1.523E+03
pu243	5.217E-13	5.217E-13	5.217E-13	5.217E-13	5.217E-13
pu244	1.123E-01	1.123E-01	1.123E-01	1.123E-01	1.123E-01
ra223	9.663E-13	4.415E-12	4.510E-12	5.325E-12	6.054E-12
ra224	1.674E-08	1.054E-07	1.094E-07	1.227E-07	1.340E-07
ra225	1.748E-12	1.818E-12	1.821E-12	1.842E-12	1.863E-12

Table C-4. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ra226	1.464E-09	9.093E-09	9.769E-09	1.272E-08	1.620E-08
ra228	3.209E-14	5.711E-14	5.833E-14	6.302E-14	6.760E-14
rb 83	7.264E-08	6.442E-14	3.049E-14	1.620E-15	8.609E-17
rb 84	7.615E-08	9.690E-24	1.359E-24	6.103E-28	2.739E-31
rb 85	8.033E+01	8.550E+01	8.576E+01	8.662E+01	8.749E+01
rb 86	1.428E-06	1.424E-34	0.000E+00	0.000E+00	0.000E+00
rb 87	1.871E+02	1.871E+02	1.871E+02	1.871E+02	1.871E+02
re185	6.727E-14	6.740E-14	6.740E-14	6.740E-14	6.740E-14
re186m	1.996E-16	1.996E-16	1.996E-16	1.996E-16	1.996E-16
re187	3.550E-13	3.550E-13	3.550E-13	3.550E-13	3.550E-13
rh101	6.366E-07	2.350E-07	2.228E-07	1.805E-07	1.464E-07
rh102	9.504E-04	3.279E-06	2.489E-06	9.332E-07	4.409E-07
rh102m	2.250E-03	9.345E-04	8.914E-04	7.410E-04	6.156E-04
rh103	1.002E+03	1.003E+03	1.003E+03	1.003E+03	1.003E+03
rh103m	6.840E-04	3.490E-17	6.754E-18	1.071E-20	1.699E-23
rh106	2.304E-04	9.107E-06	7.655E-06	3.876E-06	1.962E-06
rn220	2.890E-12	1.821E-11	1.889E-11	2.120E-11	2.314E-11
rn222	9.332E-15	5.846E-14	6.278E-14	8.179E-14	1.041E-13
ru 96	1.726E-13	1.726E-13	1.726E-13	1.726E-13	1.726E-13
ru 98	1.926E-06	1.935E-06	1.936E-06	1.938E-06	1.940E-06
ru 99	4.561E-02	6.240E-02	6.330E-02	6.681E-02	7.039E-02
ru100	1.696E+02	1.696E+02	1.696E+02	1.696E+02	1.696E+02
ru101	1.168E+03	1.168E+03	1.168E+03	1.168E+03	1.168E+03
ru102	1.347E+03	1.347E+03	1.347E+03	1.347E+03	1.347E+03
ru103	6.966E-01	3.553E-14	6.873E-15	1.090E-17	1.730E-20
ru104	1.275E+03	1.275E+03	1.275E+03	1.275E+03	1.275E+03
ru106	2.461E+02	9.723E+00	8.179E+00	4.140E+00	2.096E+00
s 32	5.794E-14	5.794E-14	5.794E-14	5.794E-14	5.794E-14
s 33	5.954E-14	5.954E-14	5.954E-14	5.954E-14	5.954E-14
s 34	6.168E-14	6.168E-14	6.168E-14	6.168E-14	6.168E-14
s 36	6.525E-14	6.525E-14	6.525E-14	6.525E-14	6.525E-14
sb121	8.894E+00	8.954E+00	8.954E+00	8.967E+00	8.981E+00
sb123	1.172E+01	1.181E+01	1.181E+01	1.181E+01	1.181E+01
sb124	4.124E-03	8.901E-12	3.051E-12	4.563E-14	6.827E-16
sb125	1.558E+01	4.728E+00	4.435E+00	3.450E+00	2.684E+00
sb126	9.630E-07	9.577E-07	9.577E-07	9.577E-07	9.577E-07
sb126m	7.370E-09	7.370E-09	7.370E-09	7.370E-09	7.370E-09
sc 45	7.907E-14	7.907E-14	7.907E-14	7.907E-14	7.907E-14

Table C-4. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
sc 46	4.065E-17	2.415E-23	1.119E-23	5.464E-25	2.668E-26
se 74	4.360E-07	4.360E-07	4.360E-07	4.360E-07	4.360E-07
se 75	9.471E-09	4.183E-13	2.442E-13	2.955E-14	3.575E-15
se 76	8.868E-03	8.868E-03	8.868E-03	8.868E-03	8.868E-03
se 77	1.005E+00	1.005E+00	1.005E+00	1.005E+00	1.005E+00
se 78	2.857E+00	2.857E+00	2.857E+00	2.857E+00	2.857E+00
se 79	6.143E+00	6.143E+00	6.143E+00	6.143E+00	6.143E+00
se 80	1.404E+01	1.404E+01	1.404E+01	1.404E+01	1.404E+01
se 82	3.663E+01	3.663E+01	3.663E+01	3.663E+01	3.663E+01
si 28	5.077E-14	5.077E-14	5.077E-14	5.077E-14	5.077E-14
si 29	5.264E-14	5.264E-14	5.264E-14	5.264E-14	5.264E-14
si 30	5.469E-14	5.469E-14	5.469E-14	5.469E-14	5.469E-14
sm144	6.476E-11	6.476E-11	6.476E-11	6.476E-11	6.476E-11
sm145	3.547E-07	1.037E-08	8.570E-09	4.073E-09	1.935E-09
sm146	3.670E-03	3.745E-03	3.747E-03	3.758E-03	3.767E-03
sm147	1.279E+02	2.657E+02	2.693E+02	2.812E+02	2.904E+02
sm148	2.082E+02	2.082E+02	2.082E+02	2.082E+02	2.082E+02
sm149	6.576E+00	6.576E+00	6.576E+00	6.576E+00	6.576E+00
sm150	4.358E+02	4.358E+02	4.358E+02	4.358E+02	4.358E+02
sm151	2.788E+01	2.688E+01	2.683E+01	2.662E+01	2.642E+01
sm152	1.681E+02	1.681E+02	1.681E+02	1.681E+02	1.681E+02
sm154	8.662E+01	8.662E+01	8.662E+01	8.662E+01	8.662E+01
sn112	3.639E-09	3.639E-09	3.639E-09	3.639E-09	3.639E-09
sn113	7.635E-11	2.240E-15	1.279E-15	1.420E-16	1.575E-17
sn114	1.858E-04	1.861E-04	1.861E-04	1.861E-04	1.861E-04
sn115	5.304E-01	5.304E-01	5.304E-01	5.304E-01	5.304E-01
sn116	4.348E+00	4.348E+00	4.348E+00	4.348E+00	4.348E+00
sn117	1.085E+01	1.085E+01	1.085E+01	1.085E+01	1.085E+01
sn117m	2.908E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sn118	9.405E+00	9.405E+00	9.405E+00	9.405E+00	9.405E+00
sn119	8.974E+00	9.040E+00	9.040E+00	9.040E+00	9.040E+00
sn119m	7.065E-02	1.171E-03	9.398E-04	3.962E-04	1.671E-04
sn120	9.040E+00	9.040E+00	9.040E+00	9.040E+00	9.040E+00
sn121	4.422E-05	4.103E-05	4.087E-05	4.022E-05	3.959E-05
sn121m	8.112E-01	7.529E-01	7.496E-01	7.377E-01	7.264E-01
sn122	1.213E+01	1.213E+01	1.213E+01	1.213E+01	1.213E+01
sn123	8.583E-02	7.867E-06	4.777E-06	6.740E-07	9.511E-08
sn124	1.966E+01	1.966E+01	1.966E+01	1.966E+01	1.966E+01

Table C-4. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
sn125	8.218E-10	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sn126	4.654E+01	4.654E+01	4.654E+01	4.654E+01	4.654E+01
sr 84	8.822E-06	8.822E-06	8.822E-06	8.822E-06	8.822E-06
sr 85	1.571E-08	1.414E-16	5.231E-17	1.056E-18	2.135E-20
sr 86	5.128E-01	5.128E-01	5.128E-01	5.128E-01	5.128E-01
sr 87	5.741E-03	5.741E-03	5.741E-03	5.741E-03	5.741E-03
sr 88	2.487E+02	2.487E+02	2.487E+02	2.487E+02	2.487E+02
sr 89	5.670E-01	2.687E-11	7.503E-12	5.020E-14	3.359E-16
sr 90	3.820E+02	3.408E+02	3.387E+02	3.307E+02	3.228E+02
ta180m	2.015E-17	2.015E-17	2.015E-17	2.015E-17	2.015E-17
ta181	1.815E-13	1.815E-13	1.815E-13	1.815E-13	1.815E-13
ta182	7.019E-16	1.996E-20	1.139E-20	1.288E-21	1.734E-22
tb157	9.113E-07	8.702E-07	8.682E-07	8.596E-07	8.510E-07
tb158	1.171E-04	1.150E-04	1.149E-04	1.145E-04	1.140E-04
tb159	7.489E+00	7.489E+00	7.489E+00	7.489E+00	7.489E+00
tb160	1.879E-02	1.144E-09	4.689E-10	1.417E-11	4.282E-13
tb161	7.914E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00
tc 95	6.188E-18	1.734E-26	6.029E-27	9.531E-29	0.000E+00
tc 95m	1.151E-14	3.228E-23	1.122E-23	1.773E-25	2.802E-27
tc 97	1.145E-05	1.155E-05	1.155E-05	1.155E-05	1.155E-05
tc 97m	1.043E-07	1.929E-13	9.498E-14	5.892E-15	3.655E-16
tc 98	1.180E-02	1.180E-02	1.180E-02	1.180E-02	1.180E-02
tc 99	1.078E+03	1.078E+03	1.078E+03	1.078E+03	1.078E+03
te120	2.598E-09	2.598E-09	2.598E-09	2.598E-09	2.598E-09
te121	3.472E-08	2.309E-11	1.559E-11	3.340E-12	7.151E-13
te121m	2.964E-07	1.971E-10	1.332E-10	2.851E-11	6.108E-12
te122	7.894E-01	7.894E-01	7.894E-01	7.894E-01	7.894E-01
te123	9.670E-03	1.012E-02	1.012E-02	1.012E-02	1.012E-02
te123m	4.543E-04	1.909E-08	1.111E-08	1.331E-09	1.593E-10
te124	5.658E-01	5.700E-01	5.700E-01	5.700E-01	5.700E-01
te125	1.084E+01	2.185E+01	2.214E+01	2.314E+01	2.391E+01
te125m	2.163E-01	6.596E-02	6.187E-02	4.813E-02	3.745E-02
te126	1.127E+00	1.127E+00	1.127E+00	1.127E+00	1.127E+00
te127	1.045E-03	1.709E-08	9.464E-09	9.292E-10	9.120E-11
te127m	2.984E-01	4.883E-06	2.703E-06	2.653E-07	2.605E-08
te128	1.797E+02	1.797E+02	1.797E+02	1.797E+02	1.797E+02
te129	7.960E-06	2.367E-21	3.476E-22	1.866E-25	1.002E-28
te129m	8.768E-03	2.609E-18	3.830E-19	2.056E-22	1.104E-25

Table C-4. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
te130	5.991E+02	5.991E+02	5.991E+02	5.991E+02	5.991E+02
th227	1.622E-12	7.244E-12	7.450E-12	8.735E-12	9.935E-12
th228	3.295E-06	2.041E-05	2.114E-05	2.376E-05	2.593E-05
th229	3.201E-07	3.329E-07	3.338E-07	3.373E-07	3.411E-07
th230	8.782E-05	2.861E-04	2.998E-04	3.560E-04	4.169E-04
th231	3.920E-09	3.929E-09	3.929E-09	3.931E-09	3.933E-09
th232	2.003E-04	2.411E-04	2.434E-04	2.521E-04	2.608E-04
th234	1.331E-05	1.331E-05	1.331E-05	1.331E-05	1.331E-05
ti 46	8.590E-14	8.596E-14	8.596E-14	8.596E-14	8.596E-14
ti 47	8.510E-14	8.510E-14	8.510E-14	8.510E-14	8.510E-14
ti 48	8.649E-14	8.649E-14	8.649E-14	8.649E-14	8.649E-14
ti 49	8.961E-14	8.961E-14	8.961E-14	8.961E-14	8.961E-14
ti 50	9.087E-14	9.087E-14	9.087E-14	9.087E-14	9.087E-14
tl203	2.776E-15	2.781E-15	2.781E-15	2.781E-15	2.781E-15
tl204	5.336E-17	2.237E-17	2.135E-17	1.778E-17	1.481E-17
tl205	1.325E-15	1.325E-15	1.325E-15	1.325E-15	1.325E-15
tl207	2.591E-16	1.184E-15	1.210E-15	1.428E-15	1.624E-15
tl208	3.235E-12	2.039E-11	2.115E-11	2.373E-11	2.590E-11
tm168	1.055E-09	2.630E-15	1.316E-15	8.689E-17	5.738E-18
tm169	1.017E-03	1.017E-03	1.017E-03	1.017E-03	1.017E-03
tm170	5.542E-05	4.864E-09	2.947E-09	4.120E-10	5.761E-11
tm171	1.748E-04	3.152E-05	2.876E-05	2.005E-05	1.398E-05
u230	2.977E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
u232	4.383E-04	1.049E-03	1.064E-03	1.113E-03	1.149E-03
u233	4.875E-04	7.841E-04	7.993E-04	8.662E-04	9.338E-04
u234	1.111E+01	1.904E+01	1.947E+01	2.112E+01	2.276E+01
u235	9.643E+02	9.663E+02	9.663E+02	9.670E+02	9.670E+02
u236	2.935E+02	2.984E+02	2.986E+02	2.997E+02	3.007E+02
u237	1.620E-04	1.287E-04	1.272E-04	1.212E-04	1.154E-04
u238	9.166E+05	9.166E+05	9.166E+05	9.166E+05	9.166E+05
u240	2.188E-12	2.188E-12	2.188E-12	2.188E-12	2.188E-12
v 50	5.799E-17	5.799E-17	5.799E-17	5.799E-17	5.799E-17
v 51	1.786E-15	1.786E-15	1.786E-15	1.786E-15	1.786E-15
w182	2.812E-13	2.819E-13	2.819E-13	2.819E-13	2.819E-13
w183	6.473E-13	6.473E-13	6.473E-13	6.473E-13	6.473E-13
w184	5.571E-13	5.571E-13	5.571E-13	5.571E-13	5.571E-13
w185	1.169E-16	1.322E-23	5.602E-24	1.929E-25	6.641E-27
w186	2.135E-13	2.135E-13	2.135E-13	2.135E-13	2.135E-13

Table C-4. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
xe124	2.367E-13	2.367E-13	2.367E-13	2.367E-13	2.367E-13
xe126	3.735E-04	3.735E-04	3.735E-04	3.735E-04	3.735E-04
xe127	5.583E-08	2.599E-22	4.422E-23	4.237E-26	4.059E-29
xe128	8.477E+00	8.477E+00	8.477E+00	8.477E+00	8.477E+00
xe129	5.492E-02	5.498E-02	5.498E-02	5.500E-02	5.501E-02
xe129m	2.841E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe130	1.093E+01	1.093E+01	1.093E+01	1.093E+01	1.093E+01
xe131	6.853E+02	6.853E+02	6.853E+02	6.853E+02	6.853E+02
xe131m	1.047E-07	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe132	1.709E+03	1.709E+03	1.709E+03	1.709E+03	1.709E+03
xe133	1.066E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe134	2.092E+03	2.092E+03	2.092E+03	2.092E+03	2.092E+03
xe136	3.112E+03	3.112E+03	3.112E+03	3.112E+03	3.112E+03
y 88	2.979E-05	3.816E-10	2.084E-10	1.943E-11	1.812E-12
y 89	3.271E+02	3.277E+02	3.277E+02	3.277E+02	3.277E+02
y 89m	1.961E-10	9.292E-21	2.595E-21	1.736E-23	1.162E-25
y 90	9.690E-02	8.643E-02	8.590E-02	8.391E-02	8.185E-02
y 91	1.589E+00	1.927E-09	6.401E-10	8.477E-12	1.123E-13
yb168	2.158E-12	2.263E-12	2.263E-12	2.263E-12	2.263E-12
yb169	3.487E-12	1.774E-28	2.368E-29	8.762E-33	0.000E+00
yb170	6.999E-04	7.556E-04	7.556E-04	7.556E-04	7.556E-04
yb171	2.157E-04	3.590E-04	3.618E-04	3.705E-04	3.766E-04
yb172	4.384E-04	4.384E-04	4.384E-04	4.384E-04	4.384E-04
yb176	1.145E-16	1.145E-16	1.145E-16	1.145E-16	1.145E-16
zn 64	4.177E-16	4.177E-16	4.177E-16	4.177E-16	4.177E-16
zn 66	1.489E-04	1.489E-04	1.489E-04	1.489E-04	1.489E-04
zn 67	4.158E-04	4.158E-04	4.158E-04	4.158E-04	4.158E-04
zn 68	8.324E-04	8.324E-04	8.324E-04	8.324E-04	8.324E-04
zn 70	4.106E-03	4.106E-03	4.106E-03	4.106E-03	4.106E-03
zr 88	7.138E-12	3.967E-18	1.831E-18	8.815E-20	4.244E-21
zr 90	2.124E+01	6.249E+01	6.457E+01	7.264E+01	8.053E+01
zr 91	4.771E+02	4.787E+02	4.787E+02	4.787E+02	4.787E+02
zr 92	5.797E+02	5.797E+02	5.797E+02	5.797E+02	5.797E+02
zr 93	7.171E+02	7.171E+02	7.171E+02	7.171E+02	7.171E+02
zr 94	8.238E+02	8.238E+02	8.238E+02	8.238E+02	8.238E+02
zr 95	4.359E+00	3.105E-08	1.135E-08	2.182E-10	4.197E-12
zr 96	9.610E+02	9.610E+02	9.610E+02	9.610E+02	9.610E+02
Total	1.1343E+06	1.1343E+06	1.1343E+06	1.1343E+06	1.1343E+06

Table C-5. MOX Fuel Rod K5 (high Pu): Nuclide mass in grams per MTIHM

	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ac225	7.679E-13	8.117E-13	8.137E-13	8.263E-13	8.396E-13
ac227	7.620E-10	3.238E-09	3.375E-09	3.915E-09	4.462E-09
ag105	6.982E-15	1.619E-27	3.398E-28	7.414E-31	1.618E-33
ag107	1.295E-04	4.242E-04	4.400E-04	5.020E-04	5.641E-04
ag108	5.547E-13	5.506E-13	5.503E-13	5.494E-13	5.486E-13
ag108m	6.166E-04	6.120E-04	6.118E-04	6.108E-04	6.098E-04
ag109	2.052E+02	2.052E+02	2.052E+02	2.052E+02	2.052E+02
ag109m	1.476E-10	1.092E-11	9.498E-12	5.489E-12	3.172E-12
ag110	1.843E-08	1.502E-10	1.160E-10	4.213E-11	1.530E-11
ag110m	1.188E+00	9.684E-03	7.480E-03	2.717E-03	9.870E-04
ag111	1.570E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
al 27	4.901E-14	4.901E-14	4.901E-14	4.901E-14	4.901E-14
am241	4.091E+02	1.421E+03	1.469E+03	1.650E+03	1.823E+03
am242	5.285E-05	5.164E-05	5.157E-05	5.132E-05	5.107E-05
am242m	4.097E+00	4.002E+00	3.997E+00	3.978E+00	3.958E+00
am243	2.719E+02	2.718E+02	2.718E+02	2.717E+02	2.717E+02
am244	6.989E-16	4.849E-16	4.754E-16	4.402E-16	4.075E-16
am245	8.854E-15	2.075E-16	1.696E-16	7.693E-17	3.489E-17
ar 36	6.487E-14	6.487E-14	6.487E-14	6.487E-14	6.487E-14
ar 38	6.896E-14	6.896E-14	6.896E-14	6.896E-14	6.896E-14
ar 39	1.075E-16	1.062E-16	1.061E-16	1.059E-16	1.055E-16
ar 40	7.288E-14	7.288E-14	7.288E-14	7.288E-14	7.288E-14
as 73	1.553E-10	4.949E-17	2.218E-17	9.498E-19	4.066E-20
as 74	1.663E-12	0.000E+00	0.000E+00	0.000E+00	0.000E+00
as 75	1.669E-01	1.669E-01	1.669E-01	1.669E-01	1.669E-01
au197	2.654E-13	2.654E-13	2.654E-13	2.654E-13	2.654E-13
b 10	4.441E-11	2.345E-10	2.447E-10	2.847E-10	3.248E-10
b 11	4.939E-08	4.939E-08	4.939E-08	4.939E-08	4.939E-08
ba130	1.971E-13	1.971E-13	1.971E-13	1.971E-13	1.971E-13
ba131	3.151E-18	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba132	2.433E-04	2.433E-04	2.433E-04	2.433E-04	2.433E-04
ba133	1.285E-04	9.398E-05	9.239E-05	8.655E-05	8.104E-05
ba134	8.682E+01	1.853E+02	1.874E+02	1.939E+02	1.987E+02
ba135	3.224E-01	3.236E-01	3.236E-01	3.239E-01	3.241E-01
ba136	4.354E+01	4.354E+01	4.354E+01	4.354E+01	4.354E+01
ba136m	3.235E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba137	7.633E+01	2.309E+02	2.387E+02	2.690E+02	2.986E+02

Table C-5. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ba137m	2.280E-04	2.044E-04	2.032E-04	1.986E-04	1.941E-04
ba138	1.485E+03	1.485E+03	1.485E+03	1.485E+03	1.485E+03
ba140	1.458E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00
be 9	1.945E-06	1.945E-06	1.945E-06	1.945E-06	1.945E-06
be 10	8.728E-05	8.728E-05	8.728E-05	8.728E-05	8.728E-05
bi208	6.416E-16	6.416E-16	6.416E-16	6.416E-16	6.416E-16
bi209	6.509E-11	1.530E-10	1.579E-10	1.771E-10	1.967E-10
bi210	2.808E-14	2.964E-14	3.002E-14	3.193E-14	3.456E-14
bi210m	8.509E-16	8.509E-16	8.509E-16	8.509E-16	8.509E-16
bi211	1.231E-16	5.638E-16	5.759E-16	6.816E-16	7.766E-16
bi212	1.341E-10	8.735E-10	9.067E-10	1.018E-09	1.112E-09
bi213	2.302E-15	2.433E-15	2.438E-15	2.478E-15	2.516E-15
bk247	1.312E-13	1.309E-13	1.309E-13	1.308E-13	1.308E-13
bk248	5.544E-12	3.846E-12	3.771E-12	3.492E-12	3.233E-12
bk249	2.325E-06	5.447E-08	4.453E-08	2.020E-08	9.159E-09
bk250	4.029E-16	5.259E-18	4.182E-18	1.728E-18	7.474E-19
br 79	2.961E-03	3.021E-03	3.024E-03	3.037E-03	3.050E-03
br 81	2.275E+01	2.275E+01	2.275E+01	2.275E+01	2.275E+01
c 12	6.443E-02	6.443E-02	6.443E-02	6.443E-02	6.443E-02
c 13	1.021E+01	1.021E+01	1.021E+01	1.021E+01	1.021E+01
c 14	3.053E-04	3.051E-04	3.051E-04	3.051E-04	3.050E-04
ca 40	7.248E-14	7.248E-14	7.248E-14	7.248E-14	7.248E-14
ca 41	3.343E-17	3.343E-17	3.343E-17	3.343E-17	3.343E-17
ca 42	7.640E-14	7.640E-14	7.640E-14	7.640E-14	7.640E-14
ca 43	7.719E-14	7.719E-14	7.719E-14	7.719E-14	7.719E-14
ca 44	8.078E-14	8.078E-14	8.078E-14	8.078E-14	8.078E-14
ca 46	8.343E-14	8.343E-14	8.343E-14	8.343E-14	8.343E-14
ca 48	8.708E-14	8.708E-14	8.708E-14	8.708E-14	8.708E-14
cd106	2.653E-13	2.653E-13	2.653E-13	2.653E-13	2.653E-13
cd108	1.207E-03	1.207E-03	1.208E-03	1.208E-03	1.208E-03
cd109	1.485E-04	1.100E-05	9.564E-06	5.526E-06	3.193E-06
cd110	1.146E+02	1.158E+02	1.158E+02	1.158E+02	1.158E+02
cd111	6.118E+01	6.118E+01	6.118E+01	6.118E+01	6.118E+01
cd112	2.879E+01	2.879E+01	2.879E+01	2.879E+01	2.879E+01
cd113	4.198E-01	4.198E-01	4.198E-01	4.198E-01	4.198E-01
cd113m	5.719E-03	4.529E-03	4.473E-03	4.258E-03	4.054E-03
cd114	3.100E+01	3.100E+01	3.100E+01	3.100E+01	3.100E+01
cd115m	6.586E-04	1.292E-15	3.040E-16	1.040E-18	3.558E-21

Table C-5. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
cd116	1.056E+01	1.056E+01	1.056E+01	1.056E+01	1.056E+01
ce136	2.310E-13	2.310E-13	2.310E-13	2.310E-13	2.310E-13
ce138	8.761E-06	8.761E-06	8.761E-06	8.761E-06	8.761E-06
ce139	1.262E-03	2.046E-07	1.281E-07	2.038E-08	3.242E-09
ce140	1.405E+03	1.405E+03	1.405E+03	1.405E+03	1.405E+03
ce141	2.164E-01	1.937E-17	2.667E-18	1.112E-21	4.635E-25
ce142	1.225E+03	1.225E+03	1.225E+03	1.225E+03	1.225E+03
ce144	1.908E+02	2.814E+00	2.244E+00	9.232E-01	3.800E-01
cf248	3.467E-12	9.458E-14	7.792E-14	3.650E-14	1.709E-14
cf249	2.467E-06	4.699E-06	4.706E-06	4.721E-06	4.723E-06
cf250	1.045E-06	8.131E-07	8.018E-07	7.606E-07	7.215E-07
cf251	4.843E-07	4.825E-07	4.823E-07	4.820E-07	4.816E-07
cf252	1.206E-07	3.479E-08	3.254E-08	2.504E-08	1.927E-08
cf253	6.211E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cf254	2.666E-13	6.351E-22	2.188E-22	3.341E-24	5.103E-26
cl 35	6.102E-14	6.102E-14	6.102E-14	6.102E-14	6.102E-14
cl 36	2.729E-15	2.729E-15	2.729E-15	2.729E-15	2.729E-15
cl 37	6.763E-14	6.763E-14	6.763E-14	6.763E-14	6.763E-14
cm240	1.432E-11	6.823E-31	6.268E-32	0.000E+00	0.000E+00
cm241	2.085E-08	2.595E-24	3.635E-25	1.624E-28	7.255E-32
cm242	1.798E+01	2.173E-02	1.803E-02	1.199E-02	1.067E-02
cm243	1.361E+00	1.215E+00	1.208E+00	1.179E+00	1.152E+00
cm244	8.914E+01	7.434E+01	7.361E+01	7.089E+01	6.823E+01
cm245	7.460E+00	7.460E+00	7.460E+00	7.460E+00	7.454E+00
cm246	3.981E-01	3.978E-01	3.978E-01	3.978E-01	3.977E-01
cm247	5.214E-03	5.214E-03	5.214E-03	5.214E-03	5.214E-03
cm248	2.829E-04	2.830E-04	2.830E-04	2.830E-04	2.830E-04
cm250	2.696E-11	2.695E-11	2.695E-11	2.695E-11	2.695E-11
co 59	1.071E-13	1.071E-13	1.071E-13	1.071E-13	1.071E-13
co 60	8.277E-15	4.435E-15	4.289E-15	3.761E-15	3.297E-15
cr 50	8.927E-14	8.927E-14	8.927E-14	8.927E-14	8.927E-14
cr 52	9.432E-14	9.432E-14	9.432E-14	9.432E-14	9.432E-14
cr 53	9.458E-14	9.458E-14	9.458E-14	9.458E-14	9.458E-14
cr 54	9.982E-14	9.982E-14	9.982E-14	9.982E-14	9.982E-14
cs131	1.659E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs132	1.409E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs133	2.182E-17	2.231E-17	2.233E-17	2.241E-17	2.249E-17
cs133	1.402E+03	1.402E+03	1.402E+03	1.402E+03	1.402E+03

Table C-5. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
cs134	1.237E+02	2.515E+01	2.309E+01	1.651E+01	1.181E+01
cs135	8.403E+02	8.403E+02	8.403E+02	8.403E+02	8.403E+02
cs136	1.077E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs137	1.493E+03	1.338E+03	1.330E+03	1.300E+03	1.270E+03
cu 63	1.135E-13	1.136E-13	1.136E-13	1.136E-13	1.136E-13
cu 65	1.951E-16	1.953E-16	1.953E-16	1.953E-16	1.953E-16
cu 65	3.729E-07	3.729E-07	3.729E-07	3.729E-07	3.729E-07
dy156	3.076E-12	3.076E-12	3.076E-12	3.076E-12	3.076E-12
dy158	1.164E-07	4.003E-07	4.154E-07	4.745E-07	5.333E-07
dy159	2.131E-07	5.197E-11	3.326E-11	5.767E-12	1.000E-12
dy160	7.201E-01	7.341E-01	7.341E-01	7.341E-01	7.341E-01
dy161	1.102E+00	1.102E+00	1.102E+00	1.102E+00	1.102E+00
dy162	6.664E-01	6.664E-01	6.664E-01	6.664E-01	6.664E-01
dy163	5.379E-01	5.379E-01	5.379E-01	5.379E-01	5.379E-01
dy164	2.160E-01	2.160E-01	2.160E-01	2.160E-01	2.160E-01
er162	3.549E-12	3.549E-12	3.549E-12	3.549E-12	3.549E-12
er164	2.222E-06	2.222E-06	2.222E-06	2.222E-06	2.222E-06
er166	5.790E-02	5.790E-02	5.790E-02	5.790E-02	5.790E-02
er167	3.371E-03	3.371E-03	3.371E-03	3.371E-03	3.371E-03
er168	1.008E-02	1.008E-02	1.008E-02	1.008E-02	1.008E-02
er169	9.724E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00
er170	5.459E-04	5.459E-04	5.459E-04	5.459E-04	5.459E-04
es252	2.406E-16	1.885E-17	1.644E-17	9.617E-18	5.623E-18
es253	1.495E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
es254	8.429E-13	1.080E-14	8.549E-15	3.415E-15	1.364E-15
es255	1.219E-15	9.505E-29	1.882E-29	3.266E-32	0.000E+00
eu147	2.448E-18	0.000E+00	0.000E+00	0.000E+00	0.000E+00
eu149	8.197E-11	2.042E-16	1.021E-16	6.750E-18	4.456E-19
eu151	2.105E-01	1.223E+00	1.276E+00	1.484E+00	1.691E+00
eu152	4.898E-02	3.842E-02	3.792E-02	3.603E-02	3.424E-02
eu153	1.870E+02	1.870E+02	1.870E+02	1.870E+02	1.870E+02
eu154	5.042E+01	3.440E+01	3.370E+01	3.110E+01	2.869E+01
eu155	1.231E+01	6.164E+00	5.939E+00	5.134E+00	4.438E+00
eu156	3.184E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00
f 19	6.790E-14	6.790E-14	6.790E-14	6.790E-14	6.790E-14
fe 54	9.770E-14	9.770E-14	9.770E-14	9.770E-14	9.770E-14
fe 55	1.567E-16	4.726E-17	4.432E-17	3.443E-17	2.675E-17
fe 56	1.059E-13	1.059E-13	1.059E-13	1.059E-13	1.059E-13

Table C-5. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
fe 57	1.035E-13	1.035E-13	1.035E-13	1.035E-13	1.035E-13
fe 58	3.064E-13	3.064E-13	3.064E-13	3.064E-13	3.064E-13
fr221	2.567E-16	2.713E-16	2.719E-16	2.763E-16	2.806E-16
ga 69	1.444E-03	1.444E-03	1.444E-03	1.444E-03	1.444E-03
ga 71	6.572E-03	6.572E-03	6.572E-03	6.572E-03	6.572E-03
gd151	8.582E-08	5.326E-12	3.167E-12	4.117E-13	5.352E-14
gd152	8.814E-02	9.113E-02	9.126E-02	9.179E-02	9.226E-02
gd153	3.435E-03	2.322E-05	1.775E-05	6.199E-06	2.164E-06
gd154	7.082E+00	2.310E+01	2.380E+01	2.641E+01	2.881E+01
gd155	1.580E+00	7.732E+00	7.951E+00	8.761E+00	9.458E+00
gd156	1.226E+02	1.226E+02	1.226E+02	1.226E+02	1.226E+02
gd157	3.585E-01	3.585E-01	3.585E-01	3.585E-01	3.585E-01
gd158	3.977E+01	3.977E+01	3.977E+01	3.977E+01	3.977E+01
gd160	2.893E+00	2.893E+00	2.893E+00	2.893E+00	2.893E+00
ge 70	1.443E-05	1.443E-05	1.443E-05	1.443E-05	1.443E-05
ge 71	3.573E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ge 72	1.688E-02	1.688E-02	1.688E-02	1.688E-02	1.688E-02
ge 73	3.491E-02	3.491E-02	3.491E-02	3.491E-02	3.491E-02
ge 73m	1.117E-17	3.560E-24	1.595E-24	6.830E-26	2.924E-27
ge 74	8.303E-02	8.303E-02	8.303E-02	8.303E-02	8.303E-02
ge 76	3.735E-01	3.735E-01	3.735E-01	3.735E-01	3.735E-01
h1	5.405E-03	5.405E-03	5.405E-03	5.405E-03	5.405E-03
h2	1.154E-03	1.154E-03	1.154E-03	1.154E-03	1.154E-03
h3	7.013E-02	5.368E-02	5.291E-02	5.002E-02	4.729E-02
he3	4.444E-03	2.087E-02	2.163E-02	2.452E-02	2.726E-02
he4	6.746E+00	7.641E+00	7.675E+00	7.812E+00	7.951E+00
hf174	1.673E-13	1.673E-13	1.673E-13	1.673E-13	1.673E-13
hf175	9.730E-16	3.430E-23	1.366E-23	3.679E-25	9.909E-27
hf176	3.297E-13	3.297E-13	3.297E-13	3.297E-13	3.297E-13
hf177	6.421E-14	6.422E-14	6.422E-14	6.422E-14	6.422E-14
hf178	3.956E-13	3.956E-13	3.956E-13	3.956E-13	3.956E-13
hf179	7.268E-13	7.268E-13	7.268E-13	7.268E-13	7.268E-13
hf180	5.382E-13	5.382E-13	5.382E-13	5.382E-13	5.382E-13
hf181	1.928E-17	9.511E-30	2.079E-30	5.318E-33	0.000E+00
hf182	6.916E-16	6.916E-16	6.916E-16	6.916E-16	6.916E-16
hg196	4.202E-14	4.202E-14	4.202E-14	4.202E-14	4.202E-14
hg198	6.457E-13	6.457E-13	6.457E-13	6.457E-13	6.457E-13
hg199	1.310E-13	1.310E-13	1.310E-13	1.310E-13	1.310E-13

Table C-5. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
hg200	7.175E-13	7.175E-13	7.175E-13	7.175E-13	7.175E-13
hg201	3.541E-13	3.541E-13	3.541E-13	3.541E-13	3.541E-13
hg202	3.775E-13	3.775E-13	3.775E-13	3.775E-13	3.775E-13
hg204	3.692E-13	3.692E-13	3.692E-13	3.692E-13	3.692E-13
ho163	2.203E-07	2.202E-07	2.202E-07	2.201E-07	2.201E-07
ho165	1.839E-01	1.839E-01	1.839E-01	1.839E-01	1.839E-01
ho166m	4.904E-04	4.890E-04	4.889E-04	4.886E-04	4.884E-04
il25	1.006E-09	1.659E-18	5.605E-19	7.918E-21	1.120E-22
il26	1.674E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
il27	9.000E+01	9.027E+01	9.027E+01	9.027E+01	9.027E+01
il29	2.784E+02	2.784E+02	2.784E+02	2.784E+02	2.784E+02
il31	1.255E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
in113	9.830E-04	2.171E-03	2.227E-03	2.442E-03	2.646E-03
in113m	3.522E-14	1.033E-18	5.899E-19	6.547E-20	7.268E-21
in114	4.858E-12	1.410E-22	3.836E-23	2.316E-25	1.398E-27
in114m	2.987E-07	8.675E-18	2.359E-18	1.424E-20	8.595E-23
in115	3.497E+00	3.497E+00	3.497E+00	3.497E+00	3.497E+00
in115m	2.936E-10	5.756E-22	1.355E-22	4.635E-25	1.586E-27
ir191	1.881E-14	1.881E-14	1.881E-14	1.881E-14	1.881E-14
ir192	3.793E-16	3.255E-23	1.359E-23	4.416E-25	1.434E-26
ir193	1.966E-13	1.977E-13	1.978E-13	1.980E-13	1.982E-13
k 39	7.055E-14	7.055E-14	7.055E-14	7.055E-14	7.055E-14
k 40	7.036E-14	7.036E-14	7.036E-14	7.036E-14	7.036E-14
k 41	7.640E-14	7.640E-14	7.640E-14	7.640E-14	7.640E-14
kr 78	1.863E-13	1.863E-13	1.863E-13	1.863E-13	1.863E-13
kr 80	4.318E-04	4.318E-04	4.318E-04	4.318E-04	4.318E-04
kr 81	3.781E-05	3.781E-05	3.781E-05	3.781E-05	3.781E-05
kr 82	7.779E-01	7.779E-01	7.779E-01	7.779E-01	7.779E-01
kr 83	3.781E+01	3.781E+01	3.781E+01	3.781E+01	3.781E+01
kr 83m	4.779E-11	4.239E-17	2.006E-17	1.066E-18	5.664E-20
kr 84	8.137E+01	8.137E+01	8.137E+01	8.137E+01	8.137E+01
kr 85	1.722E+01	1.268E+01	1.248E+01	1.170E+01	1.097E+01
kr 86	1.233E+02	1.233E+02	1.233E+02	1.233E+02	1.233E+02
la137	1.465E-14	1.465E-14	1.465E-14	1.465E-14	1.465E-14
la137	4.947E-04	4.947E-04	4.947E-04	4.947E-04	4.947E-04
la138	1.191E-15	1.191E-15	1.191E-15	1.191E-15	1.191E-15
la138	2.416E-02	2.416E-02	2.416E-02	2.416E-02	2.416E-02
la139	1.316E-16	1.316E-16	1.316E-16	1.316E-16	1.316E-16

Table C-5. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
la139	1.377E+03	1.377E+03	1.377E+03	1.377E+03	1.377E+03
la140	2.214E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00
li 6	1.882E-10	1.882E-10	1.882E-10	1.882E-10	1.882E-10
li 7	1.495E-11	1.495E-11	1.495E-11	1.495E-11	1.495E-11
lu175	3.054E-13	3.064E-13	3.064E-13	3.064E-13	3.064E-13
lu176	8.522E-15	8.522E-15	8.522E-15	8.522E-15	8.522E-15
mg 24	4.359E-14	4.359E-14	4.359E-14	4.359E-14	4.359E-14
mg 25	4.537E-14	4.537E-14	4.537E-14	4.537E-14	4.537E-14
mg 26	4.722E-14	4.722E-14	4.722E-14	4.722E-14	4.722E-14
mn 54	1.984E-17	4.224E-19	3.435E-19	1.527E-19	6.790E-20
mn 55	9.810E-14	9.823E-14	9.823E-14	9.823E-14	9.823E-14
mo 92	4.300E-12	4.300E-12	4.300E-12	4.300E-12	4.300E-12
mo 93	3.432E-07	3.429E-07	3.429E-07	3.428E-07	3.427E-07
mo 94	1.143E-02	1.144E-02	1.144E-02	1.144E-02	1.144E-02
mo 95	7.520E+02	7.606E+02	7.606E+02	7.606E+02	7.606E+02
mo 96	3.449E+01	3.449E+01	3.449E+01	3.449E+01	3.449E+01
mo 97	9.053E+02	9.053E+02	9.053E+02	9.053E+02	9.053E+02
mo 98	9.890E+02	9.890E+02	9.890E+02	9.890E+02	9.890E+02
mo100	1.167E+03	1.167E+03	1.167E+03	1.167E+03	1.167E+03
n 14	4.028E-06	4.203E-06	4.213E-06	4.250E-06	4.287E-06
n 15	9.511E-03	9.511E-03	9.511E-03	9.511E-03	9.511E-03
na 23	4.174E-14	4.174E-14	4.174E-14	4.174E-14	4.174E-14
nb 91	1.017E-08	1.013E-08	1.013E-08	1.012E-08	1.010E-08
nb 91m	5.989E-15	1.605E-23	5.565E-24	8.708E-26	1.363E-27
nb 92	8.887E-07	8.887E-07	8.887E-07	8.887E-07	8.887E-07
nb 92m	1.420E-18	0.000E+00	0.000E+00	0.000E+00	0.000E+00
nb 93	1.009E-04	3.641E-04	3.841E-04	4.683E-04	5.607E-04
nb 93m	5.717E-04	1.645E-03	1.696E-03	1.894E-03	2.083E-03
nb 94	2.997E-03	2.997E-03	2.996E-03	2.996E-03	2.996E-03
nb 95	4.766E+00	3.587E-08	1.309E-08	2.595E-10	4.997E-12
nb 95m	2.691E-03	1.917E-11	7.002E-12	1.347E-13	2.591E-15
nd142	1.539E+01	1.539E+01	1.539E+01	1.539E+01	1.539E+01
nd143	9.525E+02	9.525E+02	9.525E+02	9.525E+02	9.525E+02
nd144	9.544E+02	1.142E+03	1.143E+03	1.144E+03	1.145E+03
nd145	7.042E+02	7.042E+02	7.042E+02	7.042E+02	7.042E+02
nd146	7.387E+02	7.387E+02	7.387E+02	7.387E+02	7.387E+02
nd147	4.976E-07	0.000E+00	0.000E+00	0.000E+00	0.000E+00
nd148	4.432E+02	4.432E+02	4.432E+02	4.432E+02	4.432E+02

Table C-5. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
nd150	2.617E+02	2.617E+02	2.617E+02	2.617E+02	2.617E+02
ni 58	1.047E-13	1.047E-13	1.047E-13	1.047E-13	1.047E-13
ni 59	8.821E-14	8.821E-14	8.821E-14	8.821E-14	8.821E-14
ni 60	1.276E-13	1.314E-13	1.316E-13	1.321E-13	1.326E-13
ni 61	1.108E-13	1.108E-13	1.108E-13	1.108E-13	1.108E-13
ni 62	1.114E-13	1.114E-13	1.114E-13	1.114E-13	1.114E-13
ni 63	1.539E-15	1.490E-15	1.487E-15	1.477E-15	1.467E-15
ni 64	1.166E-13	1.166E-13	1.166E-13	1.166E-13	1.166E-13
np235	1.746E-06	8.423E-08	7.155E-08	3.778E-08	1.995E-08
np236	3.017E-04	3.017E-04	3.017E-04	3.017E-04	3.017E-04
np237	1.598E+02	1.667E+02	1.673E+02	1.698E+02	1.726E+02
np238	7.600E-07	7.427E-07	7.420E-07	7.381E-07	7.347E-07
np239	2.340E-04	2.340E-04	2.340E-04	2.340E-04	2.339E-04
np240	1.124E-16	1.124E-16	1.124E-16	1.124E-16	1.124E-16
np240m	1.092E-14	1.092E-14	1.092E-14	1.092E-14	1.092E-14
o 16	1.344E+05	1.344E+05	1.344E+05	1.344E+05	1.344E+05
o 17	2.620E-02	2.620E-02	2.620E-02	2.620E-02	2.620E-02
o 18	8.482E-08	8.482E-08	8.482E-08	8.482E-08	8.482E-08
os186	2.052E-13	2.052E-13	2.052E-13	2.052E-13	2.052E-13
os187	2.715E-14	2.715E-14	2.715E-14	2.715E-14	2.715E-14
os188	1.101E-13	1.102E-13	1.102E-13	1.102E-13	1.102E-13
os189	6.269E-15	6.269E-15	6.269E-15	6.269E-15	6.269E-15
os190	1.366E-15	1.366E-15	1.366E-15	1.366E-15	1.366E-15
os192	9.823E-15	9.843E-15	9.843E-15	9.843E-15	9.843E-15
p 31	5.630E-14	5.630E-14	5.630E-14	5.630E-14	5.630E-14
pa230	1.039E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pa231	2.553E-05	3.075E-05	3.104E-05	3.214E-05	3.324E-05
pa232	1.401E-14	1.401E-14	1.401E-14	1.401E-14	1.401E-14
pa233	5.408E-06	5.640E-06	5.659E-06	5.751E-06	5.843E-06
pa234	2.480E-10	2.481E-10	2.480E-10	2.480E-10	2.480E-10
pa234m	4.469E-10	4.470E-10	4.469E-10	4.469E-10	4.469E-10
pb204	3.694E-13	3.694E-13	3.694E-13	3.694E-13	3.694E-13
pb205	1.001E-15	1.001E-15	1.001E-15	1.001E-15	1.001E-15
pb206	1.627E-12	8.117E-12	8.482E-12	9.969E-12	1.156E-11
pb207	4.872E-11	3.185E-10	3.426E-10	4.474E-10	5.682E-10
pb208	6.114E-07	1.493E-05	1.626E-05	2.194E-05	2.824E-05
pb209	9.671E-15	1.022E-14	1.024E-14	1.041E-14	1.057E-14
pb210	4.540E-11	4.791E-11	4.854E-11	5.162E-11	5.588E-11

Table C-5. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
pb211	2.075E-15	9.511E-15	9.717E-15	1.150E-14	1.310E-14
pb212	1.413E-09	9.206E-09	9.558E-09	1.074E-08	1.173E-08
pd102	7.786E-04	9.451E-04	9.458E-04	9.458E-04	9.458E-04
pd103	2.112E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pd104	3.150E+02	3.150E+02	3.150E+02	3.150E+02	3.150E+02
pd105	9.133E+02	9.133E+02	9.133E+02	9.133E+02	9.133E+02
pd106	6.704E+02	8.814E+02	8.828E+02	8.861E+02	8.881E+02
pd107	5.824E+02	5.824E+02	5.824E+02	5.824E+02	5.824E+02
pd108	3.987E+02	3.987E+02	3.987E+02	3.987E+02	3.987E+02
pd110	1.292E+02	1.292E+02	1.292E+02	1.292E+02	1.292E+02
pm143	1.280E-12	1.376E-14	1.079E-14	4.153E-15	1.598E-15
pm144	3.946E-10	1.442E-11	1.207E-11	6.014E-12	2.995E-12
pm145	3.094E-05	2.594E-05	2.569E-05	2.470E-05	2.375E-05
pm146	4.588E-04	2.531E-04	2.452E-04	2.163E-04	1.909E-04
pm147	1.831E+02	5.228E+01	4.888E+01	3.753E+01	2.883E+01
pm148	2.167E-04	5.024E-17	1.055E-17	2.301E-20	5.022E-23
pm148m	3.453E-02	8.005E-15	1.680E-15	3.666E-18	7.998E-21
po210	6.677E-13	7.905E-13	7.985E-13	8.423E-13	9.033E-13
po216	5.451E-15	3.551E-14	3.686E-14	4.142E-14	4.525E-14
pr141	1.264E+03	1.264E+03	1.264E+03	1.264E+03	1.264E+03
pr143	3.317E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pr144	8.031E-03	1.185E-04	9.451E-05	3.890E-05	1.601E-05
pr144m	3.196E-05	4.716E-07	3.761E-07	1.547E-07	6.367E-08
pt192	1.730E-13	1.734E-13	1.734E-13	1.734E-13	1.734E-13
pt193	1.784E-14	1.670E-14	1.665E-14	1.641E-14	1.619E-14
pt194	2.818E-13	2.818E-13	2.818E-13	2.818E-13	2.818E-13
pt195	1.890E-15	1.891E-15	1.891E-15	1.891E-15	1.891E-15
pt196	2.395E-16	2.395E-16	2.395E-16	2.395E-16	2.395E-16
pu236	7.454E-04	2.359E-04	2.218E-04	1.740E-04	1.366E-04
pu237	9.485E-06	3.520E-17	8.575E-18	3.355E-20	1.313E-22
pu238	1.571E+02	1.685E+02	1.681E+02	1.669E+02	1.655E+02
pu239	1.834E+04	1.834E+04	1.834E+04	1.834E+04	1.834E+04
pu240	9.863E+03	9.876E+03	9.876E+03	9.876E+03	9.876E+03
pu241	4.956E+03	3.937E+03	3.889E+03	3.705E+03	3.529E+03
pu242	1.164E+03	1.164E+03	1.164E+03	1.164E+03	1.164E+03
pu243	1.859E-13	1.859E-13	1.859E-13	1.859E-13	1.859E-13
pu244	6.570E-02	6.570E-02	6.570E-02	6.570E-02	6.570E-02
ra223	1.000E-12	4.582E-12	4.681E-12	5.539E-12	6.312E-12

Table C-5. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ra224	1.233E-08	8.031E-08	8.336E-08	9.365E-08	1.023E-07
ra225	1.144E-12	1.209E-12	1.213E-12	1.232E-12	1.251E-12
ra226	1.594E-09	9.485E-09	1.016E-08	1.309E-08	1.651E-08
ra228	2.600E-14	4.945E-14	5.059E-14	5.496E-14	5.920E-14
rb 83	7.268E-08	6.447E-14	3.052E-14	1.621E-15	8.615E-17
rb 84	5.954E-08	7.573E-24	1.063E-24	4.769E-28	2.141E-31
rb 85	6.956E+01	7.407E+01	7.434E+01	7.507E+01	7.580E+01
rb 86	1.116E-06	1.114E-34	0.000E+00	0.000E+00	0.000E+00
rb 87	1.619E+02	1.619E+02	1.619E+02	1.619E+02	1.619E+02
re185	8.476E-14	8.482E-14	8.482E-14	8.482E-14	8.482E-14
re186m	2.123E-16	2.123E-16	2.123E-16	2.123E-16	2.123E-16
re187	3.581E-13	3.581E-13	3.581E-13	3.581E-13	3.581E-13
rh101	4.947E-07	1.826E-07	1.731E-07	1.403E-07	1.138E-07
rh102	7.593E-04	2.613E-06	1.982E-06	7.401E-07	3.471E-07
rh102m	1.753E-03	7.274E-04	6.943E-04	5.769E-04	4.794E-04
rh103	9.106E+02	9.113E+02	9.113E+02	9.113E+02	9.113E+02
rh103m	6.504E-04	3.317E-17	6.418E-18	1.018E-20	1.615E-23
rh106	2.056E-04	8.124E-06	6.830E-06	3.459E-06	1.752E-06
rn220	2.129E-12	1.387E-11	1.440E-11	1.618E-11	1.767E-11
rn222	1.016E-14	6.094E-14	6.528E-14	8.416E-14	1.061E-13
ru 96	1.730E-13	1.730E-13	1.730E-13	1.730E-13	1.730E-13
ru 98	1.355E-06	1.362E-06	1.363E-06	1.364E-06	1.365E-06
ru 99	3.943E-02	5.421E-02	5.500E-02	5.812E-02	6.123E-02
ru100	1.260E+02	1.260E+02	1.260E+02	1.260E+02	1.260E+02
ru101	1.016E+03	1.016E+03	1.016E+03	1.016E+03	1.016E+03
ru102	1.149E+03	1.149E+03	1.149E+03	1.149E+03	1.149E+03
ru103	6.621E-01	3.376E-14	6.534E-15	1.036E-17	1.644E-20
ru104	1.096E+03	1.096E+03	1.096E+03	1.096E+03	1.096E+03
ru106	2.196E+02	8.682E+00	7.294E+00	3.695E+00	1.871E+00
s 32	5.804E-14	5.804E-14	5.804E-14	5.804E-14	5.804E-14
s 33	5.967E-14	5.967E-14	5.967E-14	5.967E-14	5.967E-14
s 34	6.177E-14	6.177E-14	6.177E-14	6.177E-14	6.177E-14
s 36	6.535E-14	6.535E-14	6.535E-14	6.535E-14	6.535E-14
sb121	7.779E+00	7.832E+00	7.832E+00	7.845E+00	7.852E+00
sb123	1.019E+01	1.028E+01	1.028E+01	1.028E+01	1.028E+01
sb124	3.232E-03	6.976E-12	2.391E-12	3.575E-14	5.347E-16
sb125	1.387E+01	4.209E+00	3.948E+00	3.071E+00	2.389E+00
sb126	8.390E-07	8.343E-07	8.343E-07	8.343E-07	8.343E-07

Table C-5. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
sb126m	6.419E-09	6.419E-09	6.419E-09	6.419E-09	6.419E-09
sc 45	7.965E-14	7.965E-14	7.965E-14	7.965E-14	7.965E-14
sc 46	3.576E-17	2.125E-23	9.843E-24	4.807E-25	2.347E-26
se 74	3.631E-07	3.631E-07	3.631E-07	3.631E-07	3.631E-07
se 75	7.049E-09	3.111E-13	1.817E-13	2.198E-14	2.659E-15
se 76	6.595E-03	6.595E-03	6.595E-03	6.595E-03	6.595E-03
se 77	8.848E-01	8.848E-01	8.848E-01	8.848E-01	8.848E-01
se 78	2.476E+00	2.476E+00	2.476E+00	2.476E+00	2.476E+00
se 79	5.416E+00	5.416E+00	5.416E+00	5.416E+00	5.416E+00
se 80	1.222E+01	1.222E+01	1.222E+01	1.222E+01	1.222E+01
se 82	3.181E+01	3.181E+01	3.181E+01	3.181E+01	3.181E+01
si 28	5.084E-14	5.084E-14	5.084E-14	5.084E-14	5.084E-14
si 29	5.270E-14	5.270E-14	5.270E-14	5.270E-14	5.270E-14
si 30	5.472E-14	5.472E-14	5.472E-14	5.472E-14	5.472E-14
sm144	4.377E-11	4.377E-11	4.377E-11	4.377E-11	4.377E-11
sm145	2.884E-07	8.423E-09	6.969E-09	3.312E-09	1.574E-09
sm146	2.867E-03	2.936E-03	2.939E-03	2.949E-03	2.958E-03
sm147	1.185E+02	2.494E+02	2.528E+02	2.642E+02	2.729E+02
sm148	1.663E+02	1.663E+02	1.663E+02	1.663E+02	1.663E+02
sm149	6.690E+00	6.690E+00	6.690E+00	6.690E+00	6.690E+00
sm150	3.664E+02	3.664E+02	3.664E+02	3.664E+02	3.664E+02
sm151	2.821E+01	2.719E+01	2.714E+01	2.693E+01	2.673E+01
sm152	1.583E+02	1.583E+02	1.583E+02	1.583E+02	1.583E+02
sm154	7.341E+01	7.341E+01	7.341E+01	7.341E+01	7.341E+01
sn112	3.072E-09	3.072E-09	3.072E-09	3.072E-09	3.072E-09
sn113	5.865E-11	1.720E-15	9.823E-16	1.090E-16	1.210E-17
sn114	1.598E-04	1.602E-04	1.602E-04	1.602E-04	1.602E-04
sn115	4.571E-01	4.571E-01	4.571E-01	4.571E-01	4.571E-01
sn116	3.467E+00	3.467E+00	3.467E+00	3.467E+00	3.467E+00
sn117	9.412E+00	9.412E+00	9.412E+00	9.412E+00	9.412E+00
sn117m	2.367E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sn118	8.091E+00	8.091E+00	8.091E+00	8.091E+00	8.091E+00
sn119	7.739E+00	7.799E+00	7.799E+00	7.799E+00	7.799E+00
sn119m	6.227E-02	1.032E-03	8.283E-04	3.493E-04	1.473E-04
sn120	7.772E+00	7.772E+00	7.772E+00	7.772E+00	7.772E+00
sn121	3.865E-05	3.585E-05	3.572E-05	3.515E-05	3.460E-05
sn121m	7.089E-01	6.578E-01	6.551E-01	6.449E-01	6.348E-01
sn122	1.049E+01	1.049E+01	1.049E+01	1.049E+01	1.049E+01

Table C-5. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
sn123	8.363E-02	7.666E-06	4.655E-06	6.568E-07	9.266E-08
sn124	1.710E+01	1.710E+01	1.710E+01	1.710E+01	1.710E+01
sn125	8.051E-10	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sn126	4.055E+01	4.055E+01	4.055E+01	4.055E+01	4.055E+01
sr 84	6.424E-06	6.426E-06	6.426E-06	6.426E-06	6.426E-06
sr 85	1.227E-08	1.104E-16	4.086E-17	8.257E-19	1.668E-20
sr 86	3.733E-01	3.733E-01	3.733E-01	3.733E-01	3.733E-01
sr 87	4.660E-03	4.660E-03	4.660E-03	4.660E-03	4.660E-03
sr 88	2.152E+02	2.152E+02	2.152E+02	2.152E+02	2.152E+02
sr 89	5.441E-01	2.579E-11	7.201E-12	4.817E-14	3.224E-16
sr 90	3.314E+02	2.956E+02	2.938E+02	2.868E+02	2.800E+02
ta180m	1.823E-17	1.823E-17	1.823E-17	1.823E-17	1.823E-17
ta181	1.971E-13	1.971E-13	1.971E-13	1.971E-13	1.971E-13
ta182	7.865E-16	2.235E-20	1.276E-20	1.428E-21	1.792E-22
tb157	8.801E-07	8.403E-07	8.383E-07	8.303E-07	8.224E-07
tb158	9.451E-05	9.279E-05	9.266E-05	9.232E-05	9.199E-05
tb159	6.281E+00	6.281E+00	6.281E+00	6.281E+00	6.281E+00
tb160	1.438E-02	8.748E-10	3.588E-10	1.084E-11	3.276E-13
tb161	6.690E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00
tc 95	4.507E-18	1.264E-26	4.392E-27	6.943E-29	0.000E+00
tc 95m	8.390E-15	2.352E-23	8.170E-24	1.292E-25	2.041E-27
tc 97	8.662E-06	8.741E-06	8.741E-06	8.741E-06	8.741E-06
tc 97m	8.436E-08	1.560E-13	7.686E-14	4.766E-15	2.956E-16
tc 98	8.794E-03	8.794E-03	8.794E-03	8.794E-03	8.794E-03
tc 99	9.491E+02	9.491E+02	9.491E+02	9.491E+02	9.491E+02
te120	1.758E-09	1.758E-09	1.758E-09	1.758E-09	1.758E-09
te121	2.251E-08	1.497E-11	1.011E-11	2.165E-12	4.638E-13
te121m	1.922E-07	1.278E-10	8.628E-11	1.849E-11	3.960E-12
te122	5.816E-01	5.816E-01	5.816E-01	5.816E-01	5.816E-01
te123	2.175E-15	2.175E-15	2.175E-15	2.175E-15	2.175E-15
te123	6.633E-03	6.943E-03	6.943E-03	6.943E-03	6.943E-03
te123m	3.090E-04	1.298E-08	7.560E-09	9.053E-10	1.084E-10
te124	2.212E-13	2.212E-13	2.212E-13	2.212E-13	2.212E-13
te124	4.116E-01	4.149E-01	4.149E-01	4.149E-01	4.149E-01
te125	1.738E-15	1.738E-15	1.738E-15	1.738E-15	1.738E-15
te125	9.219E+00	1.901E+01	1.927E+01	2.016E+01	2.085E+01
te125m	1.923E-01	5.871E-02	5.507E-02	4.284E-02	3.333E-02
te126	9.378E-01	9.378E-01	9.385E-01	9.385E-01	9.385E-01

Table C-5. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
te127	1.068E-03	1.748E-08	9.671E-09	9.498E-10	9.319E-11
te127m	3.050E-01	4.992E-06	2.763E-06	2.713E-07	2.663E-08
te128	1.555E+02	1.555E+02	1.555E+02	1.555E+02	1.555E+02
te129	7.772E-06	2.312E-21	3.394E-22	1.822E-25	9.783E-29
te129m	8.562E-03	2.547E-18	3.739E-19	2.008E-22	1.078E-25
te130	5.180E+02	5.180E+02	5.180E+02	5.180E+02	5.180E+02
th227	1.679E-12	7.520E-12	7.732E-12	9.086E-12	1.035E-11
th228	2.428E-06	1.554E-05	1.612E-05	1.813E-05	1.981E-05
th229	2.095E-07	2.215E-07	2.223E-07	2.255E-07	2.291E-07
th230	9.511E-05	2.872E-04	2.999E-04	3.517E-04	4.072E-04
th231	4.593E-09	4.603E-09	4.604E-09	4.606E-09	4.608E-09
th232	1.781E-04	2.154E-04	2.175E-04	2.255E-04	2.334E-04
th234	1.338E-05	1.339E-05	1.338E-05	1.338E-05	1.338E-05
ti 46	8.555E-14	8.562E-14	8.562E-14	8.562E-14	8.562E-14
ti 47	8.522E-14	8.522E-14	8.522E-14	8.522E-14	8.522E-14
ti 48	8.668E-14	8.668E-14	8.668E-14	8.668E-14	8.668E-14
ti 49	8.960E-14	8.960E-14	8.960E-14	8.960E-14	8.960E-14
ti 50	9.093E-14	9.093E-14	9.093E-14	9.093E-14	9.093E-14
tl203	2.299E-15	2.303E-15	2.303E-15	2.303E-15	2.303E-15
tl204	3.747E-17	1.570E-17	1.499E-17	1.248E-17	1.039E-17
tl205	1.112E-15	1.112E-15	1.112E-15	1.112E-15	1.112E-15
tl207	2.683E-16	1.229E-15	1.256E-15	1.486E-15	1.693E-15
tl208	2.383E-12	1.552E-11	1.612E-11	1.811E-11	1.979E-11
tm168	8.555E-10	2.131E-15	1.067E-15	7.042E-17	4.651E-18
tm169	8.867E-04	8.867E-04	8.867E-04	8.867E-04	8.867E-04
tm170	4.412E-05	3.872E-09	2.346E-09	3.279E-10	4.586E-11
tm171	1.443E-04	2.602E-05	2.374E-05	1.655E-05	1.154E-05
u230	2.785E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
u232	3.293E-04	8.011E-04	8.131E-04	8.516E-04	8.794E-04
u233	4.636E-04	7.255E-04	7.387E-04	7.978E-04	8.582E-04
u234	1.148E+01	1.772E+01	1.806E+01	1.936E+01	2.065E+01
u235	1.130E+03	1.132E+03	1.132E+03	1.133E+03	1.133E+03
u236	2.683E+02	2.732E+02	2.735E+02	2.745E+02	2.754E+02
u237	1.546E-04	1.229E-04	1.213E-04	1.156E-04	1.101E-04
u238	9.213E+05	9.213E+05	9.213E+05	9.213E+05	9.213E+05
u240	1.280E-12	1.280E-12	1.280E-12	1.280E-12	1.280E-12
v 50	4.941E-17	4.941E-17	4.941E-17	4.941E-17	4.941E-17
v 51	1.473E-15	1.473E-15	1.473E-15	1.473E-15	1.473E-15

Table C-5. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
w182	3.135E-13	3.143E-13	3.143E-13	3.143E-13	3.143E-13
w183	6.390E-13	6.390E-13	6.390E-13	6.390E-13	6.390E-13
w184	5.173E-13	5.173E-13	5.173E-13	5.173E-13	5.173E-13
w185	9.803E-17	1.109E-23	4.700E-24	1.618E-25	5.571E-27
w186	2.308E-13	2.308E-13	2.308E-13	2.308E-13	2.308E-13
xe124	1.822E-13	1.822E-13	1.822E-13	1.822E-13	1.822E-13
xe126	2.893E-04	2.893E-04	2.893E-04	2.893E-04	2.893E-04
xe127	3.717E-08	1.730E-22	2.944E-23	2.821E-26	2.703E-29
xe128	6.262E+00	6.262E+00	6.262E+00	6.262E+00	6.262E+00
xe129	3.391E-02	3.397E-02	3.397E-02	3.398E-02	3.400E-02
xe129m	1.866E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe130	7.958E+00	7.958E+00	7.958E+00	7.958E+00	7.958E+00
xe131	6.277E+02	6.277E+02	6.277E+02	6.277E+02	6.277E+02
xe131m	9.963E-08	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe132	9.929E-15	9.929E-15	9.929E-15	9.929E-15	9.929E-15
xe132	1.444E+03	1.444E+03	1.444E+03	1.444E+03	1.444E+03
xe133	1.015E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe134	1.802E+03	1.802E+03	1.802E+03	1.802E+03	1.802E+03
xe136	2.591E+03	2.591E+03	2.591E+03	2.591E+03	2.591E+03
y 88	2.283E-05	2.923E-10	1.597E-10	1.489E-11	1.388E-12
y 89	2.833E+02	2.838E+02	2.838E+02	2.838E+02	2.838E+02
y 89m	1.882E-10	8.921E-21	2.490E-21	1.666E-23	1.115E-25
y 90	8.403E-02	7.500E-02	7.454E-02	7.274E-02	7.102E-02
y 91	1.522E+00	1.845E-09	6.132E-10	8.124E-12	1.076E-13
yb168	1.711E-12	1.797E-12	1.797E-12	1.797E-12	1.797E-12
yb169	2.366E-12	1.203E-28	1.607E-29	5.946E-33	0.000E+00
yb170	5.288E-04	5.729E-04	5.729E-04	5.729E-04	5.729E-04
yb171	1.662E-04	2.845E-04	2.867E-04	2.940E-04	2.989E-04
yb172	3.556E-04	3.556E-04	3.556E-04	3.556E-04	3.556E-04
yb176	9.830E-17	9.830E-17	9.830E-17	9.830E-17	9.830E-17
zn 64	3.477E-16	3.477E-16	3.477E-16	3.477E-16	3.477E-16
zn 66	1.264E-04	1.264E-04	1.264E-04	1.264E-04	1.264E-04
zn 67	3.535E-04	3.535E-04	3.535E-04	3.535E-04	3.535E-04
zn 68	7.075E-04	7.075E-04	7.075E-04	7.075E-04	7.075E-04
zn 70	3.534E-03	3.534E-03	3.534E-03	3.534E-03	3.534E-03
zr 88	7.089E-12	3.938E-18	1.818E-18	8.755E-20	4.214E-21
zr 90	1.778E+01	5.356E+01	5.537E+01	6.235E+01	6.916E+01
zr 91	4.130E+02	4.145E+02	4.145E+02	4.145E+02	4.145E+02

Table C-5. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
zr 92	5.014E+02	5.014E+02	5.014E+02	5.014E+02	5.014E+02
zr 93	6.217E+02	6.217E+02	6.217E+02	6.217E+02	6.217E+02
zr 94	7.115E+02	7.115E+02	7.115E+02	7.115E+02	7.115E+02
zr 95	4.170E+00	2.970E-08	1.085E-08	2.087E-10	4.015E-12
zr 96	8.303E+02	8.303E+02	8.303E+02	8.303E+02	8.303E+02
Total	1.1341E+06	1.1341E+06	1.1341E+06	1.1341E+06	1.1341E+06

Table C-6. Activity in Fuel Rod B4 (high Pu loading) in Ci per MTIHM

	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ac225	6.790E-08	7.054E-08	7.067E-08	7.153E-08	7.232E-08
ac226	1.246E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ac227	5.339E-08	2.261E-07	2.356E-07	2.728E-07	3.102E-07
ac228	8.712E-12	1.552E-11	1.585E-11	1.713E-11	1.837E-11
ag105	2.859E-10	6.631E-23	1.392E-23	3.036E-26	6.624E-29
ag106m	1.066E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ag108	5.270E-04	5.231E-04	5.229E-04	5.220E-04	5.212E-04
ag108m	6.058E-03	6.013E-03	6.010E-03	6.001E-03	5.991E-03
ag109m	5.738E-01	4.247E-02	3.693E-02	2.134E-02	1.233E-02
ag110	9.709E+01	7.912E-01	6.112E-01	2.220E-01	8.058E-02
ag110m	7.140E+03	5.817E+01	4.494E+01	1.632E+01	5.926E+00
ag111	2.698E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00
am241	1.477E+03	5.128E+03	5.300E+03	5.955E+03	6.578E+03
am242	4.557E+01	4.452E+01	4.446E+01	4.424E+01	4.403E+01
am242m	4.578E+01	4.473E+01	4.467E+01	4.445E+01	4.423E+01
am243	7.688E+01	7.681E+01	7.681E+01	7.681E+01	7.681E+01
am244	3.712E-09	2.576E-09	2.526E-09	2.339E-09	2.165E-09
am245	1.968E-07	4.611E-09	3.770E-09	1.710E-09	7.754E-10
am246m	3.481E-12	3.478E-12	3.478E-12	3.478E-12	3.477E-12
ar 37	1.224E-14	1.582E-29	0.000E+00	0.000E+00	0.000E+00
ar 39	4.098E-15	4.048E-15	4.045E-15	4.035E-15	4.025E-15
ar 42	6.730E-21	6.088E-21	6.056E-21	5.930E-21	5.806E-21
as 73	3.489E-06	1.112E-12	4.981E-13	2.133E-14	9.134E-16
as 74	1.949E-07	0.000E+00	0.000E+00	0.000E+00	0.000E+00
at217	6.790E-08	7.054E-08	7.067E-08	7.153E-08	7.232E-08
at218	2.880E-13	1.802E-12	1.935E-12	2.519E-12	3.208E-12
au194	8.394E-21	8.328E-21	8.322E-21	8.309E-21	8.295E-21
au195	8.480E-16	1.334E-18	9.431E-19	2.423E-19	6.221E-20
ba131	7.767E-18	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba131	4.131E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba133	5.380E-02	3.935E-02	3.870E-02	3.623E-02	3.392E-02
ba136m	9.788E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba137m	1.422E+05	1.275E+05	1.267E+05	1.238E+05	1.210E+05
ba140	1.125E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
be 10	2.904E-06	2.904E-06	2.904E-06	2.904E-06	2.904E-06
bi210	4.037E-09	4.117E-09	4.158E-09	4.371E-09	4.675E-09
bi211	4.960E-08	2.266E-07	2.314E-07	2.733E-07	3.107E-07
bi212	2.661E-03	1.676E-02	1.738E-02	1.951E-02	2.129E-02

Table C-6. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
bi213	6.790E-08	7.054E-08	7.067E-08	7.146E-08	7.232E-08
bi214	1.440E-09	9.009E-09	9.676E-09	1.260E-08	1.604E-08
bk247	5.867E-13	5.853E-13	5.852E-13	5.849E-13	5.846E-13
bk248	3.712E-09	2.575E-09	2.525E-09	2.338E-09	2.165E-09
bk249	1.357E-02	3.179E-04	2.600E-04	1.179E-04	5.348E-05
bk250	1.059E-08	1.372E-10	1.090E-10	4.445E-11	1.868E-11
bk251	9.550E-12	0.000E+00	0.000E+00	0.000E+00	0.000E+00
c 14	1.661E-03	1.660E-03	1.660E-03	1.660E-03	1.660E-03
ca 41	3.428E-18	3.428E-18	3.428E-18	3.428E-18	3.428E-18
ca 45	1.645E-13	1.018E-16	6.849E-17	1.446E-17	3.051E-18
cd109	5.738E-01	4.247E-02	3.693E-02	2.134E-02	1.233E-02
cd113	1.561E-13	1.561E-13	1.561E-13	1.561E-13	1.561E-13
cd113m	1.261E+00	9.993E-01	9.867E-01	9.392E-01	8.943E-01
cd115m	1.818E+01	3.566E-11	8.394E-12	2.871E-14	9.821E-17
cd116	1.213E-15	1.213E-15	1.213E-15	1.213E-15	1.213E-15
ce139	1.121E+01	1.816E-03	1.137E-03	1.809E-04	2.879E-05
ce141	6.470E+03	5.793E-13	7.972E-14	3.324E-17	1.386E-20
ce144	6.690E+05	9.874E+03	7.873E+03	3.240E+03	1.333E+03
cf248	2.355E-08	6.423E-10	5.294E-10	2.479E-10	1.161E-10
cf249	3.619E-05	6.869E-05	6.882E-05	6.902E-05	6.902E-05
cf250	4.601E-04	3.578E-04	3.531E-04	3.349E-04	3.176E-04
cf251	3.306E-06	3.294E-06	3.293E-06	3.290E-06	3.288E-06
cf252	3.410E-04	9.834E-05	9.200E-05	7.080E-05	5.449E-05
cf253	1.071E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cf254	1.578E-08	3.760E-17	1.295E-17	1.978E-19	3.021E-21
cl 36	1.077E-16	1.077E-16	1.077E-16	1.077E-16	1.077E-16
cm240	3.951E-07	1.883E-26	1.730E-27	0.000E+00	0.000E+00
cm241	4.618E-04	5.745E-20	8.051E-21	3.596E-24	1.607E-27
cm242	7.285E+04	8.262E+01	6.763E+01	4.317E+01	3.785E+01
cm243	9.398E+01	8.394E+01	8.348E+01	8.150E+01	7.959E+01
cm244	1.200E+04	1.001E+04	9.914E+03	9.537E+03	9.180E+03
cm245	2.423E+00	2.423E+00	2.423E+00	2.422E+00	2.422E+00
cm246	2.870E-01	2.868E-01	2.868E-01	2.868E-01	2.868E-01
cm247	1.326E-06	1.326E-06	1.326E-06	1.326E-06	1.326E-06
cm248	3.789E-06	3.791E-06	3.791E-06	3.791E-06	3.791E-06
cm249	3.327E-12	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cm250	1.933E-11	1.933E-11	1.933E-11	1.932E-11	1.932E-11
co 56	4.004E-21	7.041E-28	3.057E-28	1.155E-29	0.000E+00

Table C-6. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
co 57	9.246E-16	1.112E-17	8.771E-18	3.458E-18	1.363E-18
co 58	1.933E-14	8.394E-22	3.380E-22	9.511E-24	2.677E-25
co 60	1.112E-11	5.960E-12	5.764E-12	5.055E-12	4.432E-12
co 60m	3.088E-21	3.088E-21	3.088E-21	3.088E-21	3.088E-21
cr 51	1.034E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs131	2.098E-10	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs132	2.698E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs134	2.080E+05	4.231E+04	3.884E+04	2.777E+04	1.986E+04
cs135	1.009E+00	1.009E+00	1.009E+00	1.009E+00	1.009E+00
cs136	8.837E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs137	1.501E+05	1.346E+05	1.338E+05	1.308E+05	1.278E+05
dy159	1.675E-03	4.086E-07	2.615E-07	4.534E-08	7.860E-09
er169	9.643E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
es252	1.752E-12	1.372E-13	1.197E-13	7.001E-14	4.094E-14
es253	2.241E-08	0.000E+00	0.000E+00	0.000E+00	0.000E+00
es254	1.058E-08	1.357E-10	1.073E-10	4.288E-11	1.713E-11
es255	1.193E-10	9.306E-24	1.843E-24	3.197E-27	5.546E-30
eu147	1.207E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
eu149	7.470E-07	1.861E-12	9.313E-13	6.150E-14	4.061E-15
eu152	7.292E+00	5.716E+00	5.642E+00	5.361E+00	5.093E+00
eu154	1.691E+04	1.154E+04	1.131E+04	1.044E+04	9.623E+03
eu155	7.377E+03	3.693E+03	3.558E+03	3.076E+03	2.658E+03
eu156	2.333E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
fe 55	4.394E-13	1.326E-13	1.243E-13	9.656E-14	7.503E-14
fe 59	4.748E-14	8.949E-26	2.102E-26	7.133E-29	0.000E+00
fe 60	3.088E-21	3.088E-21	3.088E-21	3.088E-21	3.088E-21
fr221	6.790E-08	7.054E-08	7.067E-08	7.153E-08	7.232E-08
fr223	7.371E-10	3.121E-09	3.251E-09	3.764E-09	4.280E-09
ga 68	1.557E-15	1.849E-17	1.458E-17	5.730E-18	2.252E-18
gd151	6.426E-04	3.988E-08	2.371E-08	3.082E-09	4.006E-10
gd152	1.865E-12	1.920E-12	1.923E-12	1.933E-12	1.942E-12
gd153	1.227E+01	8.295E-02	6.344E-02	2.215E-02	7.734E-03
ge 68	1.557E-15	1.849E-17	1.458E-17	5.729E-18	2.252E-18
ge 71	7.860E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ge 73m	3.489E-06	1.112E-12	4.981E-13	2.133E-14	9.134E-16
h3	7.885E+02	6.037E+02	5.951E+02	5.626E+02	5.318E+02
hf172	1.642E-19	2.829E-20	2.574E-20	1.777E-20	1.227E-20
hf175	1.029E-11	3.627E-19	1.444E-19	3.890E-21	1.048E-22

Table C-6. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
hf177m	2.821E-14	1.580E-17	1.057E-17	2.185E-18	4.515E-19
hf181	3.975E-13	1.961E-25	4.286E-26	1.096E-28	0.000E+00
hf182	2.181E-19	2.181E-19	2.181E-19	2.181E-19	2.181E-19
hg194	8.388E-21	8.328E-21	8.322E-21	8.309E-21	8.295E-21
hg203	6.021E-14	3.830E-25	9.603E-26	4.209E-28	0.000E+00
hg206	7.668E-17	7.820E-17	7.899E-17	8.302E-17	8.877E-17
ho163	1.180E-07	1.180E-07	1.180E-07	1.180E-07	1.179E-07
ho166m	1.234E-03	1.230E-03	1.230E-03	1.229E-03	1.228E-03
il25	2.065E-05	3.407E-14	1.151E-14	1.627E-16	2.298E-18
il26	1.619E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00
il29	5.625E-02	5.625E-02	5.625E-02	5.625E-02	5.625E-02
il31	1.629E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00
in113m	7.675E-07	2.250E-11	1.285E-11	1.426E-12	1.583E-13
in114	7.186E-03	2.086E-13	5.674E-14	3.424E-16	2.067E-18
in114m	7.424E-03	2.156E-13	5.864E-14	3.539E-16	2.136E-18
in115	2.522E-11	2.522E-11	2.522E-11	2.522E-11	2.522E-11
in115m	1.932E-03	3.788E-15	8.916E-16	3.050E-18	1.044E-20
ir190	1.312E-22	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ir191m	6.548E-19	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ir192	2.143E-12	1.839E-19	7.681E-20	2.496E-21	8.110E-23
ir193m	1.077E-19	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ir194	1.501E-18	8.672E-19	8.421E-19	7.503E-19	6.684E-19
k 40	4.982E-19	4.982E-19	4.982E-19	4.982E-19	4.982E-19
k 42	6.730E-21	6.089E-21	6.056E-21	5.930E-21	5.806E-21
kr 81	9.154E-07	9.154E-07	9.154E-07	9.154E-07	9.154E-07
kr 83m	9.881E-04	8.764E-10	4.148E-10	2.204E-11	1.171E-12
kr 85	7.734E+03	5.698E+03	5.605E+03	5.256E+03	4.928E+03
la137	2.406E-05	2.405E-05	2.405E-05	2.405E-05	2.405E-05
la138	7.694E-10	7.694E-10	7.694E-10	7.694E-10	7.694E-10
la140	1.297E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
lu172	1.656E-19	2.829E-20	2.574E-20	1.777E-20	1.227E-20
lu172m	1.642E-19	2.829E-20	2.574E-20	1.777E-20	1.227E-20
lu173	5.154E-15	4.673E-16	4.108E-16	2.478E-16	1.495E-16
lu174	7.391E-15	2.832E-15	2.685E-15	2.178E-15	1.767E-15
lu174m	1.971E-15	4.177E-19	2.653E-19	4.466E-20	7.516E-21
lu176	3.928E-22	3.928E-22	3.928E-22	3.928E-22	3.928E-22
lu177	8.011E-15	4.490E-18	3.004E-18	6.207E-19	1.283E-19
lu177m	3.590E-14	2.011E-17	1.345E-17	2.780E-18	5.744E-19

Table C-6. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
mn 53	6.569E-22	6.569E-22	6.569E-22	6.569E-22	6.569E-22
mn 54	1.738E-13	3.700E-15	3.009E-15	1.337E-15	5.946E-16
mo 93	4.559E-07	4.555E-07	4.555E-07	4.554E-07	4.553E-07
mo100	6.624E-13	6.624E-13	6.624E-13	6.624E-13	6.624E-13
na 22	5.360E-19	1.515E-19	1.416E-19	1.085E-19	8.315E-20
nb 91	6.677E-08	6.644E-08	6.644E-08	6.638E-08	6.631E-08
nb 91m	1.783E-10	4.779E-19	1.657E-19	2.594E-21	4.060E-23
nb 92	1.125E-10	1.125E-10	1.125E-10	1.125E-10	1.125E-10
nb 92m	2.647E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
nb 93m	1.621E-01	4.567E-01	4.708E-01	5.250E-01	5.768E-01
nb 94	6.763E-04	6.763E-04	6.763E-04	6.763E-04	6.763E-04
nb 95	1.959E+05	1.475E-03	5.379E-04	1.067E-05	2.054E-07
nb 95m	1.072E+03	7.635E-06	2.791E-06	5.368E-08	1.032E-09
nd144	1.258E-09	1.483E-09	1.483E-09	1.485E-09	1.486E-09
nd147	4.258E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
nd150	9.194E-14	9.194E-14	9.194E-14	9.194E-14	9.194E-14
ni 59	6.743E-15	6.743E-15	6.743E-15	6.743E-15	6.743E-15
ni 63	1.034E-13	1.001E-13	9.993E-14	9.927E-14	9.854E-14
np235	3.148E-03	1.518E-04	1.290E-04	6.809E-05	3.597E-05
np236	3.512E-06	3.512E-06	3.512E-06	3.512E-06	3.512E-06
np237	1.274E-01	1.326E-01	1.330E-01	1.349E-01	1.369E-01
np238	2.102E-01	2.053E-01	2.050E-01	2.040E-01	2.030E-01
np239	7.688E+01	7.681E+01	7.681E+01	7.681E+01	7.681E+01
np240	2.404E-09	2.404E-09	2.404E-09	2.404E-09	2.404E-09
np240m	2.003E-06	2.003E-06	2.003E-06	2.003E-06	2.003E-06
os185	1.565E-15	4.177E-21	2.098E-21	1.405E-22	9.418E-24
os191	6.548E-19	0.000E+00	0.000E+00	0.000E+00	0.000E+00
os194	1.500E-18	8.672E-19	8.421E-19	7.503E-19	6.684E-19
p 32	1.836E-18	3.570E-19	3.566E-19	3.550E-19	3.533E-19
p 33	2.144E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pa230	3.620E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pa231	1.177E-06	1.388E-06	1.400E-06	1.444E-06	1.489E-06
pa232	7.027E-09	7.027E-09	7.027E-09	7.027E-09	7.027E-09
pa233	1.273E-01	1.324E-01	1.329E-01	1.349E-01	1.369E-01
pa234	4.932E-04	4.934E-04	4.932E-04	4.932E-04	4.932E-04
pa234m	3.083E-01	3.084E-01	3.083E-01	3.083E-01	3.083E-01
pb209	6.790E-08	7.054E-08	7.067E-08	7.153E-08	7.232E-08
pb210	4.035E-09	4.115E-09	4.156E-09	4.368E-09	4.672E-09

Table C-6. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
pb211	4.960E-08	2.266E-07	2.314E-07	2.733E-07	3.107E-07
pb212	2.661E-03	1.676E-02	1.738E-02	1.951E-02	2.129E-02
pb214	1.439E-09	9.009E-09	9.676E-09	1.260E-08	1.604E-08
pd103	2.322E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pd107	3.471E-01	3.471E-01	3.471E-01	3.471E-01	3.471E-01
pm143	6.225E-09	6.690E-11	5.246E-11	2.019E-11	7.774E-12
pm144	1.385E-06	5.062E-08	4.239E-08	2.111E-08	1.051E-08
pm145	5.511E-03	4.619E-03	4.573E-03	4.398E-03	4.230E-03
pm146	2.165E-01	1.195E-01	1.157E-01	1.021E-01	9.009E-02
pm147	1.793E+05	5.118E+04	4.785E+04	3.675E+04	2.822E+04
pm148	3.709E+01	8.599E-12	1.805E-12	3.939E-15	8.593E-18
pm148m	7.681E+02	1.781E-10	3.739E-11	8.157E-14	1.781E-16
po209	2.582E-16	2.501E-16	2.497E-16	2.479E-16	2.463E-16
po210	3.510E-09	4.000E-09	4.029E-09	4.201E-09	4.453E-09
po211	1.369E-10	6.255E-10	6.388E-10	7.542E-10	8.579E-10
po212	1.705E-03	1.073E-02	1.114E-02	1.250E-02	1.364E-02
po213	6.638E-08	6.902E-08	6.915E-08	6.994E-08	7.074E-08
po214	1.520E-09	9.009E-09	9.676E-09	1.260E-08	1.604E-08
po215	4.960E-08	2.266E-07	2.314E-07	2.733E-07	3.107E-07
po216	2.661E-03	1.676E-02	1.738E-02	1.951E-02	2.129E-02
po218	1.440E-09	9.009E-09	9.676E-09	1.260E-08	1.604E-08
pr143	2.351E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pr144	6.690E+05	9.874E+03	7.873E+03	3.240E+03	1.333E+03
pr144m	6.389E+03	9.425E+01	7.516E+01	3.094E+01	1.273E+01
pt193	7.358E-13	6.889E-13	6.862E-13	6.770E-13	6.677E-13
pu236	5.103E-01	1.614E-01	1.518E-01	1.191E-01	9.346E-02
pu237	1.489E-01	5.528E-13	1.347E-13	5.269E-16	2.062E-18
pu238	3.421E+03	3.654E+03	3.647E+03	3.619E+03	3.591E+03
pu239	9.900E+02	9.900E+02	9.900E+02	9.900E+02	9.900E+02
pu240	2.261E+03	2.266E+03	2.266E+03	2.267E+03	2.268E+03
pu241	5.413E+05	4.300E+05	4.247E+05	4.047E+05	3.855E+05
pu242	6.001E+00	6.001E+00	6.001E+00	6.001E+00	6.001E+00
pu243	1.326E-06	1.326E-06	1.326E-06	1.326E-06	1.326E-06
pu244	2.006E-06	2.006E-06	2.006E-06	2.006E-06	2.006E-06
pu246	3.479E-12	3.478E-12	3.478E-12	3.478E-12	3.477E-12
ra222	8.130E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ra223	4.960E-08	2.266E-07	2.314E-07	2.733E-07	3.107E-07
ra224	2.661E-03	1.676E-02	1.738E-02	1.951E-02	2.129E-02

Table C-6. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ra225	6.783E-08	7.054E-08	7.074E-08	7.153E-08	7.232E-08
ra226	1.451E-09	9.009E-09	9.676E-09	1.260E-08	1.604E-08
ra228	8.712E-12	1.552E-11	1.585E-11	1.713E-11	1.837E-11
rb 83	1.329E-03	1.179E-09	5.581E-10	2.965E-11	1.575E-12
rb 84	3.603E-03	4.584E-19	6.431E-20	2.887E-23	1.296E-26
rb 86	1.161E-01	1.158E-29	0.000E+00	0.000E+00	0.000E+00
rb 87	1.600E-05	1.600E-05	1.600E-05	1.600E-05	1.600E-05
re183	7.430E-19	2.619E-26	1.043E-26	2.809E-28	7.569E-30
re184	1.292E-16	9.828E-20	6.710E-20	1.507E-20	3.372E-21
re184m	1.273E-16	1.043E-19	7.120E-20	1.593E-20	3.566E-21
re186	1.915E-18	1.915E-18	1.915E-18	1.915E-18	1.915E-18
re186m	1.915E-18	1.915E-18	1.915E-18	1.915E-18	1.915E-18
re187	1.563E-20	1.563E-20	1.563E-20	1.563E-20	1.563E-20
re188	1.915E-14	6.399E-22	2.540E-22	0.000E+00	0.000E+00
rh 99	6.961E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
rh101	6.829E-04	2.522E-04	2.390E-04	1.938E-04	1.571E-04
rh102	5.873E+00	2.026E-02	1.538E-02	5.768E-03	2.724E-03
rh102m	2.109E+00	8.758E-01	8.355E-01	6.941E-01	5.770E-01
rh103m	2.228E+04	1.137E-09	2.199E-10	3.488E-13	5.533E-16
rh106	8.157E+05	3.224E+04	2.711E+04	1.373E+04	6.948E+03
rn217	4.751E-12	4.940E-12	4.948E-12	5.005E-12	5.062E-12
rn218	8.130E-11	1.802E-15	1.935E-15	2.519E-15	3.208E-15
rn219	4.960E-08	2.266E-07	2.314E-07	2.733E-07	3.107E-07
rn220	2.661E-03	1.676E-02	1.738E-02	1.951E-02	2.129E-02
rn222	1.440E-09	9.009E-09	9.676E-09	1.260E-08	1.604E-08
ru103	2.252E+04	1.149E-09	2.222E-10	3.526E-13	5.593E-16
ru106	8.157E+05	3.224E+04	2.711E+04	1.373E+04	6.948E+03
s 35	1.243E-13	1.358E-19	6.501E-20	3.609E-21	2.003E-22
sb120m	1.566E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sb124	7.199E+01	1.553E-07	5.323E-08	7.959E-10	1.191E-11
sb125	1.617E+04	4.909E+03	4.605E+03	3.582E+03	2.787E+03
sb126	8.097E-02	8.051E-02	8.051E-02	8.051E-02	8.051E-02
sb126m	5.750E-01	5.749E-01	5.749E-01	5.749E-01	5.749E-01
sb127	3.306E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sc 45m	3.126E-18	1.935E-21	1.302E-21	2.747E-22	5.796E-23
sc 46	1.365E-12	8.104E-19	3.755E-19	1.833E-20	8.956E-22
se 75	1.374E-04	6.068E-09	3.543E-09	4.286E-10	5.187E-11
se 79	9.438E-02	9.438E-02	9.438E-02	9.438E-02	9.438E-02

Table C-6. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
si 32	3.646E-19	3.569E-19	3.565E-19	3.549E-19	3.533E-19
sm145	9.405E-04	2.748E-05	2.273E-05	1.080E-05	5.132E-06
sm146	8.731E-08	8.910E-08	8.916E-08	8.936E-08	8.962E-08
sm147	2.943E-06	6.114E-06	6.196E-06	6.471E-06	6.684E-06
sm148	7.186E-11	7.186E-11	7.186E-11	7.186E-11	7.186E-11
sm151	7.377E+02	7.113E+02	7.100E+02	7.047E+02	6.988E+02
sn113	7.668E-07	2.248E-11	1.284E-11	1.425E-12	1.582E-13
sn117m	2.384E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sn119m	2.646E+02	4.387E+00	3.520E+00	1.485E+00	6.261E-01
sn121	4.243E+01	3.936E+01	3.921E+01	3.859E+01	3.799E+01
sn121m	5.467E+01	5.072E+01	5.052E+01	4.973E+01	4.895E+01
sn123	1.139E-22	1.044E-26	6.340E-27	8.949E-28	1.262E-28
sn123	7.067E+02	6.479E-02	3.934E-02	5.551E-03	7.833E-04
sn125	8.923E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sn126	5.750E-01	5.749E-01	5.749E-01	5.749E-01	5.749E-01
sr 85	3.716E-04	3.344E-12	1.237E-12	2.500E-14	5.050E-16
sr 89	1.648E+04	7.807E-07	2.180E-07	1.459E-09	9.762E-12
sr 90	5.275E+04	4.706E+04	4.677E+04	4.566E+04	4.457E+04
ta179	2.833E-17	4.650E-18	4.220E-18	2.884E-18	1.971E-18
ta182	4.391E-12	1.249E-16	7.133E-17	8.058E-18	1.082E-18
tb157	2.938E-05	2.805E-05	2.798E-05	2.771E-05	2.744E-05
tb158	1.475E-03	1.448E-03	1.446E-03	1.441E-03	1.435E-03
tb160	2.115E+02	1.287E-05	5.278E-06	1.595E-07	4.820E-09
tb161	9.280E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
tc 95	1.014E-11	2.844E-20	9.887E-21	1.562E-22	0.000E+00
tc 95m	2.579E-10	7.232E-19	2.513E-19	3.971E-21	6.276E-23
tc 97	1.002E-08	1.011E-08	1.011E-08	1.011E-08	1.011E-08
tc 97m	1.542E-03	2.853E-09	1.405E-09	8.712E-11	5.403E-12
tc 98	1.024E-05	1.024E-05	1.024E-05	1.024E-05	1.024E-05
tc 99	1.847E+01	1.847E+01	1.847E+01	1.847E+01	1.847E+01
te121	1.946E-03	1.294E-06	8.738E-07	1.871E-07	4.008E-08
te121m	1.939E-03	1.289E-06	8.705E-07	1.865E-07	3.996E-08
te123m	4.028E+00	1.692E-04	9.854E-05	1.180E-05	1.413E-06
te125m	3.942E+03	1.202E+03	1.127E+03	8.771E+02	6.823E+02
te127	2.769E+03	4.531E-02	2.508E-02	2.462E-03	2.417E-04
te127m	2.827E+03	4.626E-02	2.561E-02	2.514E-03	2.467E-04
te128	5.709E-14	5.709E-14	5.709E-14	5.709E-14	5.709E-14
te129	1.670E+02	4.968E-14	7.292E-15	3.916E-18	2.102E-21

Table C-6. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
te129m	2.640E-22	0.000E+00	0.000E+00	0.000E+00	0.000E+00
te129m	2.646E+02	7.873E-14	1.156E-14	6.206E-18	3.332E-21
th226	8.130E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
th227	5.006E-08	2.235E-07	2.297E-07	2.695E-07	3.065E-07
th228	2.697E-03	1.670E-02	1.730E-02	1.944E-02	2.123E-02
th229	6.783E-08	7.054E-08	7.074E-08	7.153E-08	7.232E-08
th230	1.816E-06	5.907E-06	6.187E-06	7.344E-06	8.599E-06
th231	2.096E-03	2.100E-03	2.101E-03	2.102E-03	2.103E-03
th232	2.189E-11	2.637E-11	2.662E-11	2.757E-11	2.853E-11
th234	3.083E-01	3.084E-01	3.083E-01	3.083E-01	3.083E-01
tl202	5.280E-23	0.000E+00	1.191E-27	0.000E+00	0.000E+00
tl204	2.442E-14	1.024E-14	9.775E-15	8.137E-15	6.776E-15
tl206	5.407E-15	5.514E-15	5.569E-15	5.854E-15	6.261E-15
tl207	4.946E-08	2.260E-07	2.308E-07	2.725E-07	3.099E-07
tl208	9.564E-04	6.023E-03	6.248E-03	7.014E-03	7.655E-03
tl209	1.493E-09	1.552E-09	1.555E-09	1.573E-09	1.591E-09
tl210	3.023E-13	1.892E-12	2.032E-12	2.645E-12	3.368E-12
tm167	2.534E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
tm168	8.811E-06	2.195E-11	1.098E-11	7.258E-13	4.791E-14
tm170	3.303E-01	2.899E-05	1.756E-05	2.456E-06	3.433E-07
tm171	1.900E-01	3.427E-02	3.126E-02	2.180E-02	1.519E-02
u230	8.124E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
u232	9.781E-03	2.339E-02	2.374E-02	2.485E-02	2.565E-02
u233	4.708E-06	7.562E-06	7.708E-06	8.355E-06	9.009E-06
u234	6.922E-02	1.184E-01	1.211E-01	1.313E-01	1.415E-01
u235	2.096E-03	2.100E-03	2.101E-03	2.102E-03	2.103E-03
u236	1.896E-02	1.928E-02	1.929E-02	1.936E-02	1.943E-02
u237	1.328E+01	1.055E+01	1.042E+01	9.927E+00	9.458E+00
u238	3.083E-01	3.083E-01	3.083E-01	3.083E-01	3.083E-01
u240	2.003E-06	2.003E-06	2.003E-06	2.003E-06	2.003E-06
v 49	4.221E-16	1.108E-17	9.114E-18	4.234E-18	1.967E-18
w181	4.149E-15	2.059E-19	1.209E-19	1.500E-20	1.860E-21
w185	1.090E-12	1.232E-19	5.224E-20	1.798E-21	6.192E-23
w188	1.896E-14	6.334E-22	2.514E-22	6.697E-24	1.783E-25
xe127	1.571E-03	7.311E-18	1.244E-18	1.192E-21	1.143E-24
xe129m	3.221E-08	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe131m	8.824E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe133	1.999E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Table C-6. Continued					
	1/22/2009	10/22/2013	1/22/2014	1/22/2015	1/22/2016
y 88	4.139E-01	5.302E-06	2.896E-06	2.700E-07	2.518E-08
y 89m	1.588E+00	7.529E-11	2.102E-11	1.407E-13	9.412E-16
y 90	5.276E+04	4.707E+04	4.678E+04	4.567E+04	4.459E+04
y 91	3.899E+04	4.729E-05	1.571E-05	2.081E-07	2.757E-09
y b169	8.388E-08	4.267E-24	5.698E-25	2.109E-28	0.000E+00
zn 65	9.544E-16	6.935E-18	5.326E-18	1.888E-18	6.690E-19
zr 88	1.273E-07	7.074E-14	3.266E-14	1.573E-15	7.569E-17
zr 93	1.804E+00	1.804E+00	1.804E+00	1.804E+00	1.804E+00
zr 95	9.365E+04	6.671E-04	2.438E-04	4.689E-06	9.015E-08
zr 96	1.792E-13	1.792E-13	1.792E-13	1.792E-13	1.792E-13
Total	4.862E+06	1.015E+06	9.857E+05	8.965E+05	8.331E+05

Table C-7. Activity in Fuel Rod Al (low Pu loading) in Ci per MTIHM

	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ac225	8.608E-08	8.858E-08	8.872E-08	8.951E-08	9.030E-08
ac226	1.070E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ac227	4.893E-08	2.058E-07	2.142E-07	2.473E-07	2.804E-07
ac228	1.171E-11	1.947E-11	1.985E-11	2.129E-11	2.269E-11
ag105	2.202E-10	5.107E-23	1.072E-23	2.339E-26	5.104E-29
ag106m	8.093E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ag108	4.268E-04	4.236E-04	4.235E-04	4.228E-04	4.221E-04
ag108m	4.906E-03	4.869E-03	4.867E-03	4.859E-03	4.852E-03
ag109m	5.252E-01	3.888E-02	3.380E-02	1.954E-02	1.129E-02
ag110	8.298E+01	6.767E-01	5.227E-01	1.898E-01	6.893E-02
ag110m	6.103E+03	4.975E+01	3.843E+01	1.396E+01	5.068E+00
ag111	2.056E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00
am241	9.815E+02	3.444E+03	3.560E+03	4.002E+03	4.421E+03
am242	2.937E+01	2.869E+01	2.866E+01	2.851E+01	2.838E+01
am242m	2.950E+01	2.882E+01	2.879E+01	2.865E+01	2.851E+01
am243	8.331E+01	8.324E+01	8.324E+01	8.324E+01	8.324E+01
am244	1.169E-08	8.106E-09	7.948E-09	7.361E-09	6.814E-09
am245	5.806E-07	1.360E-08	1.112E-08	5.044E-09	2.288E-09
am246m	1.177E-11	1.176E-11	1.176E-11	1.176E-11	1.176E-11
ar 37	1.338E-14	1.729E-29	0.000E+00	0.000E+00	0.000E+00
ar 39	4.368E-15	4.316E-15	4.312E-15	4.302E-15	4.291E-15
ar 42	9.267E-21	8.383E-21	8.344E-21	8.166E-21	7.994E-21
as 73	2.527E-06	8.054E-13	3.607E-13	1.545E-14	6.616E-16
as 74	1.472E-07	0.000E+00	0.000E+00	0.000E+00	0.000E+00
at217	8.608E-08	8.858E-08	8.872E-08	8.951E-08	9.030E-08
at218	2.647E-13	1.673E-12	1.797E-12	2.343E-12	2.987E-12
au194	6.267E-21	6.218E-21	6.215E-21	6.205E-21	6.196E-21
au195	3.941E-16	6.199E-19	4.384E-19	1.126E-19	2.891E-20
ba131	3.359E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba133	5.547E-02	4.056E-02	3.989E-02	3.735E-02	3.497E-02
ba136m	6.622E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba137m	1.181E+05	1.059E+05	1.053E+05	1.028E+05	1.005E+05
ba140	8.575E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
be 10	3.362E-06	3.362E-06	3.362E-06	3.362E-06	3.362E-06
bi207	7.084E-17	6.384E-17	6.349E-17	6.211E-17	6.075E-17
bi210	4.038E-09	4.070E-09	4.107E-09	4.297E-09	4.572E-09
bi211	4.543E-08	2.063E-07	2.105E-07	2.478E-07	2.809E-07

Table C-7. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
bi212	3.115E-03	1.858E-02	1.926E-02	2.157E-02	2.350E-02
bi213	8.608E-08	8.858E-08	8.872E-08	8.951E-08	9.030E-08
bi214	1.324E-09	8.364E-09	8.984E-09	1.171E-08	1.494E-08
bk247	1.913E-12	1.909E-12	1.909E-12	1.908E-12	1.907E-12
bk248	1.169E-08	8.106E-09	7.948E-09	7.361E-09	6.814E-09
bk249	4.004E-02	9.379E-04	7.664E-04	3.478E-04	1.577E-04
bk250	6.518E-08	8.403E-10	6.662E-10	2.693E-10	1.107E-10
bk251	6.343E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
c 14	1.882E-03	1.881E-03	1.881E-03	1.880E-03	1.880E-03
ca 41	4.661E-18	4.661E-18	4.661E-18	4.661E-18	4.661E-18
ca 45	1.899E-13	1.175E-16	7.909E-17	1.669E-17	3.521E-18
cd109	5.252E-01	3.888E-02	3.380E-02	1.954E-02	1.129E-02
cd113	1.059E-13	1.059E-13	1.059E-13	1.059E-13	1.059E-13
cd113m	8.766E-01	6.945E-01	6.853E-01	6.527E-01	6.214E-01
cd115m	1.451E+01	2.845E-11	6.695E-12	2.291E-14	7.836E-17
cd116	1.020E-15	1.020E-15	1.020E-15	1.020E-15	1.020E-15
ce139	9.050E+00	1.467E-03	9.182E-04	1.461E-04	2.325E-05
ce141	4.923E+03	4.408E-13	6.068E-14	2.530E-17	1.055E-20
ce144	5.365E+05	7.915E+03	6.313E+03	2.597E+03	1.069E+03
cf248	7.796E-08	2.126E-09	1.753E-09	8.205E-10	3.843E-10
cf249	1.090E-04	2.049E-04	2.052E-04	2.059E-04	2.059E-04
cf250	1.625E-03	1.263E-03	1.247E-03	1.182E-03	1.121E-03
cf251	1.221E-05	1.216E-05	1.216E-05	1.215E-05	1.214E-05
cf252	1.684E-03	4.857E-04	4.543E-04	3.496E-04	2.691E-04
cf253	5.635E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cf254	1.001E-07	2.385E-16	8.219E-17	1.255E-18	1.916E-20
cl 36	1.477E-16	1.477E-16	1.477E-16	1.477E-16	1.477E-16
cm240	2.953E-07	1.408E-26	1.293E-27	0.000E+00	0.000E+00
cm241	3.369E-04	4.191E-20	5.872E-21	2.624E-24	1.172E-27
cm242	5.684E+04	5.948E+01	4.777E+01	2.871E+01	2.458E+01
cm243	8.212E+01	7.335E+01	7.288E+01	7.117E+01	6.952E+01
cm244	1.580E+04	1.318E+04	1.305E+04	1.256E+04	1.209E+04
cm245	3.467E+00	3.465E+00	3.465E+00	3.465E+00	3.465E+00
cm246	5.668E-01	5.665E-01	5.664E-01	5.663E-01	5.663E-01
cm247	3.037E-06	3.037E-06	3.037E-06	3.037E-06	3.037E-06
cm248	1.083E-05	1.084E-05	1.084E-05	1.084E-05	1.084E-05
cm249	1.751E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cm250	6.536E-11	6.534E-11	6.534E-11	6.533E-11	6.533E-11

Table C-7. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
co 56	3.803E-21	6.688E-28	2.904E-28	1.097E-29	0.000E+00
co 57	9.221E-16	1.109E-17	8.746E-18	3.447E-18	1.359E-18
co 58	1.760E-14	7.638E-22	3.076E-22	8.660E-24	2.437E-25
co 60	1.400E-11	7.500E-12	7.256E-12	6.362E-12	5.578E-12
co 60m	5.333E-21	5.333E-21	5.333E-21	5.333E-21	5.333E-21
cr 51	1.152E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs131	1.574E-10	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs132	2.037E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs134	1.888E+05	3.839E+04	3.525E+04	2.520E+04	1.803E+04
cs135	6.547E-01	6.547E-01	6.547E-01	6.547E-01	6.547E-01
cs136	5.979E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs137	1.247E+05	1.118E+05	1.111E+05	1.086E+05	1.061E+05
dy159	1.323E-03	3.226E-07	2.065E-07	3.580E-08	6.209E-09
er169	8.654E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
es252	9.459E-12	7.407E-13	6.463E-13	3.780E-13	2.211E-13
es253	1.183E-07	0.000E+00	0.000E+00	0.000E+00	0.000E+00
es254	6.514E-08	8.350E-10	6.609E-10	2.640E-10	1.055E-10
es255	7.922E-10	6.180E-23	1.224E-23	2.123E-26	3.682E-29
eu147	8.911E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00
eu149	4.102E-07	1.022E-12	5.114E-13	3.377E-14	2.230E-15
eu152	3.979E+00	3.121E+00	3.080E+00	2.927E+00	2.781E+00
eu154	1.383E+04	9.432E+03	9.241E+03	8.529E+03	7.869E+03
eu155	6.312E+03	3.159E+03	3.045E+03	2.632E+03	2.275E+03
eu156	2.075E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
fe 55	5.760E-13	1.737E-13	1.629E-13	1.266E-13	9.835E-14
fe 59	4.988E-14	9.406E-26	2.208E-26	7.493E-29	0.000E+00
fe 60	5.333E-21	5.333E-21	5.333E-21	5.333E-21	5.333E-21
fr221	8.608E-08	8.858E-08	8.872E-08	8.951E-08	9.030E-08
fr223	6.754E-10	2.840E-09	2.956E-09	3.413E-09	3.869E-09
ga 68	1.910E-15	2.268E-17	1.788E-17	7.031E-18	2.763E-18
gd151	3.432E-04	2.130E-08	1.266E-08	1.646E-09	2.140E-10
gd152	1.075E-12	1.105E-12	1.107E-12	1.112E-12	1.117E-12
gd153	6.853E+00	4.630E-02	3.541E-02	1.236E-02	4.316E-03
ge 68	1.910E-15	2.268E-17	1.787E-17	7.025E-18	2.762E-18
ge 71	7.559E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ge 73m	2.527E-06	8.054E-13	3.607E-13	1.545E-14	6.616E-16
h3	6.512E+02	4.986E+02	4.915E+02	4.647E+02	4.392E+02
hf172	1.464E-19	2.522E-20	2.295E-20	1.584E-20	1.094E-20

Table C-7. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
hf175	8.964E-12	3.161E-19	1.259E-19	3.390E-21	9.135E-23
hf177m	2.403E-14	1.346E-17	9.010E-18	1.861E-18	3.845E-19
hf181	4.653E-13	2.295E-25	5.016E-26	1.284E-28	0.000E+00
hf182	3.297E-19	3.297E-19	3.297E-19	3.297E-19	3.297E-19
hg194	6.264E-21	6.218E-21	6.215E-21	6.205E-21	6.196E-21
hg203	6.675E-14	4.246E-25	1.065E-25	4.667E-28	0.000E+00
hg206	7.671E-17	7.730E-17	7.796E-17	8.159E-17	8.680E-17
ho163	8.568E-08	8.561E-08	8.561E-08	8.561E-08	8.561E-08
ho166m	1.109E-03	1.106E-03	1.106E-03	1.105E-03	1.105E-03
i125	1.497E-05	2.468E-14	8.337E-15	1.179E-16	1.665E-18
i126	1.165E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00
i129	4.529E-02	4.529E-02	4.529E-02	4.529E-02	4.529E-02
i131	1.236E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00
in113m	5.607E-07	1.644E-11	9.386E-12	1.042E-12	1.157E-13
in114	4.516E-03	1.311E-13	3.566E-14	2.153E-16	1.299E-18
in114m	4.668E-03	1.355E-13	3.686E-14	2.225E-16	1.343E-18
in115	1.942E-11	1.942E-11	1.942E-11	1.942E-11	1.942E-11
in115m	1.541E-03	3.022E-15	7.110E-16	2.434E-18	8.324E-21
ir190	5.021E-23	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ir191m	1.103E-18	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ir192	8.951E-13	7.684E-20	3.208E-20	1.042E-21	3.386E-23
ir193m	5.382E-20	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ir194	2.070E-18	1.196E-18	1.162E-18	1.036E-18	9.221E-19
k 40	4.901E-19	4.901E-19	4.901E-19	4.901E-19	4.901E-19
k 42	9.267E-21	8.383E-21	8.344E-21	8.166E-21	7.994E-21
kr 81	7.856E-07	7.856E-07	7.856E-07	7.856E-07	7.856E-07
kr 83m	7.124E-04	6.316E-10	2.990E-10	1.588E-11	8.443E-13
kr 85	6.502E+03	4.789E+03	4.711E+03	4.418E+03	4.142E+03
la137	1.828E-05	1.828E-05	1.828E-05	1.828E-05	1.828E-05
la138	6.389E-10	6.389E-10	6.389E-10	6.389E-10	6.389E-10
la140	9.894E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
lu172	1.477E-19	2.522E-20	2.295E-20	1.584E-20	1.094E-20
lu172m	1.464E-19	2.522E-20	2.295E-20	1.584E-20	1.094E-20
lu173	4.272E-15	3.873E-16	3.405E-16	2.054E-16	1.239E-16
lu174	7.295E-15	2.792E-15	2.647E-15	2.148E-15	1.742E-15
lu174m	1.871E-15	3.965E-19	2.518E-19	4.239E-20	7.137E-21
lu176	3.284E-22	3.284E-22	3.284E-22	3.284E-22	3.284E-22
lu177	6.827E-15	3.824E-18	2.559E-18	5.286E-19	1.092E-19

Table C-7. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
lu177m	3.057E-14	1.713E-17	1.146E-17	2.368E-18	4.892E-19
mn 53	6.972E-22	6.972E-22	6.972E-22	6.972E-22	6.972E-22
mn 54	1.755E-13	3.737E-15	3.039E-15	1.351E-15	6.006E-16
mo 93	3.987E-07	3.984E-07	3.984E-07	3.983E-07	3.983E-07
mo100	5.508E-13	5.508E-13	5.508E-13	5.508E-13	5.508E-13
na 22	4.506E-19	1.274E-19	1.190E-19	9.122E-20	6.992E-20
nb 91	5.151E-08	5.127E-08	5.126E-08	5.120E-08	5.115E-08
nb 91m	1.307E-10	3.502E-19	1.214E-19	1.901E-21	2.975E-23
nb 92	8.641E-11	8.641E-11	8.641E-11	8.641E-11	8.641E-11
nb 92m	2.136E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
nb 93m	1.397E-01	3.868E-01	3.987E-01	4.440E-01	4.876E-01
nb 94	5.514E-04	5.513E-04	5.513E-04	5.513E-04	5.512E-04
nb 95	1.491E+05	1.123E-03	4.095E-04	8.120E-06	1.563E-07
nb 95m	8.159E+02	5.814E-06	2.125E-06	4.086E-08	7.856E-10
nd144	1.132E-09	1.312E-09	1.313E-09	1.314E-09	1.314E-09
nd147	3.263E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
nd150	7.737E-14	7.737E-14	7.737E-14	7.737E-14	7.737E-14
ni 59	6.335E-15	6.335E-15	6.335E-15	6.335E-15	6.334E-15
ni 63	1.427E-13	1.381E-13	1.379E-13	1.369E-13	1.359E-13
np235	3.377E-03	1.629E-04	1.384E-04	7.308E-05	3.859E-05
np236	3.264E-06	3.264E-06	3.264E-06	3.264E-06	3.264E-06
np237	1.357E-01	1.392E-01	1.395E-01	1.408E-01	1.421E-01
np238	1.354E-01	1.323E-01	1.321E-01	1.315E-01	1.309E-01
np239	8.331E+01	8.324E+01	8.324E+01	8.324E+01	8.324E+01
np240	3.240E-09	3.240E-09	3.240E-09	3.240E-09	3.240E-09
np240m	2.700E-06	2.700E-06	2.700E-06	2.700E-06	2.700E-06
os185	1.522E-15	4.062E-21	2.040E-21	1.367E-22	9.162E-24
os191	1.103E-18	0.000E+00	0.000E+00	0.000E+00	0.000E+00
os194	2.070E-18	1.196E-18	1.162E-18	1.035E-18	9.221E-19
p 32	1.824E-18	3.989E-19	3.984E-19	3.966E-19	3.948E-19
p 33	2.024E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pa230	3.109E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pa231	1.086E-06	1.245E-06	1.253E-06	1.287E-06	1.321E-06
pa232	6.529E-09	6.529E-09	6.529E-09	6.529E-09	6.529E-09
pa233	1.357E-01	1.391E-01	1.394E-01	1.408E-01	1.421E-01
pa234	5.038E-04	5.040E-04	5.038E-04	5.038E-04	5.038E-04
pa234m	3.149E-01	3.150E-01	3.149E-01	3.149E-01	3.149E-01
pb209	8.608E-08	8.858E-08	8.872E-08	8.951E-08	9.030E-08

Table C-7. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
pb210	4.036E-09	4.068E-09	4.104E-09	4.295E-09	4.570E-09
pb211	4.543E-08	2.063E-07	2.105E-07	2.478E-07	2.809E-07
pb212	3.115E-03	1.858E-02	1.926E-02	2.157E-02	2.350E-02
pb214	1.323E-09	8.364E-09	8.984E-09	1.171E-08	1.493E-08
pd103	2.118E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pd107	2.834E-01	2.834E-01	2.834E-01	2.834E-01	2.834E-01
pm143	5.136E-09	5.521E-11	4.329E-11	1.666E-11	6.414E-12
pm144	1.137E-06	4.155E-08	3.479E-08	1.733E-08	8.634E-09
pm145	4.513E-03	3.779E-03	3.742E-03	3.599E-03	3.461E-03
pm146	1.345E-01	7.420E-02	7.183E-02	6.339E-02	5.593E-02
pm147	1.371E+05	3.912E+04	3.657E+04	2.809E+04	2.157E+04
pm148	2.623E+01	6.082E-12	1.276E-12	2.785E-15	6.079E-18
pm148m	5.433E+02	1.260E-10	2.644E-11	5.770E-14	1.259E-16
po209	2.852E-16	2.762E-16	2.757E-16	2.739E-16	2.720E-16
po210	3.555E-09	3.962E-09	3.987E-09	4.140E-09	4.367E-09
po211	1.254E-10	5.692E-10	5.811E-10	6.840E-10	7.757E-10
po212	1.995E-03	1.190E-02	1.234E-02	1.382E-02	1.506E-02
po213	8.416E-08	8.667E-08	8.680E-08	8.753E-08	8.832E-08
po214	1.393E-09	8.364E-09	8.984E-09	1.171E-08	1.493E-08
po215	4.543E-08	2.063E-07	2.105E-07	2.478E-07	2.809E-07
po216	3.115E-03	1.858E-02	1.926E-02	2.157E-02	2.350E-02
po218	1.324E-09	8.364E-09	8.984E-09	1.171E-08	1.494E-08
pr143	1.794E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pr144	5.365E+05	7.915E+03	6.313E+03	2.597E+03	1.069E+03
pr144m	5.122E+03	7.559E+01	6.027E+01	2.480E+01	1.020E+01
pt193	7.381E-13	6.913E-13	6.886E-13	6.794E-13	6.701E-13
pu236	5.518E-01	1.746E-01	1.642E-01	1.288E-01	1.011E-01
pu237	1.332E-01	4.942E-13	1.204E-13	4.710E-16	1.843E-18
pu238	3.304E+03	3.463E+03	3.456E+03	3.429E+03	3.403E+03
pu239	6.374E+02	6.374E+02	6.374E+02	6.374E+02	6.374E+02
pu240	1.285E+03	1.291E+03	1.291E+03	1.293E+03	1.294E+03
pu241	3.651E+05	2.900E+05	2.865E+05	2.729E+05	2.600E+05
pu242	5.723E+00	5.723E+00	5.723E+00	5.723E+00	5.723E+00
pu243	3.037E-06	3.037E-06	3.037E-06	3.037E-06	3.037E-06
pu244	2.703E-06	2.703E-06	2.703E-06	2.703E-06	2.703E-06
pu246	1.177E-11	1.176E-11	1.176E-11	1.176E-11	1.176E-11
ra222	6.998E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ra223	4.543E-08	2.063E-07	2.105E-07	2.478E-07	2.809E-07

Table C-7. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ra224	3.115E-03	1.858E-02	1.926E-02	2.157E-02	2.350E-02
ra225	8.601E-08	8.858E-08	8.878E-08	8.951E-08	9.030E-08
ra226	1.334E-09	8.364E-09	8.984E-09	1.171E-08	1.494E-08
ra228	1.171E-11	1.947E-11	1.985E-11	2.129E-11	2.269E-11
rb 83	9.577E-04	8.496E-10	4.023E-10	2.137E-11	1.135E-12
rb 84	2.874E-03	3.657E-19	5.130E-20	2.303E-23	1.034E-26
rb 86	9.722E-02	9.696E-30	0.000E+00	0.000E+00	0.000E+00
rb 87	1.369E-05	1.369E-05	1.369E-05	1.369E-05	1.369E-05
re183	5.520E-19	1.946E-26	7.750E-27	2.088E-28	5.623E-30
re184	8.443E-17	6.414E-20	4.380E-20	9.835E-21	2.201E-21
re184m	8.311E-17	6.807E-20	4.647E-20	1.040E-20	2.328E-21
re186	1.746E-18	1.746E-18	1.746E-18	1.746E-18	1.746E-18
re186m	1.746E-18	1.746E-18	1.746E-18	1.746E-18	1.746E-18
re187	1.524E-20	1.524E-20	1.524E-20	1.524E-20	1.524E-20
re188	1.806E-14	6.033E-22	2.395E-22	0.000E+00	0.000E+00
rh 99	5.208E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
rh101	5.417E-04	2.000E-04	1.896E-04	1.537E-04	1.246E-04
rh102	4.430E+00	1.536E-02	1.167E-02	4.412E-03	2.105E-03
rh102m	1.659E+00	6.886E-01	6.570E-01	5.460E-01	4.537E-01
rh103m	1.689E+04	8.614E-10	1.667E-10	2.644E-13	4.194E-16
rh106	6.484E+05	2.563E+04	2.154E+04	1.091E+04	5.524E+03
rn217	6.025E-12	6.203E-12	6.211E-12	6.267E-12	6.322E-12
rn218	6.998E-11	1.673E-15	1.797E-15	2.343E-15	2.987E-15
rn219	4.543E-08	2.063E-07	2.105E-07	2.478E-07	2.809E-07
rn220	3.115E-03	1.858E-02	1.926E-02	2.157E-02	2.350E-02
rn222	1.323E-09	8.364E-09	8.984E-09	1.171E-08	1.494E-08
ru103	1.708E+04	8.707E-10	1.685E-10	2.673E-13	4.240E-16
ru106	6.484E+05	2.563E+04	2.154E+04	1.091E+04	5.524E+03
s 35	1.253E-13	1.369E-19	6.555E-20	3.639E-21	2.020E-22
sb120m	1.239E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sb124	6.154E+01	1.328E-07	4.552E-08	6.807E-10	1.018E-11
sb125	1.309E+04	3.973E+03	3.727E+03	2.900E+03	2.256E+03
sb126	6.562E-02	6.527E-02	6.527E-02	6.527E-02	6.526E-02
sb126m	4.662E-01	4.662E-01	4.662E-01	4.662E-01	4.661E-01
sb127	2.490E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sc 45m	3.608E-18	2.233E-21	1.503E-21	3.171E-22	6.688E-23
sc 46	1.559E-12	9.261E-19	4.292E-19	2.096E-20	1.023E-21
se 75	1.135E-04	5.012E-09	2.926E-09	3.540E-10	4.283E-11

Table C-7. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
se 79	7.612E-02	7.612E-02	7.612E-02	7.612E-02	7.612E-02
si 32	4.074E-19	3.988E-19	3.983E-19	3.965E-19	3.947E-19
sm145	7.130E-04	2.083E-05	1.723E-05	8.186E-06	3.890E-06
sm146	6.959E-08	7.064E-08	7.071E-08	7.084E-08	7.097E-08
sm147	2.287E-06	4.711E-06	4.774E-06	4.984E-06	5.145E-06
sm148	6.254E-11	6.254E-11	6.254E-11	6.254E-11	6.254E-11
sm151	5.166E+02	4.981E+02	4.971E+02	4.932E+02	4.895E+02
sn113	5.603E-07	1.643E-11	9.386E-12	1.041E-12	1.156E-13
sn117m	1.910E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sn119m	2.198E+02	3.644E+00	2.924E+00	1.233E+00	5.200E-01
sn121	3.516E+01	3.262E+01	3.249E+01	3.198E+01	3.148E+01
sn121m	4.530E+01	4.204E+01	4.186E+01	4.121E+01	4.056E+01
sn123	5.157E+02	4.727E-02	2.870E-02	4.050E-03	5.715E-04
sn125	6.682E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sn126	4.662E-01	4.662E-01	4.662E-01	4.662E-01	4.661E-01
sr 85	3.165E-04	2.849E-12	1.054E-12	2.130E-14	4.303E-16
sr 89	1.274E+04	6.034E-07	1.685E-07	1.127E-09	7.546E-12
sr 90	4.506E+04	4.020E+04	3.995E+04	3.900E+04	3.807E+04
ta179	2.640E-17	4.332E-18	3.932E-18	2.687E-18	1.836E-18
ta182	3.596E-12	1.024E-16	5.856E-17	6.748E-18	1.038E-18
tb157	1.972E-05	1.882E-05	1.878E-05	1.860E-05	1.842E-05
tb158	1.131E-03	1.110E-03	1.109E-03	1.104E-03	1.100E-03
tb160	1.832E+02	1.115E-05	4.572E-06	1.381E-07	4.175E-09
tb161	7.434E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
tc 95	7.928E-12	2.222E-20	7.724E-21	1.221E-22	0.000E+00
tc 95m	2.015E-10	5.649E-19	1.964E-19	3.103E-21	4.903E-23
tc 97	8.561E-09	8.627E-09	8.627E-09	8.627E-09	8.627E-09
tc 97m	1.198E-03	2.217E-09	1.092E-09	6.767E-11	4.200E-12
tc 98	8.799E-06	8.799E-06	8.799E-06	8.799E-06	8.799E-06
tc 99	1.508E+01	1.508E+01	1.508E+01	1.508E+01	1.508E+01
te121	1.880E-03	1.251E-06	8.443E-07	1.809E-07	3.874E-08
te121m	1.874E-03	1.247E-06	8.416E-07	1.803E-07	3.862E-08
te123m	4.014E+00	1.687E-04	9.821E-05	1.176E-05	1.408E-06
te125m	3.191E+03	9.729E+02	9.129E+02	7.097E+02	5.523E+02
te127	1.945E+03	3.183E-02	1.762E-02	1.729E-03	1.698E-04
te127m	1.986E+03	3.250E-02	1.799E-02	1.766E-03	1.733E-04
te128	4.660E-14	4.660E-14	4.660E-14	4.660E-14	4.660E-14
te129	1.245E+02	3.705E-14	5.440E-15	2.921E-18	1.568E-21

Table C-7. Continued

	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
te129m	1.973E+02	5.873E-14	8.621E-15	4.629E-18	2.485E-21
th226	6.998E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
th227	4.585E-08	2.034E-07	2.090E-07	2.444E-07	2.771E-07
th228	3.155E-03	1.851E-02	1.917E-02	2.150E-02	2.342E-02
th229	8.601E-08	8.858E-08	8.878E-08	8.951E-08	9.030E-08
th230	1.673E-06	5.516E-06	5.779E-06	6.873E-06	8.054E-06
th231	1.569E-03	1.572E-03	1.572E-03	1.573E-03	1.574E-03
th232	2.683E-11	3.177E-11	3.203E-11	3.308E-11	3.413E-11
th234	3.149E-01	3.150E-01	3.149E-01	3.149E-01	3.149E-01
tl202	6.655E-23	0.000E+00	2.158E-27	0.000E+00	0.000E+00
tl204	3.876E-14	1.625E-14	1.551E-14	1.291E-14	1.075E-14
tl206	5.408E-15	5.452E-15	5.500E-15	5.754E-15	6.124E-15
tl207	4.530E-08	2.057E-07	2.099E-07	2.471E-07	2.801E-07
tl208	1.119E-03	6.675E-03	6.919E-03	7.750E-03	8.449E-03
tl209	1.894E-09	1.949E-09	1.952E-09	1.970E-09	1.987E-09
tl210	2.780E-13	1.756E-12	1.886E-12	2.460E-12	3.137E-12
tm167	1.503E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
tm168	7.203E-06	1.795E-11	8.984E-12	5.932E-13	3.917E-14
tm170	3.049E-01	2.676E-05	1.621E-05	2.266E-06	3.169E-07
tm171	1.900E-01	3.427E-02	3.126E-02	2.179E-02	1.519E-02
u230	6.992E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
u232	1.109E-02	2.579E-02	2.616E-02	2.735E-02	2.822E-02
u233	4.319E-06	7.341E-06	7.500E-06	8.172E-06	8.852E-06
u234	6.475E-02	1.115E-01	1.140E-01	1.237E-01	1.333E-01
u235	1.569E-03	1.572E-03	1.572E-03	1.573E-03	1.574E-03
u236	2.098E-02	2.117E-02	2.117E-02	2.121E-02	2.125E-02
u237	8.957E+00	7.117E+00	7.031E+00	6.695E+00	6.378E+00
u238	3.149E-01	3.149E-01	3.149E-01	3.149E-01	3.149E-01
u240	2.700E-06	2.700E-06	2.700E-06	2.700E-06	2.700E-06
v 49	4.277E-16	1.123E-17	9.234E-18	4.291E-18	1.993E-18
w181	3.415E-15	1.694E-19	9.953E-20	1.235E-20	1.531E-21
w185	1.202E-12	1.359E-19	5.762E-20	1.984E-21	6.833E-23
w188	1.787E-14	5.972E-22	2.371E-22	6.314E-24	1.681E-25
xe127	1.322E-03	6.155E-18	1.047E-18	1.003E-21	9.617E-25
xe129m	2.962E-08	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe131m	6.682E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe133	1.524E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
y 88	3.454E-01	4.424E-06	2.417E-06	2.253E-07	2.101E-08

Table C-7. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
y 89m	1.227E+00	5.817E-11	1.624E-11	1.087E-13	7.275E-16
y 90	4.508E+04	4.021E+04	3.996E+04	3.901E+04	3.808E+04
y 91	3.009E+04	3.650E-05	1.213E-05	1.606E-07	2.128E-09
ybl69	8.021E-08	4.081E-24	5.450E-25	2.016E-28	0.000E+00
zn 65	1.384E-15	1.007E-17	7.724E-18	2.739E-18	9.709E-19
zr 88	9.182E-08	5.101E-14	2.355E-14	1.134E-15	5.457E-17
zr 93	1.517E+00	1.517E+00	1.517E+00	1.517E+00	1.517E+00
zr 95	7.130E+04	5.079E-04	1.856E-04	3.569E-06	6.866E-08
zr 96	1.504E-13	1.504E-13	1.504E-13	1.504E-13	1.504E-13
Total	3.8373E+06	7.7863E+05	7.5550E+05	6.8527E+05	6.3591E+05

Table C-8. Activity in Fuel Rod CI (medium Pu loading) in Ci per MTIHM

	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ac225	7.657E-08	7.917E-08	7.930E-08	8.010E-08	8.089E-08
ac226	1.151E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ac227	5.128E-08	2.165E-07	2.254E-07	2.606E-07	2.959E-07
ac228	1.025E-11	1.763E-11	1.799E-11	1.937E-11	2.071E-11
ag105	2.452E-10	5.685E-23	1.193E-23	2.604E-26	5.683E-29
ag106m	8.940E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ag108	4.578E-04	4.544E-04	4.542E-04	4.535E-04	4.528E-04
ag108m	5.262E-03	5.223E-03	5.221E-03	5.213E-03	5.204E-03
ag109m	5.350E-01	3.960E-02	3.443E-02	1.989E-02	1.150E-02
ag110	8.774E+01	7.152E-01	5.526E-01	2.007E-01	7.285E-02
ag110m	6.453E+03	5.260E+01	4.063E+01	1.476E+01	5.359E+00
ag111	2.278E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00
am241	1.169E+03	4.079E+03	4.217E+03	4.739E+03	5.235E+03
am242	3.571E+01	3.489E+01	3.484E+01	3.468E+01	3.450E+01
am242m	3.587E+01	3.505E+01	3.500E+01	3.484E+01	3.466E+01
am243	7.996E+01	7.996E+01	7.996E+01	7.996E+01	7.996E+01
am244	6.933E-09	4.810E-09	4.716E-09	4.367E-09	4.043E-09
am245	3.577E-07	8.382E-09	6.853E-09	3.107E-09	1.409E-09
am246m	6.833E-12	6.827E-12	6.827E-12	6.827E-12	6.827E-12
ar 37	1.299E-14	1.680E-29	0.000E+00	0.000E+00	0.000E+00
ar 39	4.264E-15	4.212E-15	4.210E-15	4.199E-15	4.188E-15
ar 42	7.957E-21	7.199E-21	7.159E-21	7.013E-21	6.866E-21
as 73	2.832E-06	9.020E-13	4.042E-13	1.731E-14	7.411E-16
as 74	1.626E-07	0.000E+00	0.000E+00	0.000E+00	0.000E+00
at217	7.657E-08	7.917E-08	7.930E-08	8.010E-08	8.089E-08
at218	2.761E-13	1.732E-12	1.861E-12	2.424E-12	3.087E-12
au194	7.252E-21	7.199E-21	7.192E-21	7.179E-21	7.172E-21
au195	5.749E-16	9.040E-19	6.396E-19	1.642E-19	4.218E-20
ba131	3.584E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba133	5.363E-02	3.922E-02	3.857E-02	3.611E-02	3.381E-02
ba136m	7.797E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba137m	1.258E+05	1.127E+05	1.121E+05	1.095E+05	1.070E+05
ba140	9.485E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
be 10	3.104E-06	3.104E-06	3.104E-06	3.104E-06	3.104E-06
bi207	6.105E-17	5.501E-17	5.471E-17	5.352E-17	5.235E-17
bi210	4.041E-09	4.096E-09	4.134E-09	4.335E-09	4.624E-09
bi211	4.762E-08	2.170E-07	2.215E-07	2.611E-07	2.965E-07
bi212	2.869E-03	1.756E-02	1.821E-02	2.041E-02	2.226E-02
bi213	7.657E-08	7.917E-08	7.923E-08	8.010E-08	8.089E-08

Table C-8. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
bi214	1.380E-09	8.661E-09	9.306E-09	1.212E-08	1.543E-08
bk247	1.117E-12	1.114E-12	1.114E-12	1.113E-12	1.113E-12
bk248	6.933E-09	4.809E-09	4.716E-09	4.366E-09	4.043E-09
bk249	2.466E-02	5.777E-04	4.723E-04	2.142E-04	9.718E-05
bk250	2.912E-08	3.762E-10	2.985E-10	1.210E-10	5.017E-11
bk251	2.754E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
c 14	1.765E-03	1.763E-03	1.763E-03	1.763E-03	1.763E-03
ca 41	4.077E-18	4.077E-18	4.077E-18	4.077E-18	4.077E-18
ca 45	1.795E-13	1.111E-16	7.478E-17	1.577E-17	3.329E-18
cd109	5.350E-01	3.960E-02	3.443E-02	1.989E-02	1.150E-02
cd113	1.232E-13	1.232E-13	1.232E-13	1.232E-13	1.232E-13
cd113m	1.009E+00	7.990E-01	7.890E-01	7.511E-01	7.152E-01
cd115m	1.574E+01	3.086E-11	7.265E-12	2.485E-14	8.502E-17
cd116	1.080E-15	1.080E-15	1.080E-15	1.080E-15	1.080E-15
ce139	6.095E-18	9.877E-22	6.184E-22	9.838E-23	1.566E-23
ce139	9.738E+00	1.578E-03	9.877E-04	1.572E-04	2.501E-05
ce141	5.447E+03	4.876E-13	6.714E-14	2.798E-17	1.167E-20
ce144	5.805E+05	8.568E+03	6.833E+03	2.811E+03	1.157E+03
cf248	4.510E-08	1.230E-09	1.014E-09	4.747E-10	2.223E-10
cf249	6.642E-05	1.255E-04	1.257E-04	1.261E-04	1.261E-04
cf250	9.246E-04	7.192E-04	7.092E-04	6.727E-04	6.382E-04
cf251	6.827E-06	6.800E-06	6.800E-06	6.793E-06	6.787E-06
cf252	8.256E-04	2.382E-04	2.228E-04	1.715E-04	1.319E-04
cf253	2.695E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cf254	4.420E-08	1.053E-16	3.629E-17	5.541E-19	8.462E-21
cl 36	1.288E-16	1.288E-16	1.288E-16	1.288E-16	1.288E-16
cm240	3.365E-07	1.604E-26	1.473E-27	0.000E+00	0.000E+00
cm241	3.875E-04	4.821E-20	6.753E-21	3.018E-24	1.349E-27
cm242	6.367E+04	6.886E+01	5.579E+01	3.442E+01	2.979E+01
cm243	8.741E+01	7.804E+01	7.757E+01	7.578E+01	7.398E+01
cm244	1.391E+04	1.160E+04	1.149E+04	1.105E+04	1.064E+04
cm245	2.957E+00	2.955E+00	2.955E+00	2.955E+00	2.955E+00
cm246	4.166E-01	4.163E-01	4.163E-01	4.162E-01	4.162E-01
cm247	2.087E-06	2.087E-06	2.087E-06	2.087E-06	2.087E-06
cm248	6.747E-06	6.753E-06	6.753E-06	6.753E-06	6.753E-06
cm249	8.375E-12	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cm250	3.793E-11	3.791E-11	3.791E-11	3.791E-11	3.791E-11
co 56	3.910E-21	6.880E-28	2.985E-28	1.128E-29	0.000E+00

Table C-8. Continued					
	1/22/2009	10/22/2013	1/22/2014	1/22/2015	1/22/2016
co 57	9.259E-16	1.114E-17	8.787E-18	3.462E-18	1.365E-18
co 58	1.838E-14	7.983E-22	3.214E-22	9.047E-24	2.546E-25
co 60	1.268E-11	6.793E-12	6.572E-12	5.762E-12	5.053E-12
co 60m	4.168E-21	4.168E-21	4.168E-21	4.168E-21	4.168E-21
cr 51	1.111E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs131	1.748E-10	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs132	2.256E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs134	1.944E+05	3.954E+04	3.629E+04	2.595E+04	1.856E+04
cs135	7.844E-01	7.844E-01	7.844E-01	7.844E-01	7.844E-01
cs136	7.039E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs137	1.328E+05	1.190E+05	1.184E+05	1.157E+05	1.130E+05
dy159	1.430E-03	3.489E-07	2.233E-07	3.872E-08	6.714E-09
er169	8.914E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
es252	4.445E-12	3.482E-13	3.037E-13	1.776E-13	1.039E-13
es253	5.649E-08	0.000E+00	0.000E+00	0.000E+00	0.000E+00
es254	2.911E-08	3.730E-10	2.953E-10	1.179E-10	4.711E-11
es255	3.439E-10	2.683E-23	5.312E-24	9.219E-27	1.599E-29
eu147	1.013E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
eu149	5.164E-07	1.287E-12	6.438E-13	4.251E-14	2.808E-15
eu152	5.031E+00	3.946E+00	3.894E+00	3.700E+00	3.516E+00
eu154	1.496E+04	1.021E+04	9.997E+03	9.226E+03	8.515E+03
eu155	6.674E+03	3.341E+03	3.220E+03	2.783E+03	2.406E+03
eu156	2.164E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
fe 55	5.127E-13	1.547E-13	1.450E-13	1.127E-13	8.754E-14
fe 59	4.940E-14	9.312E-26	2.188E-26	7.418E-29	0.000E+00
fe 60	4.168E-21	4.168E-21	4.168E-21	4.168E-21	4.168E-21
fr221	7.657E-08	7.917E-08	7.930E-08	8.010E-08	8.089E-08
fr223	7.079E-10	2.987E-09	3.111E-09	3.596E-09	4.083E-09
ga 68	1.712E-15	2.033E-17	1.603E-17	6.301E-18	2.477E-18
gd151	4.458E-04	2.766E-08	1.645E-08	2.138E-09	2.779E-10
gd152	1.349E-12	1.387E-12	1.389E-12	1.395E-12	1.402E-12
gd153	8.754E+00	5.919E-02	4.527E-02	1.581E-02	5.517E-03
ge 68	1.712E-15	2.033E-17	1.603E-17	6.299E-18	2.476E-18
ge 71	7.518E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ge 73m	2.832E-06	9.020E-13	4.042E-13	1.731E-14	7.411E-16
h3	6.952E+02	5.323E+02	5.247E+02	4.960E+02	4.689E+02
hf172	1.555E-19	2.679E-20	2.438E-20	1.683E-20	1.163E-20
hf175	9.758E-12	3.441E-19	1.370E-19	3.690E-21	9.937E-23

Table C-8. Continued					
	1/22/2009	10/22/2013	1/22/2014	1/22/2015	1/22/2016
hf177m	2.565E-14	1.437E-17	9.618E-18	1.987E-18	4.105E-19
hf181	4.388E-13	2.165E-25	4.731E-26	1.210E-28	0.000E+00
hf182	2.753E-19	2.753E-19	2.753E-19	2.753E-19	2.753E-19
hg194	7.252E-21	7.199E-21	7.192E-21	7.179E-21	7.172E-21
hg203	6.446E-14	4.100E-25	1.028E-25	4.505E-28	0.000E+00
hg206	7.677E-17	7.777E-17	7.850E-17	8.229E-17	8.781E-17
ho163	9.525E-08	9.519E-08	9.519E-08	9.519E-08	9.519E-08
ho166m	1.137E-03	1.134E-03	1.133E-03	1.133E-03	1.132E-03
il25	1.682E-05	2.774E-14	9.372E-15	1.325E-16	1.872E-18
il26	1.314E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00
il29	4.890E-02	4.890E-02	4.890E-02	4.890E-02	4.890E-02
il31	1.367E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00
in113m	6.301E-07	1.847E-11	1.055E-11	1.171E-12	1.300E-13
in114	5.443E-03	1.581E-13	4.299E-14	2.594E-16	1.566E-18
in114m	5.625E-03	1.633E-13	4.443E-14	2.681E-16	1.619E-18
in115	2.132E-11	2.132E-11	2.132E-11	2.132E-11	2.132E-11
in115m	1.672E-03	3.279E-15	7.717E-16	2.640E-18	9.033E-21
ir190	7.970E-23	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ir191m	8.834E-19	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ir192	1.375E-12	1.181E-19	4.929E-20	1.601E-21	5.202E-23
ir193m	7.591E-20	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ir194	1.811E-18	1.046E-18	1.016E-18	9.053E-19	8.070E-19
k 40	4.977E-19	4.977E-19	4.977E-19	4.977E-19	4.977E-19
k 42	7.957E-21	7.199E-21	7.166E-21	7.013E-21	6.866E-21
kr 81	8.229E-07	8.229E-07	8.229E-07	8.229E-07	8.229E-07
kr 83m	7.996E-04	7.092E-10	3.356E-10	1.783E-11	9.472E-13
kr 85	6.886E+03	5.074E+03	4.991E+03	4.680E+03	4.388E+03
la137	2.021E-05	2.021E-05	2.021E-05	2.021E-05	2.021E-05
la138	6.780E-10	6.780E-10	6.780E-10	6.780E-10	6.780E-10
la140	1.095E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
lu172	1.569E-19	2.679E-20	2.438E-20	1.683E-20	1.163E-20
lu172m	1.555E-19	2.679E-20	2.438E-20	1.683E-20	1.163E-20
lu173	4.697E-15	4.259E-16	3.744E-16	2.258E-16	1.362E-16
lu174	7.345E-15	2.814E-15	2.668E-15	2.164E-15	1.755E-15
lu174m	1.922E-15	4.072E-19	2.586E-19	4.354E-20	7.332E-21
lu176	3.561E-22	3.561E-22	3.561E-22	3.561E-22	3.561E-22
lu177	7.285E-15	4.082E-18	2.731E-18	5.643E-19	1.166E-19
lu177m	3.264E-14	1.829E-17	1.224E-17	2.528E-18	5.223E-19

Table C-8. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
mn 53	6.793E-22	6.793E-22	6.793E-22	6.793E-22	6.793E-22
mn 54	1.751E-13	3.728E-15	3.032E-15	1.348E-15	5.992E-16
mo 93	4.135E-07	4.132E-07	4.132E-07	4.130E-07	4.130E-07
mo100	5.863E-13	5.863E-13	5.863E-13	5.863E-13	5.863E-13
na 22	4.873E-19	1.377E-19	1.287E-19	9.864E-20	7.558E-20
nb 91	5.662E-08	5.635E-08	5.633E-08	5.627E-08	5.622E-08
nb 91m	1.467E-10	3.930E-19	1.363E-19	2.133E-21	3.339E-23
nb 92	9.512E-11	9.512E-11	9.512E-11	9.512E-11	9.512E-11
nb 92m	2.299E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
nb 93m	1.464E-01	4.084E-01	4.210E-01	4.692E-01	5.153E-01
nb 94	5.892E-04	5.891E-04	5.891E-04	5.891E-04	5.891E-04
nb 95	1.649E+05	1.241E-03	4.528E-04	8.980E-06	1.729E-07
nb 95m	9.027E+02	6.429E-06	2.349E-06	4.518E-08	8.688E-10
nd144	1.163E-09	1.358E-09	1.359E-09	1.360E-09	1.361E-09
nd147	3.603E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
nd150	8.196E-14	8.196E-14	8.196E-14	8.196E-14	8.196E-14
ni 59	6.575E-15	6.575E-15	6.575E-15	6.575E-15	6.575E-15
ni 63	1.240E-13	1.200E-13	1.198E-13	1.190E-13	1.182E-13
np235	3.248E-03	1.566E-04	1.331E-04	7.026E-05	3.711E-05
np236	3.346E-06	3.346E-06	3.346E-06	3.346E-06	3.346E-06
np237	1.316E-01	1.357E-01	1.361E-01	1.375E-01	1.391E-01
np238	1.647E-01	1.609E-01	1.607E-01	1.599E-01	1.591E-01
np239	7.996E+01	7.996E+01	7.996E+01	7.996E+01	7.996E+01
np240	2.814E-09	2.814E-09	2.814E-09	2.814E-09	2.814E-09
np240m	2.345E-06	2.345E-06	2.345E-06	2.345E-06	2.345E-06
os185	1.550E-15	4.138E-21	2.079E-21	1.393E-22	9.332E-24
os191	8.834E-19	0.000E+00	0.000E+00	0.000E+00	0.000E+00
os194	1.810E-18	1.046E-18	1.016E-18	9.053E-19	8.063E-19
p 32	1.835E-18	3.787E-19	3.783E-19	3.766E-19	3.749E-19
p 33	2.087E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pa230	3.341E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pa231	1.135E-06	1.319E-06	1.329E-06	1.368E-06	1.407E-06
pa232	6.694E-09	6.694E-09	6.694E-09	6.694E-09	6.694E-09
pa233	1.316E-01	1.356E-01	1.359E-01	1.375E-01	1.392E-01
pa234	5.004E-04	5.006E-04	5.004E-04	5.004E-04	5.004E-04
pa234m	3.127E-01	3.129E-01	3.127E-01	3.127E-01	3.127E-01
pb209	7.657E-08	7.917E-08	7.930E-08	8.010E-08	8.089E-08
pb210	4.040E-09	4.094E-09	4.132E-09	4.333E-09	4.621E-09

Table C-8. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
pb211	4.762E-08	2.170E-07	2.215E-07	2.611E-07	2.965E-07
pb212	2.869E-03	1.756E-02	1.821E-02	2.041E-02	2.226E-02
pb214	1.380E-09	8.661E-09	9.299E-09	1.212E-08	1.543E-08
pd103	2.172E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pd107	3.042E-01	3.042E-01	3.042E-01	3.042E-01	3.042E-01
pm143	5.503E-09	5.915E-11	4.638E-11	1.785E-11	6.873E-12
pm144	1.209E-06	4.420E-08	3.700E-08	1.843E-08	9.180E-09
pm145	4.818E-03	4.036E-03	3.996E-03	3.843E-03	3.696E-03
pm146	1.605E-01	8.854E-02	8.575E-02	7.564E-02	6.674E-02
pm147	1.512E+05	4.316E+04	4.035E+04	3.099E+04	2.380E+04
pm148	3.010E+01	6.979E-12	1.465E-12	3.197E-15	6.973E-18
pm148m	6.235E+02	1.446E-10	3.034E-11	6.622E-14	1.445E-16
po209	2.718E-16	2.632E-16	2.628E-16	2.610E-16	2.592E-16
po210	3.538E-09	3.984E-09	4.011E-09	4.172E-09	4.410E-09
po211	1.314E-10	5.988E-10	6.114E-10	7.205E-10	8.183E-10
po212	1.838E-03	1.125E-02	1.167E-02	1.307E-02	1.426E-02
po213	7.485E-08	7.744E-08	7.750E-08	7.830E-08	7.910E-08
po214	1.455E-09	8.661E-09	9.299E-09	1.212E-08	1.543E-08
po215	4.762E-08	2.170E-07	2.215E-07	2.611E-07	2.965E-07
po216	2.869E-03	1.756E-02	1.821E-02	2.041E-02	2.226E-02
po218	1.380E-09	8.661E-09	9.306E-09	1.212E-08	1.543E-08
pr143	1.984E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pr144	5.806E+05	8.568E+03	6.833E+03	2.811E+03	1.157E+03
pr144m	5.543E+03	8.176E+01	6.522E+01	2.683E+01	1.104E+01
pt193	7.511E-13	7.033E-13	7.006E-13	6.906E-13	6.813E-13
pu236	5.278E-01	1.670E-01	1.570E-01	1.232E-01	9.671E-02
pu237	1.371E-01	5.090E-13	1.240E-13	4.851E-16	1.898E-18
pu238	3.330E+03	3.522E+03	3.515E+03	3.487E+03	3.460E+03
pu239	7.465E+02	7.465E+02	7.465E+02	7.465E+02	7.465E+02
pu240	1.605E+03	1.611E+03	1.611E+03	1.612E+03	1.613E+03
pu241	4.316E+05	3.429E+05	3.387E+05	3.226E+05	3.074E+05
pu242	5.821E+00	5.821E+00	5.821E+00	5.821E+00	5.821E+00
pu243	2.087E-06	2.087E-06	2.087E-06	2.087E-06	2.087E-06
pu244	2.348E-06	2.348E-06	2.348E-06	2.348E-06	2.348E-06
pu246	6.827E-12	6.827E-12	6.827E-12	6.827E-12	6.827E-12
ra222	7.518E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ra223	4.762E-08	2.170E-07	2.215E-07	2.611E-07	2.965E-07
ra224	2.869E-03	1.756E-02	1.821E-02	2.041E-02	2.226E-02

Table C-8. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ra225	7.651E-08	7.917E-08	7.930E-08	8.010E-08	8.089E-08
ra226	1.391E-09	8.661E-09	9.306E-09	1.212E-08	1.543E-08
ra228	1.025E-11	1.763E-11	1.799E-11	1.937E-11	2.071E-11
rb 83	1.075E-03	9.538E-10	4.515E-10	2.399E-11	1.274E-12
rb 84	3.109E-03	3.955E-19	5.548E-20	2.490E-23	1.118E-26
rb 86	1.037E-01	1.034E-29	0.000E+00	0.000E+00	0.000E+00
rb 87	1.439E-05	1.439E-05	1.439E-05	1.439E-05	1.439E-05
re183	6.370E-19	2.246E-26	8.940E-27	2.409E-28	6.488E-30
re184	1.027E-16	7.810E-20	5.333E-20	1.198E-20	2.680E-21
re184m	1.012E-16	8.289E-20	5.659E-20	1.266E-20	2.834E-21
re186	1.838E-18	1.838E-18	1.838E-18	1.838E-18	1.838E-18
re186m	1.838E-18	1.838E-18	1.838E-18	1.838E-18	1.838E-18
re187	1.555E-20	1.555E-20	1.555E-20	1.555E-20	1.555E-20
re188	1.889E-14	6.310E-22	2.505E-22	0.000E+00	0.000E+00
rh 99	5.904E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
rh101	5.872E-04	2.168E-04	2.055E-04	1.666E-04	1.350E-04
rh102	4.908E+00	1.698E-02	1.290E-02	4.858E-03	2.307E-03
rh102m	1.803E+00	7.491E-01	7.146E-01	5.936E-01	4.933E-01
rh103m	1.870E+04	9.538E-10	1.846E-10	2.928E-13	4.645E-16
rh106	7.039E+05	2.782E+04	2.339E+04	1.185E+04	5.998E+03
rn217	5.359E-12	5.541E-12	5.549E-12	5.605E-12	5.662E-12
rn218	7.518E-11	1.732E-15	1.861E-15	2.424E-15	3.087E-15
rn219	4.762E-08	2.170E-07	2.215E-07	2.611E-07	2.965E-07
rn220	2.869E-03	1.756E-02	1.821E-02	2.041E-02	2.226E-02
rn222	1.380E-09	8.661E-09	9.306E-09	1.212E-08	1.543E-08
ru103	1.891E+04	9.645E-10	1.866E-10	2.960E-13	4.695E-16
ru106	7.039E+05	2.782E+04	2.339E+04	1.185E+04	5.998E+03
s 35	1.258E-13	1.375E-19	6.582E-20	3.654E-21	2.029E-22
sb120m	1.344E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sb124	6.510E+01	1.405E-07	4.815E-08	7.199E-10	1.077E-11
sb125	1.409E+04	4.275E+03	4.010E+03	3.119E+03	2.427E+03
sb126	7.059E-02	7.019E-02	7.019E-02	7.019E-02	7.019E-02
sb126m	5.014E-01	5.014E-01	5.014E-01	5.014E-01	5.014E-01
sb127	2.756E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sc 45m	3.411E-18	2.112E-21	1.420E-21	2.997E-22	6.325E-23
sc 46	1.486E-12	8.834E-19	4.092E-19	1.998E-20	9.758E-22
se 75	1.213E-04	5.355E-09	3.127E-09	3.783E-10	4.576E-11
se 79	8.209E-02	8.209E-02	8.209E-02	8.209E-02	8.209E-02

Table C-8. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
si 32	3.869E-19	3.786E-19	3.781E-19	3.765E-19	3.748E-19
sm145	7.903E-04	2.309E-05	1.910E-05	9.080E-06	4.313E-06
sm146	7.538E-08	7.671E-08	7.671E-08	7.691E-08	7.711E-08
sm147	2.509E-06	5.183E-06	5.252E-06	5.484E-06	5.663E-06
sm148	6.551E-11	6.553E-11	6.553E-11	6.553E-11	6.553E-11
sm151	5.913E+02	5.701E+02	5.690E+02	5.647E+02	5.603E+02
sn113	6.297E-07	1.847E-11	1.054E-11	1.171E-12	1.299E-13
sn117m	2.066E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sn119m	2.340E+02	3.879E+00	3.113E+00	1.313E+00	5.535E-01
sn121	3.747E+01	3.476E+01	3.462E+01	3.409E+01	3.355E+01
sn121m	4.828E+01	4.479E+01	4.461E+01	4.392E+01	4.323E+01
sn123	5.774E+02	5.292E-02	3.213E-02	4.534E-03	6.398E-04
sn125	7.405E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sn126	5.014E-01	5.014E-01	5.014E-01	5.014E-01	5.014E-01
sr 85	3.314E-04	2.983E-12	1.103E-12	2.229E-14	4.505E-16
sr 89	1.401E+04	6.638E-07	1.854E-07	1.240E-09	8.302E-12
sr 90	4.741E+04	4.230E+04	4.204E+04	4.104E+04	4.006E+04
ta179	2.733E-17	4.485E-18	4.071E-18	2.782E-18	1.901E-18
ta182	3.974E-12	1.131E-16	6.462E-17	7.372E-18	1.058E-18
tb157	2.283E-05	2.179E-05	2.174E-05	2.152E-05	2.132E-05
tb158	1.240E-03	1.218E-03	1.216E-03	1.212E-03	1.207E-03
tb160	1.925E+02	1.172E-05	4.804E-06	1.452E-07	4.387E-09
tb161	8.070E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
tc 95	8.814E-12	2.471E-20	8.588E-21	1.357E-22	0.000E+00
tc 95m	2.241E-10	6.282E-19	2.184E-19	3.450E-21	5.453E-23
tc 97	8.967E-09	9.040E-09	9.040E-09	9.040E-09	9.040E-09
tc 97m	1.310E-03	2.424E-09	1.194E-09	7.405E-11	4.592E-12
tc 98	9.186E-06	9.186E-06	9.186E-06	9.186E-06	9.186E-06
tc 99	1.617E+01	1.617E+01	1.617E+01	1.617E+01	1.617E+01
te121	1.873E-03	1.246E-06	8.409E-07	1.801E-07	3.859E-08
te121m	1.866E-03	1.241E-06	8.382E-07	1.795E-07	3.847E-08
te123m	3.975E+00	1.670E-04	9.725E-05	1.165E-05	1.394E-06
te125m	3.433E+03	1.047E+03	9.818E+02	7.637E+02	5.942E+02
te127	2.217E+03	3.628E-02	2.008E-02	1.972E-03	1.935E-04
te127m	2.263E+03	3.704E-02	2.050E-02	2.013E-03	1.975E-04
te128	4.997E-14	4.997E-14	4.997E-14	4.997E-14	4.997E-14
te129	1.386E+02	4.124E-14	6.054E-15	3.250E-18	1.745E-21
te129m	2.197E+02	6.536E-14	9.598E-15	5.151E-18	2.766E-21

Table C-8. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
th226	7.518E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
th227	4.806E-08	2.140E-07	2.199E-07	2.575E-07	2.924E-07
th228	2.907E-03	1.750E-02	1.813E-02	2.035E-02	2.219E-02
th229	7.651E-08	7.917E-08	7.937E-08	8.010E-08	8.089E-08
th230	1.741E-06	5.689E-06	5.960E-06	7.079E-06	8.289E-06
th231	1.819E-03	1.822E-03	1.822E-03	1.823E-03	1.823E-03
th232	2.461E-11	2.935E-11	2.961E-11	3.062E-11	3.163E-11
th234	3.127E-01	3.129E-01	3.127E-01	3.127E-01	3.127E-01
tl202	6.001E-23	0.000E+00	1.644E-27	0.000E+00	0.000E+00
tl204	3.163E-14	1.326E-14	1.266E-14	1.054E-14	8.774E-15
tl206	5.413E-15	5.486E-15	5.538E-15	5.806E-15	6.192E-15
tl207	4.749E-08	2.164E-07	2.209E-07	2.604E-07	2.957E-07
tl208	1.031E-03	6.312E-03	6.545E-03	7.338E-03	8.003E-03
tl209	1.684E-09	1.742E-09	1.744E-09	1.761E-09	1.779E-09
tl210	2.899E-13	1.819E-12	1.954E-12	2.545E-12	3.242E-12
tm167	1.779E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
tm168	7.671E-06	1.910E-11	9.558E-12	6.313E-13	4.168E-14
tm170	3.109E-01	2.729E-05	1.653E-05	2.311E-06	3.232E-07
tm171	1.872E-01	3.377E-02	3.081E-02	2.148E-02	1.497E-02
u230	7.505E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
u232	1.038E-02	2.444E-02	2.479E-02	2.594E-02	2.677E-02
u233	4.489E-06	7.425E-06	7.578E-06	8.236E-06	8.900E-06
u234	6.680E-02	1.143E-01	1.169E-01	1.267E-01	1.365E-01
u235	1.818E-03	1.822E-03	1.822E-03	1.823E-03	1.823E-03
u236	2.017E-02	2.039E-02	2.041E-02	2.045E-02	2.051E-02
u237	1.059E+01	8.409E+00	8.309E+00	7.917E+00	7.538E+00
u238	3.127E-01	3.127E-01	3.127E-01	3.127E-01	3.127E-01
u240	2.345E-06	2.345E-06	2.345E-06	2.345E-06	2.345E-06
v 49	4.263E-16	1.119E-17	9.206E-18	4.276E-18	1.986E-18
w181	3.744E-15	1.858E-19	1.091E-19	1.353E-20	1.678E-21
w185	1.164E-12	1.317E-19	5.580E-20	1.921E-21	6.614E-23
w188	1.870E-14	6.246E-22	2.479E-22	6.603E-24	1.759E-25
xe127	1.403E-03	6.527E-18	1.111E-18	1.064E-21	1.020E-24
xe129m	3.038E-08	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe131m	7.398E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe133	1.685E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
y 88	3.663E-01	4.692E-06	2.564E-06	2.390E-07	2.228E-08
y 89m	1.351E+00	6.399E-11	1.787E-11	1.196E-13	8.003E-16

Table C-8. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
y 90	4.743E+04	4.231E+04	4.205E+04	4.105E+04	4.007E+04
y 91	3.312E+04	4.016E-05	1.335E-05	1.767E-07	2.342E-09
ybl69	8.003E-08	4.071E-24	5.436E-25	2.011E-28	0.000E+00
zn 65	1.180E-15	8.575E-18	6.581E-18	2.332E-18	8.269E-19
zr 88	1.031E-07	5.727E-14	2.644E-14	1.273E-15	6.128E-17
zr 93	1.607E+00	1.607E+00	1.607E+00	1.607E+00	1.607E+00
zr 95	7.883E+04	5.616E-04	2.053E-04	3.947E-06	7.591E-08
zr 96	1.595E-13	1.595E-13	1.595E-13	1.595E-13	1.595E-13
Total	4.1852E+06	8.6195E+05	8.3677E+05	7.5989E+05	7.0569E+05

Table C-9. Activity in Fuel Rod B14 (high Pu loading) in Ci per MTIHM

	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ac225	6.813E-08	7.085E-08	7.092E-08	7.178E-08	7.257E-08
ac226	1.247E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ac227	5.329E-08	2.258E-07	2.352E-07	2.723E-07	3.097E-07
ac228	8.755E-12	1.558E-11	1.591E-11	1.719E-11	1.844E-11
ag105	2.876E-10	6.668E-23	1.400E-23	3.055E-26	6.668E-29
ag106m	1.067E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ag108	5.272E-04	5.233E-04	5.231E-04	5.223E-04	5.214E-04
ag108m	6.060E-03	6.015E-03	6.012E-03	6.003E-03	5.993E-03
ag109m	5.758E-01	4.262E-02	3.706E-02	2.141E-02	1.237E-02
ag110	9.730E+01	7.927E-01	6.126E-01	2.224E-01	8.079E-02
ag110m	7.151E+03	5.830E+01	4.504E+01	1.636E+01	5.940E+00
ag111	2.699E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00
am241	1.471E+03	5.109E+03	5.280E+03	5.933E+03	6.554E+03
am242	4.537E+01	4.432E+01	4.427E+01	4.405E+01	4.383E+01
am242m	4.557E+01	4.453E+01	4.447E+01	4.425E+01	4.403E+01
am243	7.741E+01	7.735E+01	7.735E+01	7.735E+01	7.735E+01
am244	3.835E-09	2.660E-09	2.609E-09	2.415E-09	2.236E-09
am245	2.029E-07	4.753E-09	3.886E-09	1.762E-09	7.993E-10
am246m	3.609E-12	3.605E-12	3.605E-12	3.605E-12	3.605E-12
ar 37	1.235E-14	1.597E-29	0.000E+00	0.000E+00	0.000E+00
ar 39	4.119E-15	4.069E-15	4.067E-15	4.056E-15	4.046E-15
ar 42	6.793E-21	6.149E-21	6.116E-21	5.988E-21	5.864E-21
as 73	3.482E-06	1.109E-12	4.970E-13	2.128E-14	9.113E-16
as 74	1.950E-07	0.000E+00	0.000E+00	0.000E+00	0.000E+00
at217	6.813E-08	7.085E-08	7.092E-08	7.178E-08	7.257E-08
at218	2.873E-13	1.799E-12	1.933E-12	2.517E-12	3.205E-12
au194	8.397E-21	8.331E-21	8.324E-21	8.311E-21	8.298E-21
au195	8.430E-16	1.326E-18	9.378E-19	2.409E-19	6.186E-20
ba131	7.814E-18	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba131	4.146E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba133	7.721E-16	5.649E-16	5.555E-16	5.201E-16	4.869E-16
ba133	5.408E-02	3.955E-02	3.889E-02	3.641E-02	3.409E-02
ba136m	9.776E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba137m	1.307E-22	1.172E-22	1.164E-22	1.138E-22	1.112E-22
ba137m	1.421E+05	1.274E+05	1.267E+05	1.237E+05	1.210E+05
ba140	1.124E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
be 10	2.915E-06	2.915E-06	2.915E-06	2.915E-06	2.915E-06
bi210	4.045E-09	4.122E-09	4.164E-09	4.376E-09	4.679E-09

Table C-9. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
bi211	4.951E-08	2.263E-07	2.311E-07	2.729E-07	3.103E-07
bi212	2.666E-03	1.680E-02	1.743E-02	1.956E-02	2.135E-02
bi213	6.813E-08	7.085E-08	7.092E-08	7.178E-08	7.257E-08
bi214	1.437E-09	8.994E-09	9.663E-09	1.258E-08	1.603E-08
bk247	6.064E-13	6.050E-13	6.049E-13	6.046E-13	6.043E-13
bk248	3.834E-09	2.660E-09	2.609E-09	2.415E-09	2.236E-09
bk249	1.399E-02	3.277E-04	2.679E-04	1.215E-04	5.512E-05
bk250	1.113E-08	1.442E-10	1.145E-10	4.670E-11	1.962E-11
bk251	1.011E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
c 14	1.666E-03	1.665E-03	1.664E-03	1.664E-03	1.664E-03
ca 41	3.460E-18	3.460E-18	3.460E-18	3.460E-18	3.460E-18
ca 45	1.660E-13	1.028E-16	6.913E-17	1.459E-17	3.079E-18
cd109	5.758E-01	4.262E-02	3.706E-02	2.141E-02	1.237E-02
cd113	1.551E-13	1.551E-13	1.551E-13	1.551E-13	1.551E-13
cd113m	1.254E+00	9.928E-01	9.809E-01	9.338E-01	8.888E-01
cd115m	1.819E+01	3.566E-11	8.391E-12	2.872E-14	9.822E-17
cd116	1.212E-15	1.212E-15	1.212E-15	1.212E-15	1.212E-15
ce139	1.122E+01	1.819E-03	1.139E-03	1.812E-04	2.883E-05
ce141	6.467E+03	5.789E-13	7.967E-14	3.322E-17	1.385E-20
ce144	6.687E+05	9.869E+03	7.874E+03	3.239E+03	1.333E+03
cf248	2.432E-08	6.634E-10	5.467E-10	2.560E-10	1.199E-10
cf249	3.728E-05	7.078E-05	7.092E-05	7.112E-05	7.118E-05
cf250	4.765E-04	3.706E-04	3.656E-04	3.467E-04	3.288E-04
cf251	3.427E-06	3.415E-06	3.414E-06	3.411E-06	3.409E-06
cf252	3.561E-04	1.027E-04	9.604E-05	7.390E-05	5.689E-05
cf253	1.122E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cf254	1.664E-08	3.966E-17	1.367E-17	2.086E-19	3.187E-21
cl 36	1.088E-16	1.088E-16	1.088E-16	1.088E-16	1.088E-16
cm240	3.975E-07	1.894E-26	1.740E-27	0.000E+00	0.000E+00
cm241	4.640E-04	5.773E-20	8.086E-21	3.613E-24	1.615E-27
cm242	7.310E+04	8.258E+01	6.754E+01	4.303E+01	3.769E+01
cm243	9.478E+01	8.470E+01	8.417E+01	8.218E+01	8.026E+01
cm244	1.214E+04	1.012E+04	1.002E+04	9.650E+03	9.285E+03
cm245	2.456E+00	2.454E+00	2.454E+00	2.454E+00	2.454E+00
cm246	2.930E-01	2.928E-01	2.928E-01	2.928E-01	2.927E-01
cm247	1.358E-06	1.358E-06	1.358E-06	1.358E-06	1.358E-06
cm248	3.900E-06	3.902E-06	3.902E-06	3.902E-06	3.902E-06
cm249	3.488E-12	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Table C-9. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
cm250	2.004E-11	2.003E-11	2.003E-11	2.003E-11	2.003E-11
co 56	4.028E-21	7.085E-28	3.075E-28	1.162E-29	0.000E+00
co 57	9.299E-16	1.119E-17	8.822E-18	3.478E-18	1.371E-18
co 58	1.939E-14	8.417E-22	3.390E-22	9.544E-24	2.686E-25
co 60	1.121E-11	6.008E-12	5.811E-12	5.095E-12	4.468E-12
co 60m	3.132E-21	3.132E-21	3.132E-21	3.132E-21	3.132E-21
cr 51	1.045E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs131	2.100E-10	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs132	2.701E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs134	2.086E+05	4.242E+04	3.895E+04	2.785E+04	1.992E+04
cs135	1.004E+00	1.004E+00	1.004E+00	1.004E+00	1.004E+00
cs136	8.828E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs137	1.501E+05	1.345E+05	1.337E+05	1.307E+05	1.277E+05
dy159	1.674E-03	4.082E-07	2.612E-07	4.529E-08	7.854E-09
er169	9.670E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
es252	1.836E-12	1.438E-13	1.255E-13	7.337E-14	4.291E-14
es253	2.349E-08	0.000E+00	0.000E+00	0.000E+00	0.000E+00
es254	1.112E-08	1.426E-10	1.129E-10	4.508E-11	1.801E-11
es255	1.263E-10	9.849E-24	1.950E-24	3.383E-27	5.870E-30
eu147	1.214E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
eu149	7.397E-07	1.844E-12	9.226E-13	6.092E-14	4.023E-15
eu152	7.191E+00	5.638E+00	5.565E+00	5.288E+00	5.024E+00
eu154	1.691E+04	1.154E+04	1.131E+04	1.043E+04	9.623E+03
eu155	7.383E+03	3.696E+03	3.561E+03	3.079E+03	2.661E+03
eu156	2.344E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
fe 55	4.435E-13	1.337E-13	1.255E-13	9.743E-14	7.569E-14
fe 59	4.787E-14	9.027E-26	2.120E-26	7.191E-29	0.000E+00
fe 60	3.132E-21	3.132E-21	3.132E-21	3.132E-21	3.132E-21
fr221	6.813E-08	7.085E-08	7.092E-08	7.178E-08	7.257E-08
fr223	7.357E-10	3.116E-09	3.246E-09	3.759E-09	4.274E-09
ga 68	1.569E-15	1.862E-17	1.468E-17	5.771E-18	2.268E-18
gd151	6.387E-04	3.964E-08	2.357E-08	3.064E-09	3.983E-10
gd152	1.850E-12	1.904E-12	1.907E-12	1.917E-12	1.926E-12
gd153	1.218E+01	8.232E-02	6.298E-02	2.198E-02	7.675E-03
ge 68	1.568E-15	1.862E-17	1.468E-17	5.769E-18	2.268E-18
ge 71	7.894E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ge 73m	3.482E-06	1.109E-12	4.970E-13	2.128E-14	9.113E-16
h3	7.879E+02	6.034E+02	5.948E+02	5.623E+02	5.315E+02

Table C-9. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
hf172	1.647E-19	2.837E-20	2.582E-20	1.783E-20	1.231E-20
hf175	1.034E-11	3.647E-19	1.452E-19	3.911E-21	1.053E-22
hf177m	2.826E-14	1.583E-17	1.060E-17	2.189E-18	4.523E-19
hf181	4.015E-13	1.980E-25	4.329E-26	1.107E-28	0.000E+00
hf182	2.207E-19	2.207E-19	2.207E-19	2.207E-19	2.207E-19
hg194	8.391E-21	8.331E-21	8.324E-21	8.311E-21	8.298E-21
hg203	6.078E-14	3.866E-25	9.690E-26	4.248E-28	0.000E+00
hg206	7.682E-17	7.827E-17	7.907E-17	8.311E-17	8.888E-17
ho163	1.178E-07	1.178E-07	1.178E-07	1.177E-07	1.177E-07
ho166m	1.235E-03	1.232E-03	1.231E-03	1.231E-03	1.230E-03
i125	2.062E-05	3.401E-14	1.149E-14	1.624E-16	2.295E-18
i126	1.617E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00
i129	5.619E-02	5.619E-02	5.619E-02	5.619E-02	5.619E-02
i131	1.627E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00
in113m	7.675E-07	2.251E-11	1.285E-11	1.427E-12	1.583E-13
in114	7.158E-03	2.079E-13	5.654E-14	3.413E-16	2.060E-18
in114m	7.403E-03	2.149E-13	5.844E-14	3.527E-16	2.129E-18
in115	2.514E-11	2.515E-11	2.515E-11	2.515E-11	2.515E-11
in115m	1.933E-03	3.789E-15	8.914E-16	3.051E-18	1.044E-20
ir190	1.299E-22	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ir191m	6.668E-19	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ir192	2.123E-12	1.822E-19	7.609E-20	2.472E-21	8.033E-23
ir193m	1.074E-19	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ir194	1.520E-18	8.782E-19	8.530E-19	7.602E-19	6.774E-19
k 40	4.999E-19	4.999E-19	4.999E-19	4.999E-19	4.999E-19
k 42	6.793E-21	6.149E-21	6.116E-21	5.989E-21	5.864E-21
kr 81	9.160E-07	9.160E-07	9.160E-07	9.160E-07	9.160E-07
kr 83m	9.855E-04	8.742E-10	4.139E-10	2.199E-11	1.168E-12
kr 85	7.735E+03	5.695E+03	5.602E+03	5.253E+03	4.926E+03
la137	2.401E-05	2.401E-05	2.401E-05	2.401E-05	2.401E-05
la138	7.695E-10	7.695E-10	7.695E-10	7.695E-10	7.695E-10
la140	1.297E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
lu172	1.662E-19	2.837E-20	2.582E-20	1.783E-20	1.231E-20
lu172m	1.647E-19	2.837E-20	2.582E-20	1.783E-20	1.231E-20
lu173	5.165E-15	4.682E-16	4.116E-16	2.483E-16	1.498E-16
lu174	7.423E-15	2.844E-15	2.696E-15	2.187E-15	1.774E-15
lu174m	1.982E-15	4.199E-19	2.666E-19	4.490E-20	7.556E-21
lu176	3.920E-22	3.920E-22	3.920E-22	3.920E-22	3.920E-22

Table C-9. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
lu177	8.026E-15	4.498E-18	3.010E-18	6.217E-19	1.284E-19
lu177m	3.596E-14	2.015E-17	1.348E-17	2.785E-18	5.754E-19
mn 53	6.605E-22	6.605E-22	6.605E-22	6.605E-22	6.605E-22
mn 54	1.748E-13	3.721E-15	3.026E-15	1.345E-15	5.980E-16
mo 93	4.567E-07	4.563E-07	4.563E-07	4.562E-07	4.561E-07
mo100	6.622E-13	6.622E-13	6.622E-13	6.622E-13	6.622E-13
na 22	5.359E-19	1.514E-19	1.416E-19	1.085E-19	8.311E-20
nb 91	6.668E-08	6.634E-08	6.634E-08	6.625E-08	6.618E-08
nb 91m	1.785E-10	4.782E-19	1.658E-19	2.595E-21	4.063E-23
nb 92	1.123E-10	1.123E-10	1.123E-10	1.123E-10	1.123E-10
nb 92m	2.652E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
nb 93m	1.620E-01	4.565E-01	4.706E-01	5.247E-01	5.765E-01
nb 94	6.760E-04	6.760E-04	6.760E-04	6.754E-04	6.754E-04
nb 95	1.958E+05	1.473E-03	5.376E-04	1.066E-05	2.053E-07
nb 95m	1.072E+03	7.635E-06	2.789E-06	5.364E-08	1.032E-09
nd144	1.259E-09	1.484E-09	1.485E-09	1.486E-09	1.487E-09
nd147	4.256E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
nd150	9.193E-14	9.193E-14	9.193E-14	9.193E-14	9.193E-14
ni 59	6.760E-15	6.760E-15	6.760E-15	6.760E-15	6.760E-15
ni 63	1.045E-13	1.011E-13	1.009E-13	1.002E-13	9.955E-14
np235	3.157E-03	1.522E-04	1.294E-04	6.833E-05	3.607E-05
np236	3.508E-06	3.508E-06	3.508E-06	3.508E-06	3.508E-06
np237	1.276E-01	1.328E-01	1.332E-01	1.350E-01	1.370E-01
np238	2.092E-01	2.044E-01	2.041E-01	2.031E-01	2.021E-01
np239	7.741E+01	7.735E+01	7.735E+01	7.735E+01	7.735E+01
np240	2.433E-09	2.433E-09	2.433E-09	2.433E-09	2.433E-09
np240m	2.027E-06	2.027E-06	2.027E-06	2.027E-06	2.027E-06
os185	1.575E-15	4.203E-21	2.111E-21	1.414E-22	9.478E-24
os191	6.668E-19	0.000E+00	0.000E+00	0.000E+00	0.000E+00
os194	1.519E-18	8.782E-19	8.523E-19	7.595E-19	6.767E-19
p 32	1.848E-18	3.593E-19	3.589E-19	3.572E-19	3.556E-19
p 33	2.157E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pa230	3.623E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pa231	1.176E-06	1.387E-06	1.398E-06	1.442E-06	1.487E-06
pa232	7.019E-09	7.019E-09	7.019E-09	7.019E-09	7.019E-09
pa233	1.275E-01	1.326E-01	1.330E-01	1.350E-01	1.370E-01
pa234	4.932E-04	4.934E-04	4.932E-04	4.932E-04	4.932E-04
pa234m	3.083E-01	3.083E-01	3.083E-01	3.083E-01	3.083E-01

Table C-9. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
pb209	6.813E-08	7.085E-08	7.092E-08	7.178E-08	7.257E-08
pb210	4.043E-09	4.120E-09	4.162E-09	4.374E-09	4.677E-09
pb211	4.951E-08	2.263E-07	2.311E-07	2.729E-07	3.103E-07
pb212	2.666E-03	1.680E-02	1.743E-02	1.956E-02	2.135E-02
pb214	1.436E-09	8.994E-09	9.663E-09	1.258E-08	1.602E-08
pd103	2.334E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pd107	3.470E-01	3.470E-01	3.470E-01	3.470E-01	3.470E-01
pm143	6.264E-09	6.734E-11	5.279E-11	2.032E-11	7.821E-12
pm144	1.389E-06	5.074E-08	4.249E-08	2.116E-08	1.054E-08
pm145	5.511E-03	4.618E-03	4.572E-03	4.398E-03	4.229E-03
pm146	2.151E-01	1.187E-01	1.150E-01	1.014E-01	8.947E-02
pm147	1.789E+05	5.106E+04	4.774E+04	3.666E+04	2.815E+04
pm148	3.696E+01	8.570E-12	1.799E-12	3.926E-15	8.563E-18
pm148m	7.655E+02	1.776E-10	3.726E-11	8.132E-14	1.774E-16
po209	2.595E-16	2.513E-16	2.508E-16	2.491E-16	2.474E-16
po210	3.517E-09	4.005E-09	4.034E-09	4.207E-09	4.458E-09
po211	1.367E-10	6.246E-10	6.379E-10	7.529E-10	8.563E-10
po212	1.708E-03	1.076E-02	1.117E-02	1.253E-02	1.367E-02
po213	6.668E-08	6.926E-08	6.939E-08	7.019E-08	7.098E-08
po214	1.518E-09	8.994E-09	9.663E-09	1.258E-08	1.602E-08
po215	4.951E-08	2.263E-07	2.311E-07	2.729E-07	3.103E-07
po216	2.666E-03	1.680E-02	1.743E-02	1.956E-02	2.135E-02
po218	1.437E-09	8.994E-09	9.663E-09	1.258E-08	1.603E-08
pr143	2.351E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pr144	6.687E+05	9.869E+03	7.874E+03	3.239E+03	1.333E+03
pr144m	6.388E+03	9.425E+01	7.516E+01	3.093E+01	1.273E+01
pt193	7.397E-13	6.926E-13	6.899E-13	6.807E-13	6.714E-13
pu236	5.116E-01	1.618E-01	1.522E-01	1.194E-01	9.372E-02
pu237	1.495E-01	5.546E-13	1.351E-13	5.286E-16	2.069E-18
pu238	3.434E+03	3.668E+03	3.661E+03	3.633E+03	3.604E+03
pu239	9.809E+02	9.809E+02	9.809E+02	9.809E+02	9.809E+02
pu240	2.245E+03	2.249E+03	2.249E+03	2.250E+03	2.251E+03
pu241	5.394E+05	4.285E+05	4.232E+05	4.032E+05	3.841E+05
pu242	6.028E+00	6.028E+00	6.028E+00	6.028E+00	6.028E+00
pu243	1.358E-06	1.358E-06	1.358E-06	1.358E-06	1.358E-06
pu244	2.030E-06	2.030E-06	2.030E-06	2.030E-06	2.030E-06
pu246	3.607E-12	3.605E-12	3.605E-12	3.605E-12	3.605E-12
ra222	8.139E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Table C-9. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ra223	4.951E-08	2.263E-07	2.311E-07	2.729E-07	3.103E-07
ra224	2.666E-03	1.680E-02	1.743E-02	1.956E-02	2.135E-02
ra225	6.813E-08	7.085E-08	7.098E-08	7.178E-08	7.257E-08
ra226	1.448E-09	8.994E-09	9.663E-09	1.258E-08	1.603E-08
ra228	8.755E-12	1.558E-11	1.591E-11	1.719E-11	1.844E-11
rb 83	1.326E-03	1.176E-09	5.568E-10	2.958E-11	1.571E-12
rb 84	3.610E-03	4.592E-19	6.442E-20	2.892E-23	1.298E-26
rb 86	1.164E-01	1.161E-29	0.000E+00	0.000E+00	0.000E+00
rb 87	1.599E-05	1.599E-05	1.599E-05	1.599E-05	1.599E-05
re183	7.436E-19	2.623E-26	1.045E-26	2.813E-28	7.576E-30
re184	1.286E-16	9.783E-20	6.681E-20	1.501E-20	3.358E-21
re184m	1.269E-16	1.038E-19	7.092E-20	1.587E-20	3.550E-21
re186	1.919E-18	1.919E-18	1.919E-18	1.919E-18	1.919E-18
re186m	1.919E-18	1.919E-18	1.919E-18	1.919E-18	1.919E-18
re187	1.568E-20	1.568E-20	1.568E-20	1.568E-20	1.568E-20
re188	1.933E-14	6.457E-22	2.563E-22	0.000E+00	0.000E+00
rh 99	6.999E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
rh101	6.833E-04	2.521E-04	2.390E-04	1.937E-04	1.571E-04
rh102	5.872E+00	2.026E-02	1.538E-02	5.767E-03	2.723E-03
rh102m	2.109E+00	8.755E-01	8.351E-01	6.939E-01	5.768E-01
rh103m	2.227E+04	1.136E-09	2.198E-10	3.486E-13	5.530E-16
rh106	8.159E+05	3.224E+04	2.710E+04	1.373E+04	6.946E+03
rn217	4.770E-12	4.959E-12	4.966E-12	5.024E-12	5.081E-12
rn218	8.139E-11	1.799E-15	1.933E-15	2.517E-15	3.205E-15
rn219	4.951E-08	2.263E-07	2.311E-07	2.729E-07	3.103E-07
rn220	2.666E-03	1.680E-02	1.743E-02	1.956E-02	2.135E-02
rn222	1.437E-09	8.994E-09	9.663E-09	1.258E-08	1.603E-08
ru103	2.251E+04	1.148E-09	2.222E-10	3.524E-13	5.590E-16
ru106	8.159E+05	3.224E+04	2.710E+04	1.373E+04	6.946E+03
s 35	1.251E-13	1.367E-19	6.546E-20	3.634E-21	2.017E-22
sb120m	1.568E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sb124	7.218E+01	1.558E-07	5.339E-08	7.986E-10	1.194E-11
sb125	1.616E+04	4.905E+03	4.600E+03	3.579E+03	2.784E+03
sb126	8.086E-02	8.039E-02	8.039E-02	8.039E-02	8.039E-02
sb126m	5.744E-01	5.744E-01	5.744E-01	5.744E-01	5.744E-01
sb127	3.301E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sc 45m	3.154E-18	1.953E-21	1.314E-21	2.772E-22	5.849E-23
sc 46	1.378E-12	8.185E-19	3.792E-19	1.852E-20	9.040E-22

Table C-9. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
se 75	1.377E-04	6.082E-09	3.550E-09	4.296E-10	5.197E-11
se 79	9.425E-02	9.425E-02	9.425E-02	9.425E-02	9.425E-02
si 32	3.670E-19	3.592E-19	3.588E-19	3.572E-19	3.555E-19
sm145	9.398E-04	2.746E-05	2.271E-05	1.080E-05	5.129E-06
sm146	8.729E-08	8.908E-08	8.914E-08	8.941E-08	8.961E-08
sm147	2.935E-06	6.099E-06	6.181E-06	6.455E-06	6.668E-06
sm148	7.191E-11	7.191E-11	7.191E-11	7.191E-11	7.191E-11
sm151	7.337E+02	7.072E+02	7.059E+02	7.006E+02	6.952E+02
sn113	7.675E-07	2.249E-11	1.284E-11	1.426E-12	1.583E-13
sn117m	2.387E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sn119m	2.646E+02	4.387E+00	3.520E+00	1.485E+00	6.260E-01
sn121	4.239E+01	3.933E+01	3.917E+01	3.856E+01	3.796E+01
sn121m	5.462E+01	5.068E+01	5.048E+01	4.968E+01	4.891E+01
sn123	7.059E+02	6.467E-02	3.927E-02	5.541E-03	7.821E-04
sn125	8.914E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sn126	5.744E-01	5.744E-01	5.744E-01	5.744E-01	5.744E-01
sr 85	3.723E-04	3.350E-12	1.240E-12	2.505E-14	5.060E-16
sr 89	1.647E+04	7.807E-07	2.179E-07	1.458E-09	9.756E-12
sr 90	5.274E+04	4.704E+04	4.675E+04	4.565E+04	4.456E+04
ta179	2.843E-17	4.665E-18	4.234E-18	2.894E-18	1.978E-18
ta182	4.389E-12	1.249E-16	7.125E-17	8.053E-18	1.084E-18
tb157	2.924E-05	2.792E-05	2.785E-05	2.758E-05	2.731E-05
tb158	1.473E-03	1.446E-03	1.445E-03	1.439E-03	1.434E-03
tb160	2.122E+02	1.292E-05	5.295E-06	1.600E-07	4.835E-09
tb161	9.299E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
tc 95	1.021E-11	2.863E-20	9.948E-21	1.572E-22	0.000E+00
tc 95m	2.595E-10	7.277E-19	2.529E-19	3.997E-21	6.316E-23
tc 97	1.003E-08	1.011E-08	1.011E-08	1.011E-08	1.011E-08
tc 97m	1.544E-03	2.855E-09	1.406E-09	8.722E-11	5.408E-12
tc 98	1.025E-05	1.025E-05	1.025E-05	1.025E-05	1.025E-05
tc 99	1.845E+01	1.844E+01	1.844E+01	1.844E+01	1.844E+01
te121	2.409E-20	1.601E-23	1.081E-23	2.006E-29	0.000E+00
te121	1.956E-03	1.300E-06	8.782E-07	1.881E-07	4.029E-08
te121m	1.949E-03	1.296E-06	8.755E-07	1.875E-07	4.016E-08
te123m	4.048E+00	1.701E-04	9.902E-05	1.186E-05	1.420E-06
te125m	3.938E+03	1.201E+03	1.127E+03	8.762E+02	6.820E+02
te127	2.758E+03	4.513E-02	2.499E-02	2.452E-03	2.407E-04
te127m	2.816E+03	4.608E-02	2.550E-02	2.504E-03	2.458E-04

Table C-9. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
te128	5.704E-14	5.704E-14	5.704E-14	5.704E-14	5.704E-14
te129	1.667E+02	4.960E-14	7.284E-15	3.910E-18	2.099E-21
te129m	2.642E+02	7.860E-14	1.155E-14	6.197E-18	3.327E-21
th226	8.139E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
th227	4.997E-08	2.232E-07	2.294E-07	2.692E-07	3.060E-07
th228	2.703E-03	1.674E-02	1.734E-02	1.949E-02	2.128E-02
th229	6.813E-08	7.085E-08	7.105E-08	7.178E-08	7.257E-08
th230	1.812E-06	5.903E-06	6.184E-06	7.344E-06	8.603E-06
th231	2.085E-03	2.090E-03	2.090E-03	2.090E-03	2.092E-03
th232	2.198E-11	2.646E-11	2.670E-11	2.766E-11	2.861E-11
th234	3.083E-01	3.083E-01	3.083E-01	3.083E-01	3.083E-01
tl202	5.340E-23	0.000E+00	1.208E-27	0.000E+00	0.000E+00
tl204	2.473E-14	1.037E-14	9.895E-15	8.238E-15	6.860E-15
tl206	5.417E-15	5.521E-15	5.577E-15	5.860E-15	6.266E-15
tl207	4.937E-08	2.257E-07	2.305E-07	2.721E-07	3.094E-07
tl208	9.584E-04	6.038E-03	6.264E-03	7.032E-03	7.675E-03
tl209	1.499E-09	1.558E-09	1.561E-09	1.579E-09	1.597E-09
tl210	3.017E-13	1.890E-12	2.029E-12	2.642E-12	3.365E-12
tm167	2.530E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
tm168	8.815E-06	2.196E-11	1.099E-11	7.257E-13	4.793E-14
tm170	5.704E-23	5.006E-27	3.032E-27	4.240E-28	5.929E-29
tm170	3.312E-01	2.906E-05	1.761E-05	2.462E-06	3.442E-07
tm171	1.904E-01	3.434E-02	3.132E-02	2.184E-02	1.522E-02
u230	8.132E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
u232	9.809E-03	2.346E-02	2.379E-02	2.491E-02	2.572E-02
u233	4.700E-06	7.556E-06	7.708E-06	8.351E-06	9.007E-06
u234	6.919E-02	1.186E-01	1.212E-01	1.315E-01	1.417E-01
u235	2.085E-03	2.090E-03	2.090E-03	2.090E-03	2.092E-03
u236	1.900E-02	1.931E-02	1.933E-02	1.939E-02	1.946E-02
u237	1.324E+01	1.051E+01	1.039E+01	9.889E+00	9.425E+00
u238	3.083E-01	3.083E-01	3.083E-01	3.083E-01	3.083E-01
u240	2.027E-06	2.027E-06	2.027E-06	2.027E-06	2.027E-06
v 49	4.246E-16	1.114E-17	9.166E-18	4.258E-18	1.978E-18
w181	4.162E-15	2.065E-19	1.214E-19	1.504E-20	1.866E-21
w185	1.099E-12	1.243E-19	5.268E-20	1.813E-21	6.244E-23
w188	1.913E-14	6.391E-22	2.537E-22	6.754E-24	1.799E-25
xe127	1.577E-03	7.344E-18	1.249E-18	1.197E-21	1.147E-24
xe129m	3.240E-08	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Table C-9. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
xe131m	8.822E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe133	1.998E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
y 88	4.148E-01	5.312E-06	2.902E-06	2.705E-07	2.523E-08
y 89m	1.588E+00	7.522E-11	2.101E-11	1.406E-13	9.405E-16
y 90	5.275E+04	4.705E+04	4.677E+04	4.565E+04	4.457E+04
y 91	3.897E+04	4.726E-05	1.571E-05	2.080E-07	2.756E-09
yb169	8.417E-08	4.282E-24	5.717E-25	2.116E-28	0.000E+00
zn 65	9.663E-16	7.025E-18	5.392E-18	1.911E-18	6.774E-19
zr 88	1.271E-07	7.059E-14	3.260E-14	1.569E-15	7.556E-17
zr 93	1.803E+00	1.803E+00	1.803E+00	1.803E+00	1.803E+00
zr 95	9.358E+04	6.668E-04	2.436E-04	4.686E-06	9.014E-08
zr 96	1.791E-13	1.791E-13	1.791E-13	1.791E-13	1.791E-13
Total	4.8602E+06	1.0134E+06	9.8416E+05	8.9490E+05	8.3167E+05

Table C-10. Activity in Fuel Rod K5 (high Pu loading) in Ci per MTIHM

	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ac225	4.458E-08	4.712E-08	4.723E-08	4.799E-08	4.874E-08
ac226	1.167E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ac227	5.515E-08	2.344E-07	2.443E-07	2.833E-07	3.229E-07
ac228	7.095E-12	1.349E-11	1.381E-11	1.499E-11	1.616E-11
ag105	2.104E-10	4.878E-23	1.024E-23	2.234E-26	4.876E-29
ag106m	9.093E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ag108	4.056E-04	4.026E-04	4.024E-04	4.018E-04	4.011E-04
ag108m	4.662E-03	4.627E-03	4.625E-03	4.618E-03	4.610E-03
ag109m	3.860E-01	2.856E-02	2.484E-02	1.436E-02	8.297E-03
ag110	7.686E+01	6.264E-01	4.839E-01	1.758E-01	6.381E-02
ag110m	5.650E+03	4.606E+01	3.558E+01	1.292E+01	4.692E+00
ag111	2.480E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00
am241	1.403E+03	4.874E+03	5.038E+03	5.660E+03	6.252E+03
am242	4.274E+01	4.176E+01	4.171E+01	4.150E+01	4.130E+01
am242m	4.294E+01	4.195E+01	4.189E+01	4.170E+01	4.149E+01
am243	5.430E+01	5.428E+01	5.427E+01	5.427E+01	5.427E+01
am244	8.894E-10	6.168E-10	6.048E-10	5.600E-10	5.184E-10
am245	5.528E-08	1.295E-09	1.059E-09	4.803E-10	2.178E-10
am246m	8.370E-13	8.363E-13	8.363E-13	8.363E-13	8.363E-13
ar 37	1.103E-14	1.426E-29	0.000E+00	0.000E+00	0.000E+00
ar 39	3.664E-15	3.620E-15	3.617E-15	3.608E-15	3.599E-15
ar 42	5.100E-21	4.615E-21	4.590E-21	4.495E-21	4.401E-21
as 73	3.461E-06	1.103E-12	4.941E-13	2.116E-14	9.060E-16
as 74	1.652E-07	0.000E+00	0.000E+00	0.000E+00	0.000E+00
at217	4.459E-08	4.712E-08	4.723E-08	4.799E-08	4.874E-08
at218	3.127E-13	1.876E-12	2.009E-12	2.590E-12	3.266E-12
au194	8.217E-21	8.157E-21	8.151E-21	8.137E-21	8.124E-21
au195	1.029E-15	1.619E-18	1.145E-18	2.940E-19	7.553E-20
ba131	2.733E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba133	3.286E-02	2.403E-02	2.364E-02	2.213E-02	2.071E-02
ba136m	8.708E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ba137m	1.227E+05	1.100E+05	1.093E+05	1.069E+05	1.044E+05
ba140	1.067E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
be 10	2.068E-06	2.068E-06	2.068E-06	2.068E-06	2.068E-06
bi210	3.485E-09	3.678E-09	3.726E-09	3.963E-09	4.289E-09
bi211	5.126E-08	2.348E-07	2.399E-07	2.839E-07	3.235E-07

Table C-10. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
bi212	1.965E-03	1.280E-02	1.328E-02	1.493E-02	1.631E-02
bi213	4.458E-08	4.712E-08	4.723E-08	4.799E-08	4.874E-08
bi214	1.563E-09	9.378E-09	1.005E-08	1.295E-08	1.633E-08
bk247	1.377E-13	1.373E-13	1.373E-13	1.373E-13	1.372E-13
bk248	8.887E-10	6.167E-10	6.047E-10	5.599E-10	5.184E-10
bk249	3.812E-03	8.927E-05	7.301E-05	3.311E-05	1.502E-05
bk250	1.573E-09	2.053E-11	1.633E-11	6.743E-12	2.918E-12
bk251	1.256E-12	0.000E+00	0.000E+00	0.000E+00	0.000E+00
c 14	1.369E-03	1.368E-03	1.367E-03	1.367E-03	1.367E-03
ca 41	2.859E-18	2.859E-18	2.859E-18	2.859E-18	2.859E-18
ca 45	1.451E-13	8.980E-17	6.043E-17	1.275E-17	2.690E-18
cd109	3.860E-01	2.856E-02	2.484E-02	1.436E-02	8.297E-03
cd113	1.653E-13	1.653E-13	1.653E-13	1.653E-13	1.653E-13
cd113m	1.284E+00	1.017E+00	1.004E+00	9.558E-01	9.100E-01
cd115m	1.679E+01	3.292E-11	7.746E-12	2.651E-14	9.067E-17
cd116	1.050E-15	1.050E-15	1.050E-15	1.050E-15	1.050E-15
ce139	8.615E+00	1.397E-03	8.748E-04	1.391E-04	2.214E-05
ce141	6.167E+03	5.522E-13	7.600E-14	3.169E-17	1.321E-20
ce144	6.073E+05	8.960E+03	7.148E+03	2.940E+03	1.210E+03
cf248	5.476E-09	1.493E-10	1.231E-10	5.765E-11	2.700E-11
cf249	1.010E-05	1.923E-05	1.926E-05	1.932E-05	1.933E-05
cf250	1.144E-04	8.894E-05	8.774E-05	8.317E-05	7.892E-05
cf251	7.686E-07	7.653E-07	7.653E-07	7.646E-07	7.640E-07
cf252	6.473E-05	1.866E-05	1.746E-05	1.344E-05	1.034E-05
cf253	1.801E-10	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cf254	2.266E-09	5.399E-18	1.860E-18	2.841E-20	4.337E-22
cl 36	9.007E-17	9.007E-17	9.007E-17	9.007E-17	9.007E-17
cm240	2.886E-07	1.376E-26	1.264E-27	0.000E+00	0.000E+00
cm241	3.447E-04	4.288E-20	6.007E-21	2.684E-24	1.199E-27
cm242	5.956E+04	7.201E+01	5.973E+01	3.970E+01	3.534E+01
cm243	6.883E+01	6.147E+01	6.110E+01	5.966E+01	5.826E+01
cm244	7.215E+03	6.019E+03	5.960E+03	5.737E+03	5.522E+03
cm245	1.282E+00	1.281E+00	1.281E+00	1.281E+00	1.280E+00
cm246	1.216E-01	1.215E-01	1.215E-01	1.215E-01	1.215E-01
cm247	4.839E-07	4.839E-07	4.839E-07	4.839E-07	4.839E-07
cm248	1.172E-06	1.173E-06	1.173E-06	1.173E-06	1.173E-06

Table C-10. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
cm249	5.596E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cm250	4.647E-12	4.645E-12	4.645E-12	4.645E-12	4.644E-12
co 56	3.641E-21	6.405E-28	2.780E-28	1.051E-29	0.000E+00
co 57	8.224E-16	9.896E-18	7.805E-18	3.076E-18	1.213E-18
co 58	1.861E-14	8.084E-22	3.254E-22	9.159E-24	2.578E-25
co 60	9.359E-12	5.015E-12	4.850E-12	4.253E-12	3.729E-12
co 60m	2.178E-21	2.178E-21	2.178E-21	2.178E-21	2.178E-21
cr 51	9.186E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs131	1.707E-10	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs132	2.152E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs134	1.598E+05	3.250E+04	2.984E+04	2.134E+04	1.526E+04
cs135	9.677E-01	9.677E-01	9.677E-01	9.677E-01	9.677E-01
cs136	7.859E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
cs137	1.296E+05	1.162E+05	1.154E+05	1.128E+05	1.102E+05
dy159	1.213E-03	2.957E-07	1.892E-07	3.281E-08	5.690E-09
er169	7.998E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
es252	2.644E-13	2.071E-14	1.807E-14	1.057E-14	6.180E-15
es253	3.771E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
es254	1.572E-09	2.015E-11	1.595E-11	6.370E-12	2.545E-12
es255	1.568E-11	1.224E-24	2.423E-25	4.203E-28	0.000E+00
eu147	9.027E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00
eu149	7.719E-07	1.923E-12	9.624E-13	6.354E-14	4.196E-15
eu152	8.516E+00	6.677E+00	6.591E+00	6.263E+00	5.950E+00
eu154	1.361E+04	9.286E+03	9.100E+03	8.396E+03	7.746E+03
eu155	5.978E+03	2.993E+03	2.883E+03	2.492E+03	2.154E+03
eu156	1.756E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
fe 55	3.714E-13	1.120E-13	1.050E-13	8.157E-14	6.339E-14
fe 59	4.284E-14	8.078E-26	1.896E-26	6.435E-29	0.000E+00
fe 60	2.178E-21	2.178E-21	2.178E-21	2.178E-21	2.178E-21
fr221	4.459E-08	4.712E-08	4.723E-08	4.799E-08	4.874E-08
fr223	7.613E-10	3.234E-09	3.370E-09	3.911E-09	4.456E-09
ga 68	9.478E-16	1.126E-17	8.874E-18	3.488E-18	1.371E-18
gd151	5.988E-04	3.716E-08	2.210E-08	2.872E-09	3.733E-10
gd152	1.921E-12	1.985E-12	1.988E-12	1.999E-12	2.010E-12
gd153	1.220E+01	8.244E-02	6.307E-02	2.202E-02	7.686E-03
ge 68	9.478E-16	1.126E-17	8.874E-18	3.487E-18	1.371E-18

Table C-10. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ge 71	5.751E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ge 73m	3.461E-06	1.103E-12	4.941E-13	2.116E-14	9.060E-16
h3	6.781E+02	5.194E+02	5.121E+02	4.840E+02	4.576E+02
hf172	1.549E-19	2.669E-20	2.428E-20	1.677E-20	1.158E-20
hf175	1.037E-11	3.658E-19	1.456E-19	3.923E-21	1.057E-22
hf177m	3.179E-14	1.781E-17	1.192E-17	2.462E-18	5.088E-19
hf181	3.283E-13	1.619E-25	3.540E-26	9.053E-29	0.000E+00
hf182	1.528E-19	1.528E-19	1.528E-19	1.528E-19	1.528E-19
hg194	8.217E-21	8.157E-21	8.151E-21	8.137E-21	8.124E-21
hg203	5.330E-14	3.390E-25	8.502E-26	3.726E-28	0.000E+00
hg206	6.618E-17	6.982E-17	7.075E-17	7.527E-17	8.144E-17
ho163	1.058E-07	1.057E-07	1.057E-07	1.057E-07	1.057E-07
ho166m	8.801E-04	8.781E-04	8.781E-04	8.774E-04	8.768E-04
i125	1.770E-05	2.919E-14	9.863E-15	1.394E-16	1.969E-18
i126	1.342E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00
i129	4.916E-02	4.917E-02	4.917E-02	4.917E-02	4.917E-02
i131	1.560E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00
in113m	5.895E-07	1.728E-11	9.870E-12	1.096E-12	1.216E-13
in114	6.690E-03	1.942E-13	5.283E-14	3.189E-16	1.924E-18
in114m	6.916E-03	2.008E-13	5.460E-14	3.295E-16	1.989E-18
in115	2.466E-11	2.466E-11	2.466E-11	2.466E-11	2.466E-11
in115m	1.784E-03	3.498E-15	8.230E-16	2.816E-18	9.637E-21
ir190	2.041E-22	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ir191m	3.646E-19	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ir192	3.495E-12	2.999E-19	1.252E-19	4.070E-21	1.322E-22
ir193m	1.495E-19	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ir194	1.127E-18	6.513E-19	6.324E-19	5.634E-19	5.020E-19
k 40	5.040E-19	5.040E-19	5.040E-19	5.040E-19	5.040E-19
k 42	5.101E-21	4.616E-21	4.590E-21	4.495E-21	4.401E-21
kr 81	7.288E-07	7.288E-07	7.288E-07	7.288E-07	7.288E-07
kr 83m	9.863E-04	8.748E-10	4.142E-10	2.201E-11	1.169E-12
kr 85	6.737E+03	4.962E+03	4.881E+03	4.576E+03	4.291E+03
la137	2.152E-05	2.152E-05	2.152E-05	2.152E-05	2.152E-05
la138	6.138E-10	6.138E-10	6.138E-10	6.138E-10	6.138E-10
la140	1.231E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
lu172	1.563E-19	2.669E-20	2.429E-20	1.677E-20	1.158E-20

Table C-10. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
lu172m	1.549E-19	2.669E-20	2.429E-20	1.677E-20	1.158E-20
lu173	5.101E-15	4.624E-16	4.065E-16	2.452E-16	1.479E-16
lu174	6.797E-15	2.607E-15	2.472E-15	2.005E-15	1.626E-15
lu174m	1.849E-15	3.919E-19	2.489E-19	4.190E-20	7.055E-21
lu176	4.605E-22	4.605E-22	4.605E-22	4.605E-22	4.605E-22
lu177	9.033E-15	5.060E-18	3.386E-18	6.996E-19	1.445E-19
lu177m	4.045E-14	2.266E-17	1.517E-17	3.133E-18	6.473E-19
mn 53	5.609E-22	5.609E-22	5.609E-22	5.609E-22	5.609E-22
mn 54	1.538E-13	3.274E-15	2.664E-15	1.184E-15	5.263E-16
mo 93	3.299E-07	3.297E-07	3.297E-07	3.296E-07	3.295E-07
mo100	5.717E-13	5.717E-13	5.717E-13	5.717E-13	5.717E-13
na 22	5.494E-19	1.552E-19	1.451E-19	1.112E-19	8.522E-20
nb 91	5.882E-08	5.854E-08	5.852E-08	5.846E-08	5.840E-08
nb 91m	1.413E-10	3.785E-19	1.312E-19	2.054E-21	3.216E-23
nb 92	9.956E-11	9.956E-11	9.956E-11	9.956E-11	9.956E-11
nb 92m	1.987E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00
nb 93m	1.363E-01	3.922E-01	4.045E-01	4.515E-01	4.966E-01
nb 94	5.617E-04	5.616E-04	5.616E-04	5.616E-04	5.616E-04
nb 95	1.873E+05	1.410E-03	5.143E-04	1.020E-05	1.963E-07
nb 95m	1.025E+03	7.301E-06	2.668E-06	5.132E-08	9.870E-10
nd144	1.035E-09	1.239E-09	1.240E-09	1.241E-09	1.242E-09
nd147	4.028E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
nd150	7.898E-14	7.898E-14	7.898E-14	7.898E-14	7.898E-14
ni 59	7.036E-15	7.036E-15	7.036E-15	7.036E-15	7.036E-15
ni 63	8.635E-14	8.356E-14	8.343E-14	8.283E-14	8.230E-14
np235	2.450E-03	1.181E-04	1.004E-04	5.301E-05	2.799E-05
np236	2.989E-06	2.989E-06	2.989E-06	2.989E-06	2.989E-06
np237	1.124E-01	1.173E-01	1.178E-01	1.195E-01	1.215E-01
np238	1.971E-01	1.925E-01	1.923E-01	1.914E-01	1.904E-01
np239	5.430E+01	5.428E+01	5.427E+01	5.427E+01	5.427E+01
np240	1.423E-09	1.423E-09	1.423E-09	1.423E-09	1.423E-09
np240m	1.186E-06	1.186E-06	1.186E-06	1.186E-06	1.186E-06
os185	1.357E-15	3.624E-21	1.820E-21	1.219E-22	8.170E-24
os191	3.646E-19	0.000E+00	0.000E+00	0.000E+00	0.000E+00
os194	1.126E-18	6.511E-19	6.322E-19	5.632E-19	5.018E-19
p 32	1.635E-18	2.928E-19	2.925E-19	2.912E-19	2.899E-19

Table C-10. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
p 33	1.952E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pa230	3.392E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pa231	1.207E-06	1.454E-06	1.467E-06	1.519E-06	1.571E-06
pa232	5.978E-09	5.977E-09	5.977E-09	5.977E-09	5.977E-09
pa233	1.124E-01	1.172E-01	1.176E-01	1.195E-01	1.215E-01
pa234	4.959E-04	4.961E-04	4.959E-04	4.959E-04	4.959E-04
pa234m	3.100E-01	3.100E-01	3.100E-01	3.100E-01	3.100E-01
pb209	4.459E-08	4.712E-08	4.723E-08	4.799E-08	4.874E-08
pb210	3.483E-09	3.676E-09	3.724E-09	3.960E-09	4.287E-09
pb211	5.126E-08	2.348E-07	2.399E-07	2.839E-07	3.235E-07
pb212	1.965E-03	1.280E-02	1.328E-02	1.493E-02	1.631E-02
pb214	1.563E-09	9.378E-09	1.004E-08	1.294E-08	1.633E-08
pd103	1.576E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pd107	2.995E-01	2.995E-01	2.995E-01	2.995E-01	2.995E-01
pm143	4.413E-09	4.744E-11	3.719E-11	1.432E-11	5.510E-12
pm144	9.863E-07	3.604E-08	3.017E-08	1.503E-08	7.487E-09
pm145	4.312E-03	3.615E-03	3.579E-03	3.442E-03	3.311E-03
pm146	2.032E-01	1.122E-01	1.087E-01	9.584E-02	8.456E-02
pm147	1.698E+05	4.849E+04	4.533E+04	3.481E+04	2.673E+04
pm148	3.563E+01	8.263E-12	1.734E-12	3.784E-15	8.257E-18
pm148m	7.381E+02	1.711E-10	3.591E-11	7.839E-14	1.710E-16
po209	1.832E-16	1.774E-16	1.771E-16	1.759E-16	1.747E-16
po210	3.003E-09	3.553E-09	3.589E-09	3.785E-09	4.060E-09
po211	1.415E-10	6.482E-10	6.622E-10	7.839E-10	8.927E-10
po212	1.258E-03	8.197E-03	8.509E-03	9.558E-03	1.045E-02
po213	4.361E-08	4.609E-08	4.619E-08	4.694E-08	4.767E-08
po214	1.639E-09	9.378E-09	1.004E-08	1.294E-08	1.633E-08
po215	5.126E-08	2.348E-07	2.399E-07	2.839E-07	3.235E-07
po216	1.965E-03	1.280E-02	1.328E-02	1.493E-02	1.631E-02
po218	1.563E-09	9.378E-09	1.005E-08	1.295E-08	1.633E-08
pr143	2.233E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
pr144	6.073E+05	8.960E+03	7.148E+03	2.940E+03	1.210E+03
pr144m	5.798E+03	8.555E+01	6.823E+01	2.808E+01	1.155E+01
pt193	6.611E-13	6.191E-13	6.169E-13	6.084E-13	6.000E-13
pu236	3.954E-01	1.251E-01	1.176E-01	9.226E-02	7.241E-02
pu237	1.146E-01	4.251E-13	1.035E-13	4.052E-16	1.586E-18

Table C-10. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
pu238	2.691E+03	2.887E+03	2.881E+03	2.859E+03	2.837E+03
pu239	1.138E+03	1.138E+03	1.138E+03	1.138E+03	1.138E+03
pu240	2.241E+03	2.243E+03	2.243E+03	2.243E+03	2.243E+03
pu241	5.147E+05	4.089E+05	4.039E+05	3.848E+05	3.665E+05
pu242	4.605E+00	4.605E+00	4.605E+00	4.605E+00	4.605E+00
pu243	4.839E-07	4.839E-07	4.839E-07	4.839E-07	4.839E-07
pu244	1.187E-06	1.187E-06	1.187E-06	1.187E-06	1.187E-06
pu246	8.363E-13	8.363E-13	8.363E-13	8.363E-13	8.363E-13
ra222	7.613E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ra223	5.126E-08	2.348E-07	2.399E-07	2.839E-07	3.235E-07
ra224	1.965E-03	1.280E-02	1.328E-02	1.493E-02	1.631E-02
ra225	4.457E-08	4.712E-08	4.726E-08	4.799E-08	4.874E-08
ra226	1.576E-09	9.378E-09	1.005E-08	1.295E-08	1.633E-08
ra228	7.095E-12	1.349E-11	1.380E-11	1.499E-11	1.615E-11
rb 83	1.327E-03	1.177E-09	5.573E-10	2.961E-11	1.573E-12
rb 84	2.821E-03	3.589E-19	5.034E-20	2.260E-23	1.014E-26
rb 86	9.106E-02	9.080E-30	0.000E+00	0.000E+00	0.000E+00
rb 87	1.384E-05	1.384E-05	1.384E-05	1.384E-05	1.384E-05
re183	8.509E-19	2.999E-26	1.194E-26	3.216E-28	8.662E-30
re184	1.629E-16	1.242E-19	8.482E-20	1.906E-20	4.264E-21
re184m	1.611E-16	1.318E-19	9.007E-20	2.015E-20	4.509E-21
re186	2.041E-18	2.041E-18	2.041E-18	2.041E-18	2.041E-18
re186m	2.041E-18	2.041E-18	2.041E-18	2.041E-18	2.041E-18
re187	1.582E-20	1.582E-20	1.582E-20	1.582E-20	1.582E-20
re188	1.726E-14	5.766E-22	2.289E-22	0.000E+00	0.000E+00
rh 99	5.158E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
rh101	5.308E-04	1.959E-04	1.857E-04	1.506E-04	1.221E-04
rh102	4.693E+00	1.614E-02	1.225E-02	4.570E-03	2.145E-03
rh102m	1.642E+00	6.816E-01	6.505E-01	5.406E-01	4.493E-01
rh103m	2.117E+04	1.079E-09	2.089E-10	3.313E-13	5.255E-16
rh106	7.281E+05	2.877E+04	2.419E+04	1.225E+04	6.202E+03
rn217	3.121E-12	3.299E-12	3.306E-12	3.359E-12	3.412E-12
rn218	7.613E-11	1.876E-15	2.009E-15	2.590E-15	3.266E-15
rn219	5.126E-08	2.348E-07	2.399E-07	2.839E-07	3.235E-07
rn220	1.965E-03	1.280E-02	1.328E-02	1.493E-02	1.631E-02
rn222	1.563E-09	9.378E-09	1.005E-08	1.295E-08	1.633E-08

Table C-10. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
ru103	2.140E+04	1.091E-09	2.111E-10	3.349E-13	5.312E-16
ru106	7.281E+05	2.877E+04	2.419E+04	1.225E+04	6.202E+03
s 35	1.129E-13	1.234E-19	5.907E-20	3.279E-21	1.821E-22
sb120m	1.254E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sb124	5.656E+01	1.221E-07	4.183E-08	6.256E-10	9.359E-12
sb125	1.438E+04	4.365E+03	4.095E+03	3.185E+03	2.478E+03
sb126	7.042E-02	7.009E-02	7.009E-02	7.009E-02	7.002E-02
sb126m	5.004E-01	5.004E-01	5.004E-01	5.004E-01	5.004E-01
sb127	3.208E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sc 45m	2.756E-18	1.706E-21	1.148E-21	2.423E-22	5.111E-23
sc 46	1.212E-12	7.201E-19	3.337E-19	1.629E-20	7.951E-22
se 75	1.025E-04	4.523E-09	2.641E-09	3.195E-10	3.866E-11
se 79	8.310E-02	8.310E-02	8.310E-02	8.310E-02	8.310E-02
si 32	2.991E-19	2.928E-19	2.924E-19	2.911E-19	2.898E-19
sm145	7.640E-04	2.232E-05	1.847E-05	8.774E-06	4.170E-06
sm146	6.816E-08	6.982E-08	6.989E-08	7.016E-08	7.036E-08
sm147	2.721E-06	5.725E-06	5.803E-06	6.063E-06	6.263E-06
sm148	5.740E-11	5.741E-11	5.741E-11	5.741E-11	5.741E-11
sm151	7.420E+02	7.155E+02	7.142E+02	7.089E+02	7.036E+02
sn113	5.891E-07	1.727E-11	9.863E-12	1.095E-12	1.215E-13
sn117m	1.943E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sn119m	2.333E+02	3.868E+00	3.104E+00	1.309E+00	5.519E-01
sn121	3.704E+01	3.437E+01	3.423E+01	3.370E+01	3.317E+01
sn121m	4.774E+01	4.429E+01	4.411E+01	4.342E+01	4.274E+01
sn123	6.876E+02	6.302E-02	3.826E-02	5.399E-03	7.620E-04
sn125	8.735E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00
sn126	5.004E-01	5.004E-01	5.004E-01	5.004E-01	5.004E-01
sr 85	2.908E-04	2.617E-12	9.684E-13	1.957E-14	3.953E-16
sr 89	1.580E+04	7.487E-07	2.091E-07	1.399E-09	9.365E-12
sr 90	4.574E+04	4.080E+04	4.055E+04	3.959E+04	3.865E+04
ta179	2.735E-17	4.488E-18	4.073E-18	2.784E-18	1.903E-18
ta182	4.919E-12	1.398E-16	7.978E-17	8.934E-18	1.121E-18
tb157	2.825E-05	2.697E-05	2.690E-05	2.664E-05	2.638E-05
tb158	1.188E-03	1.167E-03	1.166E-03	1.161E-03	1.157E-03
tb160	1.623E+02	9.883E-06	4.051E-06	1.225E-07	3.700E-09
tb161	7.859E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Table C-10. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
tc 95	7.440E-12	2.085E-20	7.248E-21	1.146E-22	0.000E+00
tc 95m	1.891E-10	5.301E-19	1.843E-19	2.912E-21	4.601E-23
tc 97	7.586E-09	7.659E-09	7.659E-09	7.659E-09	7.659E-09
tc 97m	1.248E-03	2.309E-09	1.137E-09	7.055E-11	4.375E-12
tc 98	7.646E-06	7.646E-06	7.646E-06	7.646E-06	7.646E-06
tc 99	1.624E+01	1.624E+01	1.624E+01	1.624E+01	1.624E+01
te121	2.571E-20	1.710E-23	1.154E-23	2.141E-29	0.000E+00
te121	1.268E-03	8.429E-07	5.693E-07	1.219E-07	2.612E-08
te121m	1.264E-03	8.403E-07	5.675E-07	1.216E-07	2.604E-08
te123m	2.752E+00	1.157E-04	6.737E-05	8.064E-06	9.657E-07
te125m	3.502E+03	1.069E+03	1.003E+03	7.799E+02	6.068E+02
te127	2.820E+03	4.614E-02	2.554E-02	2.507E-03	2.461E-04
te127m	2.879E+03	4.710E-02	2.608E-02	2.559E-03	2.513E-04
te128	4.938E-14	4.938E-14	4.938E-14	4.938E-14	4.938E-14
te129	1.627E+02	4.843E-14	7.109E-15	3.817E-18	2.050E-21
te129m	2.580E+02	7.679E-14	1.127E-14	6.051E-18	3.248E-21
th226	7.613E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00
th227	5.172E-08	2.316E-07	2.381E-07	2.800E-07	3.191E-07
th228	1.992E-03	1.275E-02	1.322E-02	1.487E-02	1.625E-02
th229	4.458E-08	4.712E-08	4.730E-08	4.799E-08	4.874E-08
th230	1.961E-06	5.925E-06	6.186E-06	7.255E-06	8.403E-06
th231	2.443E-03	2.448E-03	2.448E-03	2.450E-03	2.450E-03
th232	1.954E-11	2.364E-11	2.387E-11	2.474E-11	2.561E-11
th234	3.099E-01	3.100E-01	3.100E-01	3.100E-01	3.100E-01
tl202	3.961E-23	0.000E+00	7.049E-28	0.000E+00	0.000E+00
tl204	1.736E-14	7.281E-15	6.949E-15	5.785E-15	4.817E-15
tl206	4.666E-15	4.926E-15	4.989E-15	5.307E-15	5.744E-15
tl207	5.112E-08	2.342E-07	2.393E-07	2.831E-07	3.226E-07
tl208	7.062E-04	4.600E-03	4.774E-03	5.364E-03	5.860E-03
tl209	9.810E-10	1.037E-09	1.039E-09	1.056E-09	1.073E-09
tl210	3.283E-13	1.970E-12	2.110E-12	2.719E-12	3.429E-12
tm167	2.071E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00
tm168	7.142E-06	1.780E-11	8.907E-12	5.882E-13	3.884E-14
tm170	2.636E-01	2.314E-05	1.402E-05	1.960E-06	2.740E-07
tm171	1.572E-01	2.835E-02	2.587E-02	1.803E-02	1.257E-02
u230	7.606E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Table C-10. Continued					
	1/22/2009	10/21/2013	1/22/2014	1/22/2015	1/22/2016
u232	7.367E-03	1.792E-02	1.819E-02	1.905E-02	1.968E-02
u233	4.470E-06	6.996E-06	7.122E-06	7.693E-06	8.270E-06
u234	7.148E-02	1.104E-01	1.124E-01	1.205E-01	1.286E-01
u235	2.443E-03	2.448E-03	2.448E-03	2.450E-03	2.450E-03
u236	1.736E-02	1.768E-02	1.770E-02	1.776E-02	1.783E-02
u237	1.262E+01	1.003E+01	9.909E+00	9.438E+00	8.994E+00
u238	3.099E-01	3.099E-01	3.099E-01	3.099E-01	3.099E-01
u240	1.186E-06	1.186E-06	1.186E-06	1.186E-06	1.186E-06
v 49	3.718E-16	9.763E-18	8.031E-18	3.729E-18	1.732E-18
w181	4.155E-15	2.062E-19	1.211E-19	1.502E-20	1.862E-21
w185	9.219E-13	1.043E-19	4.419E-20	1.521E-21	5.238E-23
w188	1.708E-14	5.708E-22	2.266E-22	6.035E-24	1.607E-25
xe127	1.050E-03	4.889E-18	8.317E-19	7.971E-22	7.640E-25
xe129m	2.129E-08	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe131m	8.390E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
xe133	1.901E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00
y 88	3.177E-01	4.069E-06	2.223E-06	2.073E-07	1.932E-08
y 89m	1.524E+00	7.221E-11	2.016E-11	1.349E-13	9.027E-16
y 90	4.575E+04	4.081E+04	4.056E+04	3.960E+04	3.866E+04
y 91	3.733E+04	4.528E-05	1.505E-05	1.993E-07	2.640E-09
yb169	5.711E-08	2.904E-24	3.879E-25	1.436E-28	0.000E+00
zn 65	7.002E-16	5.086E-18	3.905E-18	1.385E-18	4.906E-19
zr 88	1.262E-07	7.009E-14	3.236E-14	1.558E-15	7.500E-17
zr 93	1.562E+00	1.562E+00	1.562E+00	1.562E+00	1.562E+00
zr 95	8.954E+04	6.378E-04	2.331E-04	4.483E-06	8.622E-08
zr 96	1.546E-13	1.546E-13	1.546E-13	1.546E-13	1.546E-13
Total	4.3784E+06	9.1470E+05	8.8857E+05	8.0889E+05	7.5214E+05