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Decay Characteristics of Once-Through LWR and LMFBR Spent Fuels, High-Level Wastes, and Fuel-Assembly Structural Material Wastes

A. G. Croff
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In performing the calculations detailed in the appendices of the subject report, the half-life of Nd-154 was taken from ENDF/B-IV. It was belatedly discovered that the ENDF/B-IV value for this nuclide was in error by a factor of 16,700. This error resulted in the reported information concerning the radioactivity and thermal power of the spent fuels at discharge being significantly in error. Attached are sixteen corrected pages which have been printed on self-adhesive stock. Please peel off the backing and affix to the original pages in your copy.

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DECAY CHARACTERISTICS OF ONCE-THROUGH LWR AND LMFBR SPENT FUELS, HIGH-LEVEL WASTES, AND FUEL-ASSEMBLY STRUCTURAL MATERIAL WASTES

A. G. Croff and C. W. Alexander

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DECAY CHARACTERISTICS OF ONCE-THROUGH LWR AND LMFBR SPENT FUELS, HIGH-LEVEL WASTES, AND FUEL-ASSEMBLY STRUCTURAL MATERIAL WASTES

A. G. Croff and C. W. Alexander

ABSTRACT

The decay characteristics of spent fuel, high-level waste, and fuel-assembly structural material (cladding) waste are presented in the form of ORIGEN2 output tables for (1) a pressurized water reactor operating on a once-through cycle with low-enrichment uranium feed, (2) a boiling-water reactor operating on a once-through cycle with low-enrichment uranium feed, and (3) a liquid-metal fast breeder reactor being fueled with depleted uranium enriched with discharged light water reactor plutonium on a once-through basis. The decay characteristics given include the mass (g), radioactivity (Ci), thermal power (W), photon activity (photons/s and MeV/W-s in 18 energy groups), and neutron activity (neutrons/s) from (α,n) and spontaneous fission events. The first three characteristics are given for each element and for the principal nuclide contributors to the activation products, actinides, and fission products. Also included are a summary description of the ORIGEN2 reactor models that form the basis for the calculated results and a physical description of the fuel assemblies for the three reactors.

1. INTRODUCTION

The purpose of this document is to provide characterization of the principal nuclear fuel cycle materials typical of existing and projected nuclear reactors. The reactors considered in this report are (1) a pressurized water reactor (PWR) operating on a once-through cycle with low-enrichment uranium feed, (2) a boiling-water reactor operating on a once-through cycle with low-enrichment uranium feed, and (3) an advanced-oxide liquid-metal fast breeder reactor (LMFBR) with a burnup equal to 100,000 MWd/MTIHM.* The LMFBR uses typical light water reactor (LWR) plutonium as the fissile material and depleted uranium as the fertile material on a once-through (i.e., no plutonium recycle) basis. The three nuclear fuel cycle materials that are characterized in this report are (1) the spent fuel, (2) the high-level waste (HLW) from reprocessing,

*MTIHM — metric tons of initial heavy metal.

and (3) the fuel-assembly structural material (cladding) waste from reprocessing. The characterizations consist of a summary of the mass, radioactivity, thermal power, photon activity, and neutron activity of the most important nuclides in each of these materials. The characterizations contained herein are, in general, based on 1 MTIHM; that is, this report does not contain projections of the amounts of these materials expected to exist in the future.

The report first gives a summary description of the reactor models upon which the spent nuclear fuel composition depends. Also included here are descriptions of the fresh fuel and the physical characteristics of the fuel assemblies. Next, a description of the reprocessing plant parameters relevant to the generation of the HLW and cladding waste from the respective fuels is given. Following this are (1) a summary depiction of the characteristics of the spent fuel, HLW, and cladding waste as a function of decay time in the form of graphs and (2) a summary discussion referring to the tabular data in the appendixes that gives more detailed nuclear material characteristics.

All nuclear material characteristics contained in this report were generated using an updated version of the ORIGEN computer code, called ORIGEN2.[1-3]

2. DESCRIPTION OF REACTOR MODELS AND FUEL ASSEMBLIES

2.1 Description of LWR Models

A summary description of the characteristics of the PWR and BWR reactor models[4] is given in Table 1. The PWR is refueled with 33.78 tonnes of uranium that contains 3.2 wt % ^{235}U. This fuel is irradiated for 880 full-power days during an approximate 3-y time span at a specific power of 37.5 MW/MTIHM, resulting in a fuel burnup of 33,000 MWd/MTIHM. The uranium in the discharged fuel contains ∿0.83 wt % ^{235}U, and the fuel contains ∿0.95 wt % total plutonium.

The BWR is refueled with 36.68 tonnes of uranium that contains 2.75 wt % ^{235}U. The fuel is irradiated for 1062 full-power days during

Table 1. Summary description of LWR model

Parameter	PWR-U	BWR-U
Electric power, MW(e)	1250	1250
Thermal power, MW(t)	3800	3800
Average specific power,[a] MW(t)/MTIHM[b]	37.5	25.9
Average fuel burnup, MWd/MTIHM	33,000	27,500
Irradiation duration, full-power days	880	1062
Refueling cycle length, full-power days	293.3	265.5
days at 80% capacity factor	367	332
Charge, kg/refueling cycle (kg/year at 80% capacity factor)		
^{235}U	1081 (1077)	1009 (1110)
Total uranium	33,778 (33,647)	36,680 (40,369)
Discharge, kg/refueling cycle (kg/year at 80% capacity factor)		
^{235}U	267 (266)	276 (304)
Total uranium	32,173 (32,048)	35,319 (38,872)
Fissile plutonium[c]	210 (209)	217 (239)
Total plutonium[d]	308 (307)	309 (340)
Total (U + Pu)	32,481 (32,354)	35,628 (39,212)
Total heavy metal	32,503 (32,376)	35,647 (39,233)

[a]Based on full power and fuel charged.

[b]MTIHM = metric ton of initial heavy metal.

[c]$^{239}Pu + ^{241}Pu + ^{239}Np$.

[d]$^{238}Pu + ^{239}Pu + ^{240}Pu + ^{241}Pu + ^{242}Pu + ^{239}Np$.

an approximate 4-y time span at a specific power of 25.9 MW/MTIHM, resulting in a fuel burnup of 27,500 MWd/MTIHM. The uranium in the discharged fuel contains ∿0.78 wt % ^{235}U, and the fuel contains ∿0.87 wt % total plutonium.

2.2 Description of the LMFBR Models

A summary description of the LMFBR model[5] used in this report is given in Table 2. The LMFBR is refueled with 9.79 MTIHM of core fuel, 6.05 MTIHM of axial blanket fuel, and 7.98 MTIHM of radial blanket fuel. Both blankets are comprised entirely of depleted uranium (0.2 wt % ^{235}U) in the form of oxide pellets. The core fuel is comprised of the same depleted uranium enriched with 18.5% total plutonium (12.6 wt % fissile plutonium). The core fuel is irradiated for 822 full-power days during an approximate 3-y time span at a specific power of 123 MW/MTIHM, resulting in a final core fuel burnup of 101,300 MWd/MTIHM. The axial blanket fuel, which is contained in the same assembly as the core, has achieved a burnup of 5660 MWd/MTIHM at discharge. The radial blanket fuel is irradiated for 6 y and is moved from the outermost to the innermost row of the radial blanket during this time, resulting in a burnup of 7220 MWd/MTIHM at discharge.

The discharged core fuel consists of 8.78 tonnes of heavy metal (i.e., ∿10% of the core fuel has been fissioned) that contains 19.2 wt % total plutonium. The axial blanket contains ∿3.2 wt % total plutonium, and the radial blanket ∿3.7 wt % total plutonium.

2.3 Description of Fuel Assemblies

2.3.1 LWR fuel assemblies

A physical description of the BWR and PWR fuel assemblies is given in Table 3. The basic component of the fuel assembly is a fuel element (rod), which is a Zircaloy sheath containing uranium oxide fuel pellets. The diameter of the elements is slightly larger than that of an ordinary pencil. The elements are held in a square array with grid spacers, which are placed at intervals over the length of the elements. The total height

Table 2. Summary characteristics for an advanced-oxide LMFBR fueled with LWR plutonium

Parameter	Fuel region(s)[a]				
	CO	AB	RB	CO+AB	CO+AB+AB
Electric power, MW(e)	1144	40	66	1184	1250
Thermal power, MW(t)	3621	125	210	3746	3956
Average specific power,[b] MW(t)/MTIHM	123.26	6.89	4.39	78.81	41.45
Average fuel burnup, MWd/MTIHM	101,300	5660	7220	64,770	45,480
Irradiation duration, full-power days	821.8	821.8	1643.6	821.8	
Refueling cycle length, full-power days	342.4	342.4	342.4	342.4	342.4
days at 80% capacity factor	428.0	428.0	428.0	428.0	428.0
Charge, kg/refueling cycle (kg/year at 80% capacity factor)					
Fissile uranium[c]	16.2 (17.3)	12.1 (12.9)	16.0 (17.1)	28.3 (30.2)	44.3 (47.3)
Total uranium	7980 (8512)	6049 (6452)	7982 (8514)	14,029 (14,964)	22,011 (23,478)
Fissile plutonium[d]	1235 (1317)	0 (0)	0 (0)	1235 (1317)	1235 (1317)
Total plutonium	1808 (1929)	0 (0)	0 (0)	1808 (1929)	1808 (1929)
Total (U + Pu)	9788 (10,441)	6049 (6452)	7982 (8514)	15,837 (16,893)	23,819 (25,407)
Discharge, kg/refueling cycle (kg/year at 80% capacity factor)					
Fissile uranium[c]	6.7 (7.1)	8.8 (9.4)	11.1 (11.8)	15.5 (16.5)	26.6 (28.3)
Total uranium	7060 (7531)	5819 (6207)	7633 (8142)	12,879 (13,738)	20,512 (21,880)
Fissile plutonium[d]	1092 (1165)	187 (199)	277 (295)	1279 (1364)	1556 (1659)
Total plutonium	1683 (1795)	195 (208)	290 (309)	1878 (2003)	2168 (2312)
Total (U + Pu)	8743 (9326)	6014 (6415)	7923 (8451)	14,757 (15,741)	22,680 (24,192)
Total heavy metal	8779 (9364)	6015 (6416)	7924 (8452)	14,794 (15,780)	22,718 (24,230)

[a]CO = core, AB = axial blanket, RB = radial blanket.

[b]Based on full power and fuel charged.

[c]$^{233}U + ^{235}U + ^{233}Pa$.

[d]$^{239}Pu + ^{241}Pu + ^{239}Np$.

Table 3. Physical characteristics of LWR fuel assemblies

	BWR	PWR
Overall assembly length, m	4.470	4.059
Cross section, cm	13.9 x 13.9	21.4 x 21.4
Fuel element length, m	4.064	3.851
Active fuel height, m	3.759	3.658
Fuel element OD, cm	1.252	0.950
Fuel element array	8 x 8	17 x 17
Fuel elements/assembly	63	264
Assembly total weight, kg	275.7	657.9
Uranium/assembly, kg	183.3	461.4
UO_2/assembly, kg	208.0	523.4
Zircaloy/assembly, kg	99.5[a]	108.4[b]
Hardware/assembly, kg	12.4[c]	26.1[d]
Total metal/assembly, kg	111.9	134.5
Nominal volume/assembly, m^3	0.0864[e]	0.186[e]

[a]Includes Zircaloy fuel-element spacers and fuel channel.

[b]Includes Zircaloy control-rod guide thimbles.

[c]Includes stainless steel tie-plates, Inconel springs, and plenum springs.

[d]Includes stainless steel nozzles and Inconel-718 grids.

[e]Based on overall outside dimension.

of the column of oxide fuel pellets in each element is ∿3.7 m (12 ft). When the gas plenum and end hardware are added, the result is an assembly with a total length of 4.0 to 4.5 m (13 to 15 ft).

A photograph of a PWR fuel assembly is shown in Fig. 1 to give some indication of its size. The assembly is comprised of a 17 x 17 array of fuel elements in which 25 locations are vacant to accommodate control rods and instrumentation. The assembly is ∿21-cm (8.5-in.) square and weighs ∿660 kg (1450 lb). About 80% of the weight is comprised of the uranium dioxide fuel pellets, and the rest is structural metal, which is mostly Zircaloy cladding.

The BWR assembly is comprised of an 8 x 8 array of fuel elements, which are somewhat larger than those in the PWR assembly. Only one location in the assembly is vacant, and the cruciform (cross-shaped) control rods are inserted between assemblies. The assembly is ∿14 cm (5.5 in.) square and weighs ∿275 kg (600 lb). About 75% of this assembly is comprised of the uranium dioxide fuel pellets. The structural material is mostly Zircaloy, which is used for the cladding and the fuel channel. The fuel channel is a square Zircaloy structure surrounding the assembly over its entire length. The fuel channels are often removed from spent fuel assemblies and used again on a new assembly.

2.3.2 LMFBR fuel assemblies

Although only one type of LMFBR is considered in this report, two types of assemblies are present in the reactor — the core/axial blanket assembly and the radial blanket assembly — both of which are described in Table 4. The axial blanket is comprised of depleted uranium fuel pellets, which are placed in a fuel element above and below the core fuel. The core fuel is plutonium-enriched depleted uranium. Since the core and axial blanket fuel are in the same element, they must clearly be contained in the same type of assembly. The radial blanket assemblies are arranged in a ring around the core/axial blanket assemblies in a bull's-eye pattern. The assemblies are hexagonal and ∿5.72 m (18.75 ft) tall, although the fuel height is only ∿1.9 m (6 ft). The remainder of the fuel assembly height is comprised of (1) a 1.9-m (6-ft) fission gas plenum, (2) mixing/shield

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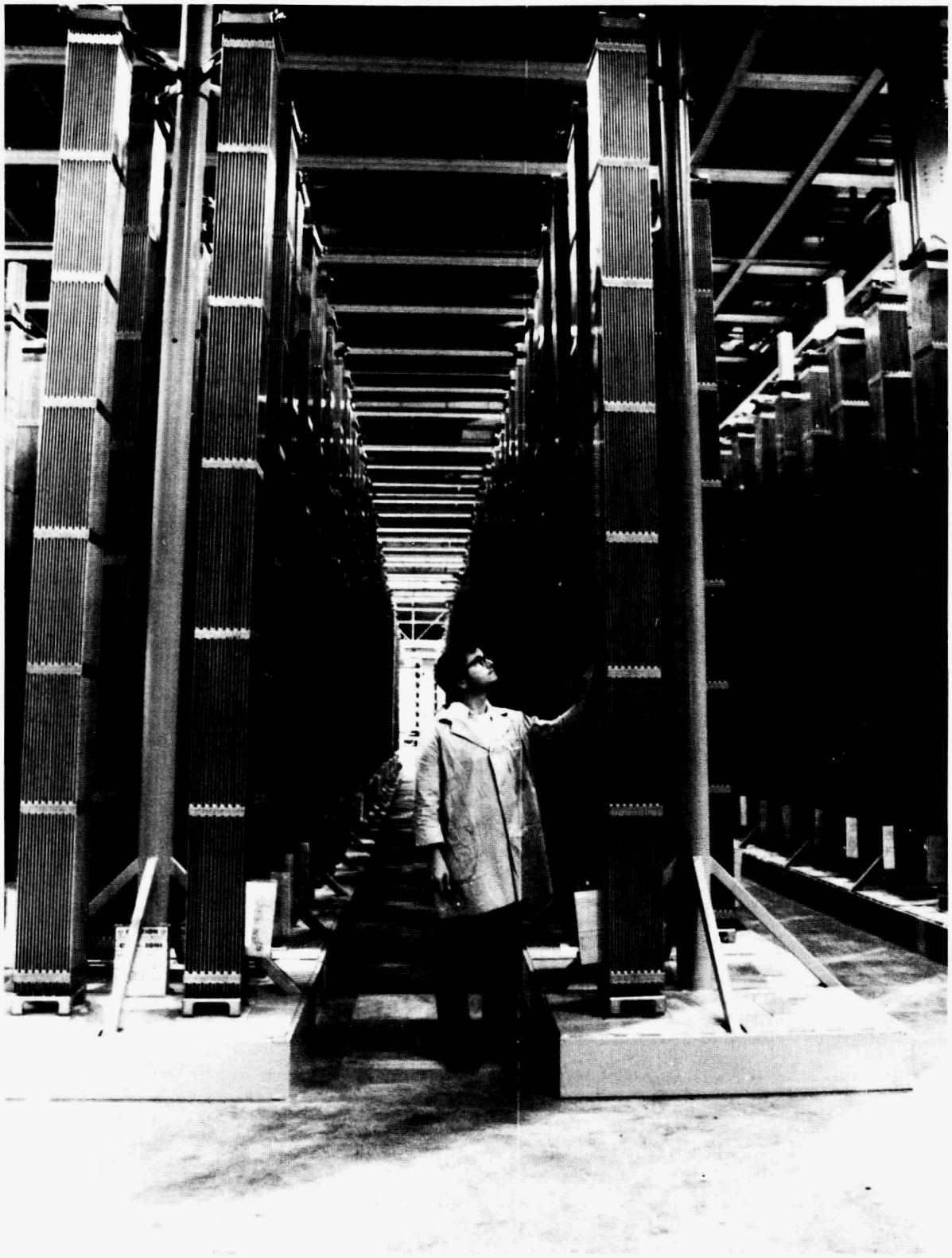

Fig. 1. Photograph of a Westinghouse PWR fuel assembly.

Table 4. Physical characteristics of LMFBR fuel assemblies

	Core/axial blanket	Radial blanket
Overall assembly height, cm	572	572
Core fuel height, cm	122	
Axial blanket fuel height, cm		
Upper	33	
Lower	33	
Radial blanket fuel height, cm		188
Plenum height, cm	191	191
Fuel element length, cm	379	379
Mixing region/shield height, cm		
Upper	61	61
Lower	56	56
Nose piece height, cm	46	46
Handling socket height, cm	30	30
Assembly shape	Hexagonal	Hexagonal
Assembly flats, cm	13.78	13.78
Fuel element arrangement	Triangular	Triangular
Fuel elements per assembly	271	91
Fuel element OD, cm	0.650	1.270
Fuel pellet OD, cm	0.573	1.180
Fuel element pitch, cm	0.795	1.369
Cladding thickness, cm	0.030	0.038
Channel thickness, cm	0.221	0.221
Channel height, cm	495	495
Circumscribed volume/assembly, m^3	0.0447	0.0447
Heavy metal/assembly, kg	117.7	172.7
MO_2/assembly, kg[a]	133.4	195.9
Stainless steel/assembly, kg	115.1	97.5
Assembly total weight, kg	257.7	300.3

[a] $(Pu,U)O_2$ in the core/axial blanket and UO_2 in the radial blanket.

regions to homogenize the sodium temperature and shield the reactor structure from neutrons, and (3) a nose piece and handling socket to facilitate assembly insertion/removal. The distance between two of the flat sides of the hexagonal assembly is ∿13.8 cm (5.4 in.).

The core/axial blanket assembly contains 271 elements, each with a diameter about the size of a pencil. The oxide pellets are contained in stainless steel 316 cladding and have a small amount of sodium sealed inside the element to facilitate heat transfer through the gap between the pellet and the cladding. The elements have a stainless steel wire wrapped around them in a spiral fashion to separate them from each other and provide the space for the coolant to flow. Cross sections of simulated LMFBR fuel assemblies are shown in Fig. 2. The LMFBR assembly is encased in a stainless steel fuel channel similar to that in a BWR assembly. The total assembly weight is ∿260 kg (570 lb), of which ∿50% is the fuel material and 50% the stainless steel fuel-assembly structure.

The radial blanket assembly, which has the same overall size as the core/axial blanket assembly, contains 91 elements. The radial blanket elements, which are also wire-wrapped, stainless-steel-clad, and sodium-bonded, are almost twice the diameter of the core/axial blanket elements. The radial blanket assembly also has a stainless steel fuel channel. The assembly weighs ∿300 kg (660 lb), of which ∿66% is fuel material. The low power-generation rate allows the larger fuel element diameters, which results in a greater amount of uranium in the assembly and, consequently, a somewhat higher plutonium breeding rate.

3. DESCRIPTION OF SPENT FUEL AND WASTE PRODUCTS

3.1 Spent Fuel

The physical description of the spent fuel assemblies for each of the reactors is the same as that given in Sect. 2 for the fresh fuel. With one exception, all of the material that is present in the fresh fuel or generated during irradiation is contained in the spent fuel assembly. The exception is that only 10% of the tritium produced within the LMFBR fuel is assumed to be in the spent fuel. The remainder diffuses through the

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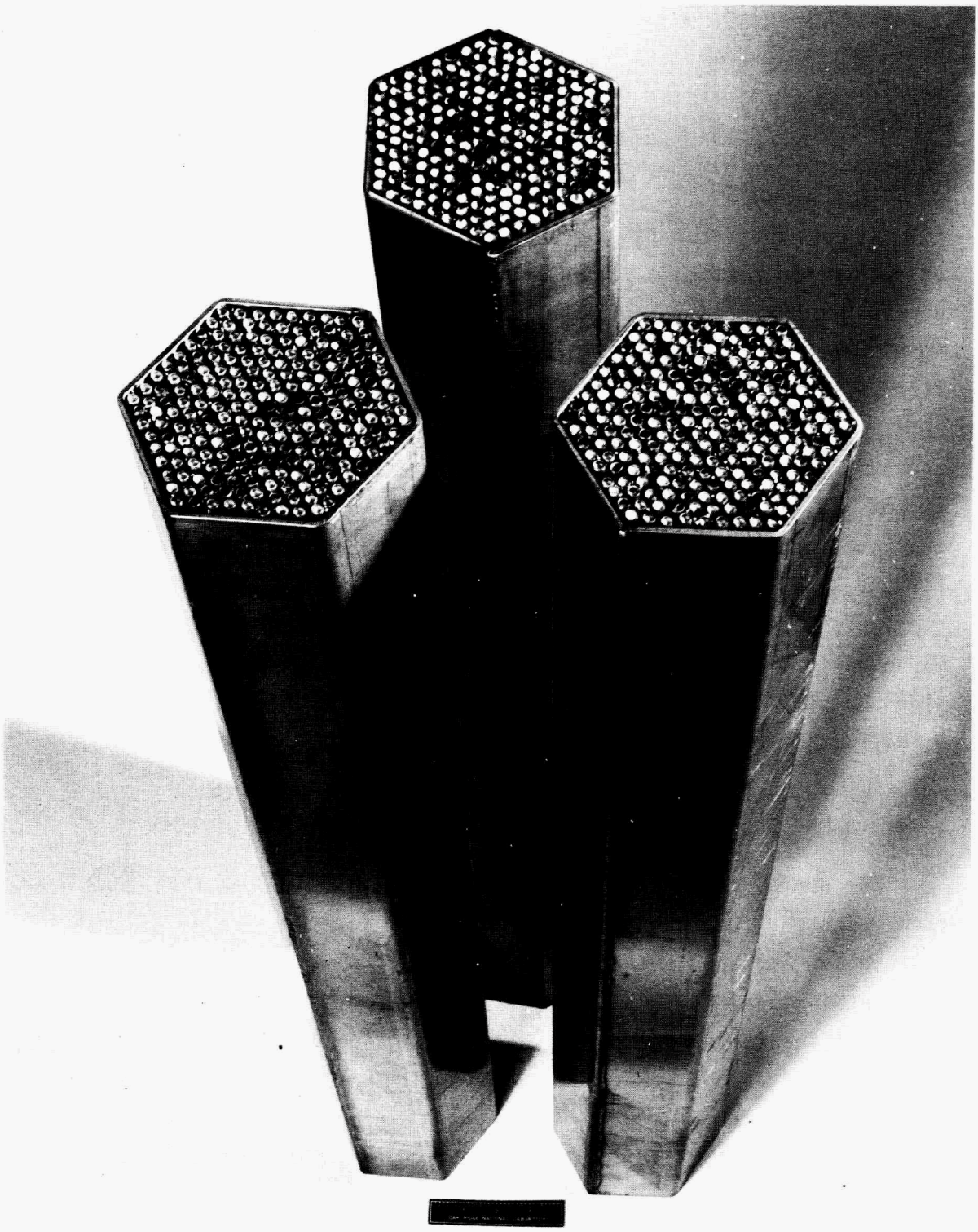

Fig. 2. Photograph of simulated LMFBR fuel assemblies.

stainless steel cladding and finds its way into reactor plant wastes. This is not the case in LWRs because the Zircaloy cladding is an effective barrier to this type of diffusion.

3.2 High-Level Waste

The as-generated HLW is an aqueous nitric acid stream that is comprised of the raffinate from the first solvent extraction cycle (or equivalent) plus dissolver solids and the concentrates of other wastes. This waste is assumed to be generated 160 d after the fuel is discharged from the LWRs and 90 d after discharge from the LMFBR, which is defined as time = 0 for the waste characteristics summarized in Sect. 4 and the appendixes. This waste is assumed to contain all of the fuel material except 100% of the hydrogen and noble gases; 99.9% of the fluorine, chlorine, bromine, and iodine; and 99.5% of the uranium and plutonium. For the LMFBR only, the HLW is assumed to contain 0.69% of the activated stainless steel in the fuel assembly. After some decay period, this waste would be converted to a solid form by some process such as calcination and vitrification, which would produce $\sim$0.06 to 0.085 m^3 (2 to 3 ft^3) of solidified HLW per MTIHM.

3.3 Fuel-Assembly Structural Material (Cladding) Waste

The so-called cladding waste is comprised of the fuel element cladding from which the fuel has been dissolved, the grid spacers or wire wrap, the end pieces, and the fuel channel and is more properly called fuel-assembly structural material (FASM) waste. This waste is highly radioactive as a result of the activation products and residual fuel material in the waste, although it does not generate substantial amounts of heat as the HLW does. The structural material waste is generated from the metal pieces removed and sheared from the fuel assembly before dissolution (e.g., the channels and end pieces) plus the small cladding segments that are removed from the dissolver after the fuel has been solubilized as much as is possible. A photograph of the appearance of the fuel cladding waste is given in Fig. 3.

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Fig. 3. Photograph of typical cladding waste segments.

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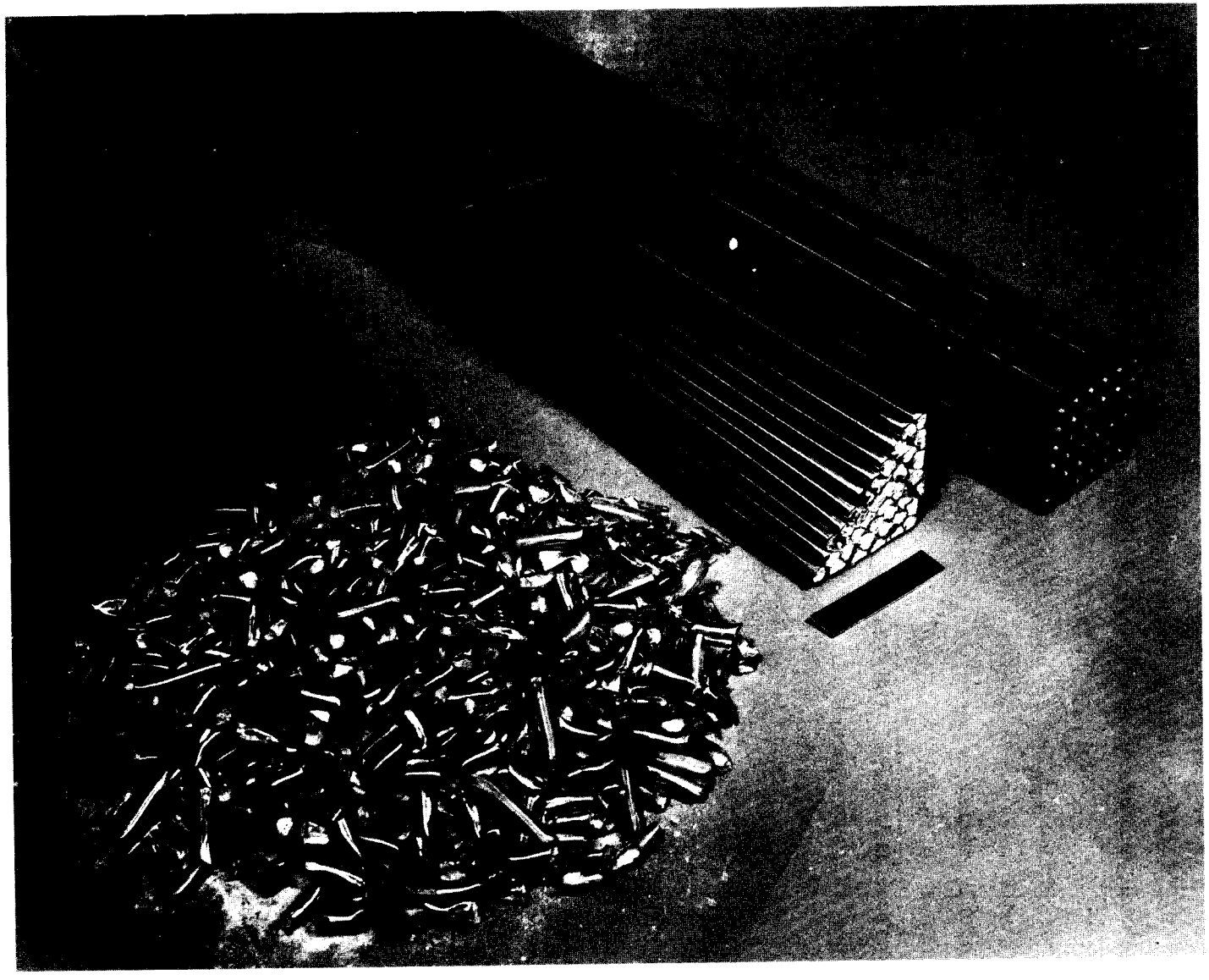

Fig. 3. Photograph of typical cladding waste segments.

Table 5. Page location of tables[a] containing the characteristics of spent fuel, high-level waste, and cladding waste as a function of decay time for PWRs, BWRs, and LMFBRs

	Nuclear material							
	Spent fuel			High-level waste		Fuel assembly structural material (cladding) waste		
Reactor/fuel type	Activation products	Actinides	Fission products	Actinides	Fission products	Activation products	Actinides	Fission products
PWR-U[b]	28	35	40	48	53	62	69	74
BWR-U[b]	84	91	96	104	109	118	125	130
LMFBR[c]								
CO and CO+AB[d]	140	147	152					
AB and RB[d]	160	167	172					
CO+AB+RB[d]				180	185	194	201	206

[a]Each number is the first page of a set of ORIGEN2 tables containing grams, curies, watts, photon activity, and neutron activity (actinides only).

[b]Fueled with low-enrichment uranium on a once-through cycle.

[c]Fueled with LWR discharge plutonium and depleted uranium.

[d]CO = core (driver) fuel; AB = axial blanket fuel; RB = radial blanket fuel.

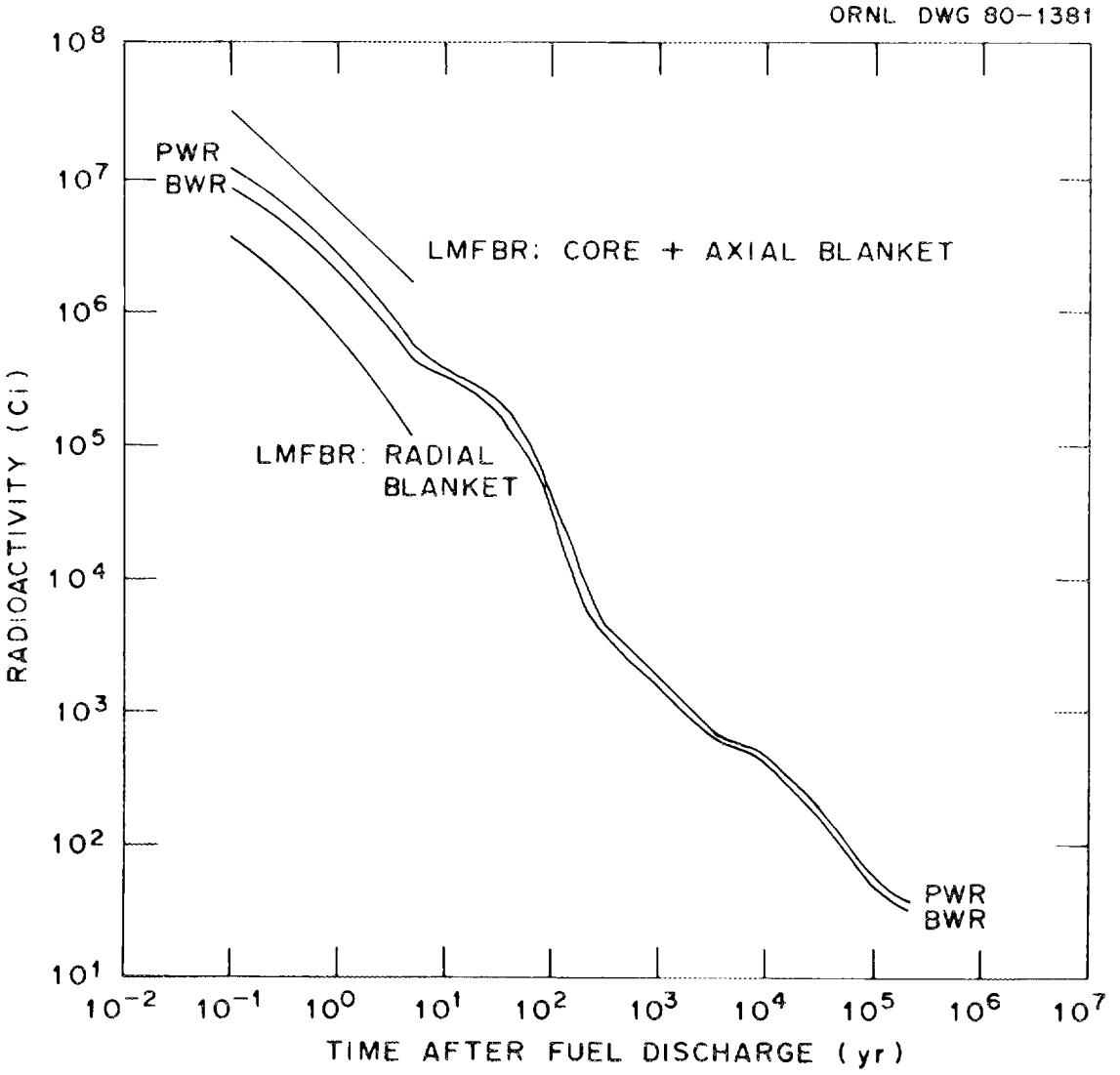

Fig. 4. Radioactivity of spent PWR, BWR, and LMFBR fuels as a function of decay time.

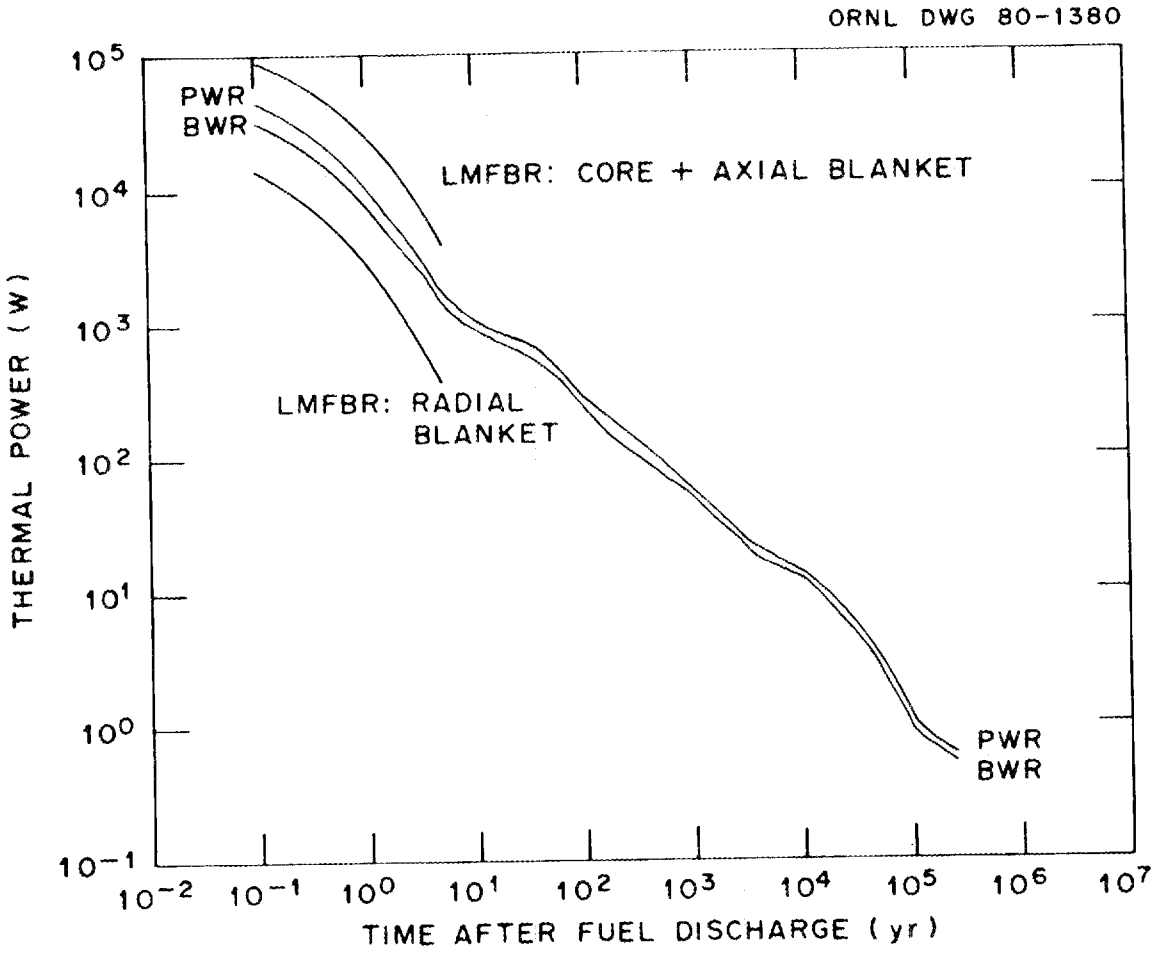

Fig. 5. Thermal power of spent PWR, BWR, and LMFBR fuels as a function of decay time.

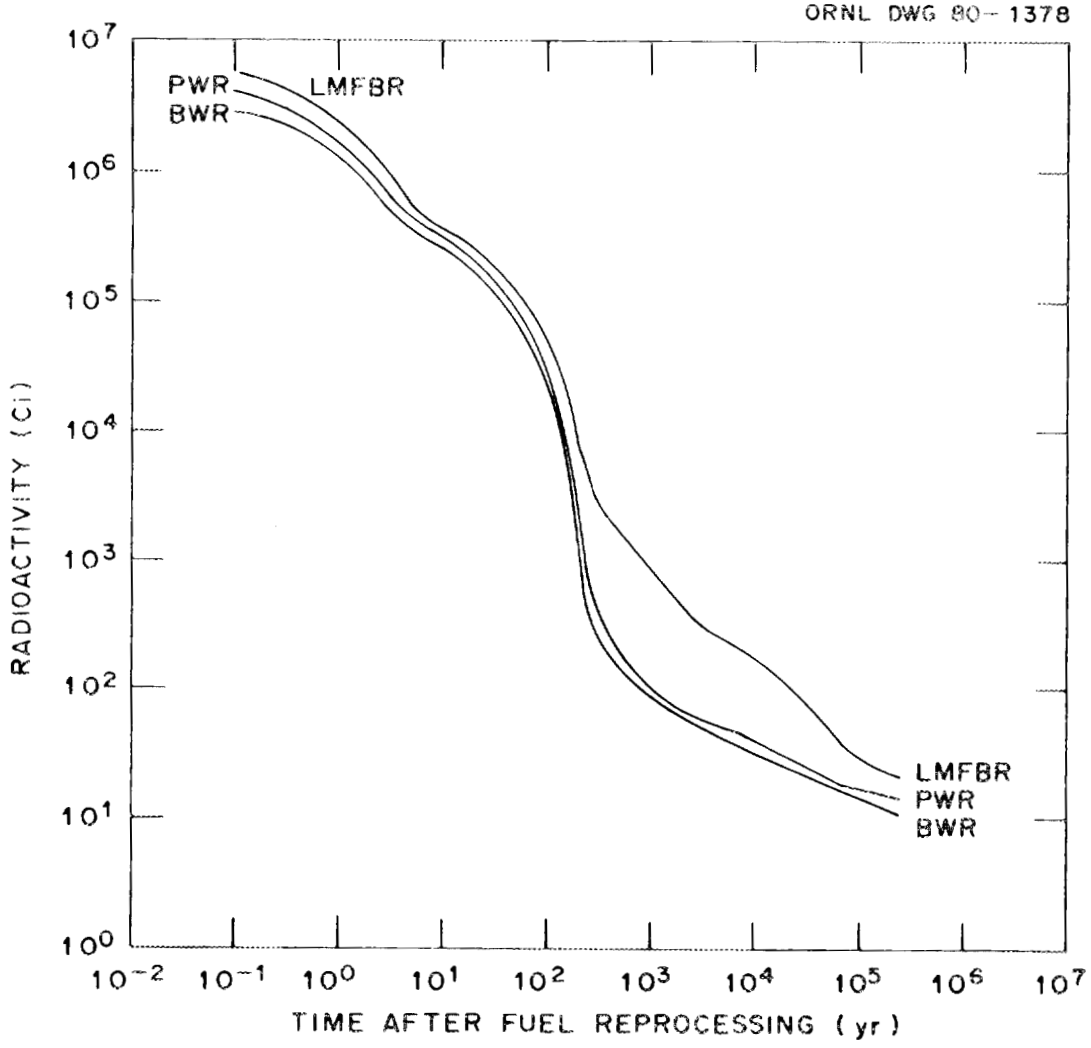

Fig. 6. Radioactivity of high-level waste from PWR, BWR, and LMFBR fuels as a function of decay time.

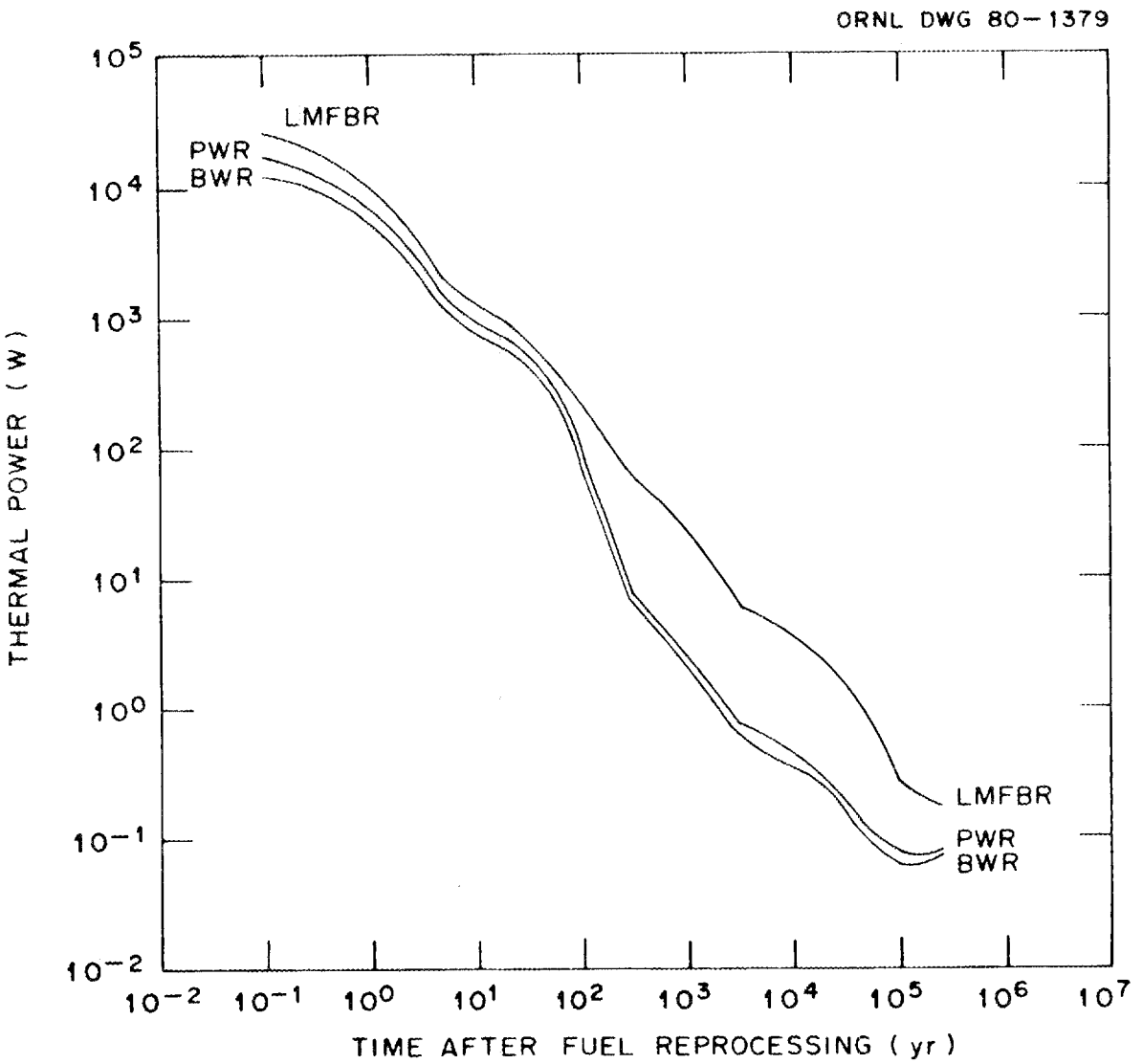

Fig. 7. Thermal power of high-level waste from PWR, BWR, and LMFBR fuels as a function of decay time.

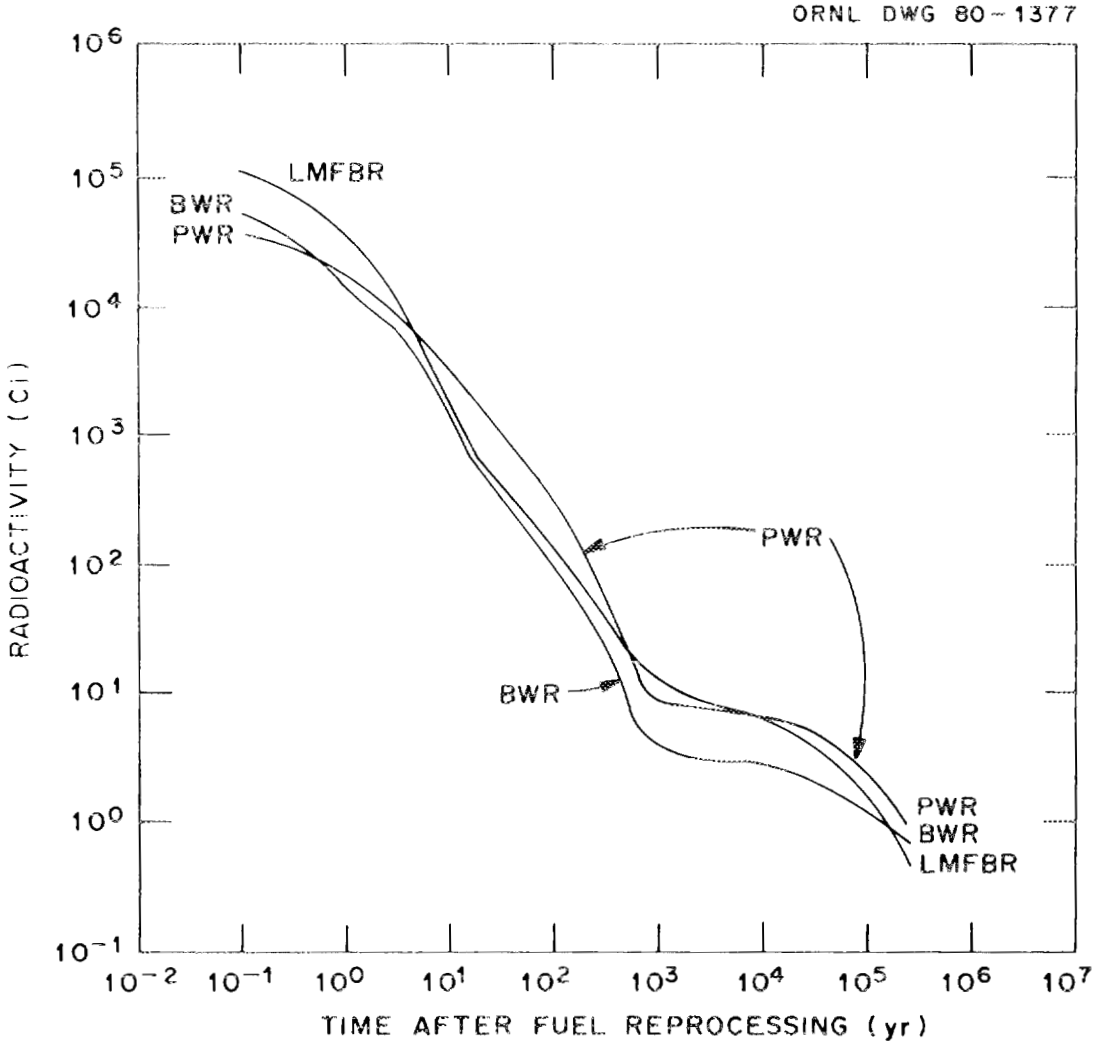

Fig. 8. Radioactivity of fuel-assembly structural material waste from PWR, BWR, and LMFBR fuels as a function of decay time.

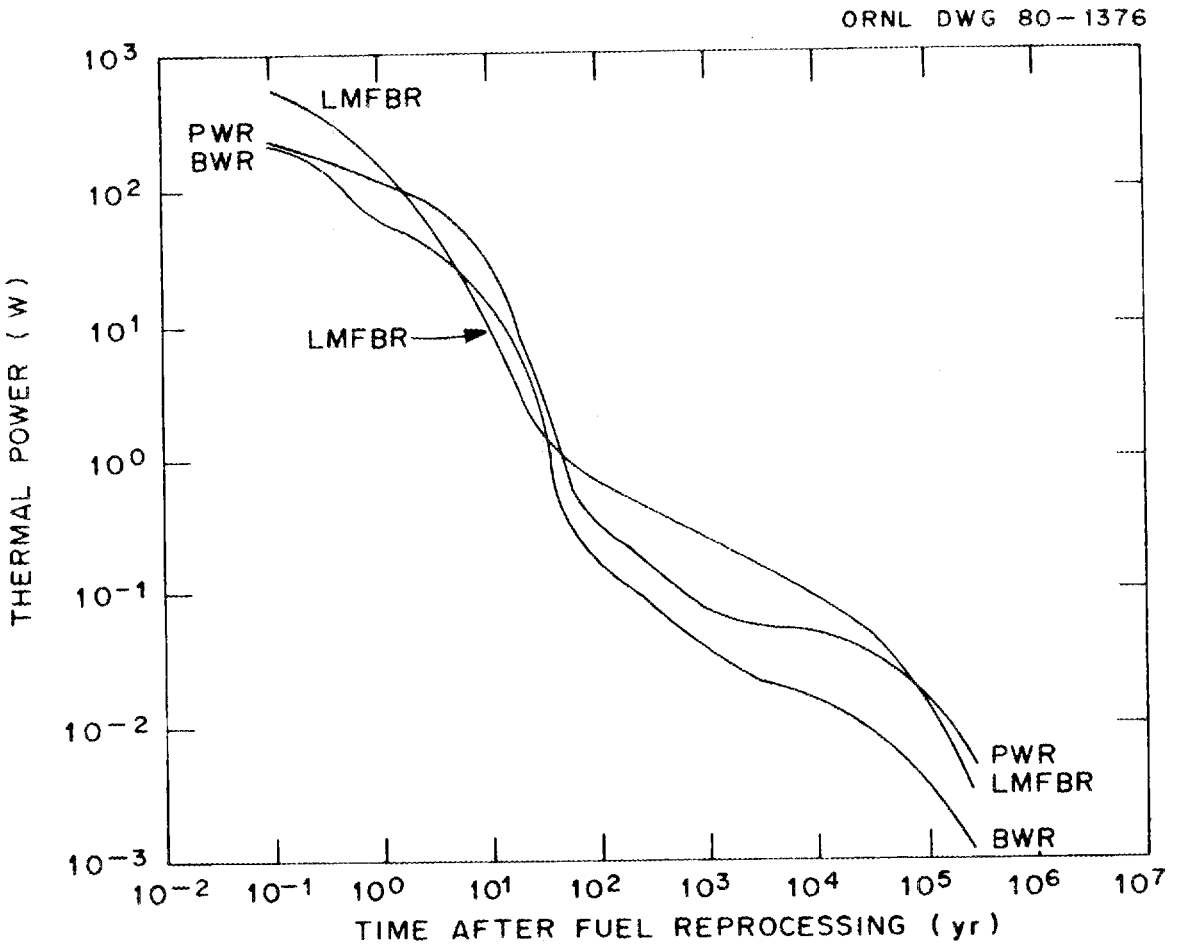

Fig. 9. Thermal power of fuel-assembly structural material waste from PWR, BWR, and LMFBR fuels as a function of decay time.

of the fuels from the various reactors. The radioactivity and thermal power of the so-called cladding waste from the three reactors are shown in Figs. 8 and 9, respectively.

The characteristics of the PWR and BWR spent fuel and HLW are quite similar, with the PWR materials having somewhat higher levels of radioactivity and decay heat. The LMFBR characteristics are significantly different from either of these and are markedly higher, especially at longer times. Trends in the characteristics of the fuel-assembly structural material (cladding) waste are less evident since the curves are intertwined.

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APPENDIX A: CHARACTERISTICS OF PWR SPENT FUEL, HIGH-LEVEL WASTE, AND FUEL-ASSEMBLY STRUCTURAL MATERIAL WASTE

Appendix A.1: Characteristics of PWR Spent Fuel

TABLE A.1. GRAMS OF ACTIVATION PRODUCT ELEMENTS IN PWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	3.176E+00	3.174E+00	3.173E+00	3.169E+00	3.164E+00	3.154E+00	3.149E+00	3.149E+00	3.149E+00	3.149E+00	3.149E+00	3.149E+00
HE	2.492E+00	2.493E+00	2.494E+00	2.498E+00	2.503E+00	2.514E+00	2.519E+00	2.519E+00	2.519E+00	2.519E+00	2.519E+00	2.519E+00
LI	1.101E+00	1.101E+00	1.101E+00	1.101E+00	1.101E+00	1.101E+00	1.101E+00	1.101E+00	1.101E+00	1.101E+00	1.101E+00	1.101E+00
BE	9.331E-04	9.331E-04	9.331E-04	9.331E-04	9.331E-04	9.331E-04	9.331E-04	9.331E-04	9.331E-04	9.331E-04	9.327E-04	9.322E-04
B	1.021E+00	1.021E+00	1.021E+00	1.021E+00	1.021E+00	1.021E+00	1.021E+00	1.021E+00	1.021E+00	1.021E+00	1.021E+00	1.021E+00
C	1.670E+02	1.670E+02	1.670E+02	1.670E+02	1.670E+02	1.670E+02	1.670E+02	1.670E+02	1.670E+02	1.668E+02	1.667E+02	1.667E+02
N	1.145E+02	1.145E+02	1.145E+02	1.145E+02	1.145E+02	1.145E+02	1.145E+02	1.146E+02	1.146E+02	1.148E+02	1.149E+02	1.149E+02
O	1.347E+05	1.347E+05	1.347E+05	1.347E+05	1.347E+05	1.347E+05	1.347E+05	1.347E+05	1.347E+05	1.347E+05	1.347E+05	1.347E+05
F	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01
NE	3.790E-04	3.790E-04	3.790E-04	3.790E-04	3.790E-04	3.790E-04	3.790E-04	3.790E-04	3.790E-04	3.790E-04	3.790E-04	3.790E-04
NA	1.497E+01	1.497E+01	1.497E+01	1.497E+01	1.497E+01	1.497E+01	1.497E+01	1.497E+01	1.497E+01	1.497E+01	1.497E+01	1.497E+01
MG	2.034E+00	2.034E+00	2.034E+00	2.034E+00	2.034E+00	2.034E+00	2.034E+00	2.034E+00	2.034E+00	2.034E+00	2.034E+00	2.034E+00
AL	9.935E+01	9.935E+01	9.935E+01	9.935E+01	9.935E+01	9.935E+01	9.935E+01	9.935E+01	9.935E+01	9.935E+01	9.935E+01	9.935E+01
SI	4.568E+02	4.568E+02	4.568E+02	4.568E+02	4.568E+02	4.568E+02	4.568E+02	4.568E+02	4.568E+02	4.568E+02	4.568E+02	4.568E+02
P	3.217E+02	3.217E+02	3.217E+02	3.217E+02	3.217E+02	3.217E+02	3.217E+02	3.217E+02	3.217E+02	3.217E+02	3.217E+02	3.217E+02
S	2.203E+01	2.203E+01	2.203E+01	2.203E+01	2.203E+01	2.203E+01	2.203E+01	2.203E+01	2.203E+01	2.203E+01	2.203E+01	2.204E+01
CL	5.308E+00	5.309E+00	5.309E+00	5.309E+00	5.309E+00	5.309E+00	5.309E+00	5.308E+00	5.308E+00	5.301E+00	5.237E+00	5.157E+00
AR	1.352E-03	1.352E-03	1.352E-03	1.355E-03	1.359E-03	1.374E-03	1.429E-03	1.585E-03	2.131E-03	9.078E-03	7.117E-02	1.499E-01
K	6.939E-05	6.941E-05	6.943E-05	6.948E-05	6.956E-05	6.989E-05	7.104E-05	7.421E-05	8.459E-05	2.082E-04	1.037E-03	1.553E-03
CA	2.000E+00	2.000E+00	2.000E+00	2.000E+00	2.000E+00	2.000E+00	2.000E+00	2.000E+00	2.000E+00	2.000E+00	1.999E+00	1.998E+00
SC	8.673E-05	9.603E-05	1.003E-04	1.015E-04	1.016E-04	1.016E-04	1.016E-04	1.016E-04	1.016E-04	1.016E-04	1.016E-04	1.016E-04
TI	1.084E+02	1.084E+02	1.084E+02	1.084E+02	1.084E+02	1.084E+02	1.084E+02	1.084E+02	1.084E+02	1.084E+02	1.084E+02	1.084E+02
V	1.446E+01	1.484E+01	1.484E+01	1.484E+01	1.484E+01	1.484E+01	1.484E+01	1.484E+01	1.484E+01	1.484E+01	1.484E+01	1.484E+01
CR	1.101E+04	1.101E+04	1.101E+04	1.101E+04	1.101E+04	1.101E+04	1.101E+04	1.101E+04	1.101E+04	1.101E+04	1.101E+04	1.101E+04
MN	8.597E+02	8.602E+02	8.606E+02	8.613E+02	8.617E+02	8.619E+02	8.619E+02	8.619E+02	8.619E+02	8.619E+02	8.619E+02	8.619E+02
FE	3.166E+04	3.166E+04	3.166E+04	3.166E+04	3.166E+04	3.166E+04	3.166E+04	3.166E+04	3.166E+04	3.166E+04	3.166E+04	3.166E+04
CO	9.858E+01	9.751E+01	9.676E+01	9.501E+01	9.328E+01	9.156E+01	9.147E+01	9.159E+01	9.200E+01	9.710E+01	1.311E+02	1.521E+02
NI	1.244E+04	1.244E+04	1.244E+04	1.244E+04	1.244E+04	1.244E+04	1.244E+04	1.244E+04	1.243E+04	1.243E+04	1.240E+04	1.237E+04
CU	1.878E+01	1.887E+01	1.896E+01	1.919E+01	1.958E+01	2.097E+01	2.448E+01	2.841E+01	2.953E+01	2.953E+01	2.953E+01	2.953E+01
ZN	4.033E+01	4.032E+01	4.031E+01	4.031E+01	4.031E+01	4.031E+01	4.031E+01	4.031E+01	4.031E+01	4.031E+01	4.031E+01	4.031E+01
GA	3.192E-02	3.192E-02	3.192E-02	3.192E-02	3.192E-02	3.192E-02	3.192E-02	3.192E-02	3.192E-02	3.192E-02	3.192E-02	3.192E-02
GE	2.067E-04	2.066E-04	2.066E-04	2.066E-04	2.066E-04	2.066E-04	2.066E-04	2.066E-04	2.066E-04	2.066E-04	2.066E-04	2.066E-04
AS	5.371E-15	5.374E-15	5.374E-15	5.374E-15	5.374E-15	5.374E-15	5.374E-15	5.374E-15	5.374E-15	5.374E-15	5.374E-15	5.374E-15
SE	4.797E-17	4.858E-17	4.858E-17	4.858E-17	4.858E-17	4.858E-17	4.858E-17	4.858E-17	4.858E-17	4.858E-17	4.858E-17	4.858E-17
SR	2.764E-02	2.745E-02	2.744E-02	2.744E-02	2.744E-02	2.744E-02	2.744E-02	2.744E-02	2.744E-02	2.744E-02	2.744E-02	2.744E-02
Y	2.857E-03	2.076E-03	2.070E-03	2.069E-03	2.069E-03	2.069E-03	2.069E-03	2.069E-03	2.069E-03	2.069E-03	2.069E-03	2.069E-03
ZR	2.301E+05	2.300E+05	2.300E+05	2.300E+05	2.300E+05	2.300E+05	2.300E+05	2.300E+05	2.300E+05	2.300E+05	2.300E+05	2.300E+05
NB	7.101E+02	7.089E+02	7.088E+02	7.088E+02	7.088E+02	7.088E+02	7.088E+02	7.088E+02	7.086E+02	7.071E+02	7.045E+02	7.074E+02
MO	4.374E+02	4.409E+02	4.410E+02	4.410E+02	4.410E+02	4.410E+02	4.410E+02	4.411E+02	4.412E+02	4.430E+02	4.476E+02	4.478E+02
TC	6.351E-02	6.388E-02	6.388E-02	6.388E-02	6.388E-02	6.388E-02	6.386E-02	6.382E-02	6.363E-02	6.184E-02	4.614E-02	2.832E-02
RU	1.527E-01	1.527E-01	1.527E-01	1.527E-01	1.527E-01	1.527E-01	1.527E-01	1.527E-01	1.529E-01	1.547E-01	1.704E-01	1.882E-01
RH	7.308E-07	9.463E-07	9.467E-07	9.467E-07	9.467E-07	9.467E-07	9.467E-07	9.467E-07	9.467E-07	9.467E-07	9.467E-07	9.467E-07
PD	2.507E-04	2.532E-04	2.556E-04	2.627E-04	2.744E-04	3.181E-04	4.383E-04	6.095E-04	6.947E-04	6.966E-04	6.966E-04	6.966E-04
AG	6.287E-02	6.257E-02	6.246E-02	6.240E-02	6.238E-02	6.234E-02	6.220E-02	6.202E-02	6.192E-02	6.192E-02	6.192E-02	6.192E-02
CD	2.490E+01	2.490E+01	2.490E+01	2.490E+01	2.490E+01	2.490E+01	2.490E+01	2.490E+01	2.490E+01	2.490E+01	2.490E+01	2.490E+01
IN	2.626E-01	2.612E-01	2.612E-01	2.612E-01	2.612E-01	2.612E-01	2.612E-01	2.612E-01	2.612E-01	2.612E-01	2.612E-01	2.612E-01
SN	3.762E+03	3.762E+03	3.762E+03	3.762E+03	3.762E+03	3.762E+03	3.762E+03	3.762E+03	3.762E+03	3.762E+03	3.762E+03	3.762E+03
SB	3.280E+00	2.990E+00	2.724E+00	2.223E+00	1.903E+00	1.778E+00	1.781E+00	1.783E+00	1.783E+00	1.783E+00	1.783E+00	1.783E+00
TE	6.089E-01	9.591E-01	1.230E+00	1.732E+00	2.052E+00	2.180E+00	2.181E+00	2.181E+00	2.181E+00	2.181E+00	2.181E+00	2.181E+00
I	6.794E-05	7.056E-05	7.080E-05	7.082E-05	7.082E-05	7.082E-05	7.082E-05	7.082E-05	7.082E-05	7.082E-05	7.082E-05	7.082E-05
XE	1.907E-06	1.907E-06	1.907E-06	1.907E-06	1.907E-06	1.907E-06	1.907E-06	1.907E-06	1.907E-06	1.907E-06	1.907E-06	1.907E-06
CS	1.241E-17	1.351E-17	1.345E-17	1.334E-17	1.329E-17	1.328E-17	1.328E-17	1.328E-17	1.328E-17	1.328E-17	1.328E-17	1.328E-17
BA	2.094E-20	1.141E-19	1.806E-19	2.864E-19	3.359E-19	3.472E-19	3.472E-19	3.472E-19	3.472E-19	3.472E-19	3.476E-19	3.481E-19
ND	1.709E-16	1.709E-16	1.709E-16	1.709E-16	1.709E-16	1.709E-16	1.709E-16	1.709E-16	1.709E-16	1.709E-16	1.709E-16	1.709E-16
PM	3.069E-12	1.523E-19	1.170E-19	5.295E-20	1.412E-20	7.662E-23	7.114E-31	0.0	0.0	0.0	0.0	0.0
SM	1.951E-08	1.949E-08	1.949E-08	1.948E-08	1.947E-08	1.942E-08	1.930E-08	1.916E-08	1.913E-08	1.913E-08	1.913E-08	1.913E-08
EU	2.827E-03	3.234E-03	3.346E-03	3.229E-03	2.984E-03	2.626E-03	2.549E-03	2.549E-03	2.549E-03	2.549E-03	2.549E-03	2.549E-03
GD	2.453E+00	2.452E+00	2.452E+00	2.452E+00	2.452E+00	2.453E+00	2.453E+00	2.453E+00	2.453E+00	2.453E+00	2.453E+00	2.453E+00
TB	4.004E-02	3.863E-02	3.859E-02	3.859E-02	3.859E-02	3.859E-02	3.859E-02	3.859E-02	3.859E-02	3.859E-02	3.859E-02	3.859E-02
DY	1.086E-02	1.233E-02	1.237E-02	1.238E-02	1.238E-02	1.238E-02	1.238E-02	1.238E-02	1.238E-02	1.238E-02	1.238E-02	1.238E-02
HO	2.418E-04	2.417E-04	2.417E-04	2.417E-04	2.417E-04	2.417E-04	2.416E-04	2.415E-04	2.411E-04	2.402E-04	2.402E-04	2.402E-04
ER	3.230E-05	3.272E-05	3.272E-05	3.272E-05	3.273E-05	3.274E-05	3.280E-05	3.295E-05	3.336E-05	3.418E-05	3.418E-05	3.418E-05
TM	1.532E-09	1.625E-09	1.607E-09	1.603E-09	1.602E-09	1.602E-09	1.602E-09	1.602E-09	1.602E-09	1.602E-09	1.602E-09	1.602E-09
YB	1.681E-09	1.808E-09	1.825E-09	1.830E-09	1.831E-09	1.831E-09	1.831E-09	1.831E-09	1.831E-09	1.831E-09	1.831E-09	1.831E-09
LU	1.221E-02	1.365E-02	1.369E-02	1.369E-02	1.369E-02	1.369E-02	1.369E-02	1.369E-02	1.369E-02	1.369E-02	1.369E-02	1.369E-02
HF	1.807E+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
TA	2.637E-01	2.889E-01	2.884E-01	2.884E-01	2.884E-01	2.884E-01	2.884E-01	2.884E-01	2.884E-01	2.884E-01	2.884E-01	2.884E-01
W	6.385E+00	6.386E+00	6.386E+00	6.386E+00	6.386E+00	6.386E+00	6.386E+00	6.386E+00	6.386E+00	6.386E+00	6.386E+00	6.386E+00
RE	5.343E-01	5.386E-01	5.387E-01	5.387E-01	5.387E-01	5.387E-01	5.387E-01	5.387E-01	5.387E-01	5.387E-01	5.387E-01	5.387E-01
OS	1.068E-01	1.054E-01	1.054E-01	1.054E-01	1.054E-01	1.054E-01	1.054E-01	1.054E-01	1.054E-01	1.054E-01	1.054E-01	1.054E-01
IR	2.247E-06	2.216E-06	2.201E-06	2.201E-06	2.201E-06	2.201E-06	2.201E-06	2.202E-06	2.205E-06	2.206E-06	2.206E-06	2.206E-06
PT	5.542E-07	9.797E-07	9.936E-07	9.940E-07	9.940E-07	9.939E-07	9.934E-07	9.923E-07	9.901E-07	9.886E-07	9.886E-07	9.886E-07
AU	2.183E-16	2.205E-16	2.205E-16	2.205E-16	2.205E-16	2.205E-16	2.205E-16	2.205E-16	2.205E-16	2.205E-16	2.205E-16	2.205E-16
HG	2.210E-17	2.351E-17	2.358E-17	2.378E-17	2.411E-17	2.545E-17	3.012E-17	4.347E-17	9.019E-17	6.909E-16	6.698E-15	1.671E-14
TL	8.294E-13	1.555E-12	2.280E-12	4.457E-12	8.084E-12	2.259E-11	7.338E-11	2.185E-10	7.263E-10	7.255E-09	7.247E-08	1.809E-07
PB	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
BI	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01
PO	9.963E-06	1.666E-06	2.675E-07	1.107E-09	1.335E-13	1.536E-14	1.536E-14	1.536E-14	1.536E-14	1.533E-14	1.501E-14	1.450E-14
TOTAL	4.272E+05	4.272E+05	4.272E+05	4.272E+05	4.272E+05	4.272E+05	4.272E+05	4.272E+05	4.272E+05	4.272E+05	4.272E+05	4.272E+05

TABLE A.2. GRAMS OF PRINCIPAL ACTIVATION PRODUCT NUCLIDES IN PWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
O 16	1.343E+05	1.343E+05	1.343E+05	1.343E+05	1.343E+05	1.343E+05	1.343E+05	1.343E+05	1.343E+05	1.343E+05	1.343E+05	1.343E+05
CR 50	4.530E+02	4.530E+02	4.530E+02	4.530E+02	4.530E+02	4.530E+02	4.530E+02	4.530E+02	4.530E+02	4.530E+02	4.530E+02	4.530E+02
CR 52	9.183E+03	9.183E+03	9.183E+03	9.183E+03	9.183E+03	9.183E+03	9.183E+03	9.183E+03	9.183E+03	9.183E+03	9.183E+03	9.183E+03
CR 53	1.081E+03	1.081E+03	1.081E+03	1.081E+03	1.081E+03	1.081E+03	1.081E+03	1.081E+03	1.081E+03	1.081E+03	1.081E+03	1.081E+03
MN 55	8.596E+02	8.602E+02	8.606E+02	8.613E+02	8.617E+02	8.619E+02	8.619E+02	8.619E+02	8.619E+02	8.619E+02	8.619E+02	8.619E+02
FE 54	1.773E+03	1.773E+03	1.773E+03	1.773E+03	1.773E+03	1.773E+03	1.773E+03	1.773E+03	1.773E+03	1.773E+03	1.773E+03	1.773E+03
FE 56	2.903E+04	2.903E+04	2.903E+04	2.903E+04	2.903E+04	2.903E+04	2.903E+04	2.903E+04	2.903E+04	2.903E+04	2.903E+04	2.903E+04
FE 57	7.540E+02	7.540E+02	7.540E+02	7.540E+02	7.540E+02	7.540E+02	7.540E+02	7.540E+02	7.540E+02	7.540E+02	7.540E+02	7.540E+02
NI 58	8.304E+03	8.304E+03	8.304E+03	8.304E+03	8.304E+03	8.304E+03	8.304E+03	8.304E+03	8.304E+03	8.304E+03	8.304E+03	8.304E+03
NI 60	3.311E+03	3.312E+03	3.312E+03	3.314E+03	3.316E+03	3.318E+03	3.318E+03	3.318E+03	3.318E+03	3.318E+03	3.318E+03	3.318E+03
NI 62	4.611E+02	4.611E+02	4.611E+02	4.611E+02	4.611E+02	4.611E+02	4.611E+02	4.611E+02	4.611E+02	4.611E+02	4.611E+02	4.611E+02
ZR 90	1.167E+05	1.167E+05	1.167E+05	1.167E+05	1.167E+05	1.167E+05	1.167E+05	1.167E+05	1.167E+05	1.167E+05	1.167E+05	1.167E+05
ZR 91	2.558E+04	2.558E+04	2.558E+04	2.558E+04	2.558E+04	2.558E+04	2.558E+04	2.558E+04	2.558E+04	2.558E+04	2.558E+04	2.558E+04
ZR 92	3.976E+04	3.976E+04	3.976E+04	3.976E+04	3.976E+04	3.976E+04	3.976E+04	3.976E+04	3.976E+04	3.976E+04	3.976E+04	3.976E+04
ZR 94	4.119E+04	4.119E+04	4.119E+04	4.119E+04	4.119E+04	4.119E+04	4.119E+04	4.119E+04	4.119E+04	4.119E+04	4.119E+04	4.119E+04
ZR 96	6.745E+03	6.745E+03	6.745E+03	6.745E+03	6.745E+03	6.745E+03	6.745E+03	6.745E+03	6.745E+03	6.745E+03	6.745E+03	6.745E+03
NB 93	7.020E+02	7.020E+02	7.020E+02	7.020E+02	7.020E+02	7.020E+02	7.020E+02	7.020E+02	7.020E+02	7.022E+02	7.042E+02	7.074E+02
SN116	5.358E+02	5.358E+02	5.358E+02	5.358E+02	5.358E+02	5.358E+02	5.358E+02	5.358E+02	5.358E+02	5.358E+02	5.358E+02	5.358E+02
SN118	9.052E+02	9.052E+02	9.052E+02	9.052E+02	9.052E+02	9.052E+02	9.052E+02	9.052E+02	9.052E+02	9.052E+02	9.052E+02	9.052E+02
SN120	1.233E+03	1.233E+03	1.233E+03	1.233E+03	1.233E+03	1.233E+03	1.233E+03	1.233E+03	1.233E+03	1.233E+03	1.233E+03	1.233E+03
SUMTOT	4.229E+05	4.229E+05	4.229E+05	4.229E+05	4.229E+05	4.229E+05	4.229E+05	4.229E+05	4.229E+05	4.229E+05	4.229E+05	4.229E+05
TOTAL	4.272E+05	4.272E+05	4.272E+05	4.272E+05	4.272E+05	4.272E+05	4.272E+05	4.272E+05	4.272E+05	4.272E+05	4.272E+05	4.272E+05

TABLE A.3. CURIES OF ACTIVATION PRODUCT ELEMENTS IN PWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	2.630E+02	2.479E+02	2.344E+02	1.981E+02	1.496E+02	4.869E+01	9.572E-01	1.279E-05	1.100E-22	0.0	0.0	0.0
HE	3.727E-03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LI	2.827E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BE	7.086E-07	2.103E-07	2.103E-07	2.103E-07	2.103E-07	2.103E-07	2.103E-07	2.103E-07	2.102E-07	2.094E-07	2.014E-07	1.887E-07
B	3.049E-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C	6.484E+00	1.548E+00	1.548E+00	1.547E+00	1.546E+00	1.542E+00	1.529E+00	1.493E+00	1.372E+00	4.617E-01	8.619E-06	1.132E-13
N	3.092E+01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
O	3.585E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F	4.686E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NE	1.902E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NA	4.994E+02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MG	2.379E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AL	4.914E+02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SI	6.939E+01	2.787E-08	2.784E-08	2.776E-08	2.761E-08	2.702E-08	2.508E-08	2.026E-08	9.606E-09	6.523E-13	0.0	0.0
P	9.493E+02	1.959E-05	2.785E-08	2.776E-08	2.761E-08	2.703E-08	2.508E-08	2.027E-08	9.606E-09	6.523E-13	0.0	0.0
S	3.081E+01	1.734E+00	9.766E-02	1.743E-05	9.866E-12	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CL	9.005E+00	1.142E-02	1.142E-02	1.142E-02	1.142E-02	1.142E-02	1.142E-02	1.141E-02	1.139E-02	1.116E-02	9.072E-03	6.422E-03
AR	1.250E-01	1.227E-04	3.202E-05	3.171E-05	3.130E-05	2.973E-05	2.482E-05	1.483E-05	2.442E-06	2.073E-16	0.0	0.0
K	1.403E-03	4.692E-10	4.692E-10	4.692E-10	4.692E-10	4.692E-10	4.692E-10	4.691E-10	4.691E-10	4.691E-10	4.691E-10	4.691E-10
CA	5.766E-01	1.103E-01	2.347E-02	4.012E-04	1.811E-04	1.810E-04	1.809E-04	1.806E-04	1.795E-04	1.662E-04	7.693E-05	2.131E-05
SC	1.363E+00	2.230E-02	1.087E-03	1.259E-07	3.461E-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TI	1.191E+01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	9.732E+02	3.530E-15	3.530E-15	3.530E-15	3.530E-15	3.530E-15	3.530E-15	3.530E-15	3.530E-15	3.530E-15	3.530E-15	3.530E-15
CR	3.533E+04	3.745E+00	4.030E-04	5.021E-16	7.245E-36	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MN	4.200E+04	4.474E+01	1.990E+01	1.751E+00	3.048E-02	2.800E-09	0.0	0.0	0.0	0.0	0.0	0.0
FE	6.013E+03	4.303E+02	3.295E+03	1.481E+03	3.905E+02	1.894E+00	1.488E-08	0.0	0.0	0.0	0.0	0.0
CO	3.245E+04	7.095E+02	6.055E+03	4.077E+03	2.112E+03	1.521E+02	1.526E-02	5.737E-14	0.0	0.0	0.0	0.0
NI	1.945E+03	6.626E+02	6.577E+02	6.431E+02	6.195E+02	5.336E+02	3.170E+02	7.426E+01	5.503E+00	4.763E+00	2.184E+00	5.954E-01
CU	6.886E+02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZN	2.681E+02	5.094E+01	1.804E+01	8.009E-01	4.473E-03	4.298E-12	0.0	0.0	0.0	0.0	0.0	0.0
GA	1.477E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GE	5.953E-03	2.638E-12	1.269E-21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AS	9.484E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SR	6.848E+00	3.823E-02	3.991E-04	1.360E-04	1.207E-04	7.499E-05	1.417E-05	1.213E-07	7.046E-15	0.0	0.0	0.0
Y	2.417E+02	1.914E-01	2.671E-03	1.360E-04	1.207E-04	7.501E-05	1.417E-05	1.214E-07	7.048E-15	0.0	0.0	0.0
ZR	1.213E+05	9.292E+02	1.789E+01	1.270E-01	1.269E-01	1.268E-01	1.268E-01	1.268E-01	1.268E-01	1.263E-01	1.212E-01	1.133E-01
NB	1.913E+05	2.099E+03	4.227E+01	1.315E+00	1.334E+00	1.377E+00	1.398E+00	1.390E+00	1.360E+00	1.032E+00	1.574E-01	1.079E-01
MO	1.810E+03	2.589E-02	2.589E-02	2.587E-02	2.585E-02	2.575E-02	2.539E-02	2.441E-02	2.124E-02	3.571E-03	6.433E-11	7.963E-24
TC	3.946E+02	1.083E-03	1.083E-03	1.083E-03	1.083E-03	1.083E-03	1.083E-03	1.082E-03	1.080E-03	1.049E-03	7.825E-04	4.803E-04
RU	7.011E-02	1.112E-04	1.771E-07	1.413E-14	4.312E-16	4.591E-22	5.714E-43	0.0	0.0	0.0	0.0	0.0
RH	1.938E-03	2.101E-13	1.056E-13	1.342E-14	4.312E-16	4.591E-22	5.714E-43	0.0	0.0	0.0	0.0	0.0
PD	6.934E-02	1.253E-11	1.253E-11	1.253E-11	1.253E-11	1.253E-11	1.253E-11	1.253E-11	1.252E-11	1.251E-11	1.239E-11	1.220E-11
AG	5.769E+01	8.129E-01	3.039E-01	2.738E-02	1.322E-02	1.177E-02	8.034E-03	2.697E-03	5.912E-05	2.753E-26	0.0	0.0
CD	4.062E+02	8.711E-01	4.447E-01	8.646E-02	5.649E-03	1.030E-07	2.664E-24	0.0	0.0	0.0	0.0	0.0
IN	5.057E+02	7.159E-01	4.311E-03	9.393E-10	1.982E-13	1.982E-13	1.982E-13	1.982E-13	1.982E-13	1.982E-13	1.982E-13	1.982E-13
SN	2.344E+04	2.511E+03	8.588E+02	3.844E+01	7.213E-01	3.827E-01	1.450E-01	9.046E-03	5.491E-07	0.0	0.0	0.0
SB	2.124E+03	1.262E+03	9.826E+02	4.638E+02	1.327E+02	8.904E-01	2.197E-08	0.0	0.0	0.0	0.0	0.0
TE	3.382E+02	3.075E+02	2.398E+02	1.132E+02	3.238E+01	2.172E-01	5.362E-09	4.366E-13	4.366E-13	4.366E-13	4.366E-13	4.366E-13
I	1.597E-02	1.654E-14	1.654E-14	1.654E-14	1.654E-14	1.654E-14	1.654E-14	1.654E-14	1.654E-14	1.653E-14	1.647E-14	1.636E-14
XE	4.318E-06	3.643E-15	1.644E-28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	1.030E-15	3.017E-16	2.156E-16	7.864E-17	1.464E-17	2.233E-20	1.418E-23	1.418E-23	1.418E-23	1.415E-23	1.377E-23	1.315E-23
BA	0.0	1.002E-27	4.064E-36	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ND	6.542E-14	1.228E-25	1.406E-35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM	2.262E-06	1.416E-16	1.086E-16	4.910E-17	1.309E-17	7.105E-20	6.598E-28	0.0	0.0	0.0	0.0	0.0
SM	8.589E-06	9.571E-09	9.497E-09	9.281E-09	8.930E-09	7.655E-09	4.465E-09	9.568E-10	4.353E-12	2.000E-24	2.016E-24	2.045E-24
EU	3.983E+00	3.143E-01	2.842E-01	2.111E-01	1.305E-01	2.176E-02	7.007E-05	6.987E-12	1.125E-32	0.0	0.0	0.0
GD	8.701E+01	1.094E+00	3.842E-01	1.666E-02	8.921E-05	7.529E-14	2.165E-15	2.165E-15	2.165E-15	2.165E-15	2.165E-15	2.165E-15
TB	2.774E+01	4.821E-01	1.453E-02	3.984E-07	9.928E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	2.214E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	2.348E-01	2.624E-06	2.622E-06	2.618E-06	2.610E-06	2.580E-06	2.478E-06	2.208E-06	1.473E-06	8.142E-09	2.153E-31	0.0
ER	2.561E-03	3.640E-17	7.314E-29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	5.368E-06	1.179E-07	1.904E-08	1.138E-09	1.800E-10	1.317E-13	1.395E-24	0.0	0.0	0.0	0.0	0.0
YB	1.929E-08	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LU	9.641E+00	1.413E-02	2.760E-04	2.052E-06	6.093E-10	2.676E-11	2.676E-11	2.676E-11	2.676E-11	2.676E-11	2.676E-11	2.676E-11
HF	3.503E+03	1.775E+00	1.495E-02	6.407E-07	4.166E-07	4.166E-07	4.166E-07	4.166E-07	4.165E-07	4.163E-07	4.134E-07	4.086E-07
TA	1.638E+02	3.983E+00	4.407E-01	6.001E-04	4.265E-07	4.166E-07	4.166E-07	4.166E-07	4.165E-07	4.163E-07	4.134E-07	4.086E-07
W	7.188E+02	1.453E+00	6.391E-02	4.048E-05	1.126E-09	8.033E-28	0.0	0.0	0.0	0.0	0.0	0.0
RE	4.681E+02	6.089E-02	1.586E-03	4.795E-08	1.995E-08	1.995E-08	1.995E-08	1.995E-08	1.995E-08	1.995E-08	1.995E-08	1.995E-08
OS	3.210E-02	1.404E-05	5.001E-11	3.536E-11	1.985E-11	1.969E-12	6.057E-16	5.597E-26	0.0	0.0	0.0	0.0
IR	4.456E-03	1.388E-04	4.545E-06	7.670E-09	7.389E-09	6.959E-09	5.689E-09	3.200E-09	4.274E-10	2.464E-21	0.0	0.0
PT	8.318E-06	2.197E-08	2.194E-08	2.185E-08	2.170E-08	2.110E-08	1.915E-08	1.451E-08	5.500E-09	2.098E-14	0.0	0.0
AU	3.162E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TL	1.719E-08	1.719E-08	1.719E-08	1.719E-08	1.719E-08	1.719E-08	1.719E-08	1.719E-08	1.719E-08	1.715E-08	1.680E-08	1.623E-08
PB	6.556E-04	1.826E-09	1.826E-09	1.826E-09	1.826E-09	1.826E-09	1.826E-09	1.826E-09	1.826E-09	1.826E-09	1.822E-09	1.816E-09
BI	4.912E-02	1.996E-08	1.996E-08	1.996E-08	1.995E-08	1.996E-08	1.996E-08	1.996E-08	1.995E-08	1.987E-08	1.910E-08	1.798E-08
PO	4.477E-02	7.486E-03	1.202E-03	4.973E-06	6.001E-10	6.904E-11	6.904E-11	6.904E-11	6.902E-11	6.888E-11	6.746E-11	6.517E-11
TOTAL	4.691E+05	1.953E+04	1.243E+04	7.021E+03	3.441E+03	7.409E+02	3.212E+02	7.734E+01	8.396E+00	6.399E+00	2.472E+00	8.235E-01

TABLE A.4. CURIES OF PRINCIPAL ACTIVATION PRODUCT NUCLIDES IN PWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H 3	2.623E+02	2.479E+02	2.344E+02	1.981E+02	1.496E+02	4.869E+01	9.572E-01	1.275E-05	1.100E-22	0.0	0.0	0.0
C 14	1.548E+00	1.548E+00	1.548E+00	1.547E+00	1.546E+00	1.542E+00	1.529E+00	1.493E+00	1.372E+00	4.617E-01	8.619E-06	1.132E-13
CL 36	1.142E-02	1.142E-02	1.142E-02	1.142E-02	1.142E-02	1.142E-02	1.142E-02	1.141E-02	1.139E-02	1.116E-02	9.072E-03	6.422E-03
MN 54	1.006E+02	4.474E+01	1.990E+01	1.751E+00	3.048E-02	2.800E-09	0.0	0.0	0.0	0.0	0.0	0.0
FE 55	5.615E+03	4.302E+03	3.295E+03	1.481E+03	3.905E+02	1.894E+00	1.488E-08	0.0	0.0	0.0	0.0	0.0
CO 58	6.972E+03	1.949E+02	5.449E+00	1.190E-04	2.033E-12	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CO 60	7.870E+03	6.900E+03	6.050E+03	4.077E+03	2.112E+03	1.521E+02	1.526E-02	5.737E-14	0.0	0.0	0.0	0.0
NI 59	5.194E+00	5.194E+00	5.194E+00	5.194E+00	5.194E+00	5.193E+00	5.190E+00	5.181E+00	5.150E+00	4.763E+00	2.184E+00	5.954E-01
NI 63	6.624E+02	6.574E+02	6.525E+02	6.379E+02	6.143E+02	5.284E+02	3.118E+02	6.910E+01	3.539E-01	0.0	0.0	0.0
ZN 65	1.439E+02	5.094E+01	1.804E+01	8.009E-01	4.473E-03	4.298E-12	0.0	0.0	0.0	0.0	0.0	0.0
ZR 93	1.269E-01	1.269E-01	1.269E-01	1.269E-01	1.269E-01	1.268E-01	1.268E-01	1.268E-01	1.268E-01	1.263E-01	1.212E-01	1.133E-01
ZR 95	4.859E+04	9.291E+02	1.777E+01	1.242E-04	3.175E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 93M	6.773E-03	1.242E-02	1.780E-02	3.236E-02	5.219E-02	9.565E-02	1.198E-01	1.205E-01	1.205E-01	1.200E-01	1.152E-01	1.076E-01
NB 94	1.283E+00	1.283E+00	1.283E+00	1.282E+00	1.282E+00	1.281E+00	1.278E+00	1.270E+00	1.240E+00	9.116E-01	4.219E-02	2.504E-04
NB 95	4.933E+04	2.091E+03	4.084E+01	2.758E-04	7.049E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MO 93	2.590E-02	2.589E-02	2.589E-02	2.587E-02	2.585E-02	2.575E-02	2.539E-02	2.441E-02	2.124E-02	3.571E-03	6.433E-11	7.963E-24
SN113	9.166E+02	1.016E+02	1.126E+01	1.509E-02	2.527E-07	1.986E-26	0.0	0.0	0.0	0.0	0.0	0.0
SN119M	6.636E+03	2.362E+03	6.403E+02	3.786E+01	2.162E-01	2.291E-10	0.0	0.0	0.0	0.0	0.0	0.0
SN123	3.362E+02	4.736E+01	6.671E+00	1.860E-02	1.031E-06	9.742E-24	0.0	0.0	0.0	0.0	0.0	0.0
SB125	1.599E+03	1.262E+03	9.826E+02	4.638E+02	1.327E+02	8.904E-01	2.197E-08	0.0	0.0	0.0	0.0	0.0
TE125M	3.348E+02	3.071E+02	2.397E+02	1.132E+02	3.238E+01	2.172E-01	5.362E-09	0.0	0.0	0.0	0.0	0.0
SUMTOT	1.294E+05	1.951E+04	1.242E+04	7.020E+03	3.440E+03	7.405E+02	3.211E+02	7.733E+01	8.395E+00	6.398E+00	2.472E+00	8.230E-01
TOTAL	4.691E+05	1.953E+04	1.243E+04	7.021E+03	3.441E+03	7.409E+02	3.212E+02	7.734E+01	8.396E+00	6.399E+00	2.472E+00	8.235E-01

TABLE A.5. WATTS OF ACTIVATION PRODUCT ELEMENTS IN PWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	8.830E-03	8.348E-03	7.892E-03	6.669E-03	5.037E-03	1.639E-03	3.223E-05	4.293E-10	3.705E-27	0.0	0.0	0.0
HE	3.464E-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LI	1.054E-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BE	3.425E-08	2.524E-10	2.524E-10	2.524E-10	2.524E-10	2.524E-10	2.524E-10	2.524E-10	2.523E-10	2.513E-10	2.417E-10	2.265E-10
B	2.417E-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C	8.446E-02	4.539E-04	4.538E-04	4.537E-04	4.534E-04	4.523E-04	4.485E-04	4.376E-04	4.022E-04	1.354E-04	2.527E-09	3.321E-17
N	1.340E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
O	1.024E-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F	1.953E-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NE	2.332E-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NA	1.026E+01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MG	2.247E-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AL	8.814E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SI	2.454E-01	3.470E-11	3.466E-11	3.455E-11	3.437E-11	3.364E-11	3.122E-11	2.522E-11	1.196E-11	8.120E-16	0.0	0.0
P	9.622E+00	1.974E-07	2.823E-10	2.814E-10	2.799E-10	2.739E-10	2.542E-10	2.054E-10	9.737E-11	6.612E-15	0.0	0.0
S	3.076E-02	1.721E-03	9.691E-05	1.730E-08	9.790E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CL	1.593E-01	1.670E-05	1.670E-05	1.670E-05	1.670E-05	1.670E-05	1.670E-05	1.669E-05	1.666E-05	1.632E-05	1.327E-05	9.391E-06
AR	1.864E-06	1.085E-07	1.070E-07	1.062E-07	1.048E-07	9.956E-08	8.313E-08	4.965E-08	8.177E-09	6.944E-19	0.0	0.0
K	1.441E-05	1.896E-12	1.896E-12	1.896E-12	1.896E-12	1.896E-12	1.896E-12	1.895E-12	1.895E-12	1.895E-12	1.895E-12	1.895E-12
CA	1.963E-03	5.035E-05	1.112E-05	5.590E-07	4.582E-07	4.581E-07	4.578E-07	4.570E-07	4.543E-07	4.206E-07	1.947E-07	5.395E-08
SC	9.767E-03	2.805E-04	1.367E-05	1.583E-09	4.354E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TI	8.720E-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	1.450E+01	3.892E-17	3.892E-17	3.892E-17	3.892E-17	3.892E-17	3.892E-17	3.892E-17	3.892E-17	3.892E-17	3.892E-17	3.892E-17
CR	1.088E+01	8.014E-04	8.624E-08	1.075E-19	1.550E-39	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MN	6.267E+02	2.228E-01	9.908E-02	8.719E-03	1.518E-04	1.394E-11	0.0	0.0	0.0	0.0	0.0	0.0
FE	1.143E+01	5.930E+00	4.532E+00	2.037E+00	5.371E-01	2.604E-03	2.046E-11	0.0	0.0	0.0	0.0	0.0
CO	1.702E+02	1.076E+02	9.330E+01	6.286E+01	3.257E+01	2.346E+00	2.353E-04	8.845E-16	0.0	0.0	0.0	0.0
NI	9.236E+00	2.942E-01	2.922E-01	2.864E-01	2.770E-01	2.429E-01	1.569E-01	6.043E-02	3.292E-02	3.032E-02	1.390E-02	3.791E-03
CU	1.917E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZN	7.487E-01	1.785E-01	6.321E-02	2.806E-03	1.567E-05	1.506E-14	0.0	0.0	0.0	0.0	0.0	0.0
GA	5.795E-03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GE	8.184E-06	3.674E-15	1.767E-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AS	8.399E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SR	2.881E-02	1.318E-04	1.044E-06	1.578E-07	1.401E-07	8.703E-08	1.645E-08	1.408E-10	8.178E-18	0.0	0.0	0.0
Y	1.378E+00	6.877E-04	9.877E-06	7.538E-07	6.692E-07	4.157E-07	7.856E-08	6.726E-10	3.906E-17	0.0	0.0	0.0
ZR	6.253E+02	4.706E+00	9.001E-02	1.537E-05	1.474E-05	1.474E-05	1.474E-05	1.474E-05	1.473E-05	1.467E-05	1.409E-05	1.316E-05
NB	1.026E+03	1.005E+01	2.092E-01	1.307E-02	1.307E-02	1.307E-02	1.305E-02	1.296E-02	1.265E-02	9.310E-03	4.503E-04	2.162E-05
MO	8.776E+00	2.421E-06	2.420E-06	2.419E-06	2.416E-06	2.407E-06	2.374E-06	2.281E-06	1.986E-06	3.338E-07	6.013E-15	7.444E-28
TC	2.038E+00	5.433E-07	5.433E-07	5.433E-07	5.433E-07	5.433E-07	5.432E-07	5.428E-07	5.416E-07	5.260E-07	3.924E-07	2.409E-07
RU	2.346E-04	3.720E-07	5.926E-10	3.174E-18	2.564E-20	2.729E-26	3.397E-47	0.0	0.0	0.0	0.0	0.0
RH	1.090E-05	2.015E-15	1.013E-15	1.288E-16	4.136E-18	4.403E-24	5.481E-45	0.0	0.0	0.0	0.0	0.0
PD	1.866E-04	7.425E-16	7.425E-16	7.425E-16	7.425E-16	7.425E-16	7.425E-16	7.425E-16	7.424E-16	7.417E-16	7.346E-16	7.230E-16
AG	3.767E-01	1.337E-02	4.935E-03	3.548E-04	1.227E-04	1.087E-04	7.421E-05	2.491E-05	5.460E-07	2.543E-28	0.0	0.0
CD	1.342E+00	8.772E-04	2.842E-04	5.504E-05	3.597E-06	6.556E-11	1.696E-27	0.0	0.0	0.0	0.0	0.0
IN	4.172E+00	2.123E-03	1.278E-05	2.785E-12	2.844E-16	2.844E-16	2.844E-16	2.844E-16	2.844E-16	2.844E-16	2.844E-16	2.844E-16
SN	5.297E+01	1.387E+00	4.583E-01	2.072E-02	1.124E-03	7.668E-04	2.904E-04	1.812E-05	1.100E-09	0.0	0.0	0.0
SB	8.945E+00	3.949E+00	3.072E+00	1.450E+00	4.149E-01	2.784E-03	6.870E-11	0.0	0.0	0.0	0.0	0.0
TE	2.863E-01	2.587E-01	2.016E-01	9.512E-02	2.722E-02	1.826E-04	4.507E-12	6.532E-17	6.532E-17	6.532E-17	6.532E-17	6.532E-17
I	7.876E-05	7.652E-18	7.652E-18	7.652E-18	7.652E-18	7.652E-18	7.652E-18	7.652E-18	7.652E-18	7.649E-18	7.619E-18	7.568E-18
XE	6.040E-09	3.844E-22	1.582E-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	4.803E-18	3.071E-18	2.194E-18	8.004E-19	1.490E-19	2.271E-22	4.732E-27	4.732E-27	4.732E-27	4.722E-27	4.595E-27	4.387E-27
BA	0.0	1.212E-29	4.914E-38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ND	3.421E-16	2.962E-28	3.392E-38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM	8.438E-09	5.464E-20	4.033E-20	1.761E-20	4.696E-21	2.549E-23	2.367E-31	0.0	0.0	0.0	0.0	0.0
SM	1.752E-08	1.122E-12	1.114E-12	1.088E-12	1.047E-12	8.975E-13	5.235E-13	1.122E-13	5.104E-16	9.948E-29	3.010E-28	6.359E-28
EU	3.960E-02	1.920E-03	1.767E-03	1.379E-03	9.136E-04	1.792E-04	6.259E-07	6.250E-14	8.527E-35	0.0	0.0	0.0
GD	3.075E-01	9.425E-04	3.311E-04	1.435E-05	7.689E-08	9.124E-17	2.821E-17	2.821E-17	2.821E-17	2.821E-17	2.821E-17	2.821E-17
TB	1.538E-01	3.926E-03	1.184E-04	3.245E-09	8.086E-17	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	7.740E-03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	1.006E-03	2.907E-08	2.905E-08	2.900E-08	2.892E-08	2.859E-08	2.745E-08	2.446E-08	1.632E-08	9.020E-11	2.390E-33	0.0
ER	3.172E-06	7.335E-20	1.474E-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	4.442E-08	2.255E-10	3.188E-11	2.550E-13	2.792E-14	2.042E-17	2.162E-28	0.0	0.0	0.0	0.0	0.0
YB	3.564E-11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LU	5.710E-02	9.536E-06	1.862E-06	1.384E-08	4.092E-12	1.618E-13	1.618E-13	1.618E-13	1.618E-13	1.618E-13	1.618E-13	1.618E-13
HF	9.192E+00	7.518E-03	5.558E-05	2.018E-09	1.235E-09	1.235E-09	1.235E-09	1.235E-09	1.235E-09	1.234E-09	1.225E-09	1.211E-09
TA	1.131E+00	3.546E-02	3.923E-03	5.343E-06	3.798E-09	3.709E-09	3.709E-09	3.709E-09	3.709E-09	3.706E-09	3.680E-09	3.638E-09
W	3.169E+00	3.235E-03	1.149E-04	1.533E-08	3.177E-13	2.265E-31	0.0	0.0	0.0	0.0	0.0	0.0
RE	1.489E+00	3.021E-04	7.868E-06	4.452E-10	3.063E-10	3.063E-10	3.063E-10	3.063E-10	3.063E-10	3.063E-10	3.063E-10	3.063E-10
OS	3.250E-05	1.990E-12	2.876E-14	2.033E-14	1.141E-14	1.132E-15	3.483E-19	3.218E-29	0.0	0.0	0.0	0.0
IR	2.613E-05	8.192E-07	2.681E-08	2.677E-11	2.538E-11	2.387E-11	1.951E-11	1.098E-11	1.466E-12	8.451E-24	0.0	0.0
PT	7.291E-09	6.511E-12	6.502E-12	6.475E-12	6.431E-12	6.255E-12	5.676E-12	4.302E-12	1.630E-12	6.218E-18	0.0	0.0
AU	2.103E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TL	1.553E-10	1.553E-10	1.553E-10	1.553E-10	1.553E-10	1.553E-10	1.553E-10	1.553E-10	1.553E-10	1.549E-10	1.518E-10	1.466E-10
PB	7.539E-07	3.788E-13	3.788E-13	3.788E-13	3.788E-13	3.788E-13	3.788E-13	3.788E-13	3.788E-13	3.788E-13	3.780E-13	3.767E-13
BI	1.133E-04	5.878E-10	5.878E-10	5.878E-10	5.878E-10	5.878E-10	5.878E-10	5.876E-10	5.876E-10	5.857E-10	5.675E-10	5.401E-10
PO	1.435E-03	2.400E-04	3.854E-05	1.594E-07	1.924E-11	2.213E-12	2.213E-12	2.213E-12	2.213E-12	2.208E-12	2.163E-12	2.089E-12
TOTAL	2.623E+03	1.346E+02	1.023E+02	6.678E+01	3.384E+01	2.610E+00	1.710E-01	7.390E-02	4.601E-02	3.980E-02	1.438E-02	3.835E-03

TABLE A.6. WATTS OF PRINCIPAL ACTIVATION PRODUCT NUCLIDES IN PWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
C 14	4.539E-04	4.539E-04	4.538E-04	4.537E-04	4.534E-04	4.523E-04	4.485E-04	4.378E-04	4.022E-04	1.354E-04	2.527E-09	3.321E-17
CL 36	1.670E-05	1.670E-05	1.670E-05	1.670E-05	1.670E-05	1.670E-05	1.670E-05	1.669E-05	1.666E-05	1.632E-05	1.327E-05	9.391E-06
MN 54	5.008E-01	2.228E-01	9.908E-02	8.719E-03	1.518E-04	1.394E-11	0.0	0.0	0.0	0.0	0.0	0.0
FE 55	7.724E+00	5.916E+00	4.532E+00	2.037E+00	5.371E-01	2.604E-03	2.046E-11	0.0	0.0	0.0	0.0	0.0
CO 58	4.174E+01	1.167E+00	3.262E-02	7.127E-07	1.217E-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CO 60	1.213E+02	1.064E+02	9.327E+01	6.286E+01	3.257E+01	2.346E+00	2.353E-04	8.845E-16	0.0	0.0	0.0	0.0
NI 59	3.307E-02	3.307E-02	3.307E-02	3.307E-02	3.307E-02	3.306E-02	3.304E-02	3.296E-02	3.278E-02	3.032E-02	1.390E-02	3.791E-03
NI 63	2.631E-01	2.611E-01	2.591E-01	2.533E-01	2.440E-01	2.098E-01	1.238E-01	2.744E-02	1.406E-04	0.0	0.0	0.0
ZN 65	5.041E-01	1.785E-01	6.321E-02	2.806E-03	1.567E-05	1.506E-14	0.0	0.0	0.0	0.0	0.0	0.0
ZR 93	1.474E-05	1.474E-05	1.474E-05	1.474E-05	1.474E-05	1.474E-05	1.474E-05	1.474E-05	1.473E-05	1.467E-05	1.409E-05	1.316E-05
ZR 95	2.461E+02	4.706E+00	8.999E-02	6.292E-07	1.608E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 93M	1.200E-06	2.201E-06	3.153E-06	5.733E-06	9.246E-06	1.698E-05	2.123E-05	2.135E-05	2.134E-05	2.126E-05	2.041E-05	1.907E-05
NB 94	1.307E-02	1.307E-02	1.307E-02	1.307E-02	1.307E-02	1.306E-02	1.303E-02	1.294E-02	1.263E-02	9.289E-03	4.298E-04	2.552E-06
NB 95	2.366E+02	1.003E+01	1.959E-01	1.323E-06	3.381E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SN119M	3.430E+00	1.221E+00	4.344E-01	1.957E-02	1.118E-04	1.184E-13	0.0	0.0	0.0	0.0	0.0	0.0
SN121M	1.163E-03	1.147E-03	1.131E-03	1.085E-03	1.012E-03	7.668E-04	2.904E-04	1.812E-05	1.100E-09	0.0	0.0	0.0
SN123	1.050E+00	1.479E-01	2.084E-02	5.809E-05	3.221E-09	3.043E-26	0.0	0.0	0.0	0.0	0.0	0.0
SB125	4.999E+00	3.945E+00	3.072E+00	1.450E+00	4.149E-01	2.784E-03	6.870E-11	0.0	0.0	0.0	0.0	0.0
TE125M	2.814E-01	2.562E-01	2.015E-01	9.512E-02	2.722E-02	1.826E-04	4.507E-12	0.0	0.0	0.0	0.0	0.0
SUMTOT	6.646E+02	1.345E+02	1.023E+02	6.677E+01	3.384E+01	2.609E+00	1.709E-01	7.387E-02	4.601E-02	3.980E-02	1.438E-02	3.835E-03
TOTAL	2.623E+03	1.346E+02	1.023E+02	6.678E+01	3.384E+01	2.610E+00	1.710E-01	7.390E-02	4.601E-02	3.980E-02	1.438E-02	3.835E-03

TABLE A.7. PHOTONS FROM ACTIVATION PRODUCTS IN PWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTIHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS= ONE METRIC TON OF INITIAL HEAVY METAL(MTIHM)

EMEAN	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	3.500E+15	2.826E+13	1.673E+13	9.586E+12	4.670E+12	4.169E+11	7.104E+10	2.125E+10	6.860E+09	4.284E+09	1.014E+09	8.154E+08
2.500E-02	9.923E+14	7.562E+13	4.053E+13	1.358E+13	4.039E+12	8.153E+10	4.979E+09	1.834E+09	8.937E+08	5.897E+08	3.555E+07	8.686E+06
3.750E-02	4.232E+14	9.990E+12	7.545E+12	3.784E+12	1.268E+12	3.725E+10	1.327E+09	7.046E+08	5.131E+08	3.465E+08	2.075E+07	4.625E+06
5.750E-02	6.256E+14	2.546E+12	1.591E+12	9.889E+11	4.897E+11	3.420E+10	7.048E+08	6.326E+08	5.962E+08	4.155E+08	2.572E+07	5.707E+06
8.500E-02	3.577E+14	9.886E+11	6.323E+11	3.946E+11	1.943E+11	1.347E+10	2.905E+08	2.745E+08	2.620E+08	1.897E+08	1.254E+07	2.987E+06
1.250E-01	2.485E+14	6.513E+11	3.974E+11	2.228E+11	9.590E+10	5.618E+09	1.295E+08	1.265E+08	1.234E+08	9.113E+07	6.396E+06	1.666E+06
2.250E-01	5.514E+14	3.247E+12	2.302E+12	1.088E+12	3.218E+11	3.794E+09	8.069E+07	7.913E+07	7.702E+07	5.725E+07	4.661E+06	1.525E+06
3.750E-01	4.076E+14	1.693E+13	1.314E+13	6.206E+12	1.779E+12	1.278E+10	2.885E+08	9.951E+07	6.079E+06	3.035E+06	4.791E+05	2.549E+05
5.750E-01	3.453E+15	2.373E+13	1.695E+13	7.964E+12	2.279E+12	1.577E+10	2.659E+08	8.929E+07	2.107E+06	1.343E+05	1.091E+05	7.720E+04
8.500E-01	7.278E+15	1.082E+14	2.973E+12	1.664E+11	9.679E+10	8.876E+10	8.769E+10	8.695E+10	8.493E+10	6.238E+10	2.887E+09	1.714E+07
1.250E+00	8.706E+14	5.115E+14	4.479E+14	3.016E+14	1.563E+14	1.126E+13	1.130E+09	1.915E+04	1.602E+04	1.430E+04	1.419E+04	1.403E+04
1.750E+00	5.103E+14	4.439E+10	2.496E+09	1.500E+08	5.863E+07	1.162E+07	4.126E+04	7.705E+01	1.562E+00	3.140E-06	3.101E-06	3.052E-06
2.250E+00	2.131E+14	3.276E+09	2.381E+09	1.599E+09	8.282E+08	5.965E+07	5.983E+03	1.341E-04	3.044E-07	3.038E-07	2.975E-07	2.874E-07
2.750E+00	4.248E+13	8.789E+06	7.346E+06	4.947E+06	2.563E+06	1.846E+05	1.851E+01	1.530E-07	1.525E-07	1.522E-07	1.491E-07	1.440E-07
3.500E+00	2.540E+12	4.873E-02	7.826E-03	3.252E-05	1.328E-07	1.231E-07	1.147E-07	1.122E-07	1.122E-07	1.119E-07	1.096E-07	1.059E-07
5.000E+00	7.939E+09	1.451E-02	2.330E-03	9.672E-06	3.449E-08	3.346E-08	3.346E-08	3.346E-08	3.345E-08	3.338E-08	3.270E-08	3.158E-08
7.000E+00	7.509E+11	9.414E-04	1.512E-04	6.276E-07	2.233E-09	2.167E-09	2.167E-09	2.166E-09	2.166E-09	2.162E-09	2.117E-09	2.045E-09
1.100E+01	8.821E+08	5.953E-05	9.560E-06	3.969E-08	1.414E-10	1.372E-10	1.372E-10	1.372E-10	1.371E-10	1.369E-10	1.340E-10	1.295E-10
TOTAL	1.948E+16	7.817E+14	5.507E+14	3.456E+14	1.715E+14	1.197E+13	1.679E+11	1.120E+11	9.416E+10	6.836E+10	4.007E+09	8.580E+08
MEV/SEC	1.123E+16	7.552E+14	5.793E+14	3.851E+14	1.977E+14	1.417E+13	7.755E+10	7.448E+10	7.234E+10	5.318E+10	2.475E+09	2.848E+07

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS= ONE METRIC TON OF INITIAL HEAVY METAL(MTIHM)

EMEAN	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	5.250E+07	4.239E+05	2.510E+05	1.438E+05	7.005E+04	6.253E+03	1.066E+03	3.187E+02	1.029E+02	6.426E+01	1.521E+01	1.223E+01
2.500E-02	2.481E+07	1.891E+06	1.013E+06	3.394E+05	1.010E+05	2.038E+03	1.245E+02	4.586E+01	2.234E+01	1.474E+01	8.887E-01	2.172E-01
3.750E-02	1.587E+07	3.746E+05	2.829E+05	1.419E+05	4.754E+04	1.397E+03	4.978E+01	2.642E+01	1.924E+01	1.299E+01	7.780E-01	1.735E-01
5.750E-02	3.597E+07	1.464E+05	9.148E+04	5.686E+04	2.816E+04	1.967E+03	4.053E+01	3.638E+01	3.420E+01	2.389E+01	1.479E+00	3.282E-01
8.500E-02	3.041E+07	8.403E+04	5.375E+04	3.354E+04	1.652E+04	1.145E+03	2.469E+01	2.337E+01	2.227E+01	1.613E+01	1.066E+00	2.539E-01
1.250E-01	3.106E+07	8.141E+04	4.967E+04	2.785E+04	1.199E+04	7.023E+02	1.618E+01	1.582E+01	1.542E+01	1.139E+01	7.995E-01	2.083E-01
2.250E-01	1.241E+08	7.306E+05	5.179E+05	2.448E+05	7.240E+04	8.537E+02	1.816E+01	1.781E+01	1.733E+01	1.288E+01	1.049E+00	3.432E-01
3.750E-01	1.593E+08	6.348E+06	4.929E+06	2.327E+06	6.672E+05	4.793E+03	1.082E+02	3.732E+01	2.280E+00	1.138E+00	1.796E-01	9.559E-02
5.750E-01	1.985E+09	1.364E+07	9.748E+06	4.579E+06	1.310E+06	9.066E+03	1.529E+02	5.134E+01	1.211E+00	7.720E-02	6.271E-02	4.439E-02
8.500E-01	6.186E+09	9.201E+07	2.527E+06	1.415E+05	8.227E+04	7.545E+04	7.453E+04	7.391E+04	7.210E+04	5.303E+04	2.454E+03	1.457E+01
1.250E+00	1.088E+09	6.393E+08	5.598E+08	3.770E+08	1.953E+08	1.407E+07	1.413E+03	2.394E-02	2.002E-02	1.788E-02	1.774E-02	1.754E-02
1.750E+00	8.930E+08	7.767E+04	4.368E+03	2.625E+02	1.026E+02	2.033E+01	7.220E-02	1.348E-04	2.909E-06	5.494E-12	5.428E-12	5.342E-12
2.250E+00	4.795E+08	7.372E+03	5.356E+03	3.597E+03	1.863E+03	1.342E+02	1.346E-02	3.017E-10	6.849E-13	6.835E-13	6.694E-13	6.466E-13
2.750E+00	1.168E+08	2.417E+01	2.020E+01	1.360E+01	7.047E+00	5.076E-01	5.091E-05	4.208E-13	4.194E-13	4.186E-13	4.100E-13	3.960E-13
3.500E+00	8.889E+06	1.706E-07	2.739E-08	1.138E-10	4.647E-13	4.310E-13	4.014E-13	3.927E-13	3.925E-13	3.917E-13	3.837E-13	3.706E-13
5.000E+00	3.969E+04	7.255E-08	1.165E-08	4.836E-11	1.724E-13	1.673E-13	1.673E-13	1.673E-13	1.673E-13	1.669E-13	1.635E-13	1.579E-13
7.000E+00	5.256E+06	6.590E-05	1.058E-09	4.393E-12	1.563E-14	1.517E-14	1.517E-14	1.517E-14	1.516E-14	1.513E-14	1.482E-14	1.432E-14
1.100E+01	9.703E+03	6.549E-10	1.052E-10	4.365E-13	1.555E-15	1.509E-15	1.509E-15	1.509E-15	1.509E-15	1.505E-15	1.474E-15	1.424E-15
TOTAL	1.123E+10	7.552E+08	5.793E+08	3.851E+08	1.977E+08	1.417E+07	7.755E+04	7.448E+04	7.234E+04	5.318E+04	2.475E+03	2.848E+01
GAM POW	1.800E+03	1.211E+02	9.286E+01	6.173E+01	3.170E+01	2.272E+00	1.243E-02	1.194E-02	1.160E-02	8.525E-03	3.968E-04	4.565E-06

TABLE A.8. GRAMS OF ACTINIDE ELEMENTS IN PWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
HE	2.177E-01	4.088E-01	4.806E-01	6.126E-01	8.318E-01	1.800E+00	5.169E+00	1.238E+01	2.604E+01	7.178E+01	1.528E+02	1.756E+02
SE	1.234E-06	2.885E-06	3.986E-06	6.706E-06	1.056E-05	2.051E-05	2.976E-05	3.461E-05	4.871E-05	1.743E-04	6.153E-04	1.147E-03
TL	8.882E-13	2.216E-12	3.314E-12	5.479E-12	6.864E-12	6.371E-12	3.414E-12	1.046E-12	1.974E-12	1.956E-11	1.389E-10	1.857E-10
PB	1.740E-07	6.902E-07	1.607E-06	6.079E-06	1.653E-05	6.154E-05	1.688E-04	2.790E-04	7.835E-04	2.290E-01	2.506E+01	9.886E+01
BI	8.701E-11	1.860E-10	2.686E-10	4.570E-10	6.634E-10	1.487E-09	1.423E-08	3.209E-07	1.542E-05	2.306E-02	7.310E+00	4.348E+01
PO	5.947E-14	1.652E-13	3.401E-13	1.603E-12	8.762E-12	1.392E-10	3.206E-09	4.656E-08	6.805E-07	2.914E-05	2.311E-04	2.744E-04
AT	9.494E-20	3.205E-20	3.299E-20	3.630E-20	4.344E-20	9.241E-20	5.465E-19	5.022E-18	7.808E-17	1.028E-14	2.323E-13	4.712E-13
RN	8.781E-13	2.135E-12	3.217E-12	5.632E-12	8.267E-12	2.111E-11	1.731E-10	1.699E-09	1.988E-08	8.513E-07	6.752E-06	8.018E-06
FR	9.668E-16	5.332E-16	6.788E-16	1.119E-15	1.864E-15	4.988E-15	1.828E-14	8.487E-14	8.430E-13	9.460E-11	2.117E-09	4.289E-09
RA	1.856E-08	3.770E-08	6.012E-08	1.485E-07	3.754E-07	2.444E-06	2.650E-05	2.643E-04	3.093E-03	1.324E-01	1.050E+00	1.247E+00
AC	4.060E-09	9.381E-09	1.470E-08	3.059E-08	5.693E-08	1.608E-07	5.160E-07	1.521E-06	5.194E-06	4.962E-05	3.209E-04	3.975E-04
TH	1.324E-03	1.941E-03	2.563E-03	4.443E-03	7.633E-03	2.106E-02	7.478E-02	2.574E-01	9.834E-01	9.819E+00	7.050E+01	1.091E+02
PA	2.764E-04	2.853E-04	2.931E-04	3.162E-04	3.548E-04	5.097E-04	1.053E-03	2.601E-03	7.997E-03	7.559E-02	4.816E-01	5.887E-01
U	9.562E+05	9.562E+05	9.562E+05	9.562E+05	9.562E+05	9.563E+05	9.563E+05	9.565E+05	9.567E+05	9.591E+05	9.634E+05	9.637E+05
NP	5.281E+02	4.428E+02	4.430E+02	4.440E+02	4.471E+02	4.709E+02	5.903E+02	8.875E+02	1.419E+03	1.670E+03	1.622E+03	1.545E+03
PU	9.058E+03	9.106E+03	9.052E+03	8.901E+03	8.691E+03	8.204E+03	7.857E+03	7.721E+03	7.452E+03	5.077E+03	6.743E+02	2.980E+02
AM	1.158E+02	1.732E+02	2.278E+02	3.761E+02	5.786E+02	1.021E+03	1.178E+03	8.835E+02	3.385E+02	3.347E+01	7.334E-03	1.912E-07
CM	3.104E+01	2.114E+01	1.848E+01	1.604E+01	1.330E+01	6.333E+00	6.484E-01	2.084E-01	1.925E-01	7.547E-02	4.492E-04	4.083E-04
BK	1.027E-07	4.658E-08	2.112E-08	1.967E-09	3.768E-11	5.066E-18	1.589E-22	1.576E-22	1.533E-22	1.071E-22	2.970E-24	7.566E-27
CF	3.760E-08	9.185E-08	1.154E-07	1.299E-07	1.259E-07	1.125E-07	9.411E-08	6.369E-08	1.659E-08	1.069E-12	1.057E-19	2.692E-22
ES	7.075E-12	6.542E-14	2.600E-14	1.654E-15	1.678E-17	1.772E-25	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	9.660E+05	9.660E+05	9.660E+05	9.660E+05	9.660E+05	9.660E+05	9.660E+05	9.660E+05	9.660E+05	9.660E+05	9.660E+05	9.660E+05

TABLE A.9. GRAMS OF PRINCIPAL ACTINIDE NUCLIDES IN PWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
U235	7.958E+03	7.958E+03	7.959E+03	7.959E+03	7.960E+03	7.963E+03	7.972E+03	8.001E+03	8.099E+03	9.205E+03	1.271E+04	1.299E+04
U236	3.959E+03	3.960E+03	3.960E+03	3.961E+03	3.962E+03	3.967E+03	3.983E+03	4.031E+03	4.189E+03	5.453E+03	6.229E+03	6.201E+03
U238	9.441E+05	9.441E+05	9.441E+05	9.441E+05	9.441E+05	9.441E+05	9.441E+05	9.441E+05	9.441E+05	9.441E+05	9.442E+05	9.442E+05
NP237	4.316E+02	4.428E+02	4.430E+02	4.440E+02	4.471E+02	4.709E+02	5.903E+02	8.875E+02	1.419E+03	1.670E+03	1.622E+03	1.545E+03
PU239	4.939E+03	5.035E+03	5.035E+03	5.035E+03	5.034E+03	5.031E+03	5.022E+03	4.994E+03	4.900E+03	3.819E+03	2.893E+02	3.843E+00
PU240	2.308E+03	2.308E+03	2.308E+03	2.310E+03	2.311E+03	2.313E+03	2.301E+03	2.253E+03	2.092E+03	8.057E+02	5.779E-02	2.515E-06
PU241	1.223E+03	1.166E+03	1.111E+03	9.615E+02	7.558E+02	2.886E+02	9.928E+00	8.510E-04	1.860E-04	8.928E-05	5.802E-08	2.822E-13
AM241	2.984E+01	8.723E+01	1.418E+02	2.902E+02	4.927E+02	9.358E+02	1.093E+03	8.005E+02	2.605E+02	2.821E-03	1.742E-06	8.924E-12
SUMTOT	9.650E+05	9.651E+05	9.651E+05	9.651E+05	9.651E+05	9.651E+05	9.651E+05	9.651E+05	9.651E+05	9.651E+05	9.650E+05	9.650E+05
TOTAL	9.660E+05	9.660E+05	9.660E+05	9.660E+05	9.660E+05	9.660E+05	9.660E+05	9.660E+05	9.660E+05	9.660E+05	9.660E+05	9.660E+05

TABLE A.10. CURIES OF ACTINIDE ELEMENTS IN PWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL	2.615E-04	6.524E-04	9.758E-04	1.613E-03	2.020E-03	1.870E-03	9.853E-04	2.483E-04	3.777E-04	3.917E-03	3.077E-02	4.413E-02
PB	7.275E-04	1.815E-03	2.714E-03	4.485E-03	5.615E-03	5.188E-03	2.717E-03	9.739E-04	6.619E-03	2.820E-01	2.474E+00	3.253E+00
BI	7.275E-04	1.815E-03	2.714E-03	4.485E-03	5.615E-03	5.188E-03	2.717E-03	9.739E-04	6.619E-03	2.820E-01	2.474E+00	3.253E+00
PO	1.193E-03	2.977E-03	4.452E-03	7.357E-03	9.209E-03	8.505E-03	4.434E-03	1.482E-03	9.677E-03	4.126E-01	3.505E+00	4.470E+00
AT	1.529E-07	5.162E-08	5.312E-08	5.845E-08	6.995E-08	1.488E-07	8.800E-07	8.087E-06	1.257E-04	1.655E-02	3.740E-01	7.587E-01
RN	7.274E-04	1.814E-03	2.714E-03	4.485E-03	5.614E-03	5.187E-03	2.702E-03	7.566E-04	3.436E-03	1.346E-01	1.062E+00	1.262E+00
FR	1.565E-07	6.098E-08	6.780E-08	8.900E-08	1.268E-07	3.093E-07	1.395E-06	9.607E-06	1.309E-04	1.660E-02	3.743E-01	7.591E-01
RA	7.275E-04	1.815E-03	2.714E-03	4.485E-03	5.615E-03	5.187E-03	2.703E-03	7.647E-04	3.562E-03	1.511E-01	1.436E+00	2.020E+00
AC	5.328E-06	7.304E-07	1.117E-06	2.272E-06	4.190E-06	1.178E-05	3.822E-05	1.182E-04	5.014E-04	2.012E-02	3.967E-01	7.866E-01
TH	1.070E+00	3.366E-01	3.375E-01	3.393E-01	3.405E-01	3.403E-01	3.387E-01	3.398E-01	3.524E-01	5.258E-01	1.775E+00	2.360E+00
PA	1.089E+00	6.303E-01	6.304E-01	6.311E-01	6.333E-01	6.500E-01	7.343E-01	9.442E-01	1.319E+00	1.499E+00	1.485E+00	1.436E+00
U	2.302E+07	1.754E+00	1.760E+00	1.777E+00	1.804E+00	1.909E+00	2.190E+00	2.503E+00	2.593E+00	2.681E+00	2.734E+00	2.636E+00
NP	2.247E+07	1.740E+01	1.740E+01	1.740E+01	1.739E+01	1.737E+01	1.734E+01	1.723E+01	1.654E+01	7.852E+00	1.145E+00	1.090E+00
PU	4.705E+05	1.233E+05	1.177E+05	1.023E+05	8.097E+04	3.249E+04	2.956E+03	1.052E+03	7.844E+02	4.229E+02	1.948E+01	1.363E+00
AM	1.612E+05	3.241E+02	5.115E+02	1.021E+03	1.716E+03	3.237E+03	3.774E+03	2.767E+03	9.101E+02	6.684E+00	1.468E-03	3.821E-08
CM	4.021E+04	9.738E+02	3.180E+03	1.293E+03	1.055E+03	4.939E+02	3.652E+01	8.635E-01	7.638E-02	1.582E-02	6.075E-06	7.804E-08
BK	6.122E-04	7.636E-05	3.462E-05	3.225E-06	6.176E-08	8.924E-15	6.183E-16	6.134E-16	5.966E-16	4.168E-16	1.156E-17	2.945E-20
CF	4.576E-06	4.017E-06	3.688E-06	2.867E-06	2.075E-06	9.549E-07	3.923E-07	2.562E-07	6.519E-08	1.698E-12	1.156E-17	2.945E-20
ES	1.767E-07	1.286E-10	4.850E-11	3.086E-12	3.130E-14	3.306E-22	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	4.616E+07	1.334E+05	1.214E+05	1.046E+05	8.376E+04	3.624E+04	6.788E+03	3.841E+03	1.715E+03	4.434E+02	3.874E+01	2.549E+01

TABLE A.11. CURIES OF PRINCIPAL ACTINIDE NUCLIDES IN PWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL207	2.615E-07	6.775E-07	1.062E-06	2.210E-06	4.112E-06	1.161E-05	3.723E-05	1.098E-04	3.746E-04	3.560E-03	2.269E-02	2.774E-02
PB209	1.531E-07	5.162E-08	5.312E-08	5.845E-08	6.995E-08	1.488E-07	8.800E-07	8.087E-06	1.257E-04	1.655E-02	3.740E-01	7.587E-01
PB210	4.589E-10	1.052E-09	2.056E-09	8.801E-09	3.929E-08	6.253E-07	1.441E-05	2.092E-04	3.058E-03	1.309E-01	1.039E+00	1.233E+00
PB211	2.623E-07	6.794E-07	1.065E-06	2.216E-06	4.124E-06	1.164E-05	3.734E-05	1.101E-04	3.757E-04	3.570E-03	2.276E-02	2.782E-02
PB214	1.385E-08	2.602E-08	4.259E-08	1.189E-07	3.364E-07	2.385E-06	2.619E-05	2.614E-04	3.059E-03	1.310E-01	1.039E+00	1.233E+00
BI210	4.637E-10	1.052E-09	2.057E-09	8.802E-09	3.929E-08	6.253E-07	1.441E-05	2.092E-04	3.058E-03	1.309E-01	1.039E+00	1.233E+00
BI211	2.623E-07	6.794E-07	1.065E-06	2.216E-06	4.124E-06	1.164E-05	3.734E-05	1.101E-04	3.757E-04	3.570E-03	2.276E-02	2.782E-02
BI213	1.529E-07	5.162E-08	5.312E-08	5.845E-08	6.995E-08	1.488E-07	8.800E-07	8.087E-06	1.257E-04	1.655E-02	3.740E-01	7.587E-01
BI214	1.385E-08	2.602E-08	4.259E-08	1.189E-07	3.364E-07	2.385E-06	2.619E-05	2.614E-04	3.059E-03	1.310E-01	1.039E+00	1.233E+00
PO210	2.576E-10	7.184E-10	1.493E-09	7.142E-09	3.929E-08	6.253E-07	1.441E-05	2.092E-04	3.058E-03	1.309E-01	1.039E+00	1.233E+00
PO213	0.0	5.050E-08	5.197E-08	5.719E-08	6.844E-08	1.456E-07	8.610E-07	7.913E-06	1.230E-04	1.619E-02	3.659E-01	7.424E-01
PO214	1.811E-08	2.601E-08	4.258E-08	1.189E-07	3.363E-07	2.384E-06	2.619E-05	2.613E-04	3.058E-03	1.309E-01	1.039E+00	1.233E+00
PO215	2.623E-07	6.794E-07	1.065E-06	2.216E-06	4.124E-06	1.164E-05	3.734E-05	1.101E-04	3.757E-04	3.570E-03	2.276E-02	2.782E-02
PO218	1.385E-08	2.602E-08	4.260E-08	1.190E-07	3.364E-07	2.385E-06	2.620E-05	2.614E-04	3.059E-03	1.310E-01	1.039E+00	1.234E+00
AT217	1.529E-07	5.162E-08	5.312E-08	5.845E-08	6.995E-08	1.488E-07	8.800E-07	8.087E-06	1.257E-04	1.655E-02	3.740E-01	7.587E-01
RN219	2.623E-07	6.794E-07	1.065E-06	2.216E-06	4.124E-06	1.164E-05	3.734E-05	1.101E-04	3.757E-04	3.570E-03	2.276E-02	2.782E-02
RN222	1.385E-08	2.602E-08	4.260E-08	1.190E-07	3.364E-07	2.385E-06	2.620E-05	2.614E-04	3.059E-03	1.310E-01	1.039E+00	1.234E+00
FR221	1.529E-07	5.162E-08	5.312E-08	5.845E-08	6.995E-08	1.488E-07	8.800E-07	8.087E-06	1.257E-04	1.655E-02	3.740E-01	7.587E-01
RA223	2.623E-07	6.794E-07	1.065E-06	2.216E-06	4.124E-06	1.164E-05	3.734E-05	1.101E-04	3.757E-04	3.570E-03	2.276E-02	2.782E-02
RA225	1.597E-07	5.162E-08	5.312E-08	5.845E-08	6.995E-08	1.488E-07	8.800E-07	8.087E-06	1.257E-04	1.655E-02	3.740E-01	7.588E-01
RA226	1.384E-08	2.602E-08	4.260E-08	1.190E-07	3.364E-07	2.385E-06	2.620E-05	2.614E-04	3.059E-03	1.310E-01	1.039E+00	1.234E+00
AC225	1.529E-07	5.162E-08	5.312E-08	5.845E-08	6.995E-08	1.488E-07	8.800E-07	8.087E-06	1.257E-04	1.655E-02	3.740E-01	7.588E-01
AC227	2.935E-07	6.788E-07	1.063E-06	2.214E-06	4.120E-06	1.163E-05	3.734E-05	1.101E-04	3.757E-04	3.570E-03	2.276E-02	2.782E-02
TH227	2.697E-07	6.701E-07	1.050E-06	2.186E-06	4.067E-06	1.149E-05	3.682E-05	1.086E-04	3.705E-04	3.521E-03	2.244E-02	2.743E-02
TH229	5.025E-08	5.162E-08	5.312E-08	5.845E-08	6.995E-08	1.488E-07	8.800E-07	8.087E-06	1.257E-04	1.655E-02	3.740E-01	7.588E-01
TH230	2.308E-05	3.321E-05	4.341E-05	7.435E-05	1.271E-04	3.517E-04	1.273E-03	4.490E-03	1.684E-02	1.683E-01	1.034E+00	1.228E+00
TH231	7.376E-01	1.721E-02	1.721E-02	1.721E-02	1.721E-02	1.722E-02	1.724E-02	1.730E-02	1.751E-02	1.990E-02	2.748E-02	2.808E-02
TH234	3.178E-01	3.175E-01	3.175E-01	3.175E-01	3.175E-01	3.175E-01	3.175E-01	3.175E-01	3.175E-01	3.175E-01	3.176E-01	3.176E-01
PA231	1.234E-05	1.277E-05	1.314E-05	1.423E-05	1.605E-05	2.333E-05	4.879E-05	1.219E-04	3.756E-04	3.569E-03	2.276E-02	2.782E-02
PA233	2.941E-01	3.123E-01	3.124E-01	3.131E-01	3.153E-01	3.320E-01	4.163E-01	6.262E-01	1.000E+00	1.178E+00	1.144E+00	1.090E+00
PA234M	3.225E-01	3.175E-01	3.175E-01	3.175E-01	3.175E-01	3.175E-01	3.175E-01	3.175E-01	3.175E-01	3.175E-01	3.176E-01	3.176E-01
U233	1.366E-05	1.516E-05	1.667E-05	2.092E-05	2.778E-05	5.602E-05	1.703E-04	6.307E-04	3.220E-03	4.816E-02	4.098E-01	7.484E-01
U234	1.123E+00	1.129E+00	1.136E+00	1.156E+00	1.188E+00	1.305E+00	1.594E+00	1.906E+00	1.984E+00	1.942E+00	1.576E+00	1.140E+00
U235	1.721E-02	1.721E-02	1.721E-02	1.721E-02	1.721E-02	1.722E-02	1.724E-02	1.730E-02	1.751E-02	1.990E-02	2.748E-02	2.808E-02
U236	2.563E-01	2.563E-01	2.563E-01	2.563E-01	2.564E-01	2.567E-01	2.578E-01	2.609E-01	2.711E-01	3.529E-01	4.032E-01	4.014E-01
U238	3.175E-01	3.175E-01	3.175E-01	3.175E-01	3.175E-01	3.175E-01	3.175E-01	3.175E-01	3.175E-01	3.175E-01	3.176E-01	3.176E-01
NP237	3.044E-01	3.123E-01	3.124E-01	3.131E-01	3.153E-01	3.320E-01	4.163E-01	6.262E-01	1.000E+00	1.178E+00	1.144E+00	1.090E+00
NP239	2.207E+07	1.707E+01	1.707E+01	1.706E+01	1.706E+01	1.702E+01	1.691E+01	1.660E+01	1.554E+01	6.674E+00	1.462E-03	3.812E-08
PU238	2.185E+03	2.348E+03	2.362E+03	2.315E+03	2.226E+03	1.901E+03	1.095E+03	2.264E+02	9.667E-01	1.164E-19	0.0	0.0
PU239	3.072E+02	3.131E+02	3.131E+02	3.131E+02	3.130E+02	3.129E+02	3.123E+02	3.106E+02	3.047E+02	2.375E+02	1.799E+01	2.390E-01
PU240	5.260E+02	5.261E+02	5.262E+02	5.265E+02	5.268E+02	5.272E+02	5.246E+02	5.137E+02	4.769E+02	1.837E+02	1.317E-02	5.732E-07
PU241	1.261E+05	1.201E+05	1.145E+05	9.910E+04	7.790E+04	2.974E+04	1.023E+03	8.771E-02	1.917E-02	9.202E-03	5.980E-06	2.908E-11
PU242	1.758E+00	1.758E+00	1.758E+00	1.758E+00	1.758E+00	1.758E+00	1.758E+00	1.757E+00	1.755E+00	1.727E+00	1.470E+00	1.124E+00
AM241	1.024E+02	2.995E+02	4.870E+02	9.963E+02	1.692E+03	3.213E+03	3.753E+03	2.749E+03	8.945E+02	9.684E-03	5.980E-06	3.064E-11
AM243	1.705E+01	1.707E+01	1.707E+01	1.706E+01	1.706E+01	1.702E+01	1.691E+01	1.660E+01	1.554E+01	6.674E+00	1.462E-03	3.812E-08
CM242	3.867E+04	8.255E+03	1.752E+03	1.969E+01	2.973E+00	2.706E+00	1.967E+00	7.900E-01	3.246E-02	4.891E-20	0.0	0.0
CM244	1.526E+03	1.469E+03	1.414E+03	1.260E+03	1.041E+03	4.841E+02	3.321E+01	1.573E-02	5.742E-11	5.738E-11	5.734E-11	5.727E-11
SUMTOT	2.224E+07	1.334E+05	1.214E+05	1.046E+05	8.374E+04	3.622E+04	6.782E+03	3.839E+03	1.715E+03	4.434E+02	3.873E+01	2.547E+01
TOTAL	4.616E+07	1.334E+05	1.214E+05	1.046E+05	8.376E+04	3.624E+04	6.788E+03	3.841E+03	1.715E+03	4.434E+02	3.874E+01	2.549E+01

TABLE A.12. WATTS OF ACTINIDE ELEMENTS IN PWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL	6.149E-06	1.534E-05	2.294E-05	3.791E-05	4.745E-05	4.377E-05	2.242E-05	3.581E-06	1.153E-06	1.640E-05	2.009E-04	3.538E-04
PB	1.385E-06	3.456E-06	5.169E-06	8.542E-06	1.069E-05	9.892E-06	5.224E-06	1.954E-06	1.173E-05	4.777E-04	4.051E-03	5.175E-03
BI	1.238E-05	3.087E-05	4.618E-05	7.632E-05	9.557E-05	8.847E-05	4.674E-05	1.461E-05	6.178E-05	2.192E-03	1.819E-02	2.295E-02
PO	5.447E-05	1.359E-04	2.032E-04	3.359E-04	4.203E-04	3.882E-04	2.019E-04	6.248E-05	3.740E-04	1.600E-02	1.387E-01	1.803E-01
AT	6.524E-09	2.203E-09	2.267E-09	2.494E-09	2.985E-09	6.350E-09	3.755E-08	3.451E-07	5.365E-06	7.062E-04	1.596E-02	3.238E-02
RN	2.762E-05	6.889E-05	1.030E-04	1.703E-04	2.132E-04	1.970E-04	1.026E-04	2.785E-05	1.170E-04	4.489E-03	3.537E-02	4.203E-02
FR	5.911E-09	2.016E-09	2.088E-09	2.335E-09	2.847E-09	6.160E-09	3.530E-08	3.161E-07	4.866E-06	6.389E-04	1.443E-02	2.928E-02
RA	2.496E-05	6.228E-05	9.315E-05	1.539E-04	1.927E-04	1.780E-04	9.268E-05	2.469E-05	1.018E-04	3.921E-03	3.107E-02	3.714E-02
AC	4.767E-08	2.132E-09	2.371E-09	3.114E-09	4.439E-09	1.083E-08	4.883E-06	3.351E-07	4.574E-06	5.798E-04	1.308E-02	2.652E-02
TH	6.009E-04	1.986E-04	2.282E-04	2.870E-04	3.255E-04	3.180E-04	2.621E-04	2.822E-04	6.326E-04	5.537E-03	4.166E-02	5.911E-02
PA	5.387E-03	2.284E-03	2.285E-03	2.286E-03	2.291E-03	2.329E-03	2.521E-03	3.000E-03	3.857E-03	4.356E-03	4.857E-03	4.887E-03
U	6.123E+04	4.817E-02	4.836E-02	4.897E-02	4.989E-02	5.322E-02	6.150E-02	7.050E-02	7.309E-02	7.548E-02	7.701E-02	7.426E-02
NP	5.544E+04	5.090E-02	5.090E-02	5.091E-02	5.095E-02	5.138E-02	5.366E-02	5.922E-02	6.815E-02	5.213E-02	3.497E-02	3.331E-02
PU	4.962E+02	1.076E+02	1.079E+02	1.059E+02	1.023E+02	9.004E+01	6.232E+01	3.312E+01	2.432E+01	1.309E+01	5.983E-01	4.055E-02
AM	3.428E+02	1.050E+01	1.673E+01	3.365E+01	5.675E+01	1.073E+02	1.252E+02	9.184E+01	3.021E+01	2.149E-01	4.720E-05	1.227E-09
CM	9.883E+01	6.150E+01	5.200E+01	4.459E+01	3.683E+01	1.720E+01	1.213E+00	3.406E-03	1.484E-03	5.218E-04	2.066E-07	6.282E-09
BK	3.209E-06	5.658E-08	2.565E-08	2.390E-09	4.576E-11	1.046E-17	4.296E-18	4.262E-18	4.144E-18	2.896E-18	8.030E-20	2.046E-22
CF	2.295E-07	1.975E-07	1.755E-07	1.266E-07	8.548E-08	3.943E-08	1.800E-08	1.182E-08	2.998E-09	6.067E-14	4.294E-19	1.094E-21
ES	2.307E-10	4.782E-12	1.904E-12	1.211E-13	1.229E-15	1.298E-23	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	1.176E+05	1.797E+02	1.767E+02	1.842E+02	1.960E+02	2.146E+02	1.889E+02	1.251E+02	5.469E+01	1.347E+01	1.028E+00	5.883E-01

TABLE A.13. WATTS OF PRINCIPAL ACTINIDE NUCLIDES IN PWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
PB209	1.761E-10	5.936E-11	6.109E-11	6.722E-11	8.044E-11	1.711E-10	1.012E-09	9.300E-09	1.446E-07	1.903E-05	4.301E-04	8.725E-04
PB214	4.417E-11	8.297E-11	1.358E-10	3.793E-10	1.073E-09	7.605E-09	8.353E-08	8.335E-07	9.754E-06	4.176E-04	3.313E-03	3.934E-03
BI210	1.069E-12	2.427E-12	4.742E-12	2.030E-11	9.061E-11	1.442E-09	3.322E-08	4.824E-07	7.051E-06	3.019E-04	2.395E-03	2.844E-03
BI211	1.046E-08	2.710E-08	4.248E-08	8.839E-08	1.645E-07	4.642E-07	1.489E-06	4.391E-06	1.499E-05	1.424E-04	9.077E-04	1.110E-03
BI213	6.427E-10	2.170E-10	2.233E-10	2.457E-10	2.941E-10	6.256E-10	3.700E-09	3.400E-08	5.285E-07	6.957E-05	1.572E-03	3.190E-03
BI214	1.775E-10	3.334E-10	5.459E-10	1.524E-09	4.311E-09	3.056E-08	3.357E-07	3.350E-06	3.920E-05	1.678E-03	1.331E-02	1.581E-02
PO210	8.259E-12	2.303E-11	4.785E-11	2.289E-10	1.260E-09	2.005E-08	4.618E-07	6.707E-06	9.803E-05	4.197E-03	3.329E-02	3.953E-02
PO213	0.0	2.556E-09	2.630E-09	2.894E-09	3.463E-09	7.368E-09	4.357E-08	4.008E-07	6.225E-06	8.194E-04	1.852E-02	3.757E-02
PO214	8.410E-10	1.208E-09	1.977E-09	5.522E-09	1.561E-08	1.107E-07	1.216E-06	1.213E-05	1.420E-04	6.079E-03	4.822E-02	5.726E-02
PO215	1.171E-08	3.033E-08	4.754E-08	9.893E-08	1.841E-07	5.195E-07	1.667E-06	4.914E-06	1.677E-05	1.594E-04	1.016E-03	1.242E-03
PO218	5.019E-10	9.429E-10	1.544E-09	4.311E-09	1.219E-08	8.643E-08	9.493E-07	9.473E-06	1.109E-04	4.746E-03	3.765E-02	4.470E-02
AT217	6.524E-09	2.203E-09	2.267E-09	2.494E-09	2.985E-09	6.350E-09	3.755E-08	3.451E-07	5.365E-06	7.062E-04	1.596E-02	3.238E-02
RN219	1.088E-08	2.819E-08	4.419E-08	9.195E-08	1.711E-07	4.829E-07	1.549E-06	4.568E-06	1.559E-05	1.481E-04	9.443E-04	1.154E-03
RN222	4.590E-10	8.622E-10	1.412E-09	3.942E-09	1.115E-08	7.904E-08	8.681E-07	8.662E-06	1.014E-04	4.340E-03	3.443E-02	4.088E-02
FR221	5.901E-09	1.992E-09	2.050E-09	2.256E-09	2.700E-09	5.743E-09	3.396E-08	3.121E-07	4.852E-06	6.387E-04	1.443E-02	2.928E-02
RA223	9.339E-09	2.419E-08	3.792E-08	7.891E-08	1.468E-07	4.144E-07	1.330E-06	3.920E-06	1.338E-05	1.271E-04	8.103E-04	9.905E-04
RA226	3.996E-10	7.513E-10	1.230E-09	3.435E-09	9.714E-09	6.887E-08	7.565E-07	7.548E-06	8.833E-05	3.782E-03	3.000E-02	3.562E-02
AC225	5.341E-09	1.803E-09	1.856E-09	2.042E-09	2.444E-09	5.198E-09	3.074E-08	2.825E-07	4.392E-06	5.781E-04	1.306E-02	2.650E-02
TH227	9.842E-09	2.446E-08	3.833E-08	7.976E-08	1.484E-07	4.189E-07	1.344E-06	3.962E-06	1.352E-05	1.285E-04	8.191E-04	1.001E-03
TH229	1.537E-09	1.579E-09	1.625E-09	1.788E-09	2.140E-09	4.552E-09	2.692E-08	2.474E-07	3.846E-06	5.063E-04	1.144E-02	2.321E-02
TH230	6.531E-07	9.399E-07	1.228E-06	2.104E-06	3.597E-06	9.953E-06	3.602E-05	1.270E-04	4.766E-04	4.762E-03	2.926E-02	3.475E-02
PA231	3.719E-07	3.848E-07	3.958E-07	4.287E-07	4.836E-07	7.028E-07	1.470E-06	3.661E-06	1.132E-05	1.075E-04	6.856E-04	8.381E-04
PA233	6.675E-04	7.088E-04	7.091E-04	7.107E-04	7.157E-04	7.536E-04	9.448E-04	1.421E-03	2.271E-03	2.673E-03	2.597E-03	2.473E-03
PA234M	1.594E-03	1.569E-03	1.569E-03	1.569E-03	1.569E-03	1.569E-03	1.569E-03	1.569E-03	1.569E-03	1.569E-03	1.569E-03	1.569E-03
U233	3.970E-07	4.406E-07	4.846E-07	6.081E-07	8.077E-07	1.628E-06	4.950E-06	1.833E-05	9.359E-05	1.400E-03	1.191E-02	2.176E-02
U234	3.234E-02	3.253E-02	3.272E-02	3.329E-02	3.422E-02	3.758E-02	4.592E-02	5.489E-02	5.714E-02	5.594E-02	4.540E-02	3.285E-02
U235	4.507E-04	4.507E-04	4.507E-04	4.507E-04	4.508E-04	4.509E-04	4.515E-04	4.531E-04	4.586E-04	5.213E-04	7.196E-04	7.354E-04
U236	6.942E-03	6.942E-03	6.943E-03	6.944E-03	6.946E-03	6.955E-03	6.984E-03	7.067E-03	7.345E-03	9.561E-03	1.092E-02	1.087E-02
U238	8.054E-03	8.054E-03	8.054E-03	8.054E-03	8.054E-03	8.054E-03	8.054E-03	8.054E-03	8.054E-03	8.054E-03	8.055E-03	8.055E-03
NP237	9.302E-03	9.544E-03	9.548E-03	9.570E-03	9.637E-03	1.015E-02	1.272E-02	1.914E-02	3.058E-02	3.600E-02	3.496E-02	3.331E-02
NP239	5.336E+04	4.126E-02	4.126E-02	4.128E-02	4.123E-02	4.115E-02	4.088E-02	4.012E-02	3.757E-02	1.613E-02	3.535E-06	9.215E-11
PU238	7.243E+01	7.780E+01	7.828E+01	7.674E+01	7.377E+01	6.300E+01	3.627E+01	7.503E+00	3.204E-02	3.858E-21	0.0	0.0
PU239	9.466E+00	9.649E+00	9.649E+00	9.648E+00	9.647E+00	9.642E+00	9.624E+00	9.572E+00	9.390E+00	7.318E+00	5.545E-01	7.365E-03
PU240	1.638E+01	1.638E+01	1.639E+01	1.639E+01	1.640E+01	1.642E+01	1.633E+01	1.595E+01	1.485E+01	5.719E+00	4.102E-04	1.785E-08
PU241	3.908E+00	3.725E+00	3.549E+00	3.072E+00	2.415E+00	9.221E-01	3.172E-02	2.719E-06	5.943E-07	2.853E-07	1.854E-10	9.016E-16
PU242	5.191E-02	5.191E-02	5.191E-02	5.191E-02	5.191E-02	5.191E-02	5.190E-02	5.189E-02	5.182E-02	5.100E-02	4.341E-02	3.318E-02
AM241	3.403E+00	9.949E+00	1.618E+01	3.309E+01	5.619E+01	1.067E+02	1.247E+02	9.130E+01	2.971E+01	3.217E-04	1.986E-07	1.018E-12
AM243	5.480E-01	5.487E-01	5.487E-01	5.485E-01	5.483E-01	5.473E-01	5.437E-01	5.336E-01	4.996E-01	2.145E-01	4.700E-05	1.225E-09
CM242	4.493E+01	9.590E+00	2.036E+00	2.287E-02	3.454E-03	3.144E-03	2.285E-03	9.179E-04	3.772E-05	5.683E-23	0.0	0.0
CM243	5.408E-01	5.279E-01	5.152E-01	4.789E-01	4.241E-01	2.607E-01	4.752E-02	3.667E-04	1.481E-11	0.0	0.0	0.0
CM244	5.336E+01	5.138E+01	4.945E+01	4.408E+01	3.640E+01	1.693E+01	1.162E+00	5.503E-04	2.008E-12	2.007E-12	2.006E-12	2.003E-12
SUMTOT	5.367E+04	1.797E+02	1.767E+02	1.842E+02	1.960E+02	2.146E+02	1.888E+02	1.251E+02	5.469E+01	1.347E+01	1.027E+00	5.868E-01
TOTAL	1.176E+05	1.797E+02	1.767E+02	1.842E+02	1.960E+02	2.146E+02	1.889E+02	1.251E+02	5.469E+01	1.347E+01	1.028E+00	5.883E-01

TABLE A.14. PHOTONS FROM ACTINIDES IN PWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS= ONE METRIC TON OF INITIAL HEAVY METAL(MTIHM)

EMEAN	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	1.173E+18	8.235E+13	4.429E+13	3.642E+13	3.962E+13	4.557E+13	4.175E+13	2.811E+13	1.137E+13	1.916E+12	2.300E+11	2.277E+11
2.500E-02	5.217E+16	2.941E+11	4.695E+11	9.461E+11	1.597E+12	3.020E+12	3.525E+12	2.586E+12	8.513E+11	1.229E+10	1.914E+10	2.201E+10
3.750E-02	7.573E+16	2.458E+11	1.679E+11	1.798E+11	2.288E+11	3.333E+11	3.552E+11	2.620E+11	1.132E+11	2.158E+10	1.482E+10	2.260E+10
5.750E-02	6.807E+16	4.152E+12	6.732E+12	1.374E+13	2.331E+13	4.424E+13	5.167E+13	3.785E+13	1.233E+13	1.483E+10	1.579E+10	1.887E+10
8.500E-02	5.250E+17	5.877E+11	5.873E+11	5.853E+11	5.817E+11	5.695E+11	5.285E+11	5.013E+11	4.601E+11	2.122E+11	4.975E+10	6.270E+10
1.250E-01	4.141E+17	4.864E+11	4.792E+11	4.712E+11	4.605E+11	4.234E+11	3.603E+11	3.285E+11	2.921E+11	1.261E+11	1.057E+10	1.286E+10
2.250E-01	2.938E+17	3.871E+11	3.805E+11	3.682E+11	3.505E+11	2.974E+11	2.266E+11	2.067E+11	1.930E+11	8.695E+10	2.591E+10	3.345E+10
3.750E-01	3.205E+16	2.653E+10	2.661E+10	2.683E+10	2.715E+10	2.796E+10	2.918E+10	3.135E+10	3.483E+10	2.862E+10	3.811E+10	4.499E+10
5.750E-01	5.738E+15	1.344E+09	7.750E+08	7.629E+08	9.553E+08	1.337E+09	1.437E+09	1.145E+09	7.198E+08	3.071E+09	2.192E+10	2.622E+10
8.500E-01	1.243E+16	9.372E+08	8.113E+08	7.904E+08	7.981E+08	7.701E+08	6.314E+08	4.314E+08	2.427E+08	8.154E+08	5.424E+09	6.456E+09
1.250E+00	2.989E+15	4.279E+08	3.829E+08	3.564E+08	3.326E+08	2.671E+08	1.881E+08	1.310E+08	1.304E+08	1.757E+09	1.335E+10	1.583E+10
1.750E+00	2.632E+12	1.044E+08	8.750E+07	7.844E+07	6.960E+07	4.315E+07	1.914E+07	1.703E+07	4.501E+07	1.362E+09	1.088E+10	1.315E+10
2.250E+00	9.571E+07	5.211E+07	4.163E+07	3.510E+07	2.915E+07	1.414E+07	1.998E+06	1.759E+06	1.047E+07	4.127E+08	3.270E+09	3.883E+09
2.750E+00	6.452E+07	5.304E+07	5.833E+07	7.687E+07	8.764E+07	7.343E+07	3.438E+07	5.410E+06	6.632E+05	7.422E+06	5.699E+07	6.766E+07
3.500E+00	4.977E+07	2.715E+07	2.171E+07	1.830E+07	1.520E+07	7.357E+06	9.832E+05	4.795E+05	4.631E+05	1.566E+06	1.077E+07	1.275E+07
5.000E+00	2.129E+07	1.161E+07	9.284E+06	7.828E+06	6.500E+06	3.143E+06	4.163E+05	2.016E+05	1.838E+05	9.357E+04	3.741E+04	2.875E+04
7.000E+00	2.449E+06	1.338E+06	1.070E+06	9.024E+05	7.492E+05	3.619E+05	4.743E+04	2.285E+04	2.101E+04	1.073E+04	4.305E+03	3.309E+03
1.100E+01	2.821E+05	1.538E+05	1.230E+05	1.037E+05	8.605E+04	4.154E+04	5.417E+03	2.604E+03	2.406E+03	1.233E+03	4.953E+02	3.807E+02
TOTAL	2.655E+18	8.854E+13	5.313E+13	5.274E+13	6.617E+13	9.448E+13	9.844E+13	6.985E+13	2.564E+13	2.425E+12	4.590E+11	5.109E+11
MEV/SEC	2.177E+17	1.701E+12	1.277E+12	1.570E+12	2.181E+12	3.496E+12	3.852E+12	2.816E+12	1.038E+12	1.028E+11	9.157E+10	1.096E+11

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS= ONE METRIC TON OF INITIAL HEAVY METAL(MTIHM)

EMEAN	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	1.759E+10	1.235E+06	6.643E+05	5.463E+05	5.943E+05	6.836E+05	6.262E+05	4.217E+05	1.705E+05	2.873E+04	3.450E+03	3.416E+03
2.500E-02	1.304E+09	7.351E+03	1.174E+04	2.365E+04	3.992E+04	7.551E+04	8.813E+04	6.464E+04	2.128E+04	3.073E+02	4.785E+02	5.503E+02
3.750E-02	2.840E+09	9.217E+03	6.295E+03	6.744E+03	8.580E+03	1.250E+04	1.332E+04	9.827E+03	4.244E+03	8.092E+02	5.558E+02	8.476E+02
5.750E-02	3.914E+09	2.388E+05	3.871E+05	7.900E+05	1.340E+06	2.544E+06	2.971E+06	2.176E+06	7.092E+05	8.527E+02	9.079E+02	1.085E+03
8.500E-02	4.462E+10	4.996E+04	4.992E+04	4.975E+04	4.944E+04	4.807E+04	4.492E+04	4.254E+04	3.911E+04	1.803E+04	4.229E+03	5.329E+03
1.250E-01	5.176E+10	6.080E+04	5.990E+04	5.891E+04	5.756E+04	5.293E+04	4.504E+04	4.107E+04	3.651E+04	1.577E+04	1.321E+03	1.608E+03
2.250E-01	6.601E+10	8.709E+04	8.561E+04	8.284E+04	7.886E+04	6.692E+04	5.098E+04	4.651E+04	4.342E+04	1.956E+04	5.831E+03	7.526E+03
3.750E-01	1.202E+10	9.950E+03	9.980E+03	1.006E+04	1.018E+04	1.049E+04	1.094E+04	1.177E+04	1.306E+04	1.073E+04	1.429E+04	1.687E+04
5.750E-01	3.299E+09	7.730E+02	4.456E+02	4.387E+02	5.493E+02	7.689E+02	8.264E+02	6.605E+02	4.139E+02	1.766E+03	1.261E+04	1.508E+04
8.500E-01	1.056E+10	7.966E+02	6.896E+02	6.718E+02	6.784E+02	6.546E+02	5.367E+02	3.667E+02	2.063E+02	6.931E+02	4.610E+03	5.487E+03
1.250E+00	3.737E+09	5.348E+02	4.786E+02	4.456E+02	4.158E+02	3.338E+02	2.351E+02	1.637E+02	1.630E+02	2.196E+03	1.669E+04	1.985E+04
1.750E+00	4.606E+06	1.828E+02	1.531E+02	1.373E+02	1.218E+02	7.551E+01	3.350E+01	2.981E+01	7.878E+01	2.383E+03	1.905E+04	2.300E+04
2.250E+00	2.153E+02	1.172E+02	9.366E+01	7.896E+01	6.559E+01	3.181E+01	4.495E+00	3.958E+00	2.355E+01	9.285E+02	7.357E+03	8.736E+03
2.750E+00	1.774E+02	1.459E+02	1.604E+02	2.114E+02	2.410E+02	2.019E+02	9.455E+01	1.488E+01	1.824E+00	2.041E+01	1.567E+02	1.861E+02
3.500E+00	1.742E+02	9.502E+01	7.597E+01	6.406E+01	5.320E+01	2.575E+01	3.441E+00	1.680E+00	1.621E+00	5.480E+00	3.769E+01	4.463E+01
5.000E+00	1.065E+02	5.806E+01	4.642E+01	3.914E+01	3.250E+01	1.571E+01	2.082E+00	1.008E+00	9.189E-01	4.678E-01	1.870E-01	1.437E-01
7.000E+00	1.714E+01	9.363E+00	7.491E+00	6.317E+00	5.244E+00	2.533E+00	3.320E-01	1.599E-01	1.470E-01	7.514E-02	3.013E-02	2.316E-02
1.100E+01	3.103E+00	1.692E+00	1.353E+00	1.140E+00	9.465E-01	4.570E-01	5.958E-02	2.864E-02	2.647E-02	1.356E-02	5.448E-03	4.188E-03
TOTAL	2.177E+11	1.701E+06	1.277E+06	1.570E+06	2.181E+06	3.496E+06	3.852E+06	2.816E+06	1.038E+06	1.028E+05	9.157E+04	1.096E+05
GAM POW	3.489E+04	2.727E-01	2.047E-01	2.517E-01	3.496E-01	5.604E-01	6.175E-01	4.513E-01	1.664E-01	1.648E-02	1.468E-02	1.757E-02

TABLE A.15. (ALPHA,N) NEUTRONS FROM ACTINIDES IN PWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
BI211	8.611E-03	2.231E-02	3.496E-02	7.278E-02	1.354E-01	3.821E-01	1.326E+00	3.614E+00	1.233E+01	1.172E+02	7.471E+02	9.133E+02
PO210	3.817E-07	1.064E-06	2.211E-06	1.058E-05	5.822E-05	9.264E-04	2.134E-02	3.100E-01	4.530E+00	1.940E+02	1.539E+03	1.827E+03
PO213	0.0	4.485E-02	4.616E-02	5.079E-02	6.078E-02	1.293E-01	7.646E-01	7.027E+00	1.092E+02	1.438E+04	3.249E+05	6.593E+05
PO214	4.817E-03	6.917E-03	1.133E-02	3.163E-02	8.943E-02	6.341E-01	6.965E+00	6.945E+01	8.133E+02	3.482E+04	2.762E+05	3.280E+05
PO215	4.021E-02	1.042E-01	1.633E-01	3.397E-01	6.322E-01	1.784E+00	5.724E+00	1.688E+01	5.759E+01	5.473E+02	3.489E+03	4.265E+03
PO218	1.145E-04	2.152E-04	3.522E-04	9.837E-04	2.782E-03	1.972E-02	2.166E-01	2.161E+00	2.529E+01	1.083E+03	8.590E+03	1.020E+04
AT217	1.246E-02	4.207E-02	4.330E-03	4.765E-03	5.702E-03	1.213E-02	7.174E-02	8.593E-01	1.025E+01	1.349E+03	3.049E+04	6.185E+04
RN219	1.443E-02	3.740E-02	5.862E-02	1.220E-01	2.270E-01	6.406E-01	2.055E+00	6.059E+00	2.068E+01	1.965E+02	1.253E+03	1.531E+03
RN222	3.263E-05	6.130E-05	1.004E-04	2.802E-04	7.925E-04	5.619E-03	6.171E-02	6.198E-01	7.206E+00	3.085E+02	2.447E+03	2.906E+03
FR221	3.051E-03	1.030E-03	1.060E-03	1.166E-03	1.396E-03	2.970E-03	1.756E-02	1.614E-01	2.509E+00	3.302E+02	7.463E+03	1.514E+04
AC225	7.545E-04	2.547E-04	2.621E-04	2.884E-04	3.452E-04	7.343E-04	4.343E-03	3.991E-02	6.204E-01	8.167E+01	1.046E+03	3.744E+03
U234	3.712E+02	3.734E+02	3.756E+02	3.823E+02	3.928E+02	4.314E+02	5.272E+02	6.302E+02	6.560E+02	6.422E+02	5.212E+02	3.771E+02
NP237	2.311E+02	2.371E+02	2.372E+02	2.377E+02	2.394E+02	2.521E+02	3.160E+02	4.754E+02	7.595E+02	8.942E+02	8.885E+02	8.273E+02
PU238	2.552E+06	2.741E+06	2.758E+06	2.704E+06	2.599E+06	2.220E+06	1.278E+06	2.644E+05	1.129E+03	1.359E-16	0.0	0.0
PU239	2.223E+05	2.266E+05	2.266E+05	2.266E+05	2.265E+05	2.264E+05	2.260E+05	2.248E+05	2.205E+05	1.718E+05	1.302E+04	1.729E+02
PU240	3.923E+05	3.924E+05	3.924E+05	3.926E+05	3.929E+05	3.932E+05	3.912E+05	3.831E+05	3.557E+05	1.370E+05	9.824E+00	4.275E-04
PU242	1.242E+03	1.242E+03	1.242E+03	1.242E+03	1.242E+03	1.242E+03	1.242E+03	1.241E+03	1.240E+03	1.220E+03	1.038E+03	7.937E+02
AM241	1.194E+05	3.489E+05	5.673E+05	1.161E+06	1.971E+06	3.743E+06	4.372E+06	3.202E+06	1.042E+06	1.128E+01	6.967E-03	3.570E-08
AM243	2.625E+04	2.629E+04	2.629E+04	2.628E+04	2.627E+04	2.622E+04	2.605E+04	2.556E+04	2.394E+04	1.028E+04	2.252E+00	5.871E-05
CM242	3.121E+08	6.662E+07	1.414E+07	1.589E+05	2.399E+04	2.184E+04	1.587E+04	6.376E+03	2.620E+02	3.947E-16	0.0	0.0
CM243	1.491E+05	1.456E+05	1.421E+05	1.321E+05	1.169E+05	7.190E+04	1.310E+04	1.011E+02	4.085E-06	0.0	0.0	0.0
CM244	1.081E+07	1.041E+07	1.002E+07	8.934E+06	7.378E+06	3.431E+06	2.354E+05	1.115E+02	4.070E-07	4.068E-07	4.065E-07	4.060E-07
TOTALS												
TABLE	3.263E+08	8.092E+07	2.828E+07	1.374E+07	1.274E+07	1.014E+07	6.563E+06	4.110E+06	1.648E+06	3.755E+05	6.760E+05	1.094E+06
ACTUAL	3.263E+08	8.092E+07	2.828E+07	1.374E+07	1.274E+07	1.014E+07	6.563E+06	4.110E+06	1.648E+06	3.755E+05	6.760E+05	1.094E+06

TABLE A.16. SPONTANEOUS FISSION NEUTRONS FROM ACTINIDES IN PWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
U238	1.198E+04	1.196E+04	1.198E+04	1.198E+04	1.198E+04	1.198E+04	1.198E+04	1.198E+04	1.198E+04	1.198E+04	1.198E+04	1.198E+04
PU238	3.391E+05	3.642E+05	3.665E+05	3.593E+05	3.454E+05	2.950E+05	1.698E+05	3.512E+04	1.500E+02	1.806E-17	0.0	0.0
PU240	2.101E+06	2.102E+06	2.102E+06	2.103E+06	2.104E+06	2.106E+06	2.095E+06	2.052E+06	1.905E+06	7.336E+05	5.262E+01	2.290E-03
PU242	7.757E+05	7.757E+05	7.757E+05	7.757E+05	7.757E+05	7.757E+05	7.756E+05	7.754E+05	7.745E+05	7.622E+05	6.487E+05	4.958E+05
CM242	2.519E+08	5.377E+07	1.141E+07	1.282E+05	1.936E+04	1.763E+04	1.281E+04	5.146E+03	2.115E+02	3.186E-16	0.0	0.0
CM244	2.096E+08	2.016E+08	1.942E+08	1.732E+08	1.430E+08	6.651E+07	4.563E+06	2.162E+03	7.889E-06	7.884E-06	7.878E-06	7.869E-06
CM246	8.308E+05	8.307E+05	8.306E+05	8.302E+05	8.296E+05	8.272E+05	8.187E+05	7.951E+05	7.176E+05	1.920E+05	3.603E-01	1.053E-10
TOTALS												
TABLE	4.655E+08	2.597E+08	2.097E+08	1.774E+08	1.471E+08	7.054E+07	8.450E+06	3.679E+06	3.411E+06	1.701E+06	6.614E+05	5.083E+05
ACTUAL	4.655E+08	2.597E+08	2.097E+08	1.774E+08	1.471E+08	7.054E+07	8.450E+06	3.679E+06	3.411E+06	1.701E+06	6.614E+05	5.083E+05
OVERALL TOTALS												
TABLE	7.919E+08	3.406E+08	2.380E+08	1.911E+08	1.598E+08	8.068E+07	1.501E+07	7.788E+06	5.058E+06	2.076E+06	1.337E+06	1.602E+06
ACTUAL	7.919E+08	3.406E+08	2.380E+08	1.911E+08	1.598E+08	8.068E+07	1.501E+07	7.788E+06	5.058E+06	2.076E+06	1.337E+06	1.602E+06

TABLE A.17. GRAMS OF FISSION PRODUCT ELEMENTS IN PWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	5.661E-02	5.352E-02	5.060E-02	4.276E-02	3.229E-02	1.051E-02	2.066E-04	2.752E-09	2.375E-26	0.0	0.0	0.0
LI	1.917E-04	1.917E-04	1.917E-04	1.917E-04	1.917E-04	1.917E-04	1.917E-04	1.917E-04	1.917E-04	1.917E-04	1.917E-04	1.917E-04
BE	1.478E-04	1.478E-04	1.478E-04	1.478E-04	1.478E-04	1.478E-04	1.478E-04	1.478E-04	1.477E-04	1.472E-04	1.423E-04	1.346E-04
C	2.599E-05	2.598E-05	2.598E-05	2.597E-05	2.595E-05	2.589E-05	2.567E-05	2.506E-05	2.302E-05	7.750E-06	1.447E-10	1.901E-18
CO	1.775E-12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NI	6.345E-10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CU	5.626E-09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZN	7.882E-05	3.779E-08	3.779E-08	3.779E-08	3.779E-08	3.779E-08	3.779E-08	3.779E-08	3.779E-08	3.779E-08	3.779E-08	3.779E-08
GA	4.307E-05	8.643E-07	8.643E-07	8.643E-07	8.643E-07	8.643E-07	8.643E-07	8.643E-07	8.643E-07	8.643E-07	8.643E-07	8.643E-07
GE	6.605E-01	6.601E-01	6.601E-01	6.601E-01	6.601E-01	6.601E-01	6.601E-01	6.601E-01	6.601E-01	6.601E-01	6.601E-01	6.601E-01
AS	2.029E-01	2.001E-01	2.001E-01	2.001E-01	2.001E-01	2.001E-01	2.001E-01	2.001E-01	2.001E-01	2.001E-01	2.001E-01	2.001E-01
SE	5.633E+01	5.633E+01	5.633E+01	5.633E+01	5.633E+01	5.633E+01	5.632E+01	5.631E+01	5.627E+01	5.574E+01	5.248E+01	5.087E+01
BR	2.169E+01	2.167E+01	2.167E+01	2.167E+01	2.168E+01	2.168E+01	2.168E+01	2.169E+01	2.174E+01	2.227E+01	2.553E+01	2.714E+01
KR	3.693E+02	3.677E+02	3.663E+02	3.626E+02	3.578E+02	3.486E+02	3.452E+02	3.451E+02	3.451E+02	3.451E+02	3.451E+02	3.451E+02
RB	3.410E+02	3.425E+02	3.439E+02	3.477E+02	3.525E+02	3.617E+02	3.651E+02	3.651E+02	3.651E+02	3.651E+02	3.651E+02	3.651E+02
SR	9.165E+02	8.736E+02	8.511E+02	8.259E+02	7.725E+02	6.125E+02	3.997E+02	3.505E+02	3.501E+02	3.501E+02	3.501E+02	3.501E+02
Y	4.736E+02	4.567E+02	4.563E+02	4.563E+02	4.563E+02	4.562E+02	4.562E+02	4.562E+02	4.562E+02	4.562E+02	4.562E+02	4.562E+02
ZR	3.537E+03	3.520E+03	3.532E+03	3.567E+03	3.620E+03	3.780E+03	3.993E+03	4.042E+03	4.043E+03	4.040E+03	4.011E+03	3.966E+03
NB	4.276E+01	1.816E+00	3.729E-02	2.814E-03	4.441E-03	1.095E-02	3.374E-02	9.884E-02	3.267E-01	3.249E+00	3.183E+01	7.695E+01
MO	3.220E+03	3.334E+03	3.337E+03	3.337E+03	3.337E+03	3.337E+03	3.337E+03	3.337E+03	3.337E+03	3.337E+03	3.337E+03	3.337E+03
TC	7.672E+02	7.710E+02	7.710E+02	7.709E+02	7.709E+02	7.709E+02	7.707E+02	7.702E+02	7.685E+02	7.463E+02	5.568E+02	3.418E+02
RU	2.404E+03	2.266E+03	2.223E+03	2.184E+03	2.179E+03	2.179E+03	2.179E+03	2.180E+03	2.181E+03	2.203E+03	2.393E+03	2.608E+03
RH	4.175E+02	4.672E+02	4.673E+02	4.673E+02	4.673E+02	4.673E+02	4.673E+02	4.673E+02	4.673E+02	4.673E+02	4.673E+02	4.673E+02
PD	1.196E+03	1.284E+03	1.328E+03	1.366E+03	1.371E+03	1.372E+03	1.372E+03	1.372E+03	1.372E+03	1.371E+03	1.369E+03	1.366E+03
AG	7.757E+01	7.663E+01	7.641E+01	7.630E+01	7.629E+01	7.629E+01	7.629E+01	7.630E+01	7.632E+01	7.652E+01	7.861E+01	8.203E+01
CD	1.066E+02	1.076E+02	1.079E+02	1.079E+02	1.079E+02	1.078E+02	1.077E+02	1.077E+02	1.077E+02	1.077E+02	1.077E+02	1.077E+02
IN	2.289E+00	2.414E+00	2.426E+00	2.458E+00	2.501E+00	2.601E+00	2.662E+00	2.664E+00	2.664E+00	2.664E+00	2.664E+00	2.664E+00
SN	9.063E+01	9.005E+01	8.999E+01	8.998E+01	8.998E+01	8.998E+01	8.996E+01	8.992E+01	8.979E+01	8.814E+01	7.628E+01	6.743E+01
SB	3.288E+01	2.961E+01	2.716E+01	2.253E+01	1.956E+01	1.838E+01	1.838E+01	1.838E+01	1.838E+01	1.838E+01	1.838E+01	1.838E+01
TE	4.786E+02	4.737E+02	4.761E+02	4.807E+02	4.836E+02	4.848E+02	4.849E+02	4.849E+02	4.850E+02	4.867E+02	4.985E+02	5.074E+02
I	2.415E+02	2.344E+02	2.345E+02	2.345E+02	2.345E+02	2.345E+02	2.345E+02	2.345E+02	2.345E+02	2.345E+02	2.338E+02	2.326E+02
XE	5.331E+03	5.333E+03	5.333E+03	5.333E+03	5.333E+03	5.333E+03	5.333E+03	5.333E+03	5.333E+03	5.333E+03	5.334E+03	5.335E+03
CS	2.733E+03	2.684E+03	2.633E+03	2.517E+03	2.382E+03	2.026E+03	1.545E+03	1.428E+03	1.426E+03	1.426E+03	1.418E+03	1.405E+03
BA	1.384E+03	1.422E+03	1.474E+03	1.589E+03	1.724E+03	2.080E+03	2.561E+03	2.679E+03	2.680E+03	2.681E+03	2.689E+03	2.701E+03
LA	1.220E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03
CE	2.793E+03	2.527E+03	2.432E+03	2.370E+03	2.365E+03	2.365E+03	2.365E+03	2.365E+03	2.365E+03	2.365E+03	2.365E+03	2.365E+03
PR	1.080E+03	1.116E+03	1.116E+03	1.116E+03	1.116E+03	1.116E+03	1.116E+03	1.116E+03	1.116E+03	1.116E+03	1.116E+03	1.116E+03
ND	3.614E+03	3.863E+03	3.950E+03	4.020E+03	4.025E+03	4.025E+03	4.025E+03	4.025E+03	4.025E+03	4.025E+03	4.025E+03	4.025E+03
PM	1.453E+02	1.141E+02	8.762E+01	3.966E+01	1.058E+01	5.378E-02	4.994E-10	0.0	0.0	0.0	0.0	0.0
SM	7.194E+02	7.581E+02	7.845E+02	8.321E+02	8.607E+02	8.694E+02	8.650E+02	8.600E+02	8.586E+02	8.586E+02	8.586E+02	8.586E+02
EU	1.652E+02	1.579E+02	1.537E+02	1.433E+02	1.318E+02	1.165E+02	1.174E+02	1.224E+02	1.237E+02	1.237E+02	1.237E+02	1.237E+02
GD	8.042E+01	8.904E+01	9.337E+01	1.040E+02	1.161E+02	1.331E+02	1.368E+02	1.368E+02	1.368E+02	1.368E+02	1.368E+02	1.368E+02
TB	2.678E+00	2.585E+00	2.582E+00	2.582E+00	2.582E+00	2.582E+00	2.582E+00	2.582E+00	2.582E+00	2.582E+00	2.582E+00	2.582E+00
DY	1.280E+00	1.380E+00	1.383E+00	1.383E+00	1.383E+00	1.383E+00	1.383E+00	1.383E+00	1.383E+00	1.383E+00	1.383E+00	1.383E+00
HO	1.423E-01	1.421E-01	1.421E-01	1.421E-01	1.421E-01	1.421E-01	1.420E-01	1.419E-01	1.415E-01	1.407E-01	1.407E-01	1.407E-01
ER	5.584E-02	5.623E-02	5.623E-02	5.624E-02	5.624E-02	5.626E-02	5.631E-02	5.646E-02	5.685E-02	5.764E-02	5.764E-02	5.764E-02
TM	6.130E-05	5.738E-05	5.619E-05	5.578E-05	5.567E-05	5.565E-05	5.565E-05	5.565E-05	5.565E-05	5.565E-05	5.565E-05	5.565E-05
YB	8.653E-06	1.621E-05	1.740E-05	1.782E-05	1.793E-05	1.795E-05	1.795E-05	1.795E-05	1.795E-05	1.795E-05	1.795E-05	1.795E-05
TOTAL	3.406E+04	3.406E+04	3.406E+04	3.406E+04	3.406E+04	3.406E+04	3.406E+04	3.406E+04	3.406E+04	3.406E+04	3.406E+04	3.406E+04

TABLE A.18. GRAMS OF PRINCIPAL FISSION PRODUCT NUCLIDES IN PWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
KR 83	4.095E+01	4.096E+01	4.096E+01	4.096E+01	4.096E+01	4.096E+01	4.096E+01	4.096E+01	4.096E+01	4.096E+01	4.096E+01	4.096E+01
KR 84	1.133E+02	1.133E+02	1.133E+02	1.133E+02	1.133E+02	1.133E+02	1.133E+02	1.133E+02	1.133E+02	1.133E+02	1.133E+02	1.133E+02
RB 85	9.731E+01	9.684E+01	1.003E+02	1.040E+02	1.088E+02	1.180E+02	1.214E+02	1.214E+02	1.214E+02	1.214E+02	1.214E+02	1.214E+02
KR 86	1.899E+02	1.899E+02	1.899E+02	1.899E+02	1.899E+02	1.899E+02	1.899E+02	1.899E+02	1.899E+02	1.899E+02	1.899E+02	1.899E+02
RB 87	2.437E+02	2.437E+02	2.437E+02	2.437E+02	2.437E+02	2.437E+02	2.437E+02	2.437E+02	2.437E+02	2.437E+02	2.437E+02	2.437E+02
SR 88	3.496E+02	3.497E+02	3.497E+02	3.497E+02	3.497E+02	3.497E+02	3.497E+02	3.497E+02	3.497E+02	3.497E+02	3.497E+02	3.497E+02
Y 89	4.260E+02	4.560E+02	4.562E+02	4.562E+02	4.562E+02	4.562E+02	4.562E+02	4.562E+02	4.562E+02	4.562E+02	4.562E+02	4.562E+02
SR 90	5.360E+02	5.234E+02	5.111E+02	4.758E+02	4.224E+02	2.624E+02	4.959E+01	4.244E-01	2.469E-08	0.0	0.0	0.0
ZR 90	1.822E+01	3.084E+01	4.315E+01	7.838E+01	1.318E+02	2.918E+02	5.047E+02	5.933E+02	5.543E+02	5.543E+02	5.543E+02	5.543E+02
ZR 91	5.430E+02	5.895E+02	5.901E+02	5.901E+02	5.901E+02	5.901E+02	5.901E+02	5.901E+02	5.901E+02	5.901E+02	5.901E+02	5.901E+02
ZR 92	6.394E+02	6.396E+02	6.396E+02	6.396E+02	6.396E+02	6.396E+02	6.396E+02	6.396E+02	6.396E+02	6.396E+02	6.396E+02	6.396E+02
ZR 93	7.182E+02	7.186E+02	7.186E+02	7.186E+02	7.186E+02	7.186E+02	7.186E+02	7.185E+02	7.183E+02	7.154E+02	6.868E+02	6.417E+02
NB 93	4.799E-05	9.130E-05	1.486E-04	3.980E-04	1.035E-03	5.366E-03	2.696E-02	9.203E-02	3.199E-01	3.243E+00	3.183E+01	7.695E+01
ZR 94	7.410E+02	7.410E+02	7.410E+02	7.410E+02	7.410E+02	7.410E+02	7.410E+02	7.410E+02	7.410E+02	7.410E+02	7.410E+02	7.410E+02
MO 95	6.385E+02	7.547E+02	7.579E+02	7.580E+02	7.580E+02	7.580E+02	7.580E+02	7.580E+02	7.580E+02	7.580E+02	7.580E+02	7.580E+02
ZR 96	7.992E+02	7.992E+02	7.992E+02	7.992E+02	7.992E+02	7.992E+02	7.992E+02	7.992E+02	7.992E+02	7.992E+02	7.992E+02	7.992E+02
MO 97	7.902E+02	7.911E+02	7.911E+02	7.911E+02	7.911E+02	7.911E+02	7.911E+02	7.911E+02	7.911E+02	7.911E+02	7.911E+02	7.911E+02
MO 98	8.252E+02	8.252E+02	8.252E+02	8.252E+02	8.252E+02	8.252E+02	8.252E+02	8.252E+02	8.252E+02	8.252E+02	8.252E+02	8.252E+02
TC 99	7.669E+02	7.710E+02	7.710E+02	7.709E+02	7.709E+02	7.709E+02	7.707E+02	7.702E+02	7.685E+02	7.463E+02	5.568E+02	3.418E+02
RU 99	3.028E-03	5.537E-03	8.045E-03	1.557E-02	2.812E-02	7.829E-02	2.539E-01	7.553E-01	2.508E+00	2.469E+01	2.142E+02	4.292E+02
MO100	9.297E+02	9.297E+02	9.297E+02	9.297E+02	9.297E+02	9.297E+02	9.297E+02	9.297E+02	9.297E+02	9.297E+02	9.297E+02	9.297E+02
RU100	9.513E+01	9.513E+01	9.513E+01	9.513E+01	9.513E+01	9.513E+01	9.513E+01	9.513E+01	9.513E+01	9.513E+01	9.513E+01	9.513E+01
RU101	7.718E+02	7.718E+02	7.718E+02	7.718E+02	7.718E+02	7.718E+02	7.718E+02	7.718E+02	7.718E+02	7.718E+02	7.718E+02	7.718E+02
RU102	7.700E+02	7.700E+02	7.700E+02	7.700E+02	7.700E+02	7.700E+02	7.700E+02	7.700E+02	7.700E+02	7.700E+02	7.700E+02	7.700E+02
RH103	4.162E+02	4.672E+02	4.673E+02	4.673E+02	4.673E+02	4.673E+02	4.673E+02	4.673E+02	4.673E+02	4.673E+02	4.673E+02	4.673E+02
RU104	5.418E+02	5.418E+02	5.418E+02	5.418E+02	5.418E+02	5.418E+02	5.418E+02	5.418E+02	5.418E+02	5.418E+02	5.418E+02	5.418E+02
PD104	2.174E+02	2.174E+02	2.174E+02	2.174E+02	2.174E+02	2.174E+02	2.174E+02	2.174E+02	2.174E+02	2.174E+02	2.174E+02	2.174E+02
PD105	3.744E+02	3.758E+02	3.758E+02	3.758E+02	3.758E+02	3.758E+02	3.758E+02	3.758E+02	3.758E+02	3.758E+02	3.758E+02	3.758E+02
RU106	1.739E+02	8.743E+01	4.396E+01	5.586E+00	1.794E-01	1.910E-07	2.376E-28	0.0	0.0	0.0	0.0	0.0
PD106	1.870E+02	2.734E+02	3.169E+02	3.553E+02	3.607E+02	3.609E+02	3.609E+02	3.609E+02	3.609E+02	3.609E+02	3.609E+02	3.609E+02
PD107	2.181E+02	2.182E+02	2.182E+02	2.182E+02	2.182E+02	2.182E+02	2.181E+02	2.181E+02	2.181E+02	2.179E+02	2.158E+02	2.124E+02
PD108	1.502E+02	1.502E+02	1.502E+02	1.502E+02	1.502E+02	1.502E+02	1.502E+02	1.502E+02	1.502E+02	1.502E+02	1.502E+02	1.502E+02
AG109	7.612E+01	7.629E+01	7.629E+01	7.629E+01	7.629E+01	7.629E+01	7.629E+01	7.629E+01	7.629E+01	7.629E+01	7.629E+01	7.629E+01
PD110	4.921E+01	4.921E+01	4.921E+01	4.921E+01	4.921E+01	4.921E+01	4.921E+01	4.921E+01	4.921E+01	4.921E+01	4.921E+01	4.921E+01
I127	5.343E+01	5.539E+01	5.554E+01	5.556E+01	5.556E+01	5.556E+01	5.556E+01	5.556E+01	5.556E+01	5.556E+01	5.556E+01	5.556E+01
TE128	1.103E+02	1.103E+02	1.103E+02	1.103E+02	1.103E+02	1.103E+02	1.103E+02	1.103E+02	1.103E+02	1.103E+02	1.103E+02	1.103E+02
I129	1.772E+02	1.790E+02	1.790E+02	1.790E+02	1.790E+02	1.790E+02	1.790E+02	1.790E+02	1.790E+02	1.789E+02	1.782E+02	1.770E+02
TE130	3.540E+02	3.540E+02	3.540E+02	3.540E+02	3.540E+02	3.540E+02	3.540E+02	3.540E+02	3.540E+02	3.540E+02	3.540E+02	3.540E+02
XE131	4.205E+02	4.291E+02	4.291E+02	4.291E+02	4.291E+02	4.291E+02	4.291E+02	4.291E+02	4.291E+02	4.291E+02	4.291E+02	4.291E+02
XE132	1.073E+03	1.078E+03	1.078E+03	1.078E+03	1.078E+03	1.078E+03	1.078E+03	1.078E+03	1.078E+03	1.078E+03	1.078E+03	1.078E+03
CS133	1.114E+03	1.127E+03	1.127E+03	1.127E+03	1.127E+03	1.127E+03	1.127E+03	1.127E+03	1.127E+03	1.127E+03	1.127E+03	1.127E+03
XE134	1.469E+03	1.469E+03	1.469E+03	1.469E+03	1.469E+03	1.469E+03	1.469E+03	1.469E+03	1.469E+03	1.469E+03	1.469E+03	1.469E+03
CS134	1.208E+02	8.633E+01	6.168E+01	2.250E+01	4.190E+00	5.186E-03	3.128E-13	0.0	0.0	0.0	0.0	0.0
BA134	3.457E+01	6.907E+01	9.371E+01	1.329E+02	1.512E+02	1.554E+02	1.554E+02	1.554E+02	1.554E+02	1.554E+02	1.554E+02	1.554E+02
CS135	2.989E+02	2.996E+02	2.996E+02	2.996E+02	2.996E+02	2.996E+02	2.996E+02	2.995E+02	2.987E+02	2.907E+02	2.778E+02	2.778E+02
XE136	2.342E+03	2.342E+03	2.342E+03	2.342E+03	2.342E+03	2.342E+03	2.342E+03	2.342E+03	2.342E+03	2.342E+03	2.342E+03	2.342E+03
CS137	1.199E+03	1.171E+03	1.144E+03	1.068E+03	9.513E+02	5.993E+02	1.189E+02	1.171E+00	1.108E-07	0.0	0.0	0.0
BA137	3.373E+01	6.111E+01	8.786E+01	1.645E+02	2.810E+02	6.330E+02	1.113E+03	1.231E+03	1.232E+03	1.232E+03	1.232E+03	1.232E+03
BA138	1.274E+03	1.275E+03	1.275E+03	1.275E+03	1.275E+03	1.275E+03	1.275E+03	1.275E+03	1.275E+03	1.275E+03	1.275E+03	1.275E+03
LA139	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03
CE140	1.212E+03	1.239E+03	1.239E+03	1.239E+03	1.239E+03	1.239E+03	1.239E+03	1.239E+03	1.239E+03	1.239E+03	1.239E+03	1.239E+03
PR141	1.058E+03	1.116E+03	1.116E+03	1.116E+03	1.116E+03	1.116E+03	1.116E+03	1.116E+03	1.116E+03	1.116E+03	1.116E+03	1.116E+03
CE142	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03
ND143	7.539E+02	7.780E+02	7.780E+02	7.780E+02	7.780E+02	7.780E+02	7.780E+02	7.780E+02	7.780E+02	7.780E+02	7.780E+02	7.780E+02
CE144	3.948E+02	1.620E+02	6.650E+01	4.597E+00	5.351E-02	9.828E-10	0.0	0.0	0.0	0.0	0.0	0.0
ND144	9.237E+02	1.157E+03	1.252E+03	1.314E+03	1.318E+03	1.319E+03	1.319E+03	1.319E+03	1.319E+03	1.319E+03	1.319E+03	1.319E+03
ND145	6.721E+02	6.723E+02	6.723E+02	6.723E+02	6.723E+02	6.723E+02	6.723E+02	6.723E+02	6.723E+02	6.723E+02	6.723E+02	6.723E+02
ND146	6.847E+02	6.847E+02	6.847E+02	6.847E+02	6.847E+02	6.847E+02	6.847E+02	6.847E+02	6.847E+02	6.847E+02	6.847E+02	6.847E+02
PM147	1.403E+02	1.141E+02	8.762E+01	3.966E+01	1.058E+01	5.378E-02	4.994E-10	0.0	0.0	0.0	0.0	0.0
SM147	5.383E+01	8.833E+01	1.148E+02	1.628E+02	1.919E+02	2.024E+02	2.024E+02	2.024E+02	2.024E+02	2.024E+02	2.024E+02	2.024E+02
ND148	3.697E+02	3.697E+02	3.697E+02	3.697E+02	3.697E+02	3.697E+02	3.697E+02	3.697E+02	3.697E+02	3.697E+02	3.697E+02	3.697E+02
SM148	1.624E+02	1.655E+02	1.655E+02	1.655E+02	1.655E+02	1.655E+02	1.655E+02	1.655E+02	1.655E+02	1.655E+02	1.655E+02	1.655E+02
ND150	1.765E+02	1.765E+02	1.765E+02	1.765E+02	1.765E+02	1.765E+02	1.765E+02	1.765E+02	1.765E+02	1.765E+02	1.765E+02	1.765E+02
SM150	3.159E+02	3.159E+02	3.159E+02	3.159E+02	3.159E+02	3.159E+02	3.159E+02	3.159E+02	3.159E+02	3.159E+02	3.159E+02	3.159E+02
SM152	1.333E+02	1.333E+02	1.333E+02	1.333E+02	1.333E+02	1.333E+02	1.333E+02	1.333E+02	1.333E+02	1.333E+02	1.333E+02	1.333E+02
EU153	1.089E+02	1.100E+02	1.100E+02	1.100E+02	1.100E+02	1.100E+02	1.100E+02	1.100E+02	1.100E+02	1.100E+02	1.100E+02	1.100E+02
SM154	3.722E+01	3.765E+01	3.765E+01	3.765E+01	3.765E+01	3.765E+01	3.765E+01	3.765E+01	3.765E+01	3.765E+01	3.765E+01	3.765E+01
EU154	3.867E+01	3.566E+01	3.291E+01	2.584E+01	1.727E+01	3.446E+00	1.220E-02	1.218E-09	0.0	0.0	0.0	0.0
GD154	2.281E+00	5.275E+00	8.038E+00	1.511E+01	2.368E+01	3.750E+01	4.094E+01	4.095E+01	4.095E+01	4.095E+01	4.095E+01	4.095E+01
GD156	5.830E+01	6.211E+01	6.211E+01	6.211E+01	6.211E+01	6.211E+01	6.211E+01	6.211E+01	6.211E+01	6.211E+01	6.211E+01	6.211E+01
SUMTOT	3.316E+04	3.357E+04	3.358E+04	3.358E+04	3.359E+04	3.359E+04	3.360E+04	3.360E+04	3.360E+04	3.360E+04	3.359E+04	3.357E+04
TOTAL	3.406E+04	3.406E+04	3.406E+04	3.406E+04	3.406E+04	3.406E+04	3.406E+04	3.406E+04	3.406E+04	3.406E+04	3.406E+04	3.406E+04

TABLE A.19. CURIES OF FISSION PRODUCT ELEMENTS IN PWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	5.465E+02	5.167E+02	4.885E+02	4.128E+02	3.118E+02	1.015E+02	1.994E+00	2.657E-05	2.293E-22	0.0	0.0	0.0
BE	2.873E-06	2.873E-06	2.873E-06	2.873E-06	2.873E-06	2.873E-06	2.873E-06	2.873E-06	2.872E-06	2.861E-06	2.751E-06	2.578E-06
C	1.159E-04	1.159E-04	1.158E-04	1.158E-04	1.157E-04	1.154E-04	1.145E-04	1.117E-04	1.027E-04	3.456E-05	6.451E-10	8.476E-18
CO	2.306E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NI	8.222E+01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CU	4.913E+02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZN	4.188E+03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GA	1.980E+04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GE	1.221E+05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AS	3.540E+05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	1.029E+06	4.093E-01	4.093E-01	4.093E-01	4.092E-01	4.091E-01	4.088E-01	4.080E-01	4.049E-01	3.679E-01	1.408E-01	2.841E-02
BR	2.186E+06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KR	3.957E+06	8.868E+03	8.312E+03	6.847E+03	4.955E+03	1.360E+03	1.471E+01	3.605E-05	4.440E-07	4.310E-07	3.202E-07	1.951E-07
RB	5.627E+06	2.564E-03	2.133E-05	2.133E-05	2.133E-05	2.133E-05	2.133E-05	2.133E-05	2.133E-05	2.133E-05	2.133E-05	2.133E-05
SR	8.658E+06	7.724E+04	6.978E+04	6.493E+04	5.765E+04	3.581E+04	6.768E+03	5.792E+01	3.364E-06	0.0	0.0	0.0
Y	1.204E+07	8.672E+04	6.996E+04	6.495E+04	5.766E+04	3.582E+04	6.769E+03	5.796E+01	3.365E-06	0.0	0.0	0.0
ZR	9.947E+06	3.154E+04	6.049E+02	1.811E+00	1.806E+00	1.806E+00	1.806E+00	1.806E+00	1.806E+00	1.798E+00	1.726E+00	1.613E+00
NB	1.498E+07	7.121E+04	1.391E+03	4.806E-01	7.513E-01	1.368E+00	1.706E+00	1.715E+00	1.715E+00	1.708E+00	1.640E+00	1.532E+00
MO	9.838E+06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC	1.134E+07	1.308E+01	1.308E+01	1.308E+01	1.308E+01	1.307E+01	1.307E+01	1.306E+01	1.303E+01	1.266E+01	9.443E+00	5.796E+00
RU	5.136E+06	2.953E+05	1.471E+05	1.870E+04	6.006E+02	6.394E-04	7.959E-25	0.0	0.0	0.0	0.0	0.0
RH	6.644E+06	2.950E+05	1.471E+05	1.870E+04	6.006E+02	6.394E-04	7.959E-25	0.0	0.0	0.0	0.0	0.0
PD	7.824E+05	1.122E-01	1.122E-01	1.122E-01	1.122E-01	1.122E-01	1.122E-01	1.122E-01	1.122E-01	1.121E-01	1.111E-01	1.093E-01
AG	9.201E+05	1.628E+03	5.912E+02	2.830E+01	1.790E-01	2.673E-05	1.824E-05	6.123E-06	1.342E-07	6.251E-29	0.0	0.0
CD	1.776E+05	6.090E+01	5.170E+01	4.481E+01	3.534E+01	1.366E+01	4.911E-01	3.668E-05	1.321E-19	0.0	0.0	0.0
IN	3.910E+05	3.153E-02	1.887E-04	5.571E-11	1.488E-11	1.488E-11	1.488E-11	1.488E-11	1.488E-11	1.488E-11	1.488E-11	1.488E-11
SN	1.498E+06	6.490E+02	1.116E+02	2.634E+00	9.658E-01	9.138E-01	8.286E-01	7.791E-01	7.721E-01	7.254E-01	3.888E-01	1.375E-01
SB	3.740E+06	1.170E+04	9.090E+03	4.291E+03	1.229E+03	9.120E+00	8.857E-01	8.845E-01	8.802E-01	8.270E-01	4.432E-01	1.567E-01
TE	8.017E+06	5.991E+03	2.522E+03	1.047E+03	2.995E+02	2.009E+00	4.959E-08	2.234E-12	2.234E-12	2.234E-12	2.234E-12	2.234E-12
I	1.197E+07	3.161E-02	3.161E-02	3.161E-02	3.161E-02	3.161E-02	3.161E-02	3.161E-02	3.161E-02	3.160E-02	3.147E-02	3.126E-02
XE	8.832E+06	2.052E-05	1.178E-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	7.900E+06	2.137E+05	1.794E+05	1.220E+05	8.821E+04	5.216E+04	1.035E+04	1.023E+02	3.450E-01	3.440E-01	3.348E-01	3.200E-01
BA	9.866E+06	9.641E+04	9.421E+04	8.790E+04	7.831E+04	4.933E+04	9.788E+03	9.644E+01	9.120E-06	0.0	0.0	0.0
LA	9.807E+06	5.057E-03	1.221E-10	1.093E-10	1.093E-10	1.093E-10	1.093E-10	1.093E-10	1.093E-10	1.093E-10	1.093E-10	1.093E-10
CE	7.791E+06	5.178E+05	2.122E+05	1.467E+04	1.708E+02	3.017E-05	2.703E-05	2.703E-05	2.703E-05	2.703E-05	2.703E-05	2.703E-05
PR	6.739E+06	5.234E+05	2.148E+05	1.485E+04	1.728E+02	3.174E-06	0.0	0.0	0.0	0.0	0.0	0.0
ND	1.567E+06	7.589E-05	1.482E-09	1.555E-09	1.560E-09	1.560E-09	1.560E-09	1.560E-09	1.560E-09	1.560E-09	1.560E-09	1.560E-09
PM	1.685E+06	1.059E+05	8.126E+04	3.678E+04	9.815E+03	4.988E+01	4.631E-07	0.0	0.0	0.0	0.0	0.0
SM	6.105E+05	3.581E+02	3.554E+02	3.473E+02	3.341E+02	2.864E+02	1.671E+02	3.580E+01	1.629E-01	4.603E-06	4.603E-06	4.603E-06
EU	2.760E+05	1.525E+04	1.377E+04	1.019E+04	6.262E+03	1.029E+03	3.332E+00	1.571E-06	3.986E-22	0.0	0.0	0.0
GD	9.505E+03	1.584E+01	5.563E+00	2.412E-01	1.292E-03	1.437E-12	4.181E-13	4.193E-13	4.193E-13	4.193E-13	4.193E-13	4.193E-13
TB	3.601E+03	3.053E+01	9.206E-01	2.523E-05	6.288E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	8.668E+02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	1.698E+02	2.532E-03	2.530E-03	2.526E-03	2.518E-03	2.490E-03	2.391E-03	2.130E-03	1.422E-03	7.857E-06	2.082E-28	0.0
ER	3.949E+00	6.040E-13	1.214E-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	5.847E-02	7.707E-03	1.408E-03	1.431E-04	2.309E-05	1.689E-08	1.788E-19	0.0	0.0	0.0	0.0	0.0
TOTAL	1.745E+08	2.359E+06	1.253E+06	4.667E+05	3.066E+05	1.760E+05	3.388E+04	3.692E+02	1.926E+01	1.857E+01	1.426E+01	9.725E+00

TABLE A.20. CURIES OF PRINCIPAL FISSION PRODUCT NUCLIDES IN PWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H 3	5.465E+02	5.167E+02	4.885E+02	4.126E+02	3.116E+02	1.015E+02	1.994E+00	2.657E-05	2.293E-22	0.0	0.0	0.0
SE 79	4.093E-01	4.093E-01	4.093E-01	4.093E-01	4.092E-01	4.091E-01	4.088E-01	4.080E-01	4.049E-01	3.679E-01	1.408E-01	2.841E-02
KR 85	9.458E+03	8.866E+03	8.312E+03	6.847E+03	4.955E+03	1.360E+03	1.471E+01	3.560E-05	7.849E-25	0.0	0.0	0.0
SR 89	8.753E+05	5.824E+03	3.873E+01	1.138E-05	1.477E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SR 90	7.314E+04	7.142E+04	6.974E+04	6.493E+04	5.785E+04	3.581E+04	6.768E+03	5.792E+01	3.364E-06	0.0	0.0	0.0
Y 90	7.713E+04	7.144E+04	6.976E+04	6.495E+04	5.786E+04	3.582E+04	6.769E+03	5.796E+01	3.365E-06	0.0	0.0	0.0
Y 91	1.150E+06	1.528E+04	2.018E+02	4.645E-04	1.865E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZR 93	1.805E+00	1.806E+00	1.806E+00	1.806E+00	1.806E+00	1.806E+00	1.806E+00	1.806E+00	1.806E+00	1.798E+00	1.726E+00	1.613E+00
NB 93M	1.097E-01	1.896E-01	2.654E-01	4.711E-01	7.511E-01	1.368E+00	1.706E+00	1.716E+00	1.715E+00	1.708E+00	1.640E+00	1.532E+00
ZR 95	1.649E+06	3.154E+04	6.031E+02	4.217E-03	1.078E-11	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 95	1.687E+06	7.098E+04	1.386E+03	9.361E-03	2.393E-11	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC 99	1.301E+01	1.308E+01	1.308E+01	1.308E+01	1.308E+01	1.307E+01	1.307E+01	1.308E+01	1.303E+01	1.266E+01	9.443E+00	5.796E+00
RU103	1.649E+06	2.615E+03	4.147E+00	1.662E-08	1.682E-22	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RH103M	1.485E+06	2.361E+03	3.744E+00	1.499E-08	1.516E-22	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RU106	5.821E+05	2.927E+05	1.471E+05	1.870E+04	6.006E+02	6.394E-04	7.959E-25	0.0	0.0	0.0	0.0	0.0
RH106	6.581E+05	2.927E+05	1.471E+05	1.870E+04	6.006E+02	6.394E-04	7.959E-25	0.0	0.0	0.0	0.0	0.0
PD107	1.122E-01	1.122E-01	1.122E-01	1.122E-01	1.122E-01	1.122E-01	1.122E-01	1.122E-01	1.122E-01	1.121E-01	1.111E-01	1.093E-01
SB125	1.485E+04	1.167E+04	9.089E+03	4.290E+03	1.228E+03	8.234E+00	2.032E-07	0.0	0.0	0.0	0.0	0.0
TE125M	3.100E+03	2.841E+03	2.218E+03	1.047E+03	2.995E+02	2.009E+00	4.958E-08	0.0	0.0	0.0	0.0	0.0
SN126	7.775E-01	7.775E-01	7.775E-01	7.775E-01	7.774E-01	7.773E-01	7.770E-01	7.759E-01	7.721E-01	7.254E-01	3.888E-01	1.375E-01
SB126	1.220E+03	1.089E-01	1.088E-01	1.088E-01	1.088E-01	1.088E-01	1.088E-01	1.088E-01	1.081E-01	1.016E-01	5.443E-02	1.924E-02
SB126M	5.482E+02	7.775E-01	7.775E-01	7.775E-01	7.774E-01	7.773E-01	7.770E-01	7.759E-01	7.721E-01	7.254E-01	3.888E-01	1.375E-01
I129	3.130E-02	3.161E-02	3.161E-02	3.161E-02	3.161E-02	3.161E-02	3.161E-02	3.161E-02	3.161E-02	3.160E-02	3.147E-02	3.126E-02
CS134	1.564E+05	1.117E+05	7.984E+04	2.912E+04	5.424E+03	6.712E+00	4.049E-10	0.0	0.0	0.0	0.0	0.0
CS135	3.443E-01	3.451E-01	3.451E-01	3.451E-01	3.451E-01	3.451E-01	3.451E-01	3.450E-01	3.450E-01	3.440E-01	3.348E-01	3.200E-01
CS137	1.043E+05	1.019E+05	9.959E+04	9.292E+04	8.278E+04	5.215E+04	1.035E+04	1.019E+02	9.641E-06	0.0	0.0	0.0
BA137M	9.890E+04	9.641E+04	9.421E+04	8.790E+04	7.831E+04	4.933E+04	9.788E+03	9.644E+01	9.120E-06	0.0	0.0	0.0
CE144	1.260E+06	5.171E+05	2.122E+05	1.467E+04	1.708E+02	3.137E-06	0.0	0.0	0.0	0.0	0.0	0.0
PR144	1.272E+06	5.171E+05	2.122E+05	1.467E+04	1.708E+02	3.137E-06	0.0	0.0	0.0	0.0	0.0	0.0
PR144M	1.514E+04	6.206E+03	2.547E+03	1.760E+02	2.049E+00	3.764E-08	0.0	0.0	0.0	0.0	0.0	0.0
PM147	1.301E+05	1.058E+05	8.126E+04	3.678E+04	9.815E+03	4.988E+01	4.631E-07	0.0	0.0	0.0	0.0	0.0
SM151	3.533E+02	3.581E+02	3.554E+02	3.473E+02	3.341E+02	2.884E+02	1.671E+02	3.580E+01	1.629E-01	0.0	0.0	0.0
EU154	1.044E+04	9.634E+03	8.888E+03	6.979E+03	4.654E+03	9.305E+02	3.293E+00	3.289E-07	0.0	0.0	0.0	0.0
EU155	6.452E+03	5.611E+03	4.879E+03	3.208E+03	1.595E+03	9.743E+01	5.490E-03	3.978E-15	0.0	0.0	0.0	0.0
SUMTOT	1.298E+07	2.353E+06	1.252E+06	4.667E+05	3.066E+05	1.760E+05	3.388E+04	3.692E+02	1.926E+01	1.857E+01	1.426E+01	9.729E+00
TOTAL	1.745E+08	2.359E+06	1.253E+06	4.667E+05	3.066E+05	1.760E+05	3.388E+04	3.692E+02	1.926E+01	1.857E+01	1.426E+01	9.725E+00

TABLE A.21. WATTS OF FISSION PRODUCT ELEMENTS IN PWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	1.840E-02	1.740E-02	1.645E-02	1.390E-02	1.050E-02	3.416E-03	6.715E-05	8.946E-10	7.720E-27	0.0	0.0	0.0
BE	3.449E-09	3.449E-09	3.449E-09	3.449E-09	3.449E-09	3.448E-09	3.448E-09	3.448E-09	3.447E-09	3.434E-09	3.302E-09	3.095E-09
C	3.398E-08	3.397E-08	3.397E-08	3.396E-08	3.394E-08	3.383E-08	3.357E-08	3.277E-08	3.011E-08	1.013E-08	1.892E-13	2.486E-21
CO	1.148E-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NI	2.149E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CU	1.490E+01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZN	8.354E+01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GA	5.168E+02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GE	1.889E+03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AS	7.932E+03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	1.625E+04	1.019E-04	1.019E-04	1.019E-04	1.019E-04	1.019E-04	1.018E-04	1.016E-04	1.008E-04	9.158E-05	3.505E-05	7.074E-06
BR	4.558E+04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KR	6.137E+04	1.328E+01	1.245E+01	1.026E+01	7.423E+00	2.037E+00	2.204E-02	5.370E-08	3.685E-10	3.577E-10	2.657E-10	1.619E-10
RB	1.242E+05	1.151E-05	1.784E-08	1.783E-08	1.783E-08	1.783E-08	1.783E-08	1.783E-08	1.783E-08	1.783E-08	1.783E-08	1.783E-08
SR	1.123E+05	1.030E+02	8.107E+01	7.536E+01	6.691E+01	4.156E+01	7.855E+00	6.722E-02	3.904E-09	0.0	0.0	0.0
Y	1.808E+05	4.508E+02	3.873E+02	3.600E+02	3.196E+02	1.985E+02	3.752E+01	3.212E-01	1.865E-08	0.0	0.0	0.0
ZR	9.333E+04	1.597E+02	3.055E+00	2.312E-04	2.099E-04	2.099E-04	2.099E-04	2.098E-04	2.098E-04	2.089E-04	2.006E-04	1.874E-04
NB	2.110E+05	3.408E+02	6.656E+00	1.298E-04	1.345E-04	2.438E-04	3.037E-04	3.054E-04	3.053E-04	3.037E-04	2.906E-04	2.715E-04
MO	8.689E+04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC	1.241E+05	6.557E-03	6.557E-03	6.557E-03	6.557E-03	6.556E-03	6.555E-03	6.551E-03	6.536E-03	6.347E-03	4.736E-03	2.907E-03
RU	2.873E+04	2.615E+01	8.762E+00	1.112E+00	3.571E-02	3.802E-08	4.732E-29	0.0	0.0	0.0	0.0	0.0
RH	3.455E+04	2.807E+03	1.411E+03	1.793E+02	5.751E+00	6.132E-06	7.634E-27	0.0	0.0	0.0	0.0	0.0
PD	3.373E+03	6.654E-06	6.654E-06	6.654E-06	6.654E-06	6.654E-06	6.654E-06	6.653E-06	6.653E-06	6.647E-06	6.583E-06	6.479E-06
AG	4.774E+03	2.699E+01	9.799E+00	4.690E-01	2.967E-03	2.469E-07	1.685E-07	5.656E-08	1.240E-09	5.774E-31	0.0	0.0
CD	2.008E+03	1.163E-01	8.708E-02	7.544E-02	5.949E-02	2.300E-02	8.267E-04	6.175E-08	2.223E-22	0.0	0.0	0.0
IN	8.241E+03	9.305E-05	5.581E-07	1.424E-13	2.135E-14	2.135E-14	2.135E-14	2.135E-14	2.135E-14	2.135E-14	2.135E-14	2.135E-14
SN	1.841E+04	1.791E+00	2.634E-01	2.789E-03	1.335E-03	1.243E-03	1.073E-03	9.741E-04	9.630E-04	9.048E-04	4.849E-04	1.714E-04
SB	7.238E+04	3.679E+01	2.843E+01	1.342E+01	3.850E+00	3.765E-02	1.190E-02	1.189E-02	1.183E-02	1.111E-02	5.956E-03	2.106E-03
TE	7.574E+04	5.417E+00	2.150E+00	8.801E-01	2.518E-01	1.689E-03	4.168E-11	3.342E-16	3.342E-16	3.342E-16	3.342E-16	3.342E-16
I	1.755E+05	1.462E-05	1.462E-05	1.462E-05	1.452E-05	1.462E-05	1.462E-05	1.462E-05	1.462E-05	1.462E-05	1.456E-05	1.446E-05
XE	8.292E+04	1.974E-08	1.133E-17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	1.515E+05	1.250E+03	9.228E+02	3.992E+02	1.468E+02	5.775E+01	1.144E+01	1.129E-01	1.151E-04	1.148E-04	1.117E-04	1.068E-04
BA	8.923E+04	3.786E+02	3.699E+02	3.451E+02	3.075E+02	1.937E+02	3.843E+01	3.787E-01	3.581E-08	0.0	0.0	0.0
LA	1.557E+05	8.477E-05	4.026E-13	1.883E-13	1.883E-13	1.883E-13	1.883E-13	1.883E-13	1.883E-13	1.883E-13	1.883E-13	1.883E-13
CE	3.729E+04	3.440E+02	1.408E+02	9.730E+00	1.133E-01	2.080E-09	0.0	0.0	0.0	0.0	0.0	0.0
PR	5.602E+04	3.803E+03	1.561E+03	1.079E+02	1.256E+00	2.307E-08	0.0	0.0	0.0	0.0	0.0	0.0
ND	7.730E+03	1.829E-07	2.094E-17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM	9.045E+03	3.879E+01	2.915E+01	1.319E+01	3.520E+00	1.789E-02	1.661E-10	0.0	0.0	0.0	0.0	0.0
SM	1.595E+03	4.199E-02	4.167E-02	4.072E-02	3.918E-02	3.358E-02	1.959E-02	4.198E-03	1.917E-05	6.303E-08	6.303E-08	6.303E-08
EU	2.632E+03	9.029E+01	8.308E+01	6.479E+01	4.290E+01	8.403E+00	2.971E-02	1.236E-08	3.022E-24	0.0	0.0	0.0
GD	3.852E+01	1.365E-02	4.795E-03	2.079E-04	1.114E-06	5.838E-15	5.448E-15	5.463E-15	5.463E-15	5.463E-15	5.463E-15	5.463E-15
TB	2.111E+01	2.487E-01	7.498E-03	2.055E-07	5.122E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	2.942E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	7.280E-01	2.805E-05	2.803E-05	2.798E-05	2.790E-05	2.758E-05	2.649E-05	2.360E-05	1.575E-05	8.704E-08	2.307E-30	0.0
ER	5.104E-03	1.217E-15	2.446E-27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	1.023E-04	1.421E-05	2.035E-06	2.714E-08	3.580E-09	2.619E-12	2.773E-23	0.0	0.0	0.0	0.0	0.0
TOTAL	2.084E+06	9.878E+03	5.058E+03	1.581E+03	9.060E+02	5.021E+02	9.534E+01	9.043E-01	2.011E-02	1.911E-02	1.184E-02	5.778E-03

TABLE A.22. WATTS OF PRINCIPAL FISSION PRODUCT NUCLIDES IN PWR SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
SE 79	1.019E-04	1.019E-04	1.019E-04	1.019E-04	1.019E-04	1.019E-04	1.018E-04	1.016E-04	1.008E-04	9.158E-05	3.505E-05	7.074E-06
KR 85	1.417E+01	1.328E+01	1.245E+01	1.026E+01	7.423E+00	2.037E+00	2.204E-02	5.333E-08	1.176E-27	0.0	0.0	0.0
SR 89	3.026E+03	2.013E+01	1.339E-01	3.933E-08	5.104E-19	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SR 90	8.489E+01	8.289E+01	8.094E+01	7.536E+01	6.691E+01	4.156E+01	7.855E+00	6.722E-02	3.904E-09	0.0	0.0	0.0
Y 90	4.275E+02	3.959E+02	3.666E+02	3.600E+02	3.196E+02	1.985E+02	3.752E+01	3.212E-01	1.865E-08	0.0	0.0	0.0
Y 91	4.129E+03	5.468E+01	7.247E-01	1.668E-06	6.697E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZR 93	2.097E-04	2.099E-04	2.099E-04	2.099E-04	2.099E-04	2.099E-04	2.099E-04	2.098E-04	2.098E-04	2.089E-04	2.006E-04	1.874E-04
NB 93M	1.944E-05	3.359E-05	4.702E-05	8.346E-05	1.331E-04	2.424E-04	3.023E-04	3.040E-04	3.039E-04	3.027E-04	2.906E-04	2.715E-04
ZR 95	8.354E+03	1.597E+02	3.055E+00	2.136E-05	5.459E-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 95	7.996E+03	3.405E+02	6.650E+00	4.490E-05	1.148E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC 99	6.522E-03	6.557E-03	6.557E-03	6.557E-03	6.557E-03	6.556E-03	6.555E-03	6.551E-03	6.536E-03	6.347E-03	4.736E-03	2.907E-03
RU106	3.461E+01	1.740E+01	8.748E+00	1.112E+00	3.571E-02	3.802E-08	4.732E-29	0.0	0.0	0.0	0.0	0.0
RH106	6.312E+03	2.897E+03	1.411E+03	1.793E+02	5.761E+00	6.132E-06	7.634E-27	0.0	0.0	0.0	0.0	0.0
PD107	6.653E-06	6.654E-06	6.654E-06	6.654E-06	6.654E-06	6.654E-06	6.654E-06	6.653E-06	6.653E-06	6.647E-06	6.583E-06	6.479E-06
AG110M	7.391E+01	2.883E+01	9.743E+00	4.663E-01	2.950E-03	4.673E-12	0.0	0.0	0.0	0.0	0.0	0.0
SB125	4.643E+01	3.649E+01	2.841E+01	1.341E+01	3.838E+00	2.574E-02	6.353E-10	0.0	0.0	0.0	0.0	0.0
SN126	9.697E-04	9.697E-04	9.697E-04	9.697E-04	9.696E-04	9.695E-04	9.690E-04	9.677E-04	9.630E-04	9.048E-04	4.849E-04	1.714E-04
SB126	2.254E+01	2.011E-03	2.011E-03	2.011E-03	2.011E-03	2.011E-03	2.010E-03	2.007E-03	1.997E-03	1.875E-03	1.006E-03	3.556E-04
SB126M	6.980E+00	9.900E-03	9.899E-03	9.899E-03	9.899E-03	9.898E-03	9.893E-03	9.879E-03	9.831E-03	9.237E-03	4.950E-03	1.750E-03
I129	1.448E-05	1.462E-05	1.462E-05	1.462E-05	1.462E-05	1.462E-05	1.462E-05	1.462E-05	1.462E-05	1.462E-05	1.456E-05	1.446E-05
CS134	1.592E+03	1.137E+03	8.126E+02	2.964E+02	5.520E+01	6.832E-02	4.121E-12	0.0	0.0	0.0	0.0	0.0
CS135	1.149E-04	1.152E-04	1.152E-04	1.152E-04	1.152E-04	1.152E-04	1.152E-04	1.152E-04	1.151E-04	1.148E-04	1.117E-04	1.068E-04
CS137	1.154E+02	1.127E+02	1.102E+02	1.028E+02	9.156E+01	5.768E+01	1.144E+01	1.128E-01	1.066E-08	0.0	0.0	0.0
BA137M	3.883E+02	3.786E+02	3.699E+02	3.451E+02	3.079E+02	1.937E+02	3.843E+01	3.787E-01	3.581E-08	0.0	0.0	0.0
CE144	8.358E+02	3.430E+02	1.408E+02	9.730E+00	1.133E-01	2.080E-09	0.0	0.0	0.0	0.0	0.0	0.0
PR144	9.346E+03	3.801E+03	1.560E+03	1.078E+02	1.255E+00	2.306E-08	0.0	0.0	0.0	0.0	0.0	0.0
PM147	4.666E+01	3.796E+01	2.915E+01	1.319E+01	3.520E+00	1.789E-02	1.661E-10	0.0	0.0	0.0	0.0	0.0
SM151	4.143E-02	4.199E-02	4.167E-02	4.072E-02	3.918E-02	3.358E-02	1.959E-02	4.193E-03	1.911E-05	0.0	0.0	0.0
EU154	9.340E+01	8.617E+01	7.950E+01	6.242E+01	4.172E+01	3.323E+00	2.948E-02	2.942E-09	0.0	0.0	0.0	0.0
EU155	4.693E+00	4.081E+00	3.549E+00	2.333E+00	1.160E+00	7.086E-02	3.993E-06	2.891E-18	0.0	0.0	0.0	0.0
SUMTOT	4.295E+04	9.856E+03	5.054E+03	1.580E+03	9.056E+02	5.021E+02	9.534E+01	9.042E-01	2.010E-02	1.910E-02	1.184E-02	5.778E-03
TOTAL	2.084E+06	9.878E+03	5.058E+03	1.581E+03	9.060E+02	5.021E+02	9.534E+01	9.043E-01	2.011E-02	1.911E-02	1.184E-02	5.778E-03

TABLE A.23. PHOTONS FROM FISSION PRODUCTS IN PWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS= ONE METRIC TON OF INITIAL HEAVY METAL(MTIHM)

EMEAN	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	2.157E+18	2.897E+16	1.505E+16	4.869E+15	3.335E+15	2.014E+15	3.801E+14	3.383E+12	7.009E+10	6.792E+10	5.089E+10	3.354E+10
2.500E-02	5.661E+17	6.458E+15	3.406E+15	1.114E+15	7.180E+14	4.173E+14	7.874E+13	7.062E+11	2.212E+10	2.106E+10	1.322E+10	6.643E+09
3.750E-02	4.617E+17	6.580E+15	3.357E+15	1.045E+15	6.970E+14	3.986E+14	7.475E+13	6.826E+11	6.169E+09	5.943E+09	4.161E+09	2.430E+09
5.750E-02	4.635E+17	6.029E+15	3.109E+15	9.626E+14	6.484E+14	3.891E+14	7.311E+13	6.426E+11	9.738E+09	9.278E+09	5.916E+09	2.970E+09
8.500E-02	3.413E+17	4.242E+15	2.150E+15	6.218E+14	4.016E+14	2.343E+14	4.401E+13	3.966E+11	1.637E+10	1.543E+10	8.611E+09	3.365E+09
1.250E-01	3.680E+17	4.923E+15	2.354E+15	5.601E+14	3.271E+14	1.650E+14	2.846E+13	2.464E+11	1.349E+09	1.286E+09	8.085E+08	3.966E+08
2.250E-01	7.939E+17	3.690E+15	1.877E+15	5.336E+14	3.419E+14	2.017E+14	3.757E+13	3.247E+11	1.582E+09	1.440E+09	7.999E+08	3.092E+08
3.750E-01	5.966E+17	1.974E+15	1.027E+15	2.887E+14	1.594E+14	8.678E+13	1.631E+13	1.711E+11	3.132E+10	2.942E+10	1.577E+10	5.575E+09
5.750E-01	9.744E+17	1.395E+16	9.839E+15	5.157E+15	3.357E+15	1.928E+15	3.815E+14	3.817E+12	6.954E+10	6.532E+10	3.500E+10	1.238E+10
8.500E-01	1.129E+18	7.740E+15	3.081E+15	1.120E+15	2.820E+14	3.054E+13	2.693E+12	2.615E+10	3.563E+09	3.277E+09	1.752E+09	6.195E+08
1.250E+00	5.807E+17	8.980E+14	5.669E+14	2.299E+14	1.107E+14	2.277E+13	9.345E+11	8.291E+09	8.463E+08	7.936E+08	4.253E+08	1.504E+08
1.750E+00	2.278E+17	8.442E+13	4.221E+13	8.687E+12	3.417E+12	9.030E+11	6.978E+10	5.810E+08	3.605E+04	3.384E+04	1.813E+04	6.411E+03
2.250E+00	1.067E+17	1.615E+14	6.774E+13	5.146E+12	8.080E+10	3.952E+07	7.462E+06	6.385E+04	4.267E-03	5.582E-04	5.582E-04	5.582E-04
2.750E+00	4.654E+16	2.458E+12	1.224E+12	1.524E+11	4.820E+09	5.086E+03	2.797E-04	2.797E-04	2.797E-04	2.797E-04	2.797E-04	2.797E-04
3.500E+00	2.459E+16	3.042E+11	1.529E+11	1.943E+10	6.243E+08	6.646E+02	2.060E-04	2.060E-04	2.060E-04	2.060E-04	2.060E-04	2.060E-04
5.000E+00	1.220E+16	5.629E-05	5.746E-05	5.957E-05	6.085E-05	6.132E-05	6.132E-05	6.132E-05	6.132E-05	6.132E-05	6.132E-05	6.132E-05
7.000E+00	8.968E+13	3.653E-06	3.728E-06	3.865E-06	3.949E-06	3.979E-06	3.979E-06	3.979E-06	3.979E-06	3.979E-06	3.979E-06	3.979E-06
1.100E+01	1.911E+10	2.310E-07	2.358E-07	2.444E-07	2.497E-07	2.516E-07	2.516E-07	2.516E-07	2.516E-07	2.516E-07	2.516E-07	2.516E-07
TOTAL	8.851E+18	8.570E+16	4.592E+16	1.652E+16	1.038E+16	5.890E+15	1.118E+15	1.040E+13	2.327E+11	2.212E+11	1.374E+11	6.838E+10
MEV/SEC	3.728E+18	1.998E+16	1.112E+16	4.778E+15	2.658E+15	1.361E+15	2.595E+14	2.561E+12	6.013E+10	5.647E+10	3.066E+10	1.126E+10

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS= ONE METRIC TON OF INITIAL HEAVY METAL(MTIHM)

EMEAN	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	3.236E+10	4.345E+08	2.257E+08	7.303E+07	5.003E+07	3.022E+07	5.701E+06	5.075E+04	1.051E+03	1.019E+03	7.634E+02	5.031E+02
2.500E-02	1.415E+10	1.614E+08	8.516E+07	2.785E+07	1.795E+07	1.043E+07	1.968E+06	1.765E+04	5.529E+02	5.266E+02	3.304E+02	1.661E+02
3.750E-02	1.731E+10	2.467E+08	1.259E+08	3.920E+07	2.614E+07	1.495E+07	2.803E+06	2.558E+04	2.313E+02	2.229E+02	1.560E+02	9.113E+01
5.750E-02	2.665E+10	3.467E+08	1.788E+08	5.535E+07	3.728E+07	2.237E+07	4.204E+06	3.695E+04	5.600E+02	5.335E+02	3.402E+02	1.708E+02
8.500E-02	2.901E+10	3.606E+08	1.827E+08	5.285E+07	3.414E+07	1.991E+07	3.740E+06	3.371E+04	1.391E+03	1.311E+03	7.320E+02	2.860E+02
1.250E-01	4.600E+10	6.154E+08	2.942E+08	7.002E+07	4.089E+07	2.062E+07	3.556E+06	3.081E+04	1.686E+02	1.607E+02	1.011E+02	4.958E+01
2.250E-01	1.786E+11	8.302E+08	4.223E+08	1.200E+08	7.693E+07	4.539E+07	8.454E+06	7.305E+04	3.559E+02	3.239E+02	1.800E+02	6.957E+01
3.750E-01	2.237E+11	7.402E+08	3.852E+08	1.083E+08	5.979E+07	3.254E+07	6.118E+06	6.416E+04	1.175E+04	1.103E+04	5.912E+03	2.090E+03
5.750E-01	5.603E+11	8.020E+09	5.658E+09	2.965E+09	1.930E+09	1.109E+09	2.194E+08	2.195E+06	3.998E+04	3.756E+04	2.013E+04	7.117E+03
8.500E-01	9.600E+11	6.579E+09	2.619E+09	9.517E+08	2.397E+08	2.596E+07	2.289E+06	2.223E+04	3.029E+03	2.785E+03	1.490E+03	5.266E+02
1.250E+00	7.259E+11	1.122E+09	7.086E+08	2.873E+08	1.384E+08	2.847E+07	1.168E+06	1.036E+04	1.058E+03	9.920E+02	5.316E+02	1.880E+02
1.750E+00	3.987E+11	1.477E+08	7.386E+07	1.520E+07	5.980E+06	1.580E+06	1.221E+05	1.017E+03	6.308E-02	5.921E-02	3.173E-02	1.122E-02
2.250E+00	2.400E+11	3.634E+08	1.524E+08	1.158E+07	1.818E+05	8.892E+01	1.679E+01	1.437E-01	9.601E-09	1.256E-09	1.256E-09	1.256E-09
2.750E+00	1.280E+11	6.759E+06	3.365E+06	4.191E+05	1.325E+04	1.399E-02	7.691E-10	7.691E-10	7.691E-10	7.691E-10	7.691E-10	7.691E-10
3.500E+00	8.607E+10	1.065E+06	5.353E+05	6.802E+04	2.185E+03	2.326E-03	7.209E-10	7.209E-10	7.209E-10	7.209E-10	7.209E-10	7.209E-10
5.000E+00	6.099E+10	2.815E-10	2.873E-10	2.979E-10	3.043E-10	3.066E-10	3.066E-10	3.066E-10	3.066E-10	3.066E-10	3.066E-10	3.066E-10
7.000E+00	6.278E+08	2.557E-11	2.610E-11	2.706E-11	2.764E-11	2.785E-11	2.785E-11	2.785E-11	2.785E-11	2.785E-11	2.785E-11	2.785E-11
1.100E+01	2.102E+05	2.541E-12	2.593E-12	2.689E-12	2.747E-12	2.768E-12	2.768E-12	2.768E-12	2.768E-12	2.768E-12	2.768E-12	2.768E-12
TOTAL	3.728E+12	1.998E+10	1.112E+10	4.778E+09	2.658E+09	1.361E+09	2.595E+08	2.561E+06	6.013E+04	5.647E+04	3.066E+04	1.126E+04
GAM POW	5.977E+05	3.202E+03	1.782E+03	7.659E+02	4.260E+02	2.182E+02	4.160E+01	4.105E-01	9.639E-03	9.051E-03	4.915E-03	1.805E-03

Appendix A.2: Characterization of PWR High-Level Waste

TABLE A.24. GRAMS OF ACTINIDE ELEMENTS IN PWR HIGH-LEVEL WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
HE	0.0	9.132E-02	1.213E-01	1.641E-01	2.209E-01	3.827E-01	6.293E-01	9.583E-01	1.532E+00	2.999E+00	5.795E+00	7.816E+00
SF	2.083E-06	3.376E-06	4.374E-06	6.973E-06	1.067E-05	2.007E-05	2.789E-05	2.915E-05	3.163E-05	4.840E-05	5.698E-05	6.011E-05
TL	1.499E-12	1.057E-12	7.484E-13	2.841E-13	9.404E-14	7.306E-14	8.010E-14	7.111E-14	7.797E-14	4.340E-13	7.148E-12	1.368E-11
PB	3.456E-07	7.633E-07	1.057E-06	1.521E-06	1.766E-06	2.078E-06	2.940E-06	4.792E-06	1.922E-05	5.397E-03	5.856E-01	2.262E+00
BI	1.343E-10	1.301E-10	1.334E-10	1.700E-10	2.701E-10	9.124E-10	1.093E-08	2.437E-07	8.866E-06	7.691E-03	2.212E+00	1.309E+01
PO	9.962E-14	2.237E-13	4.186E-13	1.448E-12	4.953E-12	3.097E-11	2.152E-10	1.403E-09	1.653E-08	6.981E-07	5.430E-06	6.144E-06
AT	3.172E-20	3.160E-20	3.174E-20	3.266E-20	3.582E-20	6.849E-20	4.362E-19	3.675E-18	4.077E-17	3.302E-15	6.996E-14	1.816E-13
RN	0.0	1.134E-12	9.354E-13	7.515E-13	9.675E-13	2.551E-12	9.494E-12	4.935E-11	4.828E-10	2.040E-08	1.586E-07	1.795E-07
FR	4.528E-16	5.870E-16	7.192E-16	1.097E-15	1.667E-15	3.448E-15	8.301E-15	3.800E-14	3.752E-13	2.999E-11	6.354E-10	1.286E-09
RA	2.654E-08	3.631E-08	4.678E-08	8.068E-08	1.407E-07	3.928E-07	1.475E-06	7.676E-06	7.511E-05	3.173E-03	2.468E-02	2.793E-02
AC	6.387E-09	1.163E-08	1.670E-08	3.100E-08	5.201E-08	1.095E-07	1.682E-07	1.795E-07	1.963E-07	4.948E-07	5.108E-06	8.263E-06
TH	1.593E-03	1.582E-03	1.585E-03	1.595E-03	1.615E-03	1.727E-03	2.439E-03	5.892E-03	2.110E-02	2.338E-01	1.867E+00	2.780E+00
PA	2.808E-04	2.809E-04	2.810E-04	2.811E-04	2.812E-04	2.820E-04	2.845E-04	2.915E-04	3.154E-04	6.343E-04	4.867E-03	6.657E-03
U	4.779E+03	4.779E+03	4.779E+03	4.779E+03	4.779E+03	4.780E+03	4.783E+03	4.786E+03	4.789E+03	4.820E+03	4.925E+03	4.942E+03
NP	4.425E+02	4.426E+02	4.427E+02	4.430E+02	4.434E+02	4.452E+02	4.513E+02	4.654E+02	4.905E+02	5.012E+02	4.869E+02	4.638E+02
PU	4.565E+01	5.066E+01	5.200E+01	5.325E+01	5.469E+01	5.838E+01	6.066E+01	5.946E+01	6.135E+01	7.534E+01	1.028E+01	1.681E+00
AM	1.413E+02	1.414E+02	1.416E+02	1.420E+02	1.425E+02	1.428E+02	1.373E+02	1.213E+02	9.027E+01	3.345E+01	7.116E-03	1.909E-07
CM	2.499E+01	1.959E+01	1.792E+01	1.577E+01	1.307E+01	6.229E+00	6.409E-01	2.082E-01	1.924E-01	7.543E-02	4.490E-04	4.081E-04
BK	7.262E-08	3.292E-08	1.492E-08	1.391E-09	2.663E-11	3.580E-18	1.588E-22	1.575E-22	1.532E-22	1.070E-22	2.968E-24	7.541E-27
CF	6.686E-08	1.046E-07	1.208E-07	1.298E-07	1.254E-07	1.122E-07	9.398E-08	6.361E-08	1.657E-08	1.070E-12	1.056E-19	2.684E-22
ES	3.086E-13	4.354E-14	1.738E-14	1.106E-15	1.121E-17	1.184E-25	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	5.433E+03	5.433E+03	5.433E+03	5.433E+03	5.433E+03	5.433E+03	5.433E+03	5.433E+03	5.433E+03	5.433E+03	5.433E+03	5.434E+03

TABLE A.25. GRAMS OF PRINCIPAL ACTINIDE NUCLIDES IN PWR HIGH-LEVEL WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
HE 4	0.0	9.132E-02	1.213E-01	1.641E-01	2.209E-01	3.827E-01	6.293E-01	9.583E-01	1.532E+00	2.999E+00	5.795E+00	7.816E+00
BI209	5.057E-11	7.117E-11	9.181E-11	1.547E-10	2.657E-10	9.105E-10	1.092E-08	2.436E-07	8.865E-06	7.691E-03	2.212E+00	1.309E+01
U233	7.351E-06	1.633E-04	3.193E-04	7.574E-04	1.463E-03	4.292E-03	1.428E-02	4.347E-02	1.502E-01	1.553E+00	1.274E+01	2.322E+01
U234	8.999E-01	9.274E-01	9.729E-01	1.120E+00	1.361E+00	2.237E+00	4.432E+00	6.881E+00	7.607E+00	7.431E+00	5.815E+00	3.889E+00
U235	3.977E+01	3.977E+01	3.978E+01	3.978E+01	3.978E+01	3.980E+01	3.985E+01	4.000E+01	4.059E+01	5.361E+01	1.394E+02	1.474E+02
U236	1.979E+01	1.979E+01	1.979E+01	1.979E+01	1.980E+01	1.985E+01	2.005E+01	2.066E+01	2.269E+01	3.889E+01	4.892E+01	4.870E+01
U238	4.718E+03	4.718E+03	4.718E+03	4.718E+03	4.718E+03	4.718E+03	4.718E+03	4.718E+03	4.718E+03	4.718E+03	4.719E+03	4.719E+03
NP237	4.425E+02	4.426E+02	4.427E+02	4.430E+02	4.434E+02	4.452E+02	4.513E+02	4.654E+02	4.905E+02	5.012E+02	4.869E+02	4.638E+02
PU238	6.710E-01	5.265E+00	6.200E+00	6.315E+00	6.079E+00	5.215E+00	3.057E+00	6.830E-01	6.762E-03	6.779E-21	0.0	0.0
PU239	2.516E+01	2.518E+01	2.519E+01	2.523E+01	2.529E+01	2.552E+01	2.613E+01	2.755E+01	3.215E+01	6.262E+01	8.228E+00	1.095E-01
PU240	1.153E+01	1.222E+01	1.287E+01	1.470E+01	1.731E+01	2.392E+01	2.910E+01	2.888E+01	2.681E+01	1.033E+01	7.405E-04	1.307E-08
PU241	5.985E+00	5.704E+00	5.436E+00	4.705E+00	3.699E+00	1.412E+00	4.878E-02	2.000E-04	1.859E-04	8.923E-05	5.793E-08	2.817E-13
AM241	5.630E+01	5.550E+01	5.568E+01	5.614E+01	5.669E+01	5.715E+01	5.233E+01	3.801E+01	1.237E+01	2.685E-03	1.739E-06	8.911E-12
AM243	8.556E+01	8.555E+01	8.554E+01	8.552E+01	8.548E+01	8.532E+01	8.476E+01	8.318E+01	7.789E+01	3.345E+01	7.114E-03	1.909E-07
CM244	1.853E+01	1.784E+01	1.717E+01	1.530E+01	1.264E+01	5.878E+00	4.033E-01	1.911E-04	3.986E-15	3.549E-15	3.599E-15	3.663E-15
SUMTOT	5.424E+03	5.429E+03	5.430E+03	5.430E+03	5.430E+03	5.430E+03	5.430E+03	5.430E+03	5.431E+03	5.430E+03	5.429E+03	5.427E+03
TOTAL	5.433E+03	5.433E+03	5.433E+03	5.433E+03	5.433E+03	5.433E+03	5.433E+03	5.433E+03	5.433E+03	5.433E+03	5.433E+03	5.434E+03

TABLE A.26. CURIES OF ACTINIDE ELEMENTS IN PWR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL	4.414E-04	3.110E-04	2.198E-04	8.246E-05	2.565E-05	1.720E-05	1.697E-05	1.391E-05	1.567E-05	1.441E-04	2.662E-03	5.237E-03
PB	1.228E-03	8.642E-04	6.097E-04	2.257E-04	6.491E-05	3.444E-05	2.871E-05	3.514E-05	2.288E-04	1.162E-02	1.617E-01	2.835E-01
BI	1.228E-03	8.642E-04	6.097E-04	2.257E-04	6.491E-05	3.444E-05	2.871E-05	3.514E-05	2.288E-04	1.162E-02	1.617E-01	2.835E-01
PO	2.014E-03	1.417E-03	9.995E-04	3.688E-04	1.041E-04	5.142E-05	3.878E-05	4.415E-05	3.020E-04	1.464E-02	1.837E-01	3.062E-01
AT	5.107E-08	5.088E-08	5.111E-08	5.259E-08	5.767E-08	1.103E-07	7.023E-07	5.918E-06	6.564E-05	5.316E-03	1.127E-01	2.279E-01
RN	0.0	8.641E-04	6.096E-04	2.256E-04	6.483E-05	3.419E-05	2.704E-05	2.292E-05	8.889E-05	3.168E-03	2.464E-02	2.793E-02
FR	5.745E-08	6.249E-06	6.778E-08	8.355E-08	1.096E-07	2.196E-07	8.703E-07	6.098E-06	6.584E-05	5.317E-03	1.127E-01	2.279E-01
RA	1.228E-03	8.642E-04	6.097E-04	2.257E-04	6.489E-05	3.430E-05	2.774E-05	2.884E-05	1.545E-04	8.484E-03	1.373E-01	2.559E-01
AC	5.132E-07	8.922E-07	1.260E-06	2.296E-06	3.821E-06	8.033E-06	1.287E-05	1.890E-05	7.977E-05	5.345E-03	1.129E-01	2.283E-01
TH	3.358E-01	2.569E-03	2.307E-03	1.925E-03	1.766E-03	1.737E-03	1.743E-03	1.805E-03	2.150E-03	1.108E-02	1.391E-01	2.576E-01
PA	6.296E-01	3.138E-01	3.138E-01	3.140E-01	3.143E-01	3.156E-01	3.198E-01	3.298E-01	3.475E-01	3.551E-01	3.452E-01	3.290E-01
U	9.083E-03	8.920E-03	9.201E-03	1.011E-02	1.160E-02	1.704E-02	3.083E-02	4.644E-02	5.215E-02	6.571E-02	1.648E-01	2.542E-01
NP	1.739E+01	1.739E+01	1.739E+01	1.739E+01	1.738E+01	1.735E+01	1.723E+01	1.692E+01	1.588E+01	7.024E+00	3.448E-01	3.271E-01
PU	6.326E+02	6.824E+02	6.709E+02	5.980E+02	4.908E+02	2.419E+02	6.565E+01	2.002E+01	8.256E+00	6.266E+00	5.197E-01	1.281E-02
AM	2.144E+02	2.151E+02	2.157E+02	2.171E+02	2.189E+02	2.198E+02	2.013E+02	1.490E+02	5.810E+01	6.680E+00	1.425E-03	3.810E-08
CM	2.124E+04	5.641E+03	2.292E+03	1.263E+03	1.037E+03	4.855E+02	3.594E+01	8.611E-01	7.628E-02	1.581E-02	6.066E-06	7.794E-08
BK	1.190E-04	5.397E-05	2.447E-05	2.280E-06	4.365E-08	6.489E-15	6.180E-16	6.131E-16	5.962E-16	4.166E-16	1.155E-17	2.935E-20
CF	4.196E-06	3.870E-06	3.547E-06	2.772E-06	2.026E-06	9.421E-07	3.919E-07	2.559E-07	6.510E-08	1.698E-12	1.155E-17	2.935E-20
ES	5.231E-09	8.127E-11	3.242E-11	2.063E-12	2.091E-14	2.209E-22	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	2.210E+04	6.556E+03	3.197E+03	2.096E+03	1.765E+03	9.649E+02	3.205E+02	1.872E+02	8.271E+01	2.048E+01	2.525E+00	3.027E+00

TABLE A.27. CURIES OF PRINCIPAL ACTINIDE NUCLIDES IN PWR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL209	1.103E-09	1.099E-09	1.104E-09	1.136E-09	1.246E-09	2.382E-09	1.517E-08	1.278E-07	1.418E-06	1.148E-04	2.433E-03	4.924E-03
PB209	5.108E-08	5.088E-08	5.111E-08	5.259E-08	5.767E-08	1.103E-07	7.023E-07	5.918E-06	6.564E-05	5.316E-03	1.127E-01	2.279E-01
PB210	6.806E-10	1.401E-09	2.473E-09	7.645E-09	2.225E-08	1.391E-07	9.670E-07	6.305E-06	7.426E-05	3.137E-03	2.440E-02	2.761E-02
PB214	1.862E-08	3.053E-08	4.246E-08	7.836E-08	1.386E-07	3.881E-07	1.458E-06	7.591E-06	7.428E-05	3.138E-03	2.440E-02	2.761E-02
BI210	6.809E-10	1.402E-09	2.474E-09	7.646E-09	2.225E-08	1.391E-07	9.670E-07	6.305E-06	7.426E-05	3.137E-03	2.440E-02	2.761E-02
BI213	5.107E-08	5.088E-08	5.111E-08	5.259E-08	5.767E-08	1.103E-07	7.023E-07	5.918E-06	6.564E-05	5.316E-03	1.127E-01	2.279E-01
BI214	1.862E-08	3.053E-08	4.246E-08	7.836E-08	1.386E-07	3.881E-07	1.458E-06	7.591E-06	7.428E-05	3.138E-03	2.440E-02	2.761E-02
PO210	4.315E-10	9.937E-10	1.673E-09	6.501E-09	2.225E-08	1.391E-07	9.670E-07	6.305E-06	7.426E-05	3.137E-03	2.440E-02	2.761E-02
PO213	4.997E-08	4.978E-08	5.000E-08	5.145E-08	5.643E-08	1.079E-07	6.872E-07	5.791E-06	6.423E-05	5.201E-03	1.102E-01	2.230E-01
PO214	1.864E-08	3.053E-08	4.245E-08	7.834E-08	1.386E-07	3.880E-07	1.458E-06	7.585E-06	7.426E-05	3.137E-03	2.440E-02	2.761E-02
PO218	1.863E-08	3.054E-08	4.247E-08	7.837E-08	1.387E-07	3.882E-07	1.459E-06	7.593E-06	7.429E-05	3.138E-03	2.441E-02	2.762E-02
AT217	5.107E-08	5.088E-08	5.111E-08	5.259E-08	5.767E-08	1.103E-07	7.023E-07	5.918E-06	6.564E-05	5.316E-03	1.127E-01	2.279E-01
RN222	0.0	3.054E-08	4.247E-08	7.837E-08	1.387E-07	3.882E-07	1.459E-06	7.593E-06	7.429E-05	3.138E-03	2.441E-02	2.762E-02
FR221	5.107E-08	5.088E-08	5.111E-08	5.259E-08	5.767E-08	1.103E-07	7.023E-07	5.918E-06	6.564E-05	5.316E-03	1.127E-01	2.279E-01
RA225	5.089E-08	5.088E-08	5.111E-08	5.259E-08	5.767E-08	1.103E-07	7.023E-07	5.918E-06	6.564E-05	5.316E-03	1.127E-01	2.279E-01
RA226	1.863E-08	3.054E-08	4.247E-08	7.837E-08	1.387E-07	3.882E-07	1.459E-06	7.592E-06	7.429E-05	3.138E-03	2.441E-02	2.762E-02
AC225	5.107E-08	5.088E-08	5.111E-08	5.259E-08	5.767E-08	1.103E-07	7.023E-07	5.918E-06	6.564E-05	5.316E-03	1.127E-01	2.279E-01
TH229	5.080E-08	5.088E-08	5.111E-08	5.259E-08	5.767E-08	1.103E-07	7.023E-07	5.918E-06	6.564E-05	5.316E-03	1.127E-01	2.279E-01
TH230	2.750E-05	2.755E-05	2.760E-05	2.778E-05	2.812E-05	3.016E-05	4.365E-05	1.105E-04	4.030E-04	4.031E-03	2.429E-02	2.749E-02
PA233	3.118E-01	3.121E-01	3.122E-01	3.124E-01	3.127E-01	3.140E-01	3.182E-01	3.282E-01	3.459E-01	3.535E-01	3.434E-01	3.271E-01
U233	7.119E-08	1.581E-06	3.092E-06	7.334E-06	1.417E-05	4.157E-05	1.383E-04	4.210E-04	1.455E-03	1.504E-02	1.234E-01	2.248E-01
U234	5.625E-03	5.797E-03	6.081E-03	7.004E-03	8.509E-03	1.398E-02	2.771E-02	4.301E-02	4.755E-02	4.645E-02	3.635E-02	2.431E-02
U236	1.281E-03	1.281E-03	1.281E-03	1.281E-03	1.282E-03	1.285E-03	1.298E-03	1.337E-03	1.468E-03	2.517E-03	3.166E-03	3.152E-03
NP237	3.121E-01	3.121E-01	3.122E-01	3.124E-01	3.127E-01	3.140E-01	3.182E-01	3.282E-01	3.459E-01	3.535E-01	3.434E-01	3.271E-01
NP239	1.706E+01	1.706E+01	1.706E+01	1.705E+01	1.705E+01	1.701E+01	1.690E+01	1.659E+01	1.553E+01	6.671E+00	1.423E-03	3.807E-08
PU238	1.149E+01	9.017E+01	1.062E+02	1.081E+02	1.041E+02	8.932E+01	5.235E+01	1.170E+01	1.158E-01	1.161E-19	0.0	0.0
PU239	1.565E+00	1.566E+00	1.567E+00	1.569E+00	1.573E+00	1.587E+00	1.625E+00	1.713E+00	1.999E+00	3.894E+00	5.116E-01	6.808E-03
PU240	2.629E+00	2.785E+00	2.935E+00	3.351E+00	3.947E+00	5.452E+00	6.633E+00	6.583E+00	6.112E+00	2.354E+00	1.688E-04	2.980E-09
PU241	6.169E+02	5.879E+02	5.603E+02	4.849E+02	3.812E+02	1.456E+02	5.027E+00	2.062E-02	1.916E-02	9.197E-03	5.971E-06	2.904E-11
PU242	8.785E-03	8.786E-03	8.787E-03	8.790E-03	8.796E-03	8.818E-03	8.881E-03	8.984E-03	9.068E-03	9.145E-03	7.853E-03	6.003E-03
AM241	1.899E+02	1.905E+02	1.912E+02	1.927E+02	1.946E+02	1.962E+02	1.797E+02	1.305E+02	4.249E+01	5.220E-03	5.971E-06	3.059E-11
AM242M	3.761E+00	3.744E+00	3.727E+00	3.676E+00	3.594E+00	3.280E+00	2.384E+00	9.577E-01	3.935E-02	5.912E-20	0.0	0.0
AM242	3.742E+00	3.725E+00	3.708E+00	3.658E+00	3.576E+00	3.264E+00	2.372E+00	9.529E-01	3.916E-02	5.882E-20	0.0	0.0
AM243	1.706E+01	1.706E+01	1.706E+01	1.705E+01	1.705E+01	1.701E+01	1.690E+01	1.659E+01	1.553E+01	6.671E+00	1.419E-03	3.807E-08
CM242	1.972E+04	4.183E+03	8.891E+02	1.146E+01	2.962E+00	2.699E+00	1.962E+00	7.881E-01	3.238E-02	4.879E-20	0.0	0.0
CM243	1.458E+01	1.423E+01	1.389E+01	1.291E+01	1.143E+01	7.028E+00	1.281E+00	9.891E-03	3.996E-10	0.0	0.0	0.0
CM244	1.500E+03	1.444E+03	1.389E+03	1.239E+03	1.023E+03	4.758E+02	3.264E+01	1.544E-02	3.226E-13	2.873E-13	2.913E-13	2.964E-13
SUMTOT	2.210E+04	6.556E+03	3.197E+03	2.096E+03	1.765E+03	9.648E+02	3.204E+02	1.871E+02	8.266E+01	2.046E+01	2.517E+00	3.019E+00
TOTAL	2.210E+04	6.556E+03	3.197E+03	2.096E+03	1.765E+03	9.649E+02	3.205E+02	1.872E+02	8.271E+01	2.048E+01	2.525E+00	3.027E+00

TABLE A.28. WATTS OF ACTINIDE ELEMENTS IN PWR HIGH-LEVEL WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL	1.038E-05	7.302E-06	5.148E-06	1.894E-06	5.262E-07	2.420E-07	1.493E-07	6.001E-08	6.887E-08	1.997E-06	4.110E-05	8.273E-05
PB	2.338E-06	1.646E-06	1.162E-06	4.322E-07	1.278E-07	7.441E-08	6.758E-08	7.584E-08	3.728E-07	1.693E-05	2.137E-04	3.575E-04
BI	2.089E-05	1.472E-05	1.040E-05	3.888E-06	1.189E-06	7.620E-07	7.374E-07	6.944E-07	1.970E-06	7.097E-05	8.518E-04	1.388E-03
PO	9.193E-05	6.469E-05	4.562E-05	1.683E-05	4.746E-06	2.335E-06	1.735E-06	1.880E-06	1.244E-05	6.245E-04	9.338E-03	1.447E-02
AT	2.179E-09	2.171E-09	2.181E-09	2.244E-09	2.461E-09	4.706E-09	2.997E-08	2.526E-07	2.801E-06	2.269E-04	4.807E-03	9.727E-03
RN	0.0	3.281E-05	2.315E-05	8.573E-06	2.474E-06	1.324E-06	1.062E-06	8.794E-07	3.066E-06	1.052E-04	8.184E-04	9.282E-04
FR	1.988E-09	1.994E-09	2.016E-09	2.110E-09	2.361E-09	4.540E-09	2.754E-08	2.285E-07	2.534E-06	2.052E-04	4.348E-03	8.797E-03
RA	4.213E-05	2.966E-05	2.092E-05	7.745E-06	2.229E-06	1.182E-06	9.362E-07	7.662E-07	2.710E-06	9.540E-05	7.920E-04	9.685E-04
AC	2.008E-09	2.185E-09	2.371E-09	2.923E-09	3.837E-09	7.689E-09	3.043E-08	2.130E-07	2.300E-06	1.857E-04	3.935E-03	7.962E-03
TH	1.792E-04	2.959E-05	2.131E-05	8.827E-06	3.611E-06	2.680E-06	2.825E-06	4.544E-06	1.463E-05	2.785E-04	4.143E-03	7.763E-03
PA	2.282E-03	7.168E-04	7.169E-04	7.172E-04	7.179E-04	7.208E-04	7.305E-04	7.531E-04	7.933E-04	8.110E-04	7.941E-04	7.597E-04
U	2.408E-04	2.453E-04	2.535E-04	2.803E-04	3.238E-04	4.821E-04	8.801E-04	1.330E-03	1.494E-03	1.887E-03	4.768E-03	7.370E-03
NP	5.087E-02	5.087E-02	5.087E-02	5.086E-02	5.085E-02	5.080E-02	5.064E-02	5.015E-02	4.812E-02	2.693E-02	1.050E-02	9.996E-03
PU	5.303E-01	3.142E+00	3.676E+00	3.752E+00	3.634E+00	3.184E+00	1.992E+00	6.457E-01	2.560E-01	1.936E-01	1.601E-02	3.871E-04
AM	6.862E+00	6.884E+00	6.904E+00	6.957E+00	7.019E+00	7.070E+00	6.516E+00	4.870E+00	1.911E+00	2.147E-01	4.581E-05	1.225E-09
CM	7.592E+01	5.588E+01	5.014E+01	4.382E+01	3.621E+01	1.690E+01	1.193E+00	3.390E-03	1.483E-03	5.216E-04	2.063E-07	6.277E-09
BK	8.821E-08	3.999E-08	1.813E-08	1.689E-09	3.235E-11	8.654E-18	4.293E-18	4.259E-18	4.142E-18	2.894E-18	8.026E-20	2.039E-22
CF	2.117E-07	1.875E-07	1.667E-07	1.213E-07	8.317E-08	3.895E-08	1.796E-08	1.181E-08	2.994E-09	6.068E-14	4.292E-19	1.090E-21
ES	1.120E-11	3.189E-12	1.273E-12	8.098E-14	8.210E-16	8.674E-24	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	8.336E+01	6.596E+01	6.078E+01	5.458E+01	4.691E+01	2.721E+01	9.753E+00	5.572E+00	2.219E+00	4.403E-01	6.045E-02	7.096E-02

TABLE A.29. WATTS OF PRINCIPAL ACTINIDE NUCLIDES IN PWR HIGH-LEVEL WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL209	1.833E-11	1.826E-11	1.834E-11	1.887E-11	2.070E-11	3.958E-11	2.521E-10	2.124E-09	2.356E-08	1.908E-06	4.043E-05	8.181E-05
PB209	5.873E-11	5.851E-11	5.877E-11	6.048E-11	6.632E-11	1.268E-10	8.077E-10	6.806E-09	7.549E-08	6.114E-06	1.296E-04	2.621E-04
PB214	5.939E-11	9.737E-11	1.354E-10	2.499E-10	4.422E-10	1.238E-09	4.651E-09	2.421E-08	2.369E-07	1.001E-05	7.783E-05	8.806E-05
BI213	2.147E-10	2.139E-10	2.148E-10	2.211E-10	2.425E-10	4.636E-10	2.953E-09	2.488E-08	2.760E-07	2.235E-05	4.736E-04	9.582E-04
BI214	2.387E-10	3.913E-10	5.442E-10	1.004E-09	1.777E-09	4.974E-09	1.869E-08	9.728E-08	9.519E-07	4.021E-05	3.128E-04	3.539E-04
PO210	1.383E-11	3.185E-11	6.003E-11	2.084E-10	7.134E-10	4.461E-09	3.100E-08	2.021E-07	2.381E-06	1.006E-04	7.822E-04	8.850E-04
PO213	2.529E-09	2.519E-09	2.530E-09	2.604E-09	2.855E-09	5.460E-09	3.477E-08	2.930E-07	3.250E-06	2.632E-04	5.578E-03	1.129E-02
PO214	8.655E-10	1.417E-09	1.971E-09	3.638E-09	6.436E-09	1.802E-08	6.770E-08	3.524E-07	3.448E-06	1.457E-04	1.133E-03	1.282E-03
PO218	6.749E-10	1.107E-09	1.539E-09	2.840E-09	5.025E-09	1.407E-08	5.285E-08	2.751E-07	2.692E-06	1.137E-04	8.845E-04	1.001E-03
AT217	2.179E-09	2.171E-09	2.181E-09	2.244E-09	2.461E-09	4.706E-09	2.997E-08	2.526E-07	2.801E-06	2.269E-04	4.807E-03	9.727E-03
RN222	0.0	1.012E-09	1.407E-09	2.597E-09	4.595E-09	1.286E-08	4.833E-08	2.516E-07	2.462E-06	1.040E-04	8.088E-04	9.152E-04
FR221	1.971E-09	1.964E-09	1.972E-09	2.030E-09	2.226E-09	4.256E-09	2.711E-08	2.284E-07	2.534E-06	2.052E-04	4.348E-03	8.797E-03
RA225	3.569E-11	3.568E-11	3.584E-11	3.688E-11	4.044E-11	7.734E-11	4.925E-10	4.150E-09	4.603E-08	3.728E-06	7.900E-05	1.598E-04
RA225	5.378E-10	8.818E-10	1.226E-09	2.263E-09	4.004E-09	1.121E-08	4.211E-08	2.192E-07	2.145E-06	9.062E-05	7.048E-04	7.975E-04
AC225	1.784E-09	1.777E-09	1.785E-09	1.837E-09	2.015E-09	3.852E-09	2.453E-08	2.067E-07	2.293E-06	1.857E-04	3.935E-03	7.962E-03
TH229	1.554E-09	1.557E-09	1.563E-09	1.609E-09	1.764E-09	3.374E-09	2.149E-08	1.811E-07	2.008E-06	1.626E-04	3.447E-03	6.973E-03
TH230	7.781E-07	7.796E-07	7.811E-07	7.860E-07	7.959E-07	8.534E-07	1.235E-06	3.127E-06	1.140E-05	1.141E-04	6.873E-04	7.778E-04
PA233	7.076E-04	7.085E-04	7.086E-04	7.090E-04	7.097E-04	7.126E-04	7.223E-04	7.449E-04	7.850E-04	8.023E-04	7.793E-04	7.423E-04
U233	2.070E-09	4.597E-08	8.988E-08	2.132E-07	4.118E-07	1.208E-06	4.021E-06	1.224E-05	4.229E-05	4.371E-04	3.587E-03	6.536E-03
U234	1.620E-04	1.670E-04	1.752E-04	2.017E-04	2.451E-04	4.027E-04	7.980E-04	1.235E-03	1.370E-03	1.338E-03	1.047E-03	7.002E-04
U236	3.469E-05	3.470E-05	3.470E-05	3.471E-05	3.472E-05	3.480E-05	3.515E-05	3.622E-05	3.978E-05	6.819E-05	8.577E-05	8.539E-05
NP237	9.538E-03	9.539E-03	9.541E-03	9.547E-03	9.557E-03	9.595E-03	9.726E-03	1.003E-02	1.057E-02	1.080E-02	1.049E-02	9.996E-03
NP239	4.125E-02	4.124E-02	4.124E-02	4.123E-02	4.121E-02	4.113E-02	4.086E-02	4.010E-02	3.755E-02	1.612E-02	3.439E-06	9.202E-11
PU238	3.808E-01	2.988E+00	3.519E+00	3.584E+00	3.451E+00	2.960E+00	1.735E+00	3.877E-01	3.838E-03	3.848E-21	0.0	0.0
PU239	4.822E-02	4.825E-02	4.828E-02	4.835E-02	4.848E-02	4.891E-02	5.007E-02	5.280E-02	6.162E-02	1.200E-01	1.577E-02	2.098E-04
PU240	8.186E-02	8.671E-02	9.138E-02	1.043E-01	1.229E-01	1.698E-01	2.065E-01	2.050E-01	1.903E-01	7.329E-02	5.256E-06	9.278E-11
PU242	2.594E-04	2.595E-04	2.595E-04	2.596E-04	2.598E-04	2.604E-04	2.623E-04	2.653E-04	2.678E-04	2.701E-04	2.319E-04	1.773E-04
AM241	6.308E+00	6.330E+00	6.350E+00	6.403E+00	6.466E+00	6.518E+00	5.969E+00	4.335E+00	1.411E+00	3.063E-04	1.083E-07	1.016E-12
AM243	5.485E-01	5.484E-01	5.484E-01	5.482E-01	5.480E-01	5.470E-01	5.434E-01	5.333E-01	4.993E-01	2.144E-01	4.561E-05	1.224E-09
CM242	2.292E+01	4.860E+00	1.033E+00	1.332E-02	3.441E-03	3.136E-03	2.279E-03	9.156E-04	3.762E-05	5.669E-23	0.0	0.0
CM243	5.348E-01	5.220E-01	5.095E-01	4.736E-01	4.194E-01	2.578E-01	4.699E-02	3.628E-04	1.466E-11	0.0	0.0	0.0
CM244	5.247E+01	5.050E+01	4.860E+01	4.333E+01	3.578E+01	1.664E+01	1.142E+00	5.409E-04	1.128E-14	1.005E-14	1.019E-14	1.037E-14
SUMTOT	8.334E+01	6.593E+01	6.075E+01	5.455E+01	4.689E+01	2.720E+01	9.747E+00	5.568E+00	2.217E+00	4.397E-01	6.028E-02	7.075E-02
TOTAL	8.336E+01	6.596E+01	6.078E+01	5.458E+01	4.691E+01	2.721E+01	9.753E+00	5.572E+00	2.219E+00	4.403E-01	6.045E-02	7.096E-02

TABLE A.30. PHOTONS FROM ACTINIDES IN PWR HIGH-LEVEL WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS= METRIC TON OF INITIAL HEAVY METAL AT A REPROCESSING TIME OF 160 DAYS

EMEAN	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	1.303E+14	3.671E+13	1.663E+13	1.050E+13	9.189E+12	5.924E+12	2.687E+12	1.949E+12	1.074E+12	3.282E+11	3.662E+10	3.738E+10
2.500E-02	1.914E+11	1.894E+11	1.900E+11	1.914E+11	1.932E+11	1.945E+11	1.785E+11	1.316E+11	4.831E+10	4.650E+09	2.154E+09	2.474E+09
3.750E-02	3.600E+11	1.394E+11	9.259E+10	7.860E+10	7.606E+10	6.948E+10	6.179E+10	5.554E+10	4.540E+10	1.824E+10	2.151E+09	4.147E+09
5.750E-02	2.634E+12	2.640E+12	2.649E+12	2.670E+12	2.696E+12	2.717E+12	2.488E+12	1.810E+12	5.977E+11	5.905E+09	7.634E+08	1.139E+09
8.500E-02	5.797E+11	5.754E+11	5.733E+11	5.670E+11	5.575E+11	5.286E+11	4.880E+11	4.684E+11	4.370E+11	1.916E+11	1.028E+10	1.336E+10
1.250E-01	4.935E+11	4.768E+11	4.706E+11	4.590E+11	4.425E+11	3.930E+11	3.256E+11	3.016E+11	2.793E+11	1.205E+11	1.847E+09	2.346E+09
2.250E-01	3.922E+11	3.807E+11	3.753E+11	3.632E+11	3.454E+11	2.924E+11	2.223E+11	2.031E+11	1.900E+11	8.186E+10	1.920E+09	3.141E+09
3.750E-01	2.572E+10	2.512E+10	2.511E+10	2.509E+10	2.505E+10	2.494E+10	2.473E+10	2.444E+10	2.341E+10	1.319E+10	6.826E+09	8.047E+09
5.750E-01	2.388E+09	5.686E+08	2.458E+08	1.554E+08	1.526E+08	1.520E+08	1.459E+08	1.296E+08	1.017E+08	1.083E+08	5.929E+08	7.511E+08
8.500E-01	1.118E+09	6.363E+08	5.549E+08	5.004E+08	4.499E+08	3.181E+08	1.700E+08	7.095E+07	7.818E+06	1.751E+07	1.383E+08	1.701E+08
1.250E+00	4.961E+08	3.093E+08	2.834E+08	2.616E+08	2.376E+08	1.733E+08	9.634E+07	3.811E+07	3.398E+06	4.118E+07	3.254E+08	3.810E+08
1.750E+00	1.310E+08	7.869E+07	6.798E+07	5.838E+07	4.811E+07	2.256E+07	1.901E+06	4.162E+05	1.105E+06	3.595E+07	3.295E+08	4.444E+08
2.250E+00	6.795E+07	4.493E+07	3.891E+07	3.363E+07	2.779E+07	1.302E+07	1.052E+06	1.807E+05	3.725E+05	9.915E+06	7.682E+07	8.692E+07
2.750E+00	5.480E+07	3.691E+07	3.022E+07	2.230E+07	1.687E+07	7.868E+06	7.754E+05	1.205E+05	9.004E+04	1.996E+05	1.340E+06	1.514E+06
3.500E+00	3.537E+07	2.343E+07	2.030E+07	1.755E+07	1.450E+07	6.792E+06	5.454E+05	8.115E+04	7.265E+04	5.228E+04	2.515E+05	2.844E+05
5.000E+00	1.513E+07	1.002E+07	8.686E+06	7.508E+06	6.205E+06	2.906E+06	2.331E+05	3.458E+04	3.073E+04	8.560E+03	2.234E+02	1.721E+02
7.000E+00	1.742E+06	1.155E+06	1.002E+06	8.659E+05	7.156E+05	3.351E+05	2.687E+04	3.977E+03	3.542E+03	9.871E+02	2.555E+01	1.962E+01
1.100E+01	2.006E+05	1.328E+05	1.151E+05	9.949E+04	8.221E+04	3.850E+04	3.086E+03	4.565E+02	4.072E+02	1.135E+02	2.930E+00	2.247E+00
TOTAL	1.350E+14	4.114E+13	2.101E+13	1.485E+13	1.353E+13	1.014E+13	6.676E+12	4.944E+12	2.695E+12	7.644E+11	5.802E+10	7.387E+10
MEV/SEC	2.337E+12	9.177E+11	6.128E+11	5.166E+11	4.914E+11	4.224E+11	3.350E+11	2.713E+11	1.770E+11	6.099E+10	6.353E+09	8.028E+09

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS= METRIC TON OF INITIAL HEAVY METAL AT A REPROCESSING TIME OF 160 DAYS

EMEAN	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	1.954E+06	5.506E+05	2.495E+05	1.574E+05	1.378E+05	8.886E+04	4.331E+04	2.924E+04	1.611E+04	4.924E+03	4.593E+02	5.607E+02
2.500E-02	4.786E+03	4.736E+03	4.750E+03	4.786E+03	4.829E+03	4.861E+03	4.462E+03	3.290E+03	1.208E+03	1.163E+02	5.386E+01	6.184E+01
3.750E-02	1.350E+04	5.229E+03	3.472E+03	2.948E+03	2.852E+03	2.606E+03	2.317E+03	2.063E+03	1.703E+03	6.842E+02	8.066E+01	1.555E+02
5.750E-02	1.515E+05	1.518E+05	1.523E+05	1.536E+05	1.550E+05	1.562E+05	1.431E+05	1.041E+05	3.437E+04	3.396E+02	4.390E+01	6.547E+01
8.500E-02	4.928E+04	4.891E+04	4.873E+04	4.820E+04	4.738E+04	4.493E+04	4.148E+04	3.982E+04	3.714E+04	1.629E+04	8.735E+02	1.136E+03
1.250E-01	6.169E+04	5.961E+04	5.882E+04	5.738E+04	5.531E+04	4.913E+04	4.070E+04	3.770E+04	3.491E+04	1.506E+04	2.309E+02	2.932E+02
2.250E-01	8.824E+04	8.565E+04	8.444E+04	8.172E+04	7.771E+04	6.578E+04	5.001E+04	4.570E+04	4.274E+04	1.842E+04	4.320E+02	7.068E+02
3.750E-01	9.644E+03	9.420E+03	9.417E+03	9.408E+03	9.395E+03	9.352E+03	9.274E+03	9.164E+03	8.778E+03	4.946E+03	2.560E+03	3.018E+03
5.750E-01	1.373E+03	3.269E+02	1.413E+02	8.937E+01	8.775E+01	8.737E+01	8.388E+01	7.463E+01	5.846E+01	6.225E+01	3.409E+02	4.319E+02
8.500E-01	9.501E+02	5.409E+02	4.717E+02	4.253E+02	3.824E+02	2.703E+02	1.445E+02	6.034E+01	6.646E+00	1.488E+01	1.176E+02	1.446E+02
1.250E+00	6.201E+02	3.866E+02	3.542E+02	3.269E+02	2.971E+02	2.166E+02	1.204E+02	4.764E+01	4.247E+00	5.147E+01	4.067E+02	4.762E+02
1.750E+00	2.293E+02	1.377E+02	1.190E+02	1.022E+02	8.419E+01	3.949E+01	3.326E+00	7.284E-01	1.935E+00	6.291E+01	5.766E+02	7.777E+02
2.250E+00	1.529E+02	1.011E+02	8.755E+01	7.566E+01	6.253E+01	2.929E+01	2.366E+00	4.067E-01	8.380E-01	2.231E+01	1.729E+02	1.956E+02
2.750E+00	1.507E+02	1.015E+02	8.310E+01	6.133E+01	4.640E+01	2.164E+01	2.132E+00	3.315E-01	2.476E-01	5.490E-01	3.685E+00	4.163E+00
3.500E+00	1.238E+02	8.201E+01	7.106E+01	6.142E+01	5.076E+01	2.377E+01	1.909E+00	2.840E-01	2.543E-01	1.830E-01	8.802E-01	9.953E-01
5.000E+00	7.567E+01	5.012E+01	4.343E+01	3.754E+01	3.102E+01	1.453E+01	1.166E+00	1.729E-01	1.536E-01	4.280E-02	1.117E-03	8.603E-04
7.000E+00	1.220E+01	8.088E+00	7.012E+00	6.061E+00	5.009E+00	2.346E+00	1.881E-01	2.784E-02	2.480E-02	6.910E-03	1.788E-04	1.374E-04
1.100E+01	2.206E+00	1.461E+00	1.266E+00	1.094E+00	9.044E-01	4.235E-01	3.395E-02	5.022E-03	4.479E-03	1.249E-03	3.223E-05	2.472E-05
TOTAL	2.337E+06	9.177E+05	6.128E+05	5.166E+05	4.914E+05	4.224E+05	3.350E+05	2.713E+05	1.770E+05	6.099E+04	6.353E+03	8.028E+03
GAM POW	3.745E-01	1.471E-01	9.823E-02	8.281E-02	7.877E-02	6.772E-02	5.370E-02	4.348E-02	2.838E-02	9.776E-03	1.018E-03	1.287E-03

TABLE A.31. (ALPHA,N) NEUTRONS FROM ACTINIDES IN PWR HIGH-LEVEL WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
PO213	4.438E-02	4.421E-02	4.440E-02	4.569E-02	5.011E-02	9.582E-02	6.102E-01	5.142E+00	5.704E+01	4.619E+03	9.789E+04	1.981E+05
PO214	4.957E-03	8.118E-03	1.129E-02	2.083E-02	3.686E-02	1.032E-01	3.877E-01	2.018E+00	1.975E+01	8.343E+02	6.489E+03	7.342E+03
PO218	1.540E-04	2.525E-04	3.511E-04	6.480E-04	1.147E-03	3.210E-03	1.206E-02	6.278E-02	6.143E-01	2.595E+01	2.018E+02	2.284E+02
AT217	4.163E-03	4.149E-03	4.166E-03	4.287E-03	4.701E-03	8.990E-03	5.725E-02	4.824E-01	5.351E+00	4.334E+02	9.183E+03	1.858E+04
FR221	1.019E-03	1.015E-03	1.020E-03	1.049E-03	1.151E-03	2.201E-03	1.402E-02	1.181E-01	1.310E+00	1.061E+02	2.248E+03	4.549E+03
AC225	2.520E-04	2.511E-04	2.522E-04	2.595E-04	2.846E-04	5.442E-04	3.466E-03	2.921E-02	3.239E-01	2.623E+01	5.559E+02	1.125E+03
NP237	2.369E+02	2.370E+02	2.370E+02	2.372E+02	2.374E+02	2.384E+02	2.416E+02	2.492E+02	2.626E+02	2.684E+02	2.607E+02	2.483E+02
PU238	1.342E+04	1.053E+05	1.240E+05	1.263E+05	1.216E+05	1.043E+05	6.114E+04	1.365E+04	1.352E+02	1.356E-16	0.0	0.0
PU239	1.132E+03	1.133E+03	1.134E+03	1.135E+03	1.138E+03	1.148E+03	1.176E+03	1.240E+03	1.447E+03	2.818E+03	3.702E+02	4.927E+00
PU240	1.961E+03	2.077E+03	2.189E+03	2.499E+03	2.943E+03	4.066E+03	4.947E+03	4.905E+03	4.558E+03	1.755E+03	1.259E-01	2.222E-06
AM241	2.212E+05	2.220E+05	2.227E+05	2.245E+05	2.268E+05	2.286E+05	2.093E+05	1.521E+05	4.950E+04	1.074E+01	6.956E-03	3.564E-08
AM243	2.628E+04	2.628E+04	2.627E+04	2.627E+04	2.625E+04	2.620E+04	2.603E+04	2.555E+04	2.392E+04	1.027E+04	2.185E+00	5.863E-05
CM242	1.592E+08	3.376E+07	7.175E+06	9.251E+04	2.390E+04	2.178E+04	1.583E+04	6.360E+03	2.613E+02	3.938E-16	0.0	0.0
CM243	1.475E+05	1.439E+05	1.405E+05	1.306E+05	1.156E+05	7.110E+04	1.296E+04	1.001E+02	4.042E-06	0.0	0.0	0.0
CM244	1.063E+07	1.023E+07	9.849E+06	8.781E+06	7.251E+06	3.373E+06	2.314E+05	1.095E+02	2.287E-09	2.036E-09	2.065E-09	2.102E-09
CM245	4.988E+01	4.987E+01	4.987E+01	4.985E+01	4.984E+01	4.975E+01	4.947E+01	4.867E+01	4.597E+01	2.206E+01	1.433E-02	6.967E-08
TOTALS												
TABLE	1.702E+08	4.450E+07	1.754E+07	9.385E+06	7.770E+06	3.830E+06	5.632E+05	2.044E+05	8.029E+04	2.126E+04	1.175E+05	2.306E+05
ACTUAL	1.702E+08	4.450E+07	1.754E+07	9.385E+06	7.770E+06	3.830E+06	5.632E+05	2.044E+05	8.029E+04	2.126E+04	1.175E+05	2.306E+05

TABLE A.32. SPONTANEOUS FISSION NEUTRONS FROM ACTINIDES IN PWR HIGH-LEVEL WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
U238	5.986E+01	5.986E+01	5.986E+01	5.986E+01	5.986E+01	5.986E+01	5.986E+01	5.986E+01	5.986E+01	5.986E+01	5.987E+01	5.987E+01
PU238	1.783E+03	1.399E+04	1.647E+04	1.678E+04	1.615E+04	1.386E+04	8.123E+03	1.815E+03	1.797E+01	1.801E-17	0.0	0.0
PU240	1.050E+04	1.112E+04	1.172E+04	1.339E+04	1.577E+04	2.178E+04	2.650E+04	2.629E+04	2.441E+04	9.401E+03	6.743E-01	1.190E-05
PU242	3.877E+03	3.877E+03	3.878E+03	3.879E+03	3.882E+03	3.892E+03	3.919E+03	3.965E+03	4.002E+03	4.036E+03	3.466E+03	2.649E+03
CM242	1.285E+08	2.725E+07	5.791E+06	7.467E+04	1.929E+04	1.758E+04	1.278E+04	5.133E+03	2.109E+02	3.178E-16	0.0	0.0
CM244	2.061E+08	1.983E+08	1.909E+08	1.702E+08	1.405E+08	6.537E+07	4.485E+06	2.129E+03	4.432E-08	3.947E-08	4.002E-08	4.073E-08
CM246	8.304E+05	8.302E+05	8.301E+05	8.298E+05	8.291E+05	8.267E+05	8.183E+05	7.947E+05	7.172E+05	1.919E+05	3.601E-01	1.052E-10
CM248	6.977E+02	6.977E+02	6.978E+02	6.978E+02	6.978E+02	6.978E+02	6.977E+02	6.974E+02	6.964E+02	6.837E+02	5.688E+02	4.186E+02
TOTALS												
TABLE	3.354E+08	2.265E+08	1.976E+08	1.711E+08	1.414E+08	6.625E+07	5.356E+06	8.351E+05	7.469E+05	2.062E+05	4.096E+03	3.128E+03
ACTUAL	3.354E+08	2.265E+08	1.976E+08	1.711E+08	1.414E+08	6.625E+07	5.356E+06	8.351E+05	7.469E+05	2.062E+05	4.096E+03	3.128E+03
OVERALL TOTALS												
TABLE	5.056E+08	2.710E+08	2.151E+08	1.805E+08	1.492E+08	7.008E+07	5.919E+06	1.039E+06	8.272E+05	2.274E+05	1.216E+05	2.337E+05
ACTUAL	5.056E+08	2.710E+08	2.151E+08	1.805E+08	1.492E+08	7.008E+07	5.919E+06	1.039E+06	8.272E+05	2.274E+05	1.216E+05	2.337E+05

TABLE A.33. GRAMS OF FISSION PRODUCT ELEMENTS IN PWR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
LI	1.916E-04	1.916E-04	1.916E-04	1.916E-04	1.916E-04	1.916E-04	1.916E-04	1.916E-04	1.916E-04	1.916E-04	1.916E-04	1.916E-04
BE	1.477E-04	1.477E-04	1.477E-04	1.477E-04	1.477E-04	1.477E-04	1.477E-04	1.477E-04	1.477E-04	1.472E-04	1.423E-04	1.345E-04
CU	4.167E-35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZN	3.777E-08	3.777E-08	3.777E-08	3.777E-08	3.777E-08	3.777E-08	3.777E-08	3.777E-08	3.777E-08	3.777E-08	3.777E-08	3.777E-08
GA	8.639E-07	8.639E-07	8.639E-07	8.639E-07	8.639E-07	8.639E-07	8.639E-07	8.639E-07	8.639E-07	8.639E-07	8.639E-07	8.639E-07
GE	6.597E-01	6.597E-01	6.597E-01	6.597E-01	6.597E-01	6.597E-01	6.597E-01	6.597E-01	6.597E-01	6.597E-01	6.597E-01	6.597E-01
AS	2.000E-01	2.000E-01	2.000E-01	2.000E-01	2.000E-01	2.000E-01	2.000E-01	2.000E-01	2.000E-01	2.000E-01	2.000E-01	2.000E-01
SE	5.630E+01	5.630E+01	5.630E+01	5.630E+01	5.630E+01	5.630E+01	5.630E+01	5.628E+01	5.624E+01	5.571E+01	5.245E+01	5.084E+01
BR	2.166E-02	2.173E-02	2.179E-02	2.198E-02	2.229E-02	2.354E-02	2.792E-02	4.042E-02	8.396E-02	6.157E-01	3.072E+00	5.484E+00
RB	3.415E+02	3.415E+02	3.415E+02	3.415E+02	3.415E+02	3.415E+02	3.415E+02	3.415E+02	3.416E+02	3.416E+02	3.415E+02	3.415E+02
SR	8.834E+02	8.676E+02	8.554E+02	8.206E+02	7.678E+02	6.095E+02	3.990E+02	3.503E+02	3.499E+02	3.499E+02	3.499E+02	3.499E+02
Y	4.598E+02	4.561E+02	4.561E+02	4.561E+02	4.560E+02	4.560E+02	4.559E+02	4.559E+02	4.559E+02	4.559E+02	4.559E+02	4.559E+02
ZR	3.517E+03	3.523E+03	3.535E+03	3.570E+03	3.623E+03	3.781E+03	3.992E+03	4.040E+03	4.041E+03	4.038E+03	4.009E+03	3.964E+03
NB	1.436E+01	3.273E-01	8.242E-03	2.955E-03	4.582E-03	1.109E-02	3.387E-02	9.894E-02	3.266E-01	3.248E+00	3.182E+01	7.692E+01
MO	3.307E+03	3.335E+03	3.335E+03	3.335E+03	3.335E+03	3.335E+03	3.335E+03	3.335E+03	3.335E+03	3.335E+03	3.335E+03	3.335E+03
TC	7.706E+02	7.706E+02	7.706E+02	7.706E+02	7.705E+02	7.705E+02	7.703E+02	7.698E+02	7.681E+02	7.459E+02	5.565E+02	3.416E+02
RU	2.309E+03	2.242E+03	2.210E+03	2.182E+03	2.178E+03	2.178E+03	2.178E+03	2.178E+03	2.180E+03	2.202E+03	2.392E+03	2.607E+03
RH	4.641E+02	4.671E+02	4.671E+02	4.671E+02	4.671E+02	4.671E+02	4.671E+02	4.671E+02	4.671E+02	4.671E+02	4.671E+02	4.671E+02
PD	1.242E+03	1.306E+03	1.338E+03	1.367E+03	1.371E+03	1.371E+03	1.371E+03	1.371E+03	1.371E+03	1.371E+03	1.369E+03	1.365E+03
AG	7.685E+01	7.647E+01	7.633E+01	7.626E+01	7.625E+01	7.625E+01	7.626E+01	7.628E+01	7.628E+01	7.649E+01	7.857E+01	8.199E+01
CD	1.073E+02	1.077E+02	1.078E+02	1.079E+02	1.078E+02	1.077E+02	1.077E+02	1.077E+02	1.077E+02	1.077E+02	1.077E+02	1.077E+02
IN	2.400E+00	2.418E+00	2.430E+00	2.461E+00	2.503E+00	2.601E+00	2.661E+00	2.663E+00	2.663E+00	2.663E+00	2.663E+00	2.663E+00
SN	9.014E+01	8.997E+01	8.994E+01	8.994E+01	8.994E+01	8.993E+01	8.992E+01	8.988E+01	8.974E+01	8.810E+01	7.624E+01	6.739E+01
SB	3.117E+01	2.846E+01	2.624E+01	2.208E+01	1.943E+01	1.837E+01	1.837E+01	1.837E+01	1.837E+01	1.837E+01	1.837E+01	1.837E+01
TE	4.723E+02	4.745E+02	4.767E+02	4.809E+02	4.835E+02	4.846E+02	4.846E+02	4.846E+02	4.848E+02	4.864E+02	4.983E+02	5.071E+02
I	2.337E-01	8.497E-01	9.041E-01	9.100E-01	9.100E-01	9.100E-01	9.100E-01	9.100E-01	9.100E-01	9.099E-01	9.089E-01	9.073E-01
XE	0.0	1.928E-08	2.990E-08	6.174E-08	1.148E-07	3.271E-07	1.070E-06	3.192E-06	1.062E-05	1.061E-04	1.059E-03	2.639E-03
CS	2.716E+03	2.659E+03	2.611E+03	2.502E+03	2.371E+03	2.019E+03	1.544E+03	1.427E+03	1.426E+03	1.425E+03	1.417E+03	1.404E+03
BA	1.388E+03	1.445E+03	1.493E+03	1.602E+03	1.734E+03	2.085E+03	2.561E+03	2.677E+03	2.678E+03	2.679E+03	2.687E+03	2.700E+03
LA	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03
CE	2.633E+03	2.474E+03	2.409E+03	2.367E+03	2.364E+03	2.364E+03	2.364E+03	2.364E+03	2.364E+03	2.364E+03	2.364E+03	2.364E+03
PR	1.114E+03	1.115E+03	1.115E+03	1.115E+03	1.115E+03	1.115E+03	1.115E+03	1.115E+03	1.115E+03	1.115E+03	1.115E+03	1.115E+03
ND	3.756E+03	3.913E+03	3.978E+03	4.020E+03	4.023E+03	4.023E+03	4.023E+03	4.023E+03	4.023E+03	4.023E+03	4.023E+03	4.023E+03
PM	1.324E+02	1.016E+02	7.800E+01	3.531E+01	9.422E+00	4.780E-02	4.438E-10	0.0	0.0	0.0	0.0	0.0
SM	7.394E+02	7.701E+02	7.936E+02	8.360E+02	8.614E+02	8.690E+02	8.645E+02	8.595E+02	8.582E+02	8.582E+02	8.582E+02	8.582E+02
EU	1.604E+02	1.559E+02	1.519E+02	1.420E+02	1.309E+02	1.164E+02	1.174E+02	1.223E+02	1.237E+02	1.237E+02	1.237E+02	1.237E+02
GD	8.636E+01	9.095E+01	9.509E+01	1.053E+02	1.168E+02	1.332E+02	1.367E+02	1.367E+02	1.367E+02	1.367E+02	1.367E+02	1.367E+02
TB	2.600E+00	2.581E+00	2.581E+00	2.581E+00	2.581E+00	2.581E+00	2.581E+00	2.581E+00	2.581E+00	2.581E+00	2.581E+00	2.581E+00
DY	1.363E+00	1.381E+00	1.382E+00	1.382E+00	1.382E+00	1.382E+00	1.382E+00	1.382E+00	1.382E+00	1.382E+00	1.382E+00	1.382E+00
HO	1.420E-01	1.420E-01	1.420E-01	1.420E-01	1.420E-01	1.420E-01	1.420E-01	1.418E-01	1.414E-01	1.406E-01	1.406E-01	1.406E-01
ER	5.621E-02	5.621E-02	5.621E-02	5.621E-02	5.621E-02	5.623E-02	5.628E-02	5.642E-02	5.682E-02	5.761E-02	5.762E-02	5.762E-02
TM	5.988E-05	5.659E-05	5.601E-05	5.573E-05	5.564E-05	5.562E-05	5.562E-05	5.562E-05	5.562E-05	5.562E-05	5.562E-05	5.562E-05
YB	1.368E-05	1.697E-05	1.755E-05	1.783E-05	1.792E-05	1.794E-05	1.794E-05	1.794E-05	1.794E-05	1.794E-05	1.794E-05	1.794E-05
TOTAL	2.809E+04	2.809E+04	2.809E+04	2.809E+04	2.809E+04	2.809E+04	2.809E+04	2.809E+04	2.809E+04	2.809E+04	2.809E+04	2.809E+04

TABLE A.3a. GRAMS OF PRINCIPAL FISSION PRODUCT NUCLIDES IN PWR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
SE 82	3.363E+01	3.363E+01	3.363E+01	3.363E+01	3.363E+01	3.363E+01	3.363E+01	3.363E+01	3.363E+01	3.363E+01	3.363E+01	3.363E+01
RB 85	9.796E+01	9.796E+01	9.796E+01	9.796E+01	9.796E+01	9.796E+01	9.796E+01	9.796E+01	9.796E+01	9.796E+01	9.796E+01	9.796E+01
RB 87	2.436E+02	2.436E+02	2.436E+02	2.436E+02	2.436E+02	2.436E+02	2.436E+02	2.436E+02	2.436E+02	2.436E+02	2.436E+02	2.436E+02
SR 88	3.495E+02	3.495E+02	3.495E+02	3.495E+02	3.495E+02	3.495E+02	3.495E+02	3.495E+02	3.495E+02	3.495E+02	3.495E+02	3.495E+02
Y 89	4.526E+02	4.559E+02	4.559E+02	4.559E+02	4.559E+02	4.559E+02	4.559E+02	4.559E+02	4.559E+02	4.559E+02	4.559E+02	4.559E+02
SR 90	5.301E+02	5.177E+02	5.055E+02	4.707E+02	4.179E+02	2.596E+02	4.996E+01	4.200E-01	2.440E-08	0.0	0.0	0.0
ZR 90	2.378E+01	3.625E+01	4.843E+01	8.328E+01	1.361E+02	2.944E+02	5.050E+02	5.536E+02	5.541E+02	5.541E+02	5.541E+02	5.541E+02
ZR 91	5.827E+02	5.897E+02	5.898E+02	5.898E+02	5.898E+02	5.898E+02	5.898E+02	5.898E+02	5.898E+02	5.898E+02	5.898E+02	5.898E+02
ZR 92	6.393E+02	6.393E+02	6.393E+02	6.393E+02	6.393E+02	6.393E+02	6.393E+02	6.393E+02	6.393E+02	6.393E+02	6.393E+02	6.393E+02
ZR 93	7.183E+02	7.183E+02	7.183E+02	7.183E+02	7.182E+02	7.182E+02	7.182E+02	7.182E+02	7.179E+02	7.150E+02	6.864E+02	6.413E+02
NB 93	6.516E-05	1.147E-04	1.779E-04	4.432E-04	1.102E-03	5.479E-03	2.709E-02	9.213E-02	3.199E-01	3.241E+00	3.181E+01	7.691E+01
ZR 94	7.406E+02	7.406E+02	7.406E+02	7.406E+02	7.406E+02	7.406E+02	7.406E+02	7.406E+02	7.406E+02	7.406E+02	7.406E+02	7.406E+02
MO 95	7.296E+02	7.570E+02	7.576E+02	7.576E+02	7.576E+02	7.576E+02	7.576E+02	7.576E+02	7.576E+02	7.576E+02	7.576E+02	7.576E+02
ZR 96	7.988E+02	7.988E+02	7.988E+02	7.988E+02	7.988E+02	7.988E+02	7.988E+02	7.988E+02	7.988E+02	7.988E+02	7.988E+02	7.988E+02
MO 96	3.286E+01	3.286E+01	3.286E+01	3.286E+01	3.286E+01	3.286E+01	3.286E+01	3.286E+01	3.286E+01	3.286E+01	3.286E+01	3.286E+01
MO 97	7.907E+02	7.907E+02	7.907E+02	7.907E+02	7.907E+02	7.907E+02	7.907E+02	7.907E+02	7.907E+02	7.907E+02	7.907E+02	7.907E+02
MO 98	8.248E+02	8.248E+02	8.248E+02	8.248E+02	8.248E+02	8.248E+02	8.248E+02	8.248E+02	8.248E+02	8.248E+02	8.248E+02	8.248E+02
TC 99	7.706E+02	7.706E+02	7.706E+02	7.706E+02	7.705E+02	7.705E+02	7.703E+02	7.698E+02	7.681E+02	7.459E+02	5.565E+02	3.416E+02
RU 99	4.125E-03	6.632E-03	9.140E-03	1.666E-02	2.920E-02	7.935E-02	2.548E-01	7.560E-01	2.508E+00	2.463E+01	2.140E+02	4.290E+02
MO100	9.293E+02	9.293E+02	9.293E+02	9.293E+02	9.293E+02	9.293E+02	9.293E+02	9.293E+02	9.293E+02	9.293E+02	9.293E+02	9.293E+02
RU100	9.509E+01	9.509E+01	9.509E+01	9.509E+01	9.509E+01	9.509E+01	9.509E+01	9.509E+01	9.509E+01	9.509E+01	9.509E+01	9.509E+01
RU101	7.715E+02	7.715E+02	7.715E+02	7.715E+02	7.715E+02	7.715E+02	7.715E+02	7.715E+02	7.715E+02	7.715E+02	7.715E+02	7.715E+02
RU102	7.696E+02	7.695E+02	7.696E+02	7.696E+02	7.696E+02	7.695E+02	7.696E+02	7.695E+02	7.696E+02	7.696E+02	7.696E+02	7.696E+02
RH103	4.641E+02	4.671E+02	4.671E+02	4.671E+02	4.671E+02	4.671E+02	4.671E+02	4.671E+02	4.671E+02	4.671E+02	4.671E+02	4.671E+02
RU104	5.415E+02	5.415E+02	5.415E+02	5.415E+02	5.415E+02	5.415E+02	5.415E+02	5.415E+02	5.415E+02	5.415E+02	5.415E+02	5.415E+02
PD104	2.173E+02	2.173E+02	2.173E+02	2.173E+02	2.173E+02	2.173E+02	2.173E+02	2.173E+02	2.173E+02	2.173E+02	2.173E+02	2.173E+02
PD105	3.756E+02	3.756E+02	3.756E+02	3.756E+02	3.756E+02	3.756E+02	3.756E+02	3.756E+02	3.756E+02	3.756E+02	3.756E+02	3.756E+02
RU106	1.286E+02	6.466E+01	3.251E+01	4.131E+00	1.327E-01	1.413E-07	1.759E-28	0.0	0.0	0.0	0.0	0.0
PD106	2.321E+02	2.960E+02	3.282E+02	3.565E+02	3.605E+02	3.607E+02	3.607E+02	3.607E+02	3.607E+02	3.607E+02	3.607E+02	3.607E+02
PD107	2.180E+02	2.180E+02	2.180E+02	2.180E+02	2.180E+02	2.180E+02	2.180E+02	2.180E+02	2.180E+02	2.178E+02	2.157E+02	2.123E+02
PD108	1.501E+02	1.501E+02	1.501E+02	1.501E+02	1.501E+02	1.501E+02	1.501E+02	1.501E+02	1.501E+02	1.501E+02	1.501E+02	1.501E+02
AG109	7.625E+01	7.625E+01	7.625E+01	7.625E+01	7.625E+01	7.625E+01	7.625E+01	7.625E+01	7.625E+01	7.625E+01	7.625E+01	7.625E+01
PD110	4.919E+01	4.919E+01	4.919E+01	4.919E+01	4.919E+01	4.919E+01	4.919E+01	4.919E+01	4.919E+01	4.919E+01	4.919E+01	4.919E+01
CD110	3.287E+01	3.325E+01	3.339E+01	3.346E+01	3.347E+01	3.347E+01	3.347E+01	3.347E+01	3.347E+01	3.347E+01	3.347E+01	3.347E+01
TE128	1.102E+02	1.102E+02	1.102E+02	1.102E+02	1.102E+02	1.102E+02	1.102E+02	1.102E+02	1.102E+02	1.102E+02	1.102E+02	1.102E+02
TE130	3.539E+02	3.539E+02	3.539E+02	3.539E+02	3.539E+02	3.539E+02	3.539E+02	3.539E+02	3.539E+02	3.539E+02	3.539E+02	3.539E+02
CS133	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03
CS134	1.042E+02	7.447E+01	5.321E+01	1.941E+01	3.614E+00	4.375E-03	2.639E-13	0.0	0.0	0.0	0.0	0.0
BA134	5.109E+01	8.085E+01	1.021E+02	1.359E+02	1.517E+02	1.553E+02	1.553E+02	1.553E+02	1.553E+02	1.553E+02	1.553E+02	1.553E+02
CS135	2.994E+02	2.994E+02	2.994E+02	2.994E+02	2.994E+02	2.994E+02	2.994E+02	2.994E+02	2.993E+02	2.905E+02	2.905E+02	2.777E+02
CS137	1.186E+03	1.159E+03	1.132E+03	1.056E+03	9.412E+02	5.929E+02	1.176E+02	1.155E+00	1.096E-07	0.0	0.0	0.0
BA137	4.578E+01	7.287E+01	9.933E+01	1.752E+02	2.904E+02	6.387E+02	1.114E+03	1.230E+03	1.232E+03	1.232E+03	1.232E+03	1.232E+03
BA138	1.274E+03	1.274E+03	1.274E+03	1.274E+03	1.274E+03	1.274E+03	1.274E+03	1.274E+03	1.274E+03	1.274E+03	1.274E+03	1.274E+03
LA139	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03	1.216E+03
CE140	1.238E+03	1.238E+03	1.238E+03	1.238E+03	1.238E+03	1.238E+03	1.238E+03	1.238E+03	1.238E+03	1.238E+03	1.238E+03	1.238E+03
PR141	1.114E+03	1.115E+03	1.115E+03	1.115E+03	1.115E+03	1.115E+03	1.115E+03	1.115E+03	1.115E+03	1.115E+03	1.115E+03	1.115E+03
CE142	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03	1.126E+03
ND143	7.776E+02	7.776E+02	7.776E+02	7.776E+02	7.776E+02	7.776E+02	7.776E+02	7.776E+02	7.776E+02	7.776E+02	7.776E+02	7.776E+02
CE144	2.672E+02	1.096E+02	4.500E+01	3.110E+00	3.622E-02	6.653E-10	0.0	0.0	0.0	0.0	0.0	0.0
ND144	1.051E+03	1.208E+03	1.273E+03	1.315E+03	1.318E+03	1.318E+03	1.318E+03	1.318E+03	1.318E+03	1.318E+03	1.318E+03	1.318E+03
ND145	6.720E+02	6.720E+02	6.720E+02	6.720E+02	6.720E+02	6.720E+02	6.720E+02	6.720E+02	6.720E+02	6.720E+02	6.720E+02	6.720E+02
ND146	6.844E+02	6.844E+02	6.844E+02	6.844E+02	6.844E+02	6.844E+02	6.844E+02	6.844E+02	6.844E+02	6.844E+02	6.844E+02	6.844E+02
PM147	1.323E+02	1.016E+02	7.800E+01	3.531E+01	9.422E+00	4.780E-02	4.438E-10	0.0	0.0	0.0	0.0	0.0
SM147	7.003E+01	1.008E+02	1.243E+02	1.670E+02	1.929E+02	2.023E+02	2.023E+02	2.023E+02	2.023E+02	2.023E+02	2.023E+02	2.023E+02
ND148	3.695E+02	3.695E+02	3.695E+02	3.695E+02	3.695E+02	3.695E+02	3.695E+02	3.695E+02	3.695E+02	3.695E+02	3.695E+02	3.695E+02
SM148	1.654E+02	1.655E+02	1.655E+02	1.655E+02	1.655E+02	1.655E+02	1.655E+02	1.655E+02	1.655E+02	1.655E+02	1.655E+02	1.655E+02
ND150	1.765E+02	1.765E+02	1.765E+02	1.765E+02	1.765E+02	1.765E+02	1.765E+02	1.765E+02	1.765E+02	1.765E+02	1.765E+02	1.765E+02
SM150	3.158E+02	3.158E+02	3.158E+02	3.158E+02	3.158E+02	3.158E+02	3.158E+02	3.158E+02	3.158E+02	3.158E+02	3.158E+02	3.158E+02
SM152	1.332E+02	1.332E+02	1.332E+02	1.332E+02	1.332E+02	1.332E+02	1.332E+02	1.332E+02	1.332E+02	1.332E+02	1.332E+02	1.332E+02
EU153	1.100E+02	1.100E+02	1.100E+02	1.100E+02	1.100E+02	1.100E+02	1.100E+02	1.100E+02	1.100E+02	1.100E+02	1.100E+02	1.100E+02
SM154	3.763E+01	3.763E+01	3.763E+01	3.763E+01	3.763E+01	3.763E+01	3.763E+01	3.763E+01	3.763E+01	3.763E+01	3.763E+01	3.763E+01
EU154	3.731E+01	3.442E+01	3.175E+01	2.493E+01	1.666E+01	3.325E+00	1.167E-02	1.165E-09	0.0	0.0	0.0	0.0
GD154	3.620E+00	6.509E+00	9.175E+00	1.600E+01	2.427E+01	3.761E+01	4.092E+01	4.093E+01	4.093E+01	4.093E+01	4.093E+01	4.093E+01
GD156	6.207E+01	6.207E+01	6.207E+01	6.207E+01	6.207E+01	6.207E+01	6.207E+01	6.207E+01	6.207E+01	6.207E+01	6.207E+01	6.207E+01
SUMTOT	2.772E+04	2.776E+04	2.776E+04	2.776E+04	2.776E+04	2.776E+04	2.776E+04	2.776E+04	2.776E+04	2.775E+04	2.775E+04	2.774E+04
TOTAL	2.809E+04	2.809E+04	2.809E+04	2.809E+04	2.809E+04	2.809E+04	2.809E+04	2.809E+04	2.809E+04	2.809E+04	2.809E+04	2.809E+04

TABLE A.35. CURIES OF FISSION PRODUCT ELEMENTS IN PWR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
BE	2.871E-06	2.871E-06	2.871E-06	2.871E-06	2.871E-06	2.871E-06	2.871E-06	2.871E-06	2.870E-06	2.859E-06	2.750E-06	2.577E-06
CU	3.152E-29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	4.091E-01	4.091E-01	4.091E-01	4.090E-01	4.090E-01	4.089E-01	4.086E-01	4.078E-01	4.047E-01	3.677E-01	1.407E-01	2.840E-02
PB	5.176E+00	2.794E-05	2.132E-05	2.132E-05	2.132E-05	2.132E-05	2.132E-05	2.132E-05	2.132E-05	2.132E-05	2.132E-05	2.132E-05
SR	1.697E+05	7.129E+04	6.698E+04	6.423E+04	5.702E+04	3.542E+04	6.694E+03	5.732E+01	3.329E-06	0.0	0.0	0.0
Y	2.461E+05	7.295E+04	6.903E+04	6.424E+04	5.703E+04	3.543E+04	6.696E+03	5.732E+01	3.330E-06	0.0	0.0	0.0
ZR	2.913E+05	5.571E+03	1.083E+02	1.806E+00	1.805E+00	1.805E+00	1.605E+00	1.805E+00	1.805E+00	1.797E+00	1.725E+00	1.612E+00
NB	5.637E+05	1.277E+04	2.460E+02	5.001E-01	7.722E-01	1.375E+00	1.706E+00	1.715E+00	1.715E+00	1.708E+00	1.639E+00	1.532E+00
MO	5.561E-12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC	1.307E+01	1.307E+01	1.307E+01	1.307E+01	1.307E+01	1.307E+01	1.306E+01	1.306E+01	1.303E+01	1.265E+01	9.439E+00	5.793E+00
RU	5.284E+05	2.166E+05	1.088E+05	1.383E+04	4.442E+02	4.729E-04	5.866E-25	0.0	0.0	0.0	0.0	0.0
RH	5.187E+05	2.166E+05	1.088E+05	1.383E+04	4.442E+02	4.729E-04	5.866E-25	0.0	0.0	0.0	0.0	0.0
PD	1.122E-01	1.122E-01	1.122E-01	1.122E-01	1.122E-01	1.122E-01	1.122E-01	1.122E-01	1.122E-01	1.121E-01	1.110E-01	1.092E-01
AG	2.876E+03	1.044E+02	3.791E+02	1.815E+01	1.146E-01	2.665E-05	1.819E-05	6.106E-06	1.338E-07	6.233E-29	0.0	0.0
CD	2.181E+02	5.360E+01	5.059E+01	4.387E+01	3.459E+01	1.337E+01	4.807E-01	3.591E-05	1.293E-19	0.0	0.0	0.0
IN	5.605E-01	3.343E-03	2.001E-05	1.921E-11	1.487E-11	1.487E-11	1.487E-11	1.487E-11	1.487E-11	1.487E-11	1.487E-11	1.487E-11
SN	1.840E+03	2.945E+02	5.464E+01	1.980E+00	9.612E-01	9.125E-01	8.279E-01	7.787E-01	7.717E-01	7.251E-01	3.686E-01	1.374E-01
SB	1.366E+04	1.046E+04	8.142E+03	3.844E+03	1.101E+03	8.257E+00	8.853E-01	8.841E-01	8.758E-01	8.266E-01	4.430E-01	1.566E-01
TE	1.770E+04	3.674E+02	2.096E+03	9.377E+02	2.683E+02	1.799E+00	4.439E-08	2.232E-12	2.232E-12	2.232E-12	2.232E-12	2.232E-12
I	1.107E-03	4.245E-05	4.246E-05	4.246E-05	4.246E-05	4.246E-05	4.246E-05	4.245E-05	4.245E-05	4.244E-05	4.227E-05	4.199E-05
XE	0.0	1.428E-14	8.198E-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	2.381E+05	1.972E+05	1.674E+05	1.171E+05	8.659E+04	5.160E+04	1.024E+04	1.012E+02	3.448E-01	3.439E-01	3.347E-01	3.199E-01
BA	9.792E+04	9.539E+04	9.322E+04	8.697E+04	7.748E+04	4.881E+04	9.685E+03	9.540E+01	9.023E-06	0.0	0.0	0.0
LA	3.426E+02	8.664E-07	1.092E-10	1.092E-10	1.092E-10	1.092E-10	1.092E-10	1.092E-10	1.092E-10	1.092E-10	1.092E-10	1.092E-10
CE	9.075E+05	3.499E+05	1.436E+05	9.925E+03	1.156E+02	2.914E-05	2.702E-05	2.702E-05	2.702E-05	2.702E-05	2.702E-05	2.702E-05
PR	8.633E+05	3.541E+05	1.453E+05	1.004E+04	1.170E+02	2.149E-06	0.0	0.0	0.0	0.0	0.0	0.0
ND	2.923E+01	4.777E-09	1.506E-09	1.556E-09	1.560E-09	1.560E-09	1.560E-09	1.560E-09	1.560E-09	1.560E-09	1.560E-09	1.560E-09
PM	1.248E+05	9.422E+04	7.234E+04	3.274E+04	8.738E+03	4.433E+01	4.116E-07	0.0	0.0	0.0	0.0	0.0
SM	3.595E+02	3.567E+02	3.540E+02	3.459E+02	3.328E+02	2.853E+02	1.664E+02	3.566E+01	1.623E-01	4.601E-06	4.601E-06	4.601E-06
EU	1.629E+04	1.457E+04	1.317E+04	9.753E+03	6.003E+03	9.905E+02	3.190E+00	1.525E-06	3.896E-22	0.0	0.0	0.0
GD	2.849E+01	1.001E+01	3.516E+00	1.525E-01	6.179E-04	1.049E-12	4.179E-13	4.191E-13	4.191E-13	4.191E-13	4.191E-13	4.191E-13
TB	2.183E+02	6.583E+00	1.985E-01	5.440E-06	1.356E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	2.344E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	2.531E-03	2.530E-03	2.528E-03	2.524E-03	2.517E-03	2.488E-03	2.389E-03	2.128E-03	1.421E-03	7.851E-06	2.081E-28	0.0
ER	2.258E-06	4.538E-16	9.119E-30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	2.222E-02	3.508E-02	7.728E-04	1.209E-04	1.970E-05	1.441E-06	1.526E-19	0.0	0.0	0.0	0.0	0.0
TOTAL	4.603E+06	1.717E+06	1.902E+06	4.278E+05	2.957E+05	1.726E+05	3.350E+04	3.657E+02	1.922E+01	1.853E+01	1.422E+01	9.689E+00

TABLE A.36. CURIES OF PRINCIPAL FISSION PRODUCT NUCLIDES IN PWR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
SE 79	4.091E-01	4.091E-01	4.091E-01	4.090E-01	4.090E-01	4.089E-01	4.086E-01	4.078E-01	4.047E-01	3.677E-01	1.407E-01	2.840E-02
SR 90	7.234E+04	7.064E+04	6.898E+04	6.423E+04	5.702E+04	3.542E+04	6.694E+03	5.732E+01	3.329E-06	0.0	0.0	0.0
Y 90	7.236E+04	7.066E+04	6.900E+04	6.424E+04	5.703E+04	3.543E+04	6.696E+03	5.733E+01	3.330E-06	0.0	0.0	0.0
Y 91	1.738E+05	2.296E+03	3.031E+01	6.978E-05	2.801E-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZR 93	1.805E+00	1.805E+00	1.805E+00	1.805E+00	1.805E+00	1.805E+00	1.805E+00	1.805E+00	1.805E+00	1.797E+00	1.725E+00	1.612E+00
NB 93M	1.451E-01	2.231E-01	2.973E-01	4.983E-01	7.720E-01	1.375E+00	1.706E+00	1.715E+00	1.714E+00	1.707E+00	1.639E+00	1.532E+00
ZR 95	2.913E+05	5.569E+03	1.065E+02	7.445E-04	1.903E-12	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 95	5.615E+05	1.273E+04	2.449E+02	1.653E-03	4.225E-12	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC 99	1.307E+01	1.307E+01	1.307E+01	1.307E+01	1.307E+01	1.307E+01	1.306E+01	1.306E+01	1.303E+01	1.265E+01	9.439E+00	5.793E+00
RU106	4.305E+05	2.164E+05	1.088E+05	1.383E+04	4.442E+02	4.729E-04	5.886E-25	0.0	0.0	0.0	0.0	0.0
RH106	4.305E+05	2.164E+05	1.088E+05	1.383E+04	4.442E+02	4.729E-04	5.886E-25	0.0	0.0	0.0	0.0	0.0
PD107	1.122E-01	1.122E-01	1.122E-01	1.122E-01	1.122E-01	1.122E-01	1.122E-01	1.122E-01	1.122E-01	1.121E-01	1.110E-01	1.092E-01
SB125	1.343E+04	1.046E+04	8.141E+03	3.843E+03	1.100E+03	7.372E+00	1.819E-07	0.0	0.0	0.0	0.0	0.0
TE125M	3.194E+03	2.550E+03	1.986E+03	9.376E+02	2.683E+02	1.799E+00	4.439E-08	0.0	0.0	0.0	0.0	0.0
SN126	7.771E-01	7.771E-01	7.771E-01	7.771E-01	7.771E-01	7.769E-01	7.766E-01	7.755E-01	7.717E-01	7.251E-01	3.886E-01	1.374E-01
SB126	2.675E-01	1.088E-01	1.088E-01	1.088E-01	1.088E-01	1.088E-01	1.087E-01	1.086E-01	1.080E-01	1.015E-01	5.440E-02	1.924E-02
SB126M	7.771E-01	7.771E-01	7.771E-01	7.771E-01	7.771E-01	7.769E-01	7.766E-01	7.755E-01	7.717E-01	7.251E-01	3.886E-01	1.374E-01
CS134	1.349E+05	9.639E+04	6.887E+04	2.512E+04	4.679E+03	5.663E+00	3.416E-10	0.0	0.0	0.0	0.0	0.0
CS135	3.449E-01	3.449E-01	3.449E-01	3.449E-01	3.449E-01	3.449E-01	3.449E-01	3.449E-01	3.448E-01	3.439E-01	3.347E-01	3.199E-01
CS137	1.032E+05	1.008E+05	9.854E+04	9.194E+04	8.191E+04	5.160E+04	1.024E+04	1.009E+02	9.538E-06	0.0	0.0	0.0
BA137M	9.762E+04	9.539E+04	9.322E+04	8.697E+04	7.748E+04	4.881E+04	9.685E+03	9.540E+01	9.023E-06	0.0	0.0	0.0
CE144	8.526E+05	3.499E+05	1.436E+05	9.925E+03	1.156E+02	2.123E-06	0.0	0.0	0.0	0.0	0.0	0.0
PR144	8.526E+05	3.499E+05	1.436E+05	9.926E+03	1.156E+02	2.123E-06	0.0	0.0	0.0	0.0	0.0	0.0
PR144M	1.023E+04	4.199E+03	1.723E+03	1.191E+02	1.387E+00	2.548E-08	0.0	0.0	0.0	0.0	0.0	0.0
PM147	1.227E+05	9.421E+04	7.234E+04	3.274E+04	8.738E+03	4.433E+01	4.116E-07	0.0	0.0	0.0	0.0	0.0
SM151	3.595E+02	3.567E+02	3.540E+02	3.459E+02	3.328E+02	2.853E+02	1.664E+02	3.566E+01	1.522E-01	0.0	0.0	0.0
EU154	1.008E+04	9.295E+03	8.575E+03	6.733E+03	4.500E+03	8.978E+02	3.152E+00	3.148E-07	0.0	0.0	0.0	0.0
EU155	6.066E+03	5.275E+03	4.587E+03	3.016E+03	1.499E+03	9.160E+01	5.161E-03	3.737E-15	0.0	0.0	0.0	0.0
SUMTOT	4.239E+06	1.714E+06	1.002E+06	4.278E+05	2.957E+05	1.726E+05	3.350E+04	3.657E+02	1.922E+01	1.853E+01	1.422E+01	9.689E+00
TOTAL	4.603E+06	1.717E+06	1.002E+06	4.278E+05	2.957E+05	1.726E+05	3.350E+04	3.657E+02	1.922E+01	1.853E+01	1.422E+01	9.689E+00

TABLE A.37. WATTS OF FISSION PRODUCT ELEMENTS IN PWR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
BE	3.447E-09	3.447E-09	3.447E-09	3.447E-09	3.447E-09	3.447E-09	3.447E-09	3.446E-09	3.445E-09	3.432E-09	3.301E-09	3.093E-09
CU	5.062E-32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	1.018E-04	1.018E-04	1.018E-04	1.018E-04	1.018E-04	1.018E-04	1.017E-04	1.015E-04	1.008E-04	9.154E-05	3.504E-05	7.070E-06
RB	2.339E-02	4.773E-08	1.782E-08	1.782E-08	1.782E-08	1.782E-08	1.782E-08	1.782E-08	1.782E-08	1.782E-08	1.782E-08	1.782E-08
SR	4.204E+02	8.423E+01	8.008E+01	7.454E+01	6.618E+01	4.111E+01	7.769E+00	6.652E-02	3.864E-09	0.0	0.0	0.0
Y	1.025E+03	3.999E+02	3.825E+02	3.561E+02	3.161E+02	1.964E+02	3.711E+01	3.177E-01	1.846E-08	0.0	0.0	0.0
ZR	1.475E+03	2.821E+01	5.396E-01	2.135E-04	2.098E-04	2.098E-04	2.098E-04	2.097E-04	2.097E-04	2.088E-04	2.005E-04	1.873E-04
NB	2.696E+03	6.114E+01	1.176E+00	9.766E-05	1.382E-04	2.450E-04	3.036E-04	3.053E-04	3.051E-04	3.035E-04	2.905E-04	2.714E-04
MO	1.786E-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC	6.554E-03	6.554E-03	6.554E-03	6.554E-03	6.554E-03	6.553E-03	6.552E-03	6.547E-03	6.532E-03	6.344E-03	4.733E-03	2.905E-03
RU	3.531E+02	1.340E+01	6.470E+00	8.221E-01	2.641E-02	2.811E-08	3.500E-29	0.0	0.0	0.0	0.0	0.0
RH	4.149E+03	2.076E+03	1.044E+03	1.326E+02	4.260E+00	4.535E-06	5.645E-27	0.0	0.0	0.0	0.0	0.0
PD	6.650E-06	6.650E-06	6.650E-06	6.650E-06	6.650E-06	6.650E-06	6.650E-06	6.650E-06	6.650E-06	6.643E-06	6.580E-06	6.475E-06
AG	4.767E+01	1.731E+01	6.283E+00	3.007E-01	1.899E-03	2.462E-07	1.680E-07	5.640E-08	1.236E-09	5.757E-31	0.0	0.0
CD	6.997E-01	9.137E-02	8.516E-02	7.385E-02	5.823E-02	2.252E-02	8.093E-04	6.044E-08	2.176E-22	0.0	0.0	0.0
IN	1.651E-03	9.876E-06	5.922E-08	3.419E-14	2.134E-14	2.134E-14	2.134E-14	2.134E-14	2.134E-14	2.134E-14	2.134E-14	2.134E-14
SN	5.326E+00	7.690E-01	1.159E-01	2.118E-03	1.330E-03	1.241E-03	1.071E-03	9.736E-04	9.625E-04	9.043E-04	4.846E-04	1.714E-04
SB	4.499E+01	3.275E+01	2.546E+01	1.203E+01	3.450E+00	3.495E-02	1.190E-02	1.188E-02	1.182E-02	1.111E-02	5.953E-03	2.105E-03
TE	2.101E+01	3.203E+00	1.773E+00	7.882E-01	2.255E-01	1.512E-03	3.731E-11	3.340E-16	3.340E-16	3.340E-16	3.340E-16	3.340E-16
I	3.667E-06	1.964E-08	1.964E-08	1.964E-08	1.964E-08	1.964E-08	1.964E-08	1.964E-08	1.964E-08	1.963E-08	1.955E-08	1.942E-08
XE	0.0	1.374E-17	7.887E-27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	1.487E+03	1.093E+03	8.100E+02	3.574E+02	1.382E+02	5.713E+01	1.132E+01	1.117E-01	1.151E-04	1.148E-04	1.117E-04	1.068E-04
BA	3.842E+02	3.746E+02	3.660E+02	3.419E+02	3.042E+02	1.917E+02	3.603E+01	3.746E-01	3.543E-08	0.0	0.0	0.0
LA	5.742E+00	1.452E-06	1.882E-13	1.882E-13	1.882E-13	1.882E-13	1.882E-13	1.882E-13	1.882E-13	1.882E-13	1.882E-13	1.882E-13
CE	6.459E+02	2.321E+02	9.525E+01	6.584E+00	7.668E-02	1.408E-09	0.0	0.0	0.0	0.0	0.0	0.0
PR	6.271E+03	2.573E+03	1.056E+03	7.300E+01	8.502E-01	1.562E-08	0.0	0.0	0.0	0.0	0.0	0.0
ND	7.052E-02	8.075E-12	9.247E-22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM	6.991E+01	3.385E+01	2.595E+01	1.174E+01	3.134E+00	1.590E-02	1.476E-10	0.0	0.0	0.0	0.0	0.0
SM	4.215E-02	4.183E-02	4.151E-02	4.056E-02	3.903E-02	3.345E-02	1.951E-02	4.181E-03	1.909E-05	6.299E-08	6.299E-08	6.299E-08
EU	9.603E+01	8.702E+01	8.008E+01	6.245E+01	4.137E+01	8.106E+00	2.845E-02	1.202E-08	2.954E-24	0.0	0.0	0.0
GD	2.456E-02	8.627E-03	3.031E-03	1.314E-04	7.050E-07	5.513E-15	5.445E-15	5.460E-15	5.460E-15	5.460E-15	5.460E-15	5.460E-15
TB	1.778E+00	5.361E-02	1.617E-03	4.431E-08	1.104E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	2.737E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	2.804E-05	2.803E-05	2.801E-05	2.796E-05	2.788E-05	2.756E-05	2.647E-05	2.358E-05	1.574E-05	8.697E-08	2.305E-30	0.0
ER	4.552E-09	9.146E-21	1.838E-32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	4.277E-05	6.034E-06	8.863E-07	2.083E-08	3.055E-09	2.235E-12	2.366E-23	0.0	0.0	0.0	0.0	0.0
TOTAL	1.920E+04	7.110E+03	3.982E+03	1.430E+03	8.782E+02	4.945E+02	9.430E+01	8.948E-01	2.009E-02	1.908E-02	1.182E-02	5.760E-03

TABLE A.38. WATTS OF PRINCIPAL FISSION PRODUCT NUCLIDES IN PWR HIGH-LEVEL WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
SE 79	1.018E-04	1.018E-04	1.018E-04	1.018E-04	1.018E-04	1.018E-04	1.017E-04	1.015E-04	1.008E-04	9.154E-05	3.504E-05	7.070E-06
SR 90	8.396E+01	8.199E+01	8.006E+01	7.454E+01	6.618E+01	4.111E+01	7.769E+00	6.652E-02	3.864E-09	0.0	0.0	0.0
Y 90	4.011E+02	3.916E+02	3.824E+02	3.561E+02	3.161E+02	1.964E+02	3.711E+01	3.177E-01	1.846E-08	0.0	0.0	0.0
Y 91	6.241E+02	8.246E+00	1.089E-01	2.506E-07	1.006E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZR 93	2.098E-04	2.098E-04	2.098E-04	2.098E-04	2.098E-04	2.098E-04	2.098E-04	2.097E-04	2.097E-04	2.008E-04	2.005E-04	1.873E-04
NB 93M	2.571E-05	3.954E-05	5.267E-05	8.829E-05	1.368E-04	2.436E-04	3.022E-04	3.039E-04	3.038E-04	3.025E-04	2.904E-04	2.714E-04
ZR 95	1.475E+03	2.821E+01	5.394E-01	3.771E-06	9.639E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 95	2.693E+03	6.108E+01	1.175E+00	7.928E-06	2.027E-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC 99	6.554E-03	6.554E-03	6.554E-03	6.554E-03	6.554E-03	6.553E-03	6.552E-03	6.547E-03	6.532E-03	6.344E-03	4.733E-03	2.905E-03
RU106	2.559E+01	1.287E+01	6.469E+00	8.221E-01	2.641E-02	2.811E-08	3.500E-29	0.0	0.0	0.0	0.0	0.0
RH106	4.129E+03	2.076E+03	1.044E+03	1.326E+02	4.260E+00	4.535E-06	5.645E-27	0.0	0.0	0.0	0.0	0.0
PD107	6.650E-06	6.650E-06	6.650E-06	6.650E-06	6.650E-06	6.650E-06	6.650E-06	6.650E-06	6.650E-06	6.643E-06	6.580E-06	6.475E-06
AG110M	4.740E+01	1.721E+01	6.248E+00	2.990E-01	1.888E-03	2.991E-12	0.0	0.0	0.0	0.0	0.0	0.0
SB125	4.198E+01	3.269E+01	2.545E+01	1.201E+01	3.438E+00	2.305E-02	5.688E-10	0.0	0.0	0.0	0.0	0.0
SN126	9.692E-04	9.692E-04	9.692E-04	9.692E-04	9.691E-04	9.690E-04	9.685E-04	9.672E-04	9.625E-04	9.043E-04	4.846E-04	1.714E-04
SB126	4.942E-03	2.010E-03	2.010E-03	2.010E-03	2.010E-03	2.010E-03	2.009E-03	2.006E-03	1.996E-03	1.876E-03	1.005E-03	3.554E-04
SB126M	9.895E-03	9.895E-03	9.895E-03	9.894E-03	9.894E-03	9.893E-03	9.888E-03	9.874E-03	9.826E-03	9.232E-03	4.948E-03	1.749E-03
CS134	1.373E+03	9.811E+02	7.010E+02	2.557E+02	4.762E+01	5.764E-02	3.477E-12	0.0	0.0	0.0	0.0	0.0
CS135	1.151E-04	1.151E-04	1.151E-04	1.151E-04	1.151E-04	1.151E-04	1.151E-04	1.151E-04	1.151E-04	1.148E-04	1.117E-04	1.068E-04
CS137	1.141E+02	1.115E+02	1.090E+02	1.017E+02	9.060E+01	5.707E+01	1.132E+01	1.113E-01	1.055E-08	0.0	0.0	0.0
BA137M	3.833E+02	3.746E+02	3.660E+02	3.415E+02	3.042E+02	1.917E+02	3.803E+01	3.746E-01	3.543E-08	0.0	0.0	0.0
CE144	5.655E+02	2.321E+02	9.525E+01	6.584E+00	7.668E-02	1.408E-09	0.0	0.0	0.0	0.0	0.0	0.0
PR144	6.267E+03	2.572E+03	1.056E+03	7.296E+01	8.497E-01	1.561E-08	0.0	0.0	0.0	0.0	0.0	0.0
PM147	4.401E+01	3.379E+01	2.595E+01	1.174E+01	3.134E+00	1.590E-02	1.476E-10	0.0	0.0	0.0	0.0	0.0
SM151	4.215E-02	4.183E-02	4.151E-02	4.056E-02	3.903E-02	3.345E-02	1.951E-02	4.181E-03	1.902E-05	0.0	0.0	0.0
EU154	9.012E+01	8.314E+01	7.670E+01	6.023E+01	4.025E+01	8.030E+00	2.820E-02	2.816E-09	0.0	0.0	0.0	0.0
EU155	4.412E+00	3.837E+00	3.336E+00	2.194E+00	1.091E+00	6.662E-02	3.754E-06	2.718E-18	0.0	0.0	0.0	0.0
SUMTOT	1.836E+04	7.102E+03	3.979E+03	1.429E+03	8.779E+02	4.945E+02	9.430E+01	8.947E-01	2.007E-02	1.908E-02	1.181E-02	5.760E-03
TOTAL	1.920E+04	7.110E+03	3.982E+03	1.430E+03	8.782E+02	4.945E+02	9.430E+01	8.948E-01	2.009E-02	1.908E-02	1.182E-02	5.760E-03

TABLE A.39. PHOTONS FROM FISSION PRODUCTS IN PWR HIGH-LEVEL WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS= METRIC TON OF INITIAL HEAVY METAL AT A REPROCESSING TIME OF 160 DAYS

EMEAN	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	4.778E+16	2.128E+16	1.175E+16	4.483E+15	3.261E+15	1.985E+15	3.759E+14	3.348E+12	6.999E+10	6.783E+10	5.080E+10	3.346E+10
2.500E-02	1.072E+16	4.777E+15	2.678E+15	1.022E+15	7.000E+14	4.113E+14	7.787E+13	6.980E+11	2.131E+10	2.026E+10	1.242E+10	5.855E+09
3.750E-02	1.686E+16	4.810E+15	2.601E+15	9.636E+14	6.822E+14	3.932E+14	7.394E+13	6.745E+11	5.933E+09	5.708E+09	3.927E+09	2.199E+09
5.750E-02	9.796E+15	4.425E+15	2.414E+15	8.839E+14	6.347E+14	3.836E+14	7.230E+13	6.358E+11	9.733E+09	9.273E+09	5.912E+09	2.968E+09
8.500E-02	6.640E+15	3.096E+15	1.654E+15	5.675E+14	3.929E+14	2.310E+14	4.352E+13	3.929E+11	1.636E+10	1.542E+10	6.607E+09	3.363E+09
1.250E-01	9.023E+15	3.512E+15	1.769E+15	5.029E+14	3.191E+14	1.625E+14	2.815E+13	2.438E+11	1.346E+09	1.285E+09	6.081E+08	2.964E+08
2.250E-01	5.925E+15	2.701E+15	1.449E+15	4.866E+14	3.354E+14	1.991E+14	3.716E+13	3.212E+11	1.681E+09	1.439E+09	7.995E+08	3.091E+08
3.750E-01	3.099E+15	1.462E+15	7.974E+14	2.604E+14	1.554E+14	8.576E+13	1.614E+13	1.696E+11	3.131E+10	2.940E+10	1.576E+10	5.572E+09
5.750E-01	2.067E+16	1.181E+16	8.662E+15	4.854E+15	3.284E+15	1.908E+15	3.775E+14	3.777E+12	6.950E+10	6.529E+10	3.499E+10	1.237E+10
8.500E-01	3.357E+16	4.299E+15	2.596E+15	9.785E+14	2.545E+14	2.978E+13	2.662E+12	2.590E+10	3.561E+09	3.275E+09	1.752E+09	6.192E+08
1.250E+00	1.243E+15	7.248E+14	4.768E+14	2.102E+14	1.056E+14	2.208E+13	9.223E+11	8.209E+09	8.459E+06	7.932E+08	4.251E+08	1.903E+08
1.750E+00	1.419E+14	6.176E+13	3.181E+13	7.460E+12	3.285E+12	8.600E+11	6.896E+10	5.747E+08	3.603E+04	3.382E+04	1.812E+04	6.498E+03
2.250E+00	2.648E+14	1.103E+14	4.634E+13	3.546E+12	5.676E+10	3.908E+07	7.381E+06	6.315E+04	4.228E-03	5.579E-04	5.579E-04	5.579E-04
2.750E+00	4.060E+12	1.809E+12	9.016E+11	1.125E+11	3.562E+09	3.761E+03	2.795E-04	2.795E-04	2.795E-04	2.795E-04	2.795E-04	2.795E-04
3.500E+00	4.509E+11	2.250E+11	1.131E+11	1.437E+10	4.617E+08	4.915E+02	2.059E-04	2.059E-04	2.059E-04	2.059E-04	2.059E-04	2.059E-04
5.000E+00	5.546E-05	5.681E-05	5.785E-05	5.973E-05	6.088E-05	6.129E-05	6.129E-05	6.129E-05	6.129E-05	6.129E-05	6.129E-05	6.129E-05
7.000E+00	3.598E-06	3.686E-06	3.754E-06	3.876E-06	3.950E-06	3.977E-06	3.977E-06	3.977E-06	3.977E-06	3.977E-06	3.977E-06	3.977E-06
1.100E+01	2.276E-07	2.331E-07	2.374E-07	2.451E-07	2.498E-07	2.515E-07	2.515E-07	2.515E-07	2.515E-07	2.515E-07	2.515E-07	2.515E-07
TOTAL	1.699E+17	6.307E+16	3.691E+16	1.523E+16	1.013E+16	5.812E+15	1.106E+15	1.029E+13	2.315E+11	2.200E+11	1.362E+11	6.727E+10
MEV/SEC	4.899E+16	1.445E+16	9.410E+15	4.405E+15	2.578E+15	1.345E+15	2.567E+14	2.534E+12	6.007E+10	5.641E+10	3.062E+10	1.122E+10

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS= METRIC TON OF INITIAL HEAVY METAL AT A REPROCESSING TIME OF 160 DAYS

EMEAN	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	7.167E+08	3.192E+08	1.762E+08	6.725E+07	4.892E+07	2.977E+07	5.638E+06	5.021E+04	1.050E+03	1.017E+03	7.621E+02	5.020E+02
2.500E-02	2.679E+08	1.194E+08	6.694E+07	2.555E+07	1.750E+07	1.028E+07	1.947E+06	1.745E+04	5.328E+02	5.065E+02	3.105E+02	1.464E+02
3.750E-02	4.074E+08	1.804E+08	9.755E+07	3.614E+07	2.558E+07	1.474E+07	2.773E+06	2.529E+04	2.225E+02	2.140E+02	1.473E+02	8.247E+01
5.750E-02	5.633E+08	2.545E+08	1.388E+08	5.082E+07	3.650E+07	2.206E+07	4.157E+06	3.655E+04	5.596E+02	5.332E+02	3.399E+02	1.706E+02
8.500E-02	5.814E+08	2.632E+08	1.406E+08	4.824E+07	3.339E+07	1.964E+07	3.699E+06	3.338E+04	1.391E+03	1.310E+03	7.316E+02	2.859E+02
1.250E-01	1.128E+09	4.389E+08	2.199E+08	6.287E+07	3.989E+07	2.031E+07	3.519E+06	3.047E+04	1.685E+02	1.606E+02	1.010E+02	4.955E+01
2.250E-01	1.333E+09	6.077E+08	3.281E+08	1.098E+08	7.546E+07	4.480E+07	8.361E+06	7.226E+04	3.667E+02	3.237E+02	1.799E+02	6.954E+01
3.750E-01	1.162E+09	5.482E+08	2.990E+08	9.766E+07	5.829E+07	3.216E+07	6.051E+06	5.359E+04	1.174E+04	1.103E+04	5.909E+03	2.089E+03
5.750E-01	1.189E+10	6.793E+09	4.980E+09	2.791E+09	1.888E+09	1.097E+09	2.170E+08	2.172E+06	3.996E+04	3.754E+04	2.012E+04	7.113E+03
8.500E-01	2.852E+10	3.654E+09	2.206E+09	8.317E+08	2.163E+08	2.531E+07	2.263E+06	2.202E+04	3.027E+03	2.784E+03	1.489E+03	5.263E+02
1.250E+00	1.553E+09	9.060E+08	5.961E+08	2.627E+08	1.321E+08	2.760E+07	1.153E+06	1.026E+04	1.057E+03	9.915E+02	5.314E+02	1.879E+02
1.750E+00	2.484E+08	1.081E+08	5.567E+07	1.306E+07	5.749E+06	1.540E+06	1.207E+05	1.006E+03	6.305E-02	5.918E-02	3.172E-02	1.121E-02
2.250E+00	5.958E+08	2.481E+08	1.043E+08	7.978E+06	1.277E+05	8.793E+01	1.661E+01	1.422E-01	9.514E-09	1.255E-09	1.255E-09	1.255E-09
2.750E+00	1.116E+07	4.976E+06	2.479E+06	3.093E+05	9.794E+03	1.034E-02	7.688E-10	7.688E-10	7.688E-10	7.688E-10	7.688E-10	7.688E-10
3.500E+00	1.578E+06	7.874E+05	3.958E+05	5.030E+04	1.616E+03	1.720E-03	7.205E-10	7.205E-10	7.205E-10	7.205E-10	7.205E-10	7.205E-10
5.000E+00	2.773E-10	2.641E-10	2.893E-10	2.987E-10	3.044E-10	3.064E-10	3.065E-10	3.065E-10	3.065E-10	3.065E-10	3.065E-10	3.065E-10
7.000E+00	2.519E-11	2.580E-11	2.628E-11	2.713E-11	2.765E-11	2.784E-11	2.784E-11	2.784E-11	2.784E-11	2.784E-11	2.784E-11	2.784E-11
1.100E+01	2.503E-12	2.564E-12	2.611E-12	2.696E-12	2.748E-12	2.766E-12	2.766E-12	2.766E-12	2.766E-12	2.766E-12	2.766E-12	2.766E-12
TOTAL	4.899E+10	1.445E+10	9.410E+09	4.405E+09	2.578E+09	1.345E+09	2.567E+08	2.534E+06	6.007E+04	5.641E+04	3.062E+04	1.122E+04
GAM POW	7.853E+03	2.316E+03	1.508E+03	7.061E+02	4.133E+02	2.156E+02	4.115E+01	4.062E-01	9.629E-03	9.042E-03	4.908E-03	1.799E-03

Appendix A.3: Characterization of PWR Structural Material Waste

TABLE A.40. GRAMS OF ACTIVATION PRODUCT ELEMENTS IN PWR CLADDING WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	3.150E+00	3.150E+00	3.149E+00	3.148E+00	3.147E+00	3.144E+00	3.142E+00	3.142E+00	3.142E+00	3.142E+00	3.142E+00	3.142E+00
HE	1.172E-01	1.176E-01	1.180E-01	1.191E-01	1.206E-01	1.237E-01	1.251E-01	1.251E-01	1.251E-01	1.251E-01	1.251E-01	1.251E-01
LI	2.710E-02	2.710E-02	2.710E-02	2.710E-02	2.710E-02	2.710E-02	2.710E-02	2.710E-02	2.710E-02	2.710E-02	2.710E-02	2.710E-02
BE	2.901E-04	2.901E-04	2.901E-04	2.901E-04	2.901E-04	2.901E-04	2.901E-04	2.901E-04	2.901E-04	2.901E-04	2.901E-04	2.900E-04
B	1.944E-01	1.944E-01	1.944E-01	1.944E-01	1.944E-01	1.944E-01	1.944E-01	1.944E-01	1.944E-01	1.944E-01	1.944E-01	1.944E-01
C	7.018E+01	7.018E+01	7.018E+01	7.018E+01	7.018E+01	7.018E+01	7.018E+01	7.017E+01	7.016E+01	7.003E+01	6.997E+01	6.997E+01
N	8.967E+01	8.967E+01	8.967E+01	8.967E+01	8.967E+01	8.967E+01	8.967E+01	8.967E+01	8.959E+01	8.982E+01	8.988E+01	8.988E+01
O	2.916E+02	2.916E+02	2.916E+02	2.916E+02	2.916E+02	2.916E+02	2.916E+02	2.916E+02	2.916E+02	2.916E+02	2.916E+02	2.916E+02
F	5.761E-06	5.761E-06	5.761E-06	5.761E-06	5.761E-06	5.761E-06	5.761E-06	5.761E-06	5.761E-06	5.761E-06	5.761E-06	5.761E-06
NE	3.620E-10	3.620E-10	3.620E-10	3.620E-10	3.620E-10	3.620E-10	3.620E-10	3.620E-10	3.620E-10	3.620E-10	3.620E-10	3.620E-10
NA	7.484E-03	7.484E-03	7.484E-03	7.484E-03	7.484E-03	7.484E-03	7.484E-03	7.484E-03	7.484E-03	7.484E-03	7.484E-03	7.484E-03
MG	1.142E-03	1.142E-03	1.142E-03	1.142E-03	1.142E-03	1.142E-03	1.142E-03	1.142E-03	1.142E-03	1.142E-03	1.142E-03	1.142E-03
AL	8.266E+01	8.266E+01	8.266E+01	8.266E+01	8.266E+01	8.266E+01	8.266E+01	8.266E+01	8.266E+01	8.266E+01	8.266E+01	8.266E+01
SI	4.447E+02	4.447E+02	4.447E+02	4.447E+02	4.447E+02	4.447E+02	4.447E+02	4.447E+02	4.447E+02	4.447E+02	4.447E+02	4.447E+02
P	2.868E+02	2.868E+02	2.868E+02	2.868E+02	2.868E+02	2.868E+02	2.868E+02	2.868E+02	2.868E+02	2.868E+02	2.868E+02	2.868E+02
S	2.202E+01	2.202E+01	2.202E+01	2.202E+01	2.202E+01	2.202E+01	2.202E+01	2.202E+01	2.202E+01	2.202E+01	2.202E+01	2.202E+01
CL	2.738E-04	2.861E-04	2.868E-04	2.869E-04	2.869E-04	2.869E-04	2.869E-04	2.869E-04	2.868E-04	2.867E-04	2.849E-04	2.827E-04
AR	4.250E-10	4.466E-10	4.682E-10	5.331E-10	6.411E-10	1.073E-09	2.585E-09	6.909E-09	2.201E-08	2.140E-07	1.930E-06	4.107E-06
K	3.470E-08	3.471E-08	3.471E-08	3.474E-08	3.477E-08	3.492E-08	3.542E-08	3.685E-08	4.186E-08	1.036E-07	5.180E-07	7.762E-07
CA	1.039E-03	1.039E-03	1.039E-03	1.039E-03	1.039E-03	1.039E-03	1.039E-03	1.039E-03	1.039E-03	1.039E-03	1.038E-03	1.038E-03
SC	4.018E-06	8.427E-07	7.013E-07	6.977E-07	6.978E-07	6.978E-07	6.978E-07	6.978E-07	6.978E-07	6.978E-07	6.978E-07	6.978E-07
TI	1.074E+02	1.074E+02	1.074E+02	1.074E+02	1.074E+02	1.074E+02	1.074E+02	1.074E+02	1.074E+02	1.074E+02	1.074E+02	1.074E+02
V	1.186E+01	1.187E+01	1.187E+01	1.187E+01	1.187E+01	1.187E+01	1.187E+01	1.187E+01	1.187E+01	1.187E+01	1.187E+01	1.187E+01
CR	1.100E+04	1.100E+04	1.100E+04	1.100E+04	1.100E+04	1.100E+04	1.100E+04	1.100E+04	1.100E+04	1.100E+04	1.100E+04	1.100E+04
MN	8.583E+02	8.587E+02	8.591E+02	8.597E+02	8.601E+02	8.602E+02	8.602E+02	8.602E+02	8.602E+02	8.602E+02	8.602E+02	8.602E+02
FE	3.164E+04	3.164E+04	3.164E+04	3.164E+04	3.164E+04	3.164E+04	3.164E+04	3.164E+04	3.164E+04	3.164E+04	3.164E+04	3.164E+04
CO	9.704E+01	9.620E+01	9.550E+01	9.387E+01	9.226E+01	9.066E+01	9.057E+01	9.069E+01	9.110E+01	9.619E+01	1.301E+02	1.511E+02
NI	1.242E+04	1.242E+04	1.242E+04	1.242E+04	1.242E+04	1.242E+04	1.242E+04	1.241E+04	1.241E+04	1.241E+04	1.237E+04	1.235E+04
CU	1.780E+01	1.788E+01	1.796E+01	1.819E+01	1.857E+01	1.996E+01	2.344E+01	2.736E+01	2.846E+01	2.847E+01	2.847E+01	2.847E+01
ZN	1.017E-01	1.017E-01	1.017E-01	1.017E-01	1.017E-01	1.017E-01	1.017E-01	1.017E-01	1.017E-01	1.017E-01	1.017E-01	1.017E-01
GA	1.596E-05	1.596E-05	1.596E-05	1.596E-05	1.596E-05	1.596E-05	1.596E-05	1.596E-05	1.596E-05	1.596E-05	1.596E-05	1.596E-05
GE	1.033E-07	1.033E-07	1.033E-07	1.033E-07	1.033E-07	1.033E-07	1.033E-07	1.033E-07	1.033E-07	1.033E-07	1.033E-07	1.033E-07
AS	2.687E-18	2.687E-18	2.687E-18	2.687E-18	2.687E-18	2.687E-18	2.687E-18	2.687E-18	2.687E-18	2.687E-18	2.687E-18	2.687E-18
SE	2.429E-20	2.429E-20	2.429E-20	2.429E-20	2.429E-20	2.429E-20	2.429E-20	2.429E-20	2.429E-20	2.429E-20	2.429E-20	2.429E-20
SR	2.747E-02	2.744E-02	2.744E-02	2.744E-02	2.744E-02	2.744E-02	2.744E-02	2.744E-02	2.744E-02	2.744E-02	2.744E-02	2.744E-02
Y	2.136E-03	2.070E-03	2.069E-03	2.069E-03	2.069E-03	2.069E-03	2.069E-03	2.069E-03	2.069E-03	2.069E-03	2.069E-03	2.069E-03
ZR	2.300E+05	2.300E+05	2.300E+05	2.300E+05	2.300E+05	2.300E+05	2.300E+05	2.300E+05	2.300E+05	2.300E+05	2.300E+05	2.300E+05
NB	7.093E+02	7.086E+02	7.083E+02	7.086E+02	7.088E+02	7.088E+02	7.083E+02	7.086E+02	7.086E+02	7.071E+02	7.045E+02	7.074E+02
MO	4.302E+02	4.310E+02	4.310E+02	4.310E+02	4.310E+02	4.310E+02	4.311E+02	4.311E+02	4.313E+02	4.330E+02	4.376E+02	4.378E+02
TC	6.227E-02	6.227E-02	6.227E-02	6.226E-02	6.226E-02	6.226E-02	6.225E-02	6.221E-02	6.206E-02	6.027E-02	4.497E-02	2.760E-02
RU	1.488E-01	1.488E-01	1.488E-01	1.488E-01	1.488E-01	1.488E-01	1.488E-01	1.488E-01	1.490E-01	1.508E-01	1.661E-01	1.835E-01
RH	9.102E-07	9.226E-07	9.227E-07	9.227E-07	9.227E-07	9.227E-07	9.227E-07	9.227E-07	9.227E-07	9.227E-07	9.227E-07	9.227E-07
PD	3.037E-07	3.049E-07	3.062E-07	3.099E-07	3.158E-07	3.383E-07	4.000E-07	4.881E-07	5.316E-07	5.326E-07	5.326E-07	5.326E-07
AG	3.271E-05	3.261E-05	3.258E-05	3.256E-05	3.255E-05	3.252E-05	3.246E-05	3.236E-05	3.231E-05	3.231E-05	3.231E-05	3.231E-05
CD	7.209E-02	7.211E-02	7.211E-02	7.211E-02	7.211E-02	7.211E-02	7.211E-02	7.211E-02	7.211E-02	7.211E-02	7.211E-02	7.211E-02
IN	1.666E-01	1.666E-01	1.666E-01	1.666E-01	1.666E-01	1.666E-01	1.666E-01	1.666E-01	1.666E-01	1.666E-01	1.666E-01	1.666E-01
SN	3.756E+03	3.756E+03	3.756E+03	3.756E+03	3.756E+03	3.756E+03	3.756E+03	3.756E+03	3.756E+03	3.756E+03	3.756E+03	3.756E+03
SB	3.159E+00	2.863E+00	2.623E+00	2.174E+00	1.888E+00	1.776E+00	1.779E+00	1.781E+00	1.781E+00	1.781E+00	1.781E+00	1.781E+00
TE	7.736E-01	1.085E+00	1.327E+00	1.776E+00	2.063E+00	2.178E+00	2.178E+00	2.178E+00	2.178E+00	2.178E+00	2.178E+00	2.178E+00
I	6.976E-05	7.065E-05	7.074E-05	7.074E-05	7.074E-05	7.074E-05	7.074E-05	7.074E-05	7.074E-05	7.074E-05	7.074E-05	7.074E-05
XE	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
CS	1.355E-17	1.346E-17	1.341E-17	1.332E-17	1.327E-17	1.326E-17	1.326E-17	1.326E-17	1.326E-17	1.326E-17	1.326E-17	1.326E-17
BA	6.559E-20	1.459E-19	2.033E-19	2.945E-19	3.371E-19	3.469E-19	3.469E-19	3.469E-19	3.469E-19	3.469E-19	3.472E-19	3.478E-19
ND	8.544E-20	8.544E-20	8.544E-20	8.544E-20	8.544E-20	8.544E-20	8.544E-20	8.544E-20	8.544E-20	8.544E-20	8.544E-20	8.544E-20
PM	8.841E-23	6.507E-23	4.789E-23	2.495E-23	1.376E-23	-9.549E-24	-8.867E-32	0.0	0.0	0.0	0.0	0.0
SM	9.746E-12	9.745E-12	9.744E-12	9.740E-12	9.733E-12	9.709E-12	9.649E-12	9.582E-12	9.564E-12	9.564E-12	9.564E-12	9.564E-12
EU	1.520E-06	1.654E-06	1.675E-06	1.602E-06	1.484E-06	1.312E-06	1.275E-06	1.274E-06	1.274E-06	1.274E-06	1.274E-06	1.274E-06
GD	1.226E-03	1.226E-03	1.226E-03	1.226E-03	1.226E-03	1.226E-03	1.226E-03	1.226E-03	1.226E-03	1.226E-03	1.226E-03	1.226E-03
TB	1.945E-05	1.930E-05	1.930E-05	1.930E-05	1.930E-05	1.930E-05	1.930E-05	1.930E-05	1.930E-05	1.930E-05	1.930E-05	1.930E-05
DY	6.035E-06	6.183E-06	6.188E-06	6.188E-06	6.188E-06	6.188E-06	6.188E-06	6.188E-06	6.188E-06	6.188E-06	6.188E-06	6.188E-06
HO	1.208E-07	1.208E-07	1.208E-07	1.208E-07	1.208E-07	1.208E-07	1.208E-07	1.207E-07	1.205E-07	1.201E-07	1.201E-07	1.201E-07
ER	1.636E-08	1.636E-08	1.636E-08	1.636E-08	1.636E-08	1.637E-08	1.640E-08	1.648E-08	1.668E-08	1.709E-08	1.709E-08	1.709E-08
TM	8.321E-13	8.067E-13	8.027E-13	8.013E-13	8.009E-13	8.009E-13	8.009E-13	8.009E-13	8.009E-13	8.009E-13	8.009E-13	8.009E-13
YB	1.629E-09	1.629E-09	1.629E-09	1.629E-09	1.629E-09	1.629E-09	1.629E-09	1.629E-09	1.629E-09	1.629E-09	1.629E-09	1.629E-09
LU	1.338E-02	1.368E-02	1.369E-02	1.369E-02	1.369E-02	1.369E-02	1.369E-02	1.369E-02	1.369E-02	1.369E-02	1.369E-02	1.369E-02
HF	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
TA	2.880E-01	2.883E-01	2.881E-01	2.881E-01	2.881E-01	2.881E-01	2.881E-01	2.881E-01	2.881E-01	2.881E-01	2.881E-01	2.881E-01
W	4.575E+00	4.576E+00	4.576E+00	4.576E+00	4.576E+00	4.576E+00	4.576E+00	4.576E+00	4.576E+00	4.576E+00	4.576E+00	4.576E+00
RE	3.782E-01	3.788E-01	3.788E-01	3.788E-01	3.788E-01	3.788E-01	3.788E-01	3.788E-01	3.788E-01	3.788E-01	3.788E-01	3.788E-01
OS	7.402E-02	7.405E-02	7.406E-02	7.406E-02	7.406E-02	7.406E-02	7.406E-02	7.406E-02	7.406E-02	7.406E-02	7.406E-02	7.406E-02
IR	1.618E-06	1.548E-06	1.546E-06	1.546E-06	1.546E-06	1.546E-06	1.546E-06	1.547E-06	1.549E-06	1.550E-06	1.550E-06	1.550E-06
PT	6.293E-07	6.961E-07	6.983E-07	6.983E-07	6.983E-07	6.982E-07	6.979E-07	6.971E-07	6.955E-07	6.945E-07	6.945E-07	6.945E-07
AU	1.549E-16	1.549E-16	1.549E-16	1.549E-16	1.549E-16	1.549E-16	1.549E-16	1.549E-16	1.549E-16	1.549E-16	1.549E-16	1.549E-16
HG	1.636E-17	1.636E-17	1.636E-17	1.636E-17	1.636E-17	1.636E-17	1.636E-17	1.637E-17	1.639E-17	1.669E-17	1.969E-17	2.470E-17
TL	5.736E-16	9.364E-16	1.299E-15	2.387E-15	4.201E-15	1.146E-14	3.685E-14	1.094E-13	3.633E-13	3.628E-12	3.623E-11	9.043E-11
PB	5.001E-04	5.001E-04	5.001E-04	5.001E-04	5.001E-04	5.001E-04	5.001E-04	5.001E-04	5.001E-04	5.001E-04	5.001E-04	5.001E-04
BI	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04
PO	2.328E-09	3.738E-10	6.003E-11	2.483E-13	3.419E-17	7.682E-18	7.682E-18	7.681E-18	7.680E-18	7.664E-18	7.506E-18	7.251E-18
TOTAL	2.924E+05	2.924E+05	2.924E+05	2.924E+05	2.924E+05	2.924E+05	2.924E+05	2.924E+05	2.924E+05	2.924E+05	2.924E+05	2.924E+05

TABLE A.41. GRAMS OF PRINCIPAL ACTIVATION PRODUCT NUCLIDES IN PWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
SI 28	4.085E+02	4.085E+02	4.085E+02	4.085E+02	4.085E+02	4.085E+02	4.085E+02	4.085E+02	4.085E+02	4.085E+02	4.085E+02	4.085E+02
CR 50	4.529E+02	4.529E+02	4.529E+02	4.529E+02	4.529E+02	4.529E+02	4.529E+02	4.529E+02	4.529E+02	4.529E+02	4.529E+02	4.529E+02
CR 52	9.180E+03	9.180E+03	9.180E+03	9.180E+03	9.180E+03	9.180E+03	9.180E+03	9.180E+03	9.180E+03	9.180E+03	9.180E+03	9.180E+03
CR 53	1.081E+03	1.081E+03	1.081E+03	1.081E+03	1.081E+03	1.081E+03	1.081E+03	1.081E+03	1.081E+03	1.081E+03	1.081E+03	1.081E+03
MN 55	8.582E+02	8.587E+02	8.591E+02	8.597E+02	8.601E+02	8.602E+02	8.602E+02	8.602E+02	8.602E+02	8.602E+02	8.602E+02	8.602E+02
FE 54	1.772E+03	1.772E+03	1.772E+03	1.772E+03	1.772E+03	1.772E+03	1.772E+03	1.772E+03	1.772E+03	1.772E+03	1.772E+03	1.772E+03
FE 56	2.902E+04	2.902E+04	2.902E+04	2.902E+04	2.902E+04	2.902E+04	2.902E+04	2.902E+04	2.902E+04	2.902E+04	2.902E+04	2.902E+04
FE 57	7.535E+02	7.535E+02	7.535E+02	7.535E+02	7.535E+02	7.535E+02	7.535E+02	7.535E+02	7.535E+02	7.535E+02	7.535E+02	7.535E+02
NI 58	8.288E+03	8.288E+03	8.288E+03	8.288E+03	8.288E+03	8.288E+03	8.288E+03	8.288E+03	8.288E+03	8.288E+03	8.288E+03	8.288E+03
NI 60	3.305E+03	3.306E+03	3.306E+03	3.308E+03	3.309E+03	3.311E+03	3.311E+03	3.311E+03	3.311E+03	3.311E+03	3.311E+03	3.311E+03
NI 62	4.602E+02	4.602E+02	4.602E+02	4.602E+02	4.602E+02	4.602E+02	4.602E+02	4.602E+02	4.602E+02	4.602E+02	4.602E+02	4.602E+02
ZR 90	1.167E+05	1.167E+05	1.167E+05	1.167E+05	1.167E+05	1.167E+05	1.167E+05	1.167E+05	1.167E+05	1.167E+05	1.167E+05	1.167E+05
ZR 91	2.558E+04	2.558E+04	2.558E+04	2.558E+04	2.558E+04	2.558E+04	2.558E+04	2.558E+04	2.558E+04	2.558E+04	2.558E+04	2.558E+04
ZR 92	3.976E+04	3.976E+04	3.976E+04	3.976E+04	3.976E+04	3.976E+04	3.976E+04	3.976E+04	3.976E+04	3.976E+04	3.976E+04	3.976E+04
ZR 94	4.119E+04	4.119E+04	4.119E+04	4.119E+04	4.119E+04	4.119E+04	4.119E+04	4.119E+04	4.119E+04	4.119E+04	4.119E+04	4.119E+04
ZR 96	6.745E+03	6.745E+03	6.745E+03	6.745E+03	6.745E+03	6.745E+03	6.745E+03	6.745E+03	6.745E+03	6.745E+03	6.745E+03	6.745E+03
NB 93	7.020E+02	7.020E+02	7.020E+02	7.020E+02	7.020E+02	7.020E+02	7.020E+02	7.020E+02	7.020E+02	7.022E+02	7.042E+02	7.074E+02
SN116	5.334E+02	5.334E+02	5.334E+02	5.334E+02	5.334E+02	5.334E+02	5.334E+02	5.334E+02	5.334E+02	5.334E+02	5.334E+02	5.334E+02
SN118	9.043E+02	9.043E+02	9.043E+02	9.043E+02	9.043E+02	9.043E+02	9.043E+02	9.043E+02	9.043E+02	9.043E+02	9.043E+02	9.043E+02
SN119	3.293E+02	3.299E+02	3.302E+02	3.303E+02	3.303E+02	3.303E+02	3.303E+02	3.303E+02	3.303E+02	3.303E+02	3.303E+02	3.303E+02
SN120	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
SUMTOT	2.893E+05	2.893E+05	2.893E+05	2.893E+05	2.893E+05	2.893E+05	2.893E+05	2.893E+05	2.893E+05	2.893E+05	2.893E+05	2.893E+05
TOTAL	2.924E+05	2.924E+05	2.924E+05	2.924E+05	2.924E+05	2.924E+05	2.924E+05	2.924E+05	2.924E+05	2.924E+05	2.924E+05	2.924E+05

TABLE A.42. CURIES OF ACTIVATION PRODUCT ELEMENTS IN PWR CLADDING WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	7.677E+01	7.258E+01	6.861E+01	5.798E+01	4.379E+01	1.425E+01	2.801E-01	3.732E-06	3.221E-23	0.0	0.0	0.0
BE	2.236E-08	2.236E-08	2.236E-08	2.236E-08	2.236E-08	2.236E-08	2.236E-08	2.236E-08	2.235E-08	2.226E-08	2.141E-08	2.007E-08
C	9.542E-01	9.541E-01	9.540E-01	9.536E-01	9.530E-01	9.507E-01	9.427E-01	9.202E-01	8.455E-01	2.846E-01	5.313E-06	6.980E-14
SI	2.483E-08	2.480E-08	2.477E-08	2.469E-08	2.456E-08	2.404E-08	2.231E-08	1.803E-08	8.546E-09	5.803E-13	0.0	0.0
P	3.606E-01	3.379E-08	2.477E-08	2.469E-08	2.456E-08	2.405E-08	2.232E-08	1.803E-08	8.547E-09	5.804E-13	0.0	0.0
S	5.552E-01	3.126E-02	1.760E-03	3.142E-07	1.778E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CL	3.157E-07	3.157E-07	3.157E-07	3.157E-07	3.157E-07	3.157E-07	3.156E-07	3.155E-07	3.150E-07	3.085E-07	2.508E-07	1.775E-07
AR	4.244E-11	5.765E-12	5.723E-12	5.679E-12	5.606E-12	5.325E-12	4.446E-12	2.656E-12	4.373E-13	3.711E-23	0.0	0.0
K	2.346E-13	2.346E-13	2.346E-13	2.346E-13	2.346E-13	2.346E-13	2.346E-13	2.346E-13	2.346E-13	2.346E-13	2.346E-13	2.345E-13
CA	1.849E-03	3.911E-04	8.278E-05	8.724E-07	9.084E-08	9.049E-08	9.044E-08	9.028E-08	8.974E-08	8.305E-08	3.847E-08	1.066E-08
SC	1.160E-01	5.656E-03	2.757E-04	3.192E-08	8.778E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	2.421E-15	2.421E-15	2.421E-15	2.421E-15	2.421E-15	2.421E-15	2.421E-15	2.421E-15	2.421E-15	2.421E-15	2.421E-15	2.421E-15
CR	6.353E+02	6.836E-02	7.356E-06	9.165E-18	1.322E-37	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MN	7.041E+01	3.132E+01	1.393E+01	1.226E+00	2.134E-02	1.960E-09	0.0	0.0	0.0	0.0	0.0	0.0
FE	5.022E+03	3.821E+03	2.927E+03	1.315E+03	3.468E+02	1.679E+00	1.319E-08	0.0	0.0	0.0	0.0	0.0
CO	8.779E+03	6.466E+03	5.634E+03	3.796E+03	1.967E+03	1.417E+02	1.421E-02	5.342E-14	0.0	0.0	0.0	0.0
NI	6.637E+02	6.588E+02	6.539E+02	6.394E+02	6.159E+02	5.305E+02	3.152E+02	7.387E+01	5.488E+00	4.751E+00	2.179E+00	5.939E-01
CU	5.727E-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZN	2.104E-01	7.449E-02	2.638E-02	1.171E-03	6.526E-06	6.270E-15	0.0	0.0	0.0	0.0	0.0	0.0
GE	2.272E-10	1.093E-15	5.255E-29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SR	6.370E-01	4.378E-03	1.727E-04	1.346E-04	1.195E-04	7.421E-05	1.402E-05	1.200E-07	6.971E-15	0.0	0.0	0.0
Y	2.176E+00	2.888E-02	5.240E-04	1.346E-04	1.195E-04	7.423E-05	1.403E-05	1.201E-07	6.973E-15	0.0	0.0	0.0
ZR	8.586E+03	1.643E+02	3.266E+00	1.269E-01	1.269E-01	1.268E-01	1.268E-01	1.268E-01	1.268E-01	1.263E-01	1.212E-01	1.133E-01
NB	1.662E+04	3.779E+02	8.547E+00	1.317E+00	1.336E+00	1.378E+00	1.398E+00	1.390E+00	1.360E+00	1.032E+00	1.574E-01	1.079E-01
MO	2.524E-02	2.524E-02	2.523E-02	2.522E-02	2.519E-02	2.509E-02	2.475E-02	2.376E-02	2.070E-02	3.480E-03	6.269E-11	7.761E-24
TC	1.056E-03	1.056E-03	1.056E-03	1.056E-03	1.056E-03	1.056E-03	1.056E-03	1.055E-03	1.053E-03	1.022E-03	7.627E-04	4.681E-04
RU	4.060E-03	6.511E-06	1.018E-08	9.675E-15	3.095E-16	3.294E-22	4.101E-43	0.0	0.0	0.0	0.0	0.0
RH	2.999E-13	1.508E-13	7.581E-14	9.635E-15	3.095E-16	3.294E-22	4.101E-43	0.0	0.0	0.0	0.0	0.0
PD	6.455E-15	6.455E-15	6.455E-15	6.455E-15	6.455E-15	6.455E-15	6.455E-15	6.455E-15	6.454E-15	6.448E-15	6.386E-15	6.285E-15
AG	7.132E-04	2.634E-04	1.001E-04	1.138E-05	6.768E-06	6.043E-06	4.124E-06	1.384E-06	3.035E-08	1.414E-29	0.0	0.0
CD	9.972E-03	1.643E-03	9.375E-04	1.824E-04	1.192E-05	2.173E-10	5.620E-27	0.0	0.0	0.0	0.0	0.0
IN	8.918E+00	5.369E-02	3.232E-04	7.040E-11	1.666E-16	1.666E-16	1.666E-16	1.666E-16	1.666E-16	1.666E-16	1.666E-16	1.666E-16
SN	4.711E+03	1.560E+03	5.415E+02	2.460E+01	6.389E-01	3.800E-01	1.439E-01	8.981E-03	5.452E-07	0.0	0.0	0.0
SB	1.454E+03	1.130E+03	8.796E+02	4.152E+02	1.188E+02	7.967E-01	1.966E-08	0.0	0.0	0.0	0.0	0.0
TE	3.462E+02	2.757E+02	2.146E+02	1.013E+02	2.899E+01	1.944E-01	4.798E-09	4.361E-13	4.361E-13	4.361E-13	4.361E-13	4.361E-13
I	1.652E-14	1.652E-14	1.652E-14	1.652E-14	1.652E-14	1.652E-14	1.652E-14	1.652E-14	1.652E-14	1.652E-14	1.645E-14	1.634E-14
XE	4.157E-12	2.568E-23	1.470E-32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	3.641E-16	2.602E-16	1.859E-16	6.780E-17	1.262E-17	1.944E-20	1.418E-23	1.418E-23	1.418E-23	1.415E-23	1.377E-23	1.315E-23
BA	5.210E-23	2.112E-31	8.566E-40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ND	2.368E-23	2.712E-33	3.105E-43	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM	8.323E-20	6.157E-20	4.564E-20	2.313E-20	1.276E-20	-8.855E-21	-8.223E-29	0.0	0.0	0.0	0.0	0.0
SM	4.806E-12	4.769E-12	4.733E-12	4.625E-12	4.450E-12	3.815E-12	2.225E-12	4.765E-13	2.171E-15	9.998E-28	1.008E-27	1.022E-27
EU	1.676E-04	1.504E-04	1.360E-04	1.011E-04	6.259E-05	1.048E-05	3.400E-09	3.391E-15	5.499E-36	0.0	0.0	0.0
GD	9.842E-04	3.458E-04	1.215E-04	5.266E-06	2.826E-08	2.425E-17	1.083E-18	1.083E-18	1.083E-18	1.083E-18	1.083E-18	1.083E-18
TB	1.724E-03	5.199E-05	1.568E-06	4.297E-11	1.071E-18	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	2.001E-20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	1.312E-09	1.312E-09	1.311E-09	1.309E-09	1.305E-09	1.290E-09	1.239E-09	1.104E-09	7.365E-10	4.070E-12	1.079E-34	0.0
ER	6.809E-14	1.368E-25	2.749E-37	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	1.740E-10	2.588E-11	4.717E-12	4.764E-13	7.686E-14	5.623E-17	5.954E-28	0.0	0.0	0.0	0.0	0.0
YB	3.608E-20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LU	3.539E-03	6.911E-04	1.349E-04	1.004E-06	3.118E-10	2.676E-11	2.676E-11	2.676E-11	2.676E-11	2.676E-11	2.676E-11	2.676E-11
HF	4.203E+01	1.865E-01	2.619E-03	4.625E-07	4.166E-07	4.166E-07	4.166E-07	4.166E-07	4.165E-07	4.163E-07	4.134E-07	4.086E-07
TA	1.371E+01	1.517E+00	1.679E-01	2.241E-04	4.203E-07	4.166E-07	4.166E-07	4.166E-07	4.165E-07	4.163E-07	4.134E-07	4.086E-07
W	6.448E+00	2.518E-01	1.266E-02	1.099E-05	3.114E-10	2.221E-28	0.0	0.0	0.0	0.0	0.0	0.0
RE	3.323E-01	8.652E-03	2.253E-04	1.801E-08	1.403E-08	1.403E-08	1.403E-08	1.403E-08	1.403E-08	1.403E-08	1.403E-08	1.403E-08
OS	9.706E-06	3.820E-11	3.340E-11	2.362E-11	1.325E-11	1.315E-12	4.045E-16	3.736E-26	0.0	0.0	0.0	0.0
IR	6.664E-04	2.179E-05	7.177E-07	5.294E-09	5.184E-09	4.883E-09	3.991E-09	2.246E-09	2.999E-10	1.718E-21	0.0	0.0
PT	1.545E-08	1.542E-08	1.540E-08	1.534E-08	1.523E-08	1.482E-08	1.345E-08	1.015E-08	3.862E-09	1.473E-14	0.0	0.0
AU	2.266E-25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TL	8.596E-12	8.596E-12	8.596E-12	8.596E-12	8.595E-12	8.595E-12	8.595E-12	8.595E-12	8.594E-12	8.576E-12	8.399E-12	8.113E-12
PB	9.130E-13	9.130E-13	9.130E-13	9.130E-13	9.130E-13	9.130E-13	9.130E-13	9.130E-13	9.130E-13	9.128E-13	9.109E-13	9.078E-13
BI	9.987E-12	9.981E-12	9.981E-12	9.981E-12	9.981E-12	9.981E-12	9.981E-12	9.980E-12	9.977E-12	9.936E-12	9.552E-12	8.989E-12
PO	1.046E-05	1.680E-06	2.697E-07	1.116E-09	1.537E-13	3.452E-14	3.452E-14	3.452E-14	3.451E-14	3.444E-14	3.373E-14	3.258E-14
TOTAL	4.704E+04	1.456E+04	1.095E+04	6.354E+03	3.124E+03	6.919E+02	3.181E+02	7.634E+01	7.842E+00	6.198E+00	2.458E+00	8.155E-01

TABLE A.43. CURIES OF PRINCIPAL ACTIVATION PRODUCT NUCLIDES IN PWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H 3	7.677E+01	7.258E+01	6.861E+01	5.798E+01	4.379E+01	1.425E+01	2.801E-01	3.732E-06	3.221E-23	0.0	0.0	0.0
C 14	9.542E-01	9.541E-01	9.540E-01	9.536E-01	9.530E-01	9.507E-01	9.427E-01	9.202E-01	8.455E-01	2.846E-01	5.313E-06	6.980E-14
MN 54	7.041E+01	3.132E+01	1.393E+01	1.226E+00	2.134E-02	1.960E-09	0.0	0.0	0.0	0.0	0.0	0.0
FE 55	4.988E+03	3.821E+03	2.927E+03	1.315E+03	3.468E+02	1.679E+00	1.319E-08	0.0	0.0	0.0	0.0	0.0
CO 58	1.451E+03	4.057E+01	1.134E+00	2.478E-05	4.232E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CO 60	7.328E+03	6.425E+03	5.633E+03	3.796E+03	1.967E+03	1.417E+02	1.421E-02	5.342E-14	0.0	0.0	0.0	0.0
NI 59	5.181E+00	5.181E+00	5.181E+00	5.181E+00	5.181E+00	5.180E+00	5.177E+00	5.168E+00	5.137E+00	4.751E+00	2.179E+00	5.939E-01
NI 63	6.585E+02	6.536E+02	6.487E+02	6.342E+02	6.107E+02	5.253E+02	3.100E+02	6.870E+01	3.515E-01	0.0	0.0	0.0
ZR 93	1.269E-01	1.269E-01	1.269E-01	1.269E-01	1.269E-01	1.268E-01	1.268E-01	1.268E-01	1.268E-01	1.263E-01	1.212E-01	1.133E-01
ZR 95	8.586E+03	1.642E+02	3.139E+00	2.195E-05	5.610E-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 93M	9.285E-03	1.481E-02	2.006E-02	3.430E-02	5.370E-02	9.640E-02	1.198E-01	1.205E-01	1.205E-01	1.200E-01	1.152E-01	1.076E-01
NB 94	1.283E+00	1.283E+00	1.283E+00	1.282E+00	1.282E+00	1.281E+00	1.278E+00	1.270E+00	1.240E+00	9.116E-01	4.218E-02	2.518E-04
NB 95	1.656E+04	3.753E+02	7.221E+00	4.872E-05	1.245E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MO 93	2.524E-02	2.524E-02	2.523E-02	2.522E-02	2.519E-02	2.509E-02	2.475E-02	2.376E-02	2.070E-02	3.480E-03	6.269E-11	7.761E-24
SN113	3.493E+02	3.873E+01	4.293E+00	5.931E-03	9.930E-08	7.804E-27	0.0	0.0	0.0	0.0	0.0	0.0
SN119M	4.216E+03	1.500E+03	5.338E+02	2.405E+01	1.374E-01	1.456E-10	0.0	0.0	0.0	0.0	0.0	0.0
SN123	1.423E+02	2.005E+01	2.824E+00	7.853E-03	4.354E-07	4.113E-24	0.0	0.0	0.0	0.0	0.0	0.0
SB125	1.451E+03	1.130E+03	8.796E+02	4.152E+02	1.188E+02	7.967E-01	1.966E-08	0.0	0.0	0.0	0.0	0.0
TE125M	3.451E+02	2.755E+02	2.146E+02	1.013E+02	2.899E+01	1.944E-01	4.798E-09	0.0	0.0	0.0	0.0	0.0
SUMTOT	4.623E+04	1.456E+04	1.095E+04	6.353E+03	3.124E+03	6.916E+02	3.180E+02	7.633E+01	7.841E+00	6.197E+00	2.457E+00	8.150E-01
TOTAL	4.704E+04	1.456E+04	1.095E+04	6.354E+03	3.124E+03	6.919E+02	3.181E+02	7.634E+01	7.842E+00	6.198E+00	2.458E+00	8.155E-01

TABLE A.44. WATTS OF ACTIVATION PRODUCT ELEMENTS IN PWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	2.585E-03	2.444E-03	2.310E-03	1.952E-03	1.474E-03	4.798E-04	9.432E-06	1.257E-10	1.084E-27	0.0	0.0	0.0
BE	2.684E-11	2.684E-11	2.684E-11	2.684E-11	2.684E-11	2.684E-11	2.684E-11	2.684E-11	2.683E-11	2.673E-11	2.570E-11	2.409E-11
C	2.798E-04	2.798E-04	2.797E-04	2.796E-04	2.795E-04	2.788E-04	2.764E-04	2.695E-04	2.479E-04	8.345E-05	1.558E-09	2.047E-17
SI	3.090E-11	3.087E-11	3.084E-11	3.074E-11	3.058E-11	2.993E-11	2.778E-11	2.244E-11	1.064E-11	7.224E-16	0.0	0.0
P	3.655E-03	3.286E-10	2.511E-10	2.503E-10	2.490E-10	2.437E-10	2.262E-10	1.828E-10	8.663E-11	5.883E-15	0.0	0.0
S	5.510E-04	3.102E-05	1.747E-06	3.118E-10	1.765E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CL	4.616E-10	4.616E-10	4.616E-10	4.616E-10	4.616E-10	4.616E-10	4.615E-10	4.613E-10	4.606E-10	4.511E-10	3.667E-10	2.596E-10
AR	1.974E-14	1.922E-14	1.917E-14	1.902E-14	1.878E-14	1.783E-14	1.489E-14	8.894E-15	1.465E-15	1.243E-25	0.0	0.0
K	9.482E-16	9.479E-16	9.479E-16	9.479E-16	9.479E-16	9.478E-16	9.478E-16	9.477E-16	9.477E-16	9.477E-16	9.477E-16	9.476E-16
CA	8.462E-07	1.792E-07	3.807E-08	5.869E-10	2.292E-10	2.290E-10	2.289E-10	2.289E-10	2.272E-10	2.103E-10	9.736E-11	2.697E-11
SC	1.460E-03	7.114E-05	3.467E-06	4.015E-10	1.104E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	2.670E-17	2.670E-17	2.670E-17	2.670E-17	2.670E-17	2.670E-17	2.670E-17	2.670E-17	2.670E-17	2.670E-17	2.670E-17	2.670E-17
CR	1.359E-01	1.463E-05	1.574E-09	1.961E-21	2.830E-41	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MN	3.506E-01	1.559E-01	6.936E-02	6.103E-03	1.063E-04	9.762E-12	0.0	0.0	0.0	0.0	0.0	0.0
FE	7.174E+00	5.256E+00	4.025E+00	1.809E+00	4.770E-01	2.308E-03	1.814E-11	0.0	0.0	0.0	0.0	0.0
CO	1.217E+02	9.930E+01	8.686E+01	5.853E+01	3.032E+01	2.184E+00	2.191E-04	8.236E-16	0.0	0.0	0.0	0.0
NI	2.945E-01	2.926E-01	2.906E-01	2.849E-01	2.755E-01	2.416E-01	1.561E-01	6.015E-02	3.284E-02	3.025E-02	1.387E-02	3.781E-03
CU	1.389E-25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZN	7.370E-04	2.610E-04	9.242E-05	4.103E-06	2.287E-08	2.197E-17	0.0	0.0	0.0	0.0	0.0	0.0
GE	3.164E-13	1.522E-22	7.320E-32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SR	2.202E-03	1.479E-05	2.650E-07	1.562E-07	1.386E-07	8.613E-08	1.628E-08	1.393E-10	8.091E-18	0.0	0.0	0.0
Y	7.816E-03	1.040E-04	2.164E-06	7.459E-07	6.622E-07	4.114E-07	7.775E-08	6.657E-10	3.865E-17	0.0	0.0	0.0
ZR	4.349E+01	8.316E-01	1.592E-02	1.485E-05	1.474E-05	1.474E-05	1.474E-05	1.474E-05	1.473E-05	1.467E-05	1.409E-05	1.316E-05
NB	7.953E+01	1.815E+00	4.774E-02	1.307E-02	1.307E-02	1.307E-02	1.305E-02	1.296E-02	1.265E-02	9.310E-03	4.503E-04	2.163E-05
MO	2.359E-06	2.359E-06	2.359E-06	2.357E-06	2.355E-06	2.345E-06	2.313E-06	2.223E-06	1.935E-06	3.253E-07	5.860E-15	7.255E-20
TC	5.296E-07	5.296E-07	5.296E-07	5.296E-07	5.296E-07	5.295E-07	5.294E-07	5.291E-07	5.279E-07	5.126E-07	3.825E-07	2.348E-07
RU	1.358E-05	2.178E-06	3.407E-11	7.094E-19	1.840E-20	1.959E-26	2.438E-47	0.0	0.0	0.0	0.0	0.0
RH	2.877E-15	1.446E-15	7.271E-16	9.240E-17	2.968E-18	3.160E-24	3.933E-45	0.0	0.0	0.0	0.0	0.0
PD	3.826E-19	3.826E-19	3.826E-19	3.826E-19	3.826E-19	3.826E-19	3.826E-19	3.826E-19	3.826E-19	3.822E-19	3.786E-19	3.726E-19
AG	1.177E-05	4.314E-06	1.608E-06	1.378E-07	6.272E-08	5.582E-08	3.809E-08	1.275E-08	2.803E-10	1.306E-31	0.0	0.0
CD	2.856E-05	1.122E-06	5.971E-07	1.161E-07	7.588E-09	1.383E-13	3.578E-30	0.0	0.0	0.0	0.0	0.0
IN	2.645E-02	1.592E-04	9.583E-07	2.089E-13	2.390E-19	2.390E-19	2.390E-19	2.390E-19	2.390E-19	2.390E-19	2.390E-19	2.390E-19
SN	2.689E+00	8.458E-01	2.866E-01	1.354E-02	1.076E-03	7.614E-04	2.883E-04	1.795E-05	1.092E-09	0.0	0.0	0.0
SB	4.576E+00	3.532E+00	2.750E+00	1.298E+00	3.714E-01	2.491E-03	6.147E-11	0.0	0.0	0.0	0.0	0.0
TE	2.918E-01	2.318E-01	1.804E-01	8.515E-02	2.437E-02	1.634E-04	4.033E-12	6.525E-17	6.525E-17	6.525E-17	6.525E-17	6.525E-17
I	7.653E-18	7.644E-18	7.644E-18	7.644E-18	7.644E-18	7.644E-18	7.644E-18	7.643E-18	7.643E-18	7.640E-18	7.610E-18	7.560E-18
XE	5.796E-15	2.474E-26	1.414E-35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	3.706E-18	2.648E-18	1.892E-18	6.901E-19	1.285E-19	1.977E-22	4.732E-27	4.732E-27	4.732E-27	4.722E-27	4.595E-27	4.387E-27
BA	6.300E-25	2.554E-33	1.036E-41	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ND	5.714E-26	6.543E-36	7.492E-46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM	4.540E-23	3.753E-23	3.181E-23	8.298E-24	4.577E-24	3.176E-24	2.949E-32	0.0	0.0	0.0	0.0	0.0
SM	5.635E-16	5.592E-16	5.549E-16	5.422E-16	5.217E-16	4.473E-16	2.609E-16	5.590E-17	2.545E-19	4.974E-32	1.505E-31	3.185E-31
EU	1.018E-06	9.255E-07	8.519E-07	6.648E-07	4.407E-07	8.645E-08	3.037E-10	3.033E-17	4.169E-38	0.0	0.0	0.0
GD	8.483E-07	2.980E-07	1.047E-07	4.539E-09	2.436E-11	3.407E-20	1.411E-20	1.411E-20	1.411E-20	1.411E-20	1.411E-20	1.411E-20
TB	1.404E-05	4.235E-07	1.277E-08	3.500E-13	8.721E-21	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	2.336E-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	1.454E-11	1.453E-11	1.452E-11	1.450E-11	1.446E-11	1.429E-11	1.372E-11	1.223E-11	8.160E-12	4.509E-14	1.195E-36	0.0
ER	1.372E-16	2.757E-25	5.541E-40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	3.402E-13	4.774E-14	6.837E-15	9.041E-17	1.192E-17	8.719E-21	9.233E-32	0.0	0.0	0.0	0.0	0.0
YB	3.621E-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LU	2.388E-05	4.662E-06	9.104E-07	6.774E-09	2.085E-12	1.618E-13	1.618E-13	1.618E-13	1.618E-13	1.618E-13	1.618E-13	1.618E-13
HF	1.847E-01	7.478E-04	9.405E-06	1.395E-09	1.235E-09	1.235E-09	1.235E-09	1.235E-09	1.235E-09	1.234E-09	1.225E-09	1.211E-09
TA	1.221E-01	1.351E-02	1.494E-03	1.995E-06	3.742E-09	3.709E-09	3.709E-09	3.709E-09	3.709E-09	3.706E-09	3.680E-09	3.638E-09
W	1.504E-02	5.244E-04	1.912E-05	3.728E-09	8.782E-14	6.263E-32	0.0	0.0	0.0	0.0	0.0	0.0
RE	1.649E-03	4.293E-05	1.118E-06	2.351E-10	2.153E-10	2.153E-10	2.153E-10	2.153E-10	2.153E-10	2.153E-10	2.153E-10	2.153E-10
OS	1.410E-08	2.258E-14	1.920E-14	1.358E-14	7.621E-15	7.561E-16	2.326E-19	2.145E-29	0.0	0.0	0.0	0.0
IR	3.934E-06	1.286E-07	4.224E-09	1.827E-11	1.781E-11	1.675E-11	1.369E-11	7.702E-12	1.029E-12	5.894E-24	0.0	0.0
PT	4.578E-12	4.572E-12	4.565E-12	4.546E-12	4.515E-12	4.391E-12	3.985E-12	3.020E-12	1.144E-12	4.366E-18	0.0	0.0
AU	3.264E-32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TL	7.765E-14	7.765E-14	7.765E-14	7.765E-14	7.765E-14	7.765E-14	7.765E-14	7.764E-14	7.763E-14	7.747E-14	7.588E-14	7.329E-14
PB	1.894E-16	1.894E-16	1.894E-16	1.894E-16	1.894E-16	1.894E-16	1.894E-16	1.894E-16	1.894E-16	1.894E-16	1.890E-16	1.883E-16
BI	2.939E-13	2.939E-13	2.939E-13	2.939E-13	2.939E-13	2.939E-13	2.939E-13	2.939E-13	2.938E-13	2.929E-13	2.838E-13	2.701E-13
PO	3.353E-07	5.385E-08	8.647E-09	3.576E-11	4.926E-15	1.107E-15	1.107E-15	1.107E-15	1.106E-15	1.104E-15	1.081E-15	1.044E-15
TOTAL	2.605E+02	1.123E+02	9.453E+01	6.204E+01	3.149E+01	2.445E+00	1.699E-01	7.345E-02	4.576E-02	3.966E-02	1.433E-02	3.816E-03

TABLE A.45. WATTS OF PRINCIPAL ACTIVATION PRODUCT NUCLIDES IN PWR CLADDING WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
C 14	2.798E-04	2.798E-04	2.797E-04	2.796E-04	2.795E-04	2.788E-04	2.764E-04	2.696E-04	2.479E-04	8.345E-05	1.558E-09	2.047E-17
MN 54	3.506E-01	1.559E-01	6.936E-02	6.103E-03	1.063E-04	9.762E-12	0.0	0.0	0.0	0.0	0.0	0.0
FE 55	6.860E+00	5.254E+00	4.025E+00	1.809E+00	4.770E-01	2.308E-03	1.814E-11	0.0	0.0	0.0	0.0	0.0
CO 58	8.688E+00	2.429E-01	6.791E-03	1.484E-07	2.534E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CO 60	1.130E+02	9.906E+01	8.688E+01	5.853E+01	3.032E+01	2.184E+00	2.191E-04	8.236E-16	0.0	0.0	0.0	0.0
NI 59	3.299E-02	3.299E-02	3.299E-02	3.298E-02	3.298E-02	3.298E-02	3.296E-02	3.290E-02	3.270E-02	3.025E-02	1.387E-02	3.781E-03
NI 63	2.615E-01	2.596E-01	2.576E-01	2.519E-01	2.426E-01	2.086E-01	1.231E-01	2.728E-02	1.396E-04	0.0	0.0	0.0
ZR 93	1.474E-05	1.474E-05	1.474E-05	1.474E-05	1.474E-05	1.474E-05	1.474E-05	1.474E-05	1.473E-05	1.467E-05	1.409E-05	1.316E-05
ZR 95	4.349E+01	8.316E-01	1.590E-02	1.112E-07	2.842E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 93M	1.645E-06	2.624E-06	3.555E-06	6.078E-06	9.514E-06	1.708E-05	2.123E-05	2.135E-05	2.134E-05	2.126E-05	2.041E-05	1.907E-05
NB 94	1.307E-02	1.307E-02	1.307E-02	1.307E-02	1.307E-02	1.306E-02	1.303E-02	1.294E-02	1.263E-02	9.289E-03	4.298E-04	2.566E-06
NB 95	7.943E+01	1.800E+00	3.464E-02	2.337E-07	5.974E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SN119M	2.179E+00	7.754E-01	2.759E-01	1.243E-02	7.100E-05	7.525E-14	0.0	0.0	0.0	0.0	0.0	0.0
SN121M	1.154E-03	1.138E-03	1.123E-03	1.077E-03	1.005E-03	7.614E-04	2.883E-04	1.795E-05	1.092E-09	0.0	0.0	0.0
SB125	4.536E+00	3.532E+00	2.750E+00	1.298E+00	3.714E-01	2.491E-03	6.147E-11	0.0	0.0	0.0	0.0	0.0
TE125M	2.900E-01	2.316E-01	1.804E-01	8.515E-02	2.437E-02	1.634E-04	4.033E-12	0.0	0.0	0.0	0.0	0.0
SUMTOT	2.591E+02	1.122E+02	9.451E+01	6.204E+01	3.149E+01	2.445E+00	1.699E-01	7.345E-02	4.576E-02	3.966E-02	1.433E-02	3.816E-03
TOTAL	2.606E+02	1.123E+02	9.453E+01	6.204E+01	3.149E+01	2.445E+00	1.699E-01	7.345E-02	4.576E-02	3.966E-02	1.433E-02	3.816E-03

TABLE A.46. PHOTONS FROM ACTIVATION PRODUCTS IN PWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS= METRIC TON OF INITIAL HEAVY METAL AT A REPROCESSING TIME OF 160 DAYS

EMEAN	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	7.827E+13	1.987E+13	1.474E+13	8.854E+12	4.340E+12	3.942E+11	7.006E+10	2.058E+10	6.324E+09	4.069E+09	9.675E+08	7.823E+08
2.500E-02	1.226E+14	5.587E+13	3.263E+13	1.204E+13	3.640E+12	7.527E+10	4.716E+09	1.695E+09	6.166E+08	5.567E+08	2.638E+07	2.195E+06
3.750E-02	1.438E+13	8.633E+12	6.769E+12	3.414E+12	1.149E+12	3.437E+10	1.279E+09	6.623E+08	4.750E+08	3.290E+08	1.504E+07	5.835E+05
5.750E-02	7.127E+12	1.854E+12	1.441E+12	9.164E+11	4.597E+11	3.180E+10	6.655E+08	5.959E+08	5.623E+08	3.980E+08	1.810E+07	3.110E+05
8.500E-02	2.594E+12	7.220E+11	5.707E+11	3.648E+11	1.801E+11	1.249E+10	2.625E+08	2.593E+08	2.528E+08	1.834E+08	8.479E+06	1.117E+05
1.250E-01	2.240E+12	4.652E+11	3.518E+11	2.018E+11	8.684E+10	4.941E+09	1.245E+08	1.231E+08	1.202E+08	8.822E+07	4.110E+06	4.806E+04
2.250E-01	5.237E+12	2.709E+12	2.049E+12	9.750E+11	2.886E+11	3.404E+09	7.684E+07	7.605E+07	7.429E+07	5.464E+07	2.540E+06	2.410E+04
3.750E-01	2.173E+13	1.512E+13	1.176E+13	5.556E+12	1.592E+12	1.107E+10	3.859E+06	3.661E+06	3.527E+06	2.593E+06	1.200E+05	7.270E+02
5.750E-01	4.043E+13	1.980E+13	1.511E+13	7.127E+12	2.039E+12	1.370E+10	1.568E+05	4.594E+04	1.021E+03	3.875E+00	3.134E+00	2.253E+00
8.500E-01	8.818E+14	2.046E+13	9.911E+11	1.428E+11	9.395E+10	8.807E+10	8.747E+10	8.688E+10	8.482E+10	6.238E+10	2.887E+09	1.723E+07
1.250E+00	5.427E+14	4.754E+14	4.167E+14	2.809E+14	1.455E+14	1.048E+13	1.051E+09	1.432E+04	1.430E+04	1.429E+04	1.419E+04	1.403E+04
1.750E+00	3.184E+11	8.215E+09	2.199E+08	6.814E+04	2.943E+04	6.351E+03	1.606E+02	1.243E+00	9.630E-04	2.533E-06	2.508E-06	2.479E-06
2.250E+00	8.946E+09	2.609E+09	2.210E+09	1.489E+09	7.712E+08	5.555E+07	5.571E+03	1.324E-04	1.599E-10	1.519E-10	1.488E-10	1.437E-10
2.750E+00	1.332E+07	7.861E+06	6.835E+06	4.606E+06	2.386E+06	1.719E+05	1.724E+01	1.412E-10	7.626E-11	7.610E-11	7.454E-11	7.200E-11
3.500E+00	6.841E-05	1.109E-05	1.835E-06	1.734E-08	3.829E-10	5.897E-11	5.675E-11	5.605E-11	5.608E-11	5.596E-11	5.481E-11	5.294E-11
5.000E+00	2.028E-05	3.256E-06	5.229E-07	2.179E-09	1.696E-11	1.673E-11	1.673E-11	1.673E-11	1.673E-11	1.669E-11	1.635E-11	1.579E-11
7.000E+00	1.316E-06	2.113E-07	3.393E-08	1.418E-10	1.098E-12	1.083E-12	1.083E-12	1.083E-12	1.083E-12	1.081E-12	1.059E-12	1.023E-12
1.100E+01	8.319E-08	1.336E-08	2.145E-09	8.941E-12	6.953E-14	6.859E-14	6.859E-14	6.859E-14	6.857E-14	6.843E-14	6.702E-14	6.474E-14
TOTAL	1.719E+15	6.209E+14	5.032E+14	3.204E+14	1.594E+14	1.115E+13	1.657E+11	1.109E+11	9.345E+10	6.806E+10	3.929E+09	8.028E+08
MEV/SEC	1.467E+15	6.315E+14	5.368E+14	3.583E+14	1.840E+14	1.320E+13	7.698E+10	7.431E+10	7.232E+10	5.317E+10	2.472E+09	2.652E+07

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS= METRIC TON OF INITIAL HEAVY METAL AT A REPROCESSING TIME OF 160 DAYS

EMEAN	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	1.174E+06	2.981E+05	2.210E+05	1.328E+05	6.510E+04	5.913E+03	1.051E+03	3.088E+02	9.486E+01	6.104E+01	1.451E+01	1.173E+01
2.500E-02	3.064E+06	1.397E+06	8.157E+05	3.010E+05	9.101E+04	1.882E+03	1.179E+02	4.237E+01	2.042E+01	1.392E+01	6.594E-01	5.487E-02
3.750E-02	5.392E+05	3.237E+05	2.539E+05	1.280E+05	4.307E+04	1.289E+03	4.797E+01	2.484E+01	1.781E+01	1.234E+01	5.638E-01	2.188E-02
5.750E-02	4.098E+05	1.066E+05	8.283E+04	5.269E+04	2.615E+04	1.829E+03	3.827E+01	3.426E+01	3.233E+01	2.288E+01	1.041E+00	1.788E-02
8.500E-02	2.205E+05	6.137E+04	4.851E+04	3.101E+04	1.531E+04	1.062E+03	2.231E+01	2.204E+01	2.149E+01	1.559E+01	7.207E-01	9.493E-03
1.250E-01	2.800E+05	5.815E+04	4.397E+04	2.522E+04	1.086E+04	6.176E+02	1.556E+01	1.539E+01	1.502E+01	1.103E+01	5.137E-01	6.008E-03
2.250E-01	1.178E+06	6.095E+05	4.609E+05	2.194E+05	6.493E+04	7.660E+02	1.729E+01	1.712E+01	1.672E+01	1.229E+01	5.715E-01	5.423E-03
3.750E-01	8.150E+06	5.669E+06	4.411E+06	2.083E+06	5.972E+05	4.153E+03	1.447E+00	1.373E+00	1.323E+00	9.724E-01	4.500E-02	2.726E-04
5.750E-01	2.325E+07	1.138E+07	8.688E+06	4.098E+06	1.173E+06	7.877E+03	9.017E-02	2.642E-02	5.868E-04	2.228E-06	1.802E-06	1.295E-06
8.500E-01	7.495E+08	1.739E+07	8.424E+05	1.214E+05	7.986E+04	7.486E+04	7.435E+04	7.385E+04	7.210E+04	5.302E+04	2.454E+03	1.465E+01
1.250E+00	6.783E+08	5.942E+08	5.209E+08	3.511E+08	1.819E+08	1.310E+07	1.314E+03	1.790E-02	1.787E-02	1.786E-02	1.774E-02	1.753E-02
1.750E+00	5.571E+05	1.438E+04	3.848E+02	1.192E-01	5.150E-02	1.111E-02	2.810E-04	2.175E-06	1.685E-09	4.432E-12	4.389E-12	4.339E-12
2.250E+00	2.013E+04	5.871E+03	4.973E+03	3.349E+03	1.735E+03	1.250E+02	1.254E-02	2.979E-10	3.598E-16	3.417E-16	3.347E-16	3.233E-16
2.750E+00	3.662E+01	2.162E+01	1.880E+01	1.267E+01	6.562E+00	4.727E-01	4.741E-05	3.883E-16	2.097E-16	2.093E-16	2.050E-16	1.980E-16
3.500E+00	2.394E-10	3.882E-11	6.422E-12	6.068E-14	1.340E-15	2.064E-16	1.986E-16	1.962E-16	1.963E-16	1.959E-16	1.918E-16	1.853E-16
5.000E+00	1.014E-10	1.628E-11	2.614E-12	1.090E-14	8.481E-17	8.365E-17	8.365E-17	8.365E-17	8.363E-17	8.346E-17	8.174E-17	7.896E-17
7.000E+00	9.209E-12	1.479E-12	2.375E-13	9.897E-16	7.688E-18	7.583E-18	7.583E-18	7.583E-18	7.581E-18	7.566E-18	7.410E-18	7.158E-18
1.100E+01	9.151E-13	1.469E-13	2.360E-14	9.835E-17	7.649E-19	7.545E-19	7.544E-19	7.544E-19	7.543E-19	7.527E-19	7.372E-19	7.121E-19
TOTAL	1.467E+09	6.315E+08	5.368E+08	3.583E+08	1.840E+08	1.320E+07	7.698E+04	7.431E+04	7.232E+04	5.317E+04	2.472E+03	2.652E+01
GAM POW	2.351E+02	1.012E+02	8.605E+01	5.743E+01	2.950E+01	2.116E+00	1.234E-02	1.191E-02	1.159E-02	8.524E-03	3.963E-04	4.250E-06

TABLE A.47. GRAMS OF ACTINIDE ELEMENTS IN PWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
HE	1.696E-08	5.816E-05	8.629E-05	1.506E-04	2.609E-04	7.459E-04	2.430E-03	6.031E-03	1.286E-02	3.573E-02	7.625E-02	8.763E-02
SE	1.042E-09	1.699E-09	2.208E-09	3.537E-09	5.434E-09	1.033E-08	1.489E-08	1.731E-08	2.438E-08	8.714E-08	3.077E-07	5.738E-07
TL	7.499E-16	1.362E-15	1.864E-15	2.844E-15	3.456E-15	3.173E-15	1.701E-15	5.226E-16	9.875E-16	9.781E-15	6.944E-14	9.284E-14
PB	1.729E-10	5.236E-10	1.058E-09	3.444E-09	8.761E-09	3.123E-08	8.466E-08	1.394E-07	3.921E-07	1.145E-04	1.253E-02	4.943E-02
BI	6.720E-14	1.118E-13	1.506E-13	2.395E-13	3.393E-13	7.563E-13	7.193E-12	1.612E-10	7.721E-09	1.183E-05	3.655E-03	2.174E-02
PO	4.984E-17	1.147E-16	2.228E-16	9.532E-16	4.845E-15	7.229E-14	1.621E-12	2.336E-11	3.406E-10	1.457E-08	1.156E-07	1.372E-07
AT	1.587E-23	1.622E-23	1.671E-23	1.842E-23	2.208E-23	4.692E-23	2.754E-22	2.519E-21	3.998E-20	5.140E-18	1.161E-16	2.356E-16
RN	1.456E-20	1.315E-15	1.820E-15	2.955E-15	4.234E-15	1.076E-14	8.733E-14	8.523E-13	9.950E-12	4.257E-10	3.376E-09	4.009E-09
FR	2.265E-19	2.984E-19	3.714E-19	5.919E-19	9.648E-19	2.830E-18	9.188E-18	4.254E-17	4.219E-16	4.731E-14	1.059E-12	2.145E-12
RA	1.328E-11	2.356E-11	3.550E-11	8.211E-11	2.002E-10	1.256E-09	1.337E-08	1.326E-07	1.548E-06	6.622E-05	5.252E-04	6.237E-04
AC	3.195E-12	5.856E-12	8.512E-12	1.646E-11	2.962E-11	8.152E-11	2.591E-10	7.618E-10	2.598E-09	2.481E-08	1.605E-07	1.988E-07
TH	7.968E-07	1.107E-06	1.418E-06	2.360E-06	3.958E-06	1.068E-05	3.757E-05	1.289E-04	4.769E-04	4.910E-03	3.525E-02	5.453E-02
PA	1.405E-07	1.444E-07	1.482E-07	1.598E-07	1.791E-07	2.565E-07	5.280E-07	1.302E-06	4.000E-06	3.780E-05	2.408E-04	2.944E-04
U	4.782E+02	4.782E+02	4.782E+02	4.782E+02	4.782E+02	4.782E+02	4.782E+02	4.783E+02	4.784E+02	4.796E+02	4.818E+02	4.819E+02
NP	2.214E-01	2.214E-01	2.215E-01	2.221E-01	2.237E-01	2.358E-01	2.955E-01	4.443E-01	7.095E-01	8.351E-01	8.112E-01	7.727E-01
PU	4.568E+00	4.542E+00	4.515E+00	4.441E+00	4.338E+00	4.099E+00	3.929E+00	3.861E+00	3.726E+00	2.839E+00	3.372E-01	1.490E-01
AM	7.067E-02	9.874E-02	1.254E-01	1.980E-01	2.970E-01	5.135E-01	5.888E-01	4.417E-01	1.692E-01	1.674E-02	3.538E-06	9.549E-11
CM	1.250E-02	9.801E-03	8.965E-03	7.891E-03	6.541E-03	3.116E-03	3.207E-04	1.042E-04	9.625E-05	3.774E-05	2.246E-07	2.042E-07
BK	3.633E-11	1.647E-11	7.467E-12	6.957E-13	1.332E-14	1.791E-21	7.944E-26	7.881E-26	7.665E-26	5.355E-26	1.485E-27	3.773E-30
CF	3.345E-11	5.233E-11	6.043E-11	6.492E-11	6.275E-11	5.615E-11	4.702E-11	3.182E-11	8.288E-12	5.357E-16	5.285E-23	1.343E-25
ES	1.544E-16	2.178E-17	8.696E-18	5.532E-19	5.624E-21	5.941E-29	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	4.830E+02	4.830E+02	4.830E+02	4.830E+02	4.830E+02	4.830E+02	4.830E+02	4.830E+02	4.830E+02	4.830E+02	4.830E+02	4.830E+02

TABLE A.48. GRAMS OF PRINCIPAL ACTINIDE NUCLIDES IN PWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
U235	3.979E+00	3.979E+00	3.979E+00	3.980E+00	3.980E+00	3.981E+00	3.986E+00	4.001E+00	4.050E+00	4.603E+00	6.354E+00	6.493E+00
U236	1.980E+00	1.980E+00	1.980E+00	1.980E+00	1.981E+00	1.983E+00	1.992E+00	2.016E+00	2.095E+00	2.727E+00	3.115E+00	3.101E+00
U238	4.721E+02	4.721E+02	4.721E+02	4.721E+02	4.721E+02	4.721E+02	4.721E+02	4.721E+02	4.721E+02	4.721E+02	4.721E+02	4.722E+02
NP237	2.214E-01	2.214E-01	2.215E-01	2.221E-01	2.237E-01	2.358E-01	2.955E-01	4.443E-01	7.095E-01	8.351E-01	8.112E-01	7.727E-01
PU239	2.516E+00	2.516E+00	2.518E+00	2.517E+00	2.517E+00	2.516E+00	2.511E+00	2.497E+00	2.450E+00	1.910E+00	1.447E-01	1.923E-03
PU240	1.154E+00	1.154E+00	1.154E+00	1.155E+00	1.156E+00	1.157E+00	1.151E+00	1.127E+00	1.046E+00	4.028E-01	2.889E-05	1.257E-09
PU241	5.989E-01	5.707E-01	5.439E-01	4.708E-01	3.701E-01	1.413E-01	4.861E-03	4.187E-07	9.301E-08	4.464E-08	2.897E-11	1.407E-16
AM241	2.767E-02	5.575E-02	8.246E-02	1.550E-01	2.541E-01	4.706E-01	5.463E-01	4.000E-01	1.302E-01	1.410E-06	8.695E-10	4.450E-15
SUMTOT	4.826E+02	4.826E+02	4.826E+02	4.826E+02	4.826E+02	4.826E+02	4.826E+02	4.826E+02	4.826E+02	4.826E+02	4.826E+02	4.825E+02
TOTAL	4.830E+02	4.830E+02	4.830E+02	4.830E+02	4.830E+02	4.830E+02	4.830E+02	4.830E+02	4.830E+02	4.830E+02	4.830E+02	4.830E+02

TABLE A.49. CURIES OF ACTINIDE ELEMENTS IN PWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL	2.208E-07	4.011E-07	5.489E-07	8.371E-07	1.017E-06	9.315E-07	4.907E-07	1.240E-07	1.889E-07	1.959E-06	1.539E-05	2.207E-05
PB	6.142E-07	1.116E-06	1.527E-06	2.328E-06	2.827E-06	2.588E-06	1.353E-06	4.870E-07	3.312E-06	1.410E-04	1.237E-03	1.627E-03
BI	6.142E-07	1.116E-06	1.527E-06	2.328E-06	2.827E-06	2.588E-06	1.353E-06	4.870E-07	3.312E-06	1.410E-04	1.237E-03	1.627E-03
PO	1.008E-06	1.830E-06	2.504E-06	3.819E-06	4.637E-06	4.235E-06	2.208E-06	7.410E-07	4.842E-06	2.063E-04	1.752E-03	2.235E-03
AT	2.555E-11	2.612E-11	2.690E-11	2.965E-11	3.555E-11	7.556E-11	4.435E-10	4.057E-09	6.293E-08	8.276E-06	1.870E-04	3.794E-04
RN	1.240E-11	1.116E-06	1.527E-06	2.328E-06	2.827E-06	2.583E-06	1.346E-06	3.790E-07	1.719E-06	6.729E-05	5.309E-04	6.308E-04
FR	2.874E-11	3.197E-11	3.540E-11	4.609E-11	6.512E-11	1.570E-10	7.023E-10	4.816E-09	6.552E-08	8.301E-06	1.872E-04	3.796E-04
RA	6.142E-07	1.116E-06	1.527E-06	2.328E-06	2.827E-06	2.583E-06	1.346E-06	3.820E-07	1.782E-06	7.556E-05	7.179E-04	1.010E-03
AC	2.567E-10	4.498E-10	6.428E-10	1.220E-09	2.179E-09	5.974E-09	1.919E-08	5.916E-08	2.509E-07	1.006E-05	1.984E-04	3.933E-04
TH	1.680E-04	1.685E-04	1.689E-04	1.698E-04	1.703E-04	1.702E-04	1.694E-04	1.699E-04	1.762E-04	2.629E-04	8.877E-04	1.180E-03
PA	3.150E-04	3.152E-04	3.153E-04	3.156E-04	3.168E-04	3.253E-04	3.674E-04	4.723E-04	6.595E-04	7.497E-04	7.424E-04	7.178E-04
U	9.088E-04	8.784E-04	8.813E-04	8.897E-04	9.033E-04	9.554E-04	1.096E-03	1.251E-03	1.297E-03	1.340E-03	1.367E-03	1.310E-03
NP	8.702E-03	8.702E-03	8.701E-03	8.699E-03	8.695E-03	8.687E-03	8.671E-03	8.615E-03	8.272E-03	3.926E-03	5.728E-04	5.449E-04
PU	6.329E+01	6.042E+01	5.766E+01	5.009E+01	3.967E+01	1.593E+01	1.466E+00	5.259E-01	3.922E-01	2.114E-01	9.739E-03	6.814E-04
AM	1.073E-01	2.037E-01	2.954E-01	5.445E-01	8.845E-01	1.628E+00	1.886E+00	1.383E+00	4.548E-01	3.342E-03	7.084E-07	1.909E-11
CM	1.063E+01	2.822E+00	1.147E+00	6.319E-01	5.190E-01	2.429E-01	1.798E-02	4.308E-04	3.816E-05	7.908E-06	3.030E-09	3.902E-11
BK	5.956E-08	2.700E-08	1.224E-08	1.140E-09	2.184E-11	3.246E-18	3.092E-19	3.067E-19	2.983E-19	2.084E-19	5.780E-21	1.469E-23
CF	2.099E-09	1.936E-09	1.774E-09	1.387E-09	1.013E-09	4.713E-10	1.959E-10	1.280E-10	3.257E-11	8.505E-16	5.780E-21	1.469E-23
ES	2.617E-12	4.066E-14	1.622E-14	1.032E-15	1.049E-17	1.108E-25	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	7.404E+01	6.346E+01	5.911E+01	5.128E+01	4.108E+01	1.781E+01	3.380E+00	1.920E+00	8.575E-01	2.217E-01	1.937E-02	1.275E-02

TABLE A.50. CURIES OF PRINCIPAL ACTINIDE NUCLIDES IN PWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL207	2.171E-10	4.230E-10	6.152E-10	1.189E-09	2.140E-09	5.885E-09	1.870E-08	5.497E-08	1.874E-07	1.780E-06	1.135E-05	1.387E-05
PB209	2.555E-11	2.612E-11	2.690E-11	2.965E-11	3.555E-11	7.556E-11	4.435E-10	4.057E-09	6.293E-08	8.276E-06	1.870E-04	3.794E-04
PB210	3.405E-13	7.121E-13	1.326E-12	5.188E-12	2.173E-11	3.248E-10	7.283E-09	1.050E-07	1.530E-06	6.547E-05	5.193E-04	6.166E-04
PB211	2.177E-10	4.242E-10	6.169E-10	1.192E-09	2.146E-09	5.901E-09	1.875E-08	5.512E-08	1.879E-07	1.785E-06	1.138E-05	1.391E-05
PB214	9.316E-12	1.637E-11	2.562E-11	6.673E-11	1.804E-10	1.226E-09	1.322E-08	1.311E-07	1.531E-06	6.549E-05	5.194E-04	6.167E-04
BI210	3.406E-13	7.123E-13	1.326E-12	5.189E-12	2.173E-11	3.248E-10	7.283E-09	1.050E-07	1.530E-06	6.547E-05	5.193E-04	6.166E-04
BI211	2.177E-10	4.242E-10	6.169E-10	1.192E-09	2.146E-09	5.901E-09	1.875E-08	5.512E-08	1.879E-07	1.785E-06	1.138E-05	1.391E-05
BI213	2.555E-11	2.612E-11	2.690E-11	2.965E-11	3.555E-11	7.556E-11	4.435E-10	4.057E-09	6.293E-08	8.276E-06	1.870E-04	3.794E-04
BI214	9.316E-12	1.637E-11	2.562E-11	6.673E-11	1.804E-10	1.226E-09	1.322E-08	1.311E-07	1.531E-06	6.549E-05	5.194E-04	6.167E-04
PO210	2.159E-13	5.007E-13	9.813E-13	4.253E-12	2.173E-11	3.248E-10	7.283E-09	1.050E-07	1.530E-06	6.547E-05	5.193E-04	6.166E-04
PO213	2.500E-11	2.556E-11	2.632E-11	2.901E-11	3.478E-11	7.393E-11	4.340E-10	3.969E-09	6.157E-08	8.097E-06	1.830E-04	3.712E-04
PO214	9.325E-12	1.636E-11	2.562E-11	6.672E-11	1.804E-10	1.226E-09	1.321E-08	1.311E-07	1.530E-06	6.547E-05	5.193E-04	6.166E-04
PO215	2.177E-10	4.242E-10	6.169E-10	1.192E-09	2.146E-09	5.901E-09	1.875E-08	5.512E-08	1.879E-07	1.785E-06	1.138E-05	1.391E-05
PO218	9.318E-12	1.637E-11	2.563E-11	6.675E-11	1.805E-10	1.226E-09	1.322E-08	1.311E-07	1.531E-06	6.550E-05	5.195E-04	6.169E-04
AT217	2.555E-11	2.612E-11	2.690E-11	2.965E-11	3.555E-11	7.556E-11	4.435E-10	4.057E-09	6.293E-08	8.276E-06	1.870E-04	3.794E-04
RN219	3.936E-15	4.242E-10	6.169E-10	1.192E-09	2.146E-09	5.901E-09	1.875E-08	5.512E-08	1.879E-07	1.785E-06	1.138E-05	1.391E-05
RN222	1.734E-16	1.637E-11	2.563E-11	6.675E-11	1.805E-10	1.226E-09	1.322E-08	1.311E-07	1.531E-06	6.550E-05	5.195E-04	6.169E-04
FR221	2.555E-11	2.612E-11	2.690E-11	2.965E-11	3.555E-11	7.556E-11	4.435E-10	4.057E-09	6.293E-08	8.276E-06	1.870E-04	3.794E-04
RA223	2.177E-10	4.242E-10	6.169E-10	1.192E-09	2.146E-09	5.901E-09	1.875E-08	5.512E-08	1.879E-07	1.785E-06	1.138E-05	1.391E-05
RA225	2.546E-11	2.612E-11	2.690E-11	2.965E-11	3.555E-11	7.556E-11	4.435E-10	4.057E-09	6.293E-08	8.276E-06	1.870E-04	3.794E-04
RA226	9.318E-12	1.637E-11	2.563E-11	6.675E-11	1.805E-10	1.226E-09	1.322E-08	1.311E-07	1.531E-06	6.550E-05	5.195E-04	6.169E-04
AC225	2.555E-11	2.612E-11	2.690E-11	2.965E-11	3.555E-11	7.556E-11	4.435E-10	4.057E-09	6.293E-08	8.276E-06	1.870E-04	3.794E-04
AC227	2.312E-10	4.237E-10	6.159E-10	1.191E-09	2.143E-09	5.899E-09	1.875E-08	5.512E-08	1.879E-07	1.785E-06	1.138E-05	1.391E-05
TH227	2.139E-10	4.184E-10	6.084E-10	1.176E-09	2.116E-09	5.820E-09	1.849E-08	5.436E-08	1.853E-07	1.760E-06	1.122E-05	1.372E-05
TH229	2.541E-11	2.612E-11	2.690E-11	2.965E-11	3.555E-11	7.556E-11	4.435E-10	4.057E-09	6.293E-08	8.276E-06	1.870E-04	3.794E-04
TH230	1.376E-08	1.884E-08	2.395E-08	3.946E-08	6.590E-08	1.784E-07	6.396E-07	2.249E-06	8.425E-06	8.415E-05	5.169E-04	6.140E-04
TH231	8.605E-06	8.605E-06	8.605E-06	8.606E-06	8.606E-06	8.610E-06	8.620E-06	8.651E-06	8.757E-06	9.953E-06	1.374E-05	1.404E-05
TH234	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04
PA231	6.284E-09	6.466E-09	6.649E-09	7.195E-09	8.106E-09	1.174E-08	2.448E-08	6.083E-08	1.879E-07	1.785E-06	1.138E-05	1.391E-05
PA233	1.560E-04	1.562E-04	1.563E-04	1.566E-04	1.578E-04	1.663E-04	2.084E-04	3.133E-04	5.003E-04	5.889E-04	5.720E-04	5.449E-04
PA234M	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04
U233	7.123E-09	7.878E-09	8.634E-09	1.076E-08	1.419E-08	2.833E-08	8.554E-08	3.155E-07	1.611E-06	2.408E-05	2.049E-04	3.742E-04
U234	5.628E-04	5.661E-04	5.694E-04	5.794E-04	5.954E-04	6.535E-04	7.979E-04	9.531E-04	9.920E-04	9.712E-04	7.882E-04	5.702E-04
U235	8.605E-06	8.605E-06	8.605E-06	8.606E-06	8.606E-06	8.610E-06	8.620E-06	8.651E-06	8.757E-06	9.953E-06	1.374E-05	1.404E-05
U236	1.281E-04	1.281E-04	1.282E-04	1.282E-04	1.282E-04	1.284E-04	1.289E-04	1.305E-04	1.356E-04	1.765E-04	2.016E-04	2.007E-04
U238	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04	1.588E-04
NP237	1.561E-04	1.562E-04	1.562E-04	1.566E-04	1.578E-04	1.663E-04	2.084E-04	3.133E-04	5.003E-04	5.889E-04	5.720E-04	5.449E-04
NP239	8.537E-03	8.536E-03	8.535E-03	8.533E-03	8.529E-03	8.513E-03	8.457E-03	8.300E-03	7.771E-03	3.337E-03	7.118E-07	1.904E-11
PU238	1.150E+00	1.180E+00	1.179E+00	1.154E+00	1.109E+00	9.473E-01	5.454E-01	1.128E-01	4.828E-04	5.809E-23	0.0	0.0
PU239	1.566E-01	1.566E-01	1.566E-01	1.566E-01	1.565E-01	1.564E-01	1.562E-01	1.553E-01	1.524E-01	1.187E-01	8.997E-03	1.196E-04
PU240	2.631E-01	2.631E-01	2.632E-01	2.633E-01	2.634E-01	2.636E-01	2.623E-01	2.566E-01	2.385E-01	9.183E-02	6.5[illegible]E-06	2.866E-10
PU241	6.172E+01	5.882E+01	5.606E+01	4.852E+01	3.814E+01	1.456E+01	5.010E-01	4.315E-05	9.586E-06	4.601E-06	2.9[illegible]E-09	1.450E-14
PU242	8.790E-04	8.790E-04	8.790E-04	8.790E-04	8.790E-04	8.789E-04	8.789E-04	8.786E-04	8.775E-04	8.636E-04	7.351E-04	5.618E-04
AM241	9.500E-02	1.914E-01	2.831E-01	5.323E-01	8.723E-01	1.616E+00	1.876E+00	1.372E+00	4.470E-01	4.842E-06	2.985E-09	1.528E-14
AM243	8.537E-03	8.536E-03	8.535E-03	8.533E-03	8.529E-03	8.513E-03	8.457E-03	8.300E-03	7.771E-03	3.337E-03	7.054E-07	1.904E-11
CM242	9.868E+00	2.093E+00	4.448E-01	5.736E-03	1.482E-03	1.350E-03	9.814E-04	3.943E-04	1.620E-05	2.441E-23	0.0	0.0
CM244	7.504E-01	7.222E-01	6.951E-01	6.197E-01	5.118E-01	2.380E-01	1.633E-02	7.736E-06	2.871E-14	2.869E-14	2.867E-14	2.854E-14
SUMTOT	7.403E+01	6.345E+01	5.910E+01	5.127E+01	4.107E+01	1.781E+01	3.377E+00	1.915E+00	8.574E-01	2.217E-01	1.937E-02	1.274E-02
TOTAL	7.404E+01	6.346E+01	5.911E+01	5.128E+01	4.108E+01	1.781E+01	3.380E+00	1.920E+00	8.575E-01	2.217E-01	1.937E-02	1.275E-02

TABLE A.51. WATTS OF ACTINIDE ELEMENTS IN PWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL	5.191E-09	9.430E-09	1.290E-08	1.968E-08	2.389E-08	2.180E-08	1.116E-08	1.784E-09	5.768E-10	8.200E-09	1.004E-07	1.769E-07
PB	1.170E-09	2.124E-09	2.907E-09	4.434E-09	5.385E-09	4.927E-09	2.602E-09	9.773E-10	5.872E-09	2.369E-07	2.026E-06	2.588E-05
BI	1.045E-08	1.898E-08	2.598E-08	3.962E-08	4.812E-08	4.406E-08	2.328E-08	7.395E-09	3.091E-08	1.096E-06	9.094E-06	1.148E-05
PO	4.599E-08	8.353E-08	1.143E-07	1.743E-07	2.116E-07	1.933E-07	1.006E-07	3.123E-08	1.872E-07	8.002E-06	6.935E-05	9.016E-05
AT	1.090E-12	1.115E-12	1.148E-12	1.265E-12	1.517E-12	3.224E-12	1.893E-11	1.731E-10	2.685E-09	3.532E-07	7.980E-06	1.619E-05
RN	4.709E-13	4.239E-08	5.796E-08	8.839E-08	1.073E-07	9.809E-08	5.110E-08	1.391E-08	5.855E-08	2.244E-06	1.759E-05	2.102E-05
FR	9.944E-13	1.023E-12	1.060E-12	1.187E-12	1.449E-12	3.128E-12	1.779E-11	1.585E-10	2.435E-09	3.195E-07	7.218E-06	1.464E-05
RA	2.108E-08	3.829E-08	5.240E-08	7.990E-08	9.702E-08	8.866E-08	4.614E-08	1.232E-08	5.095E-08	1.961E-06	1.554E-05	1.857E-05
AC	1.004E-12	1.118E-12	1.238E-12	1.613E-12	2.280E-12	5.497E-12	2.458E-11	1.684E-10	2.289E-09	2.900E-07	5.538E-06	1.326E-05
TH	8.963E-08	1.062E-07	1.197E-07	1.464E-07	1.635E-07	1.587E-07	1.310E-07	1.412E-07	3.164E-07	2.769E-06	2.083E-05	2.958E-05
PA	1.142E-06	1.142E-06	1.143E-06	1.143E-06	1.146E-06	1.165E-06	1.261E-06	1.501E-06	1.929E-06	2.178E-06	2.429E-06	2.444E-06
U	2.409E-05	2.413E-05	2.423E-05	2.453E-05	2.499E-05	2.664E-05	3.077E-05	3.525E-05	3.855E-05	3.774E-05	3.851E-05	3.713E-05
NP	2.545E-05	2.545E-05	2.545E-05	2.546E-05	2.548E-05	2.570E-05	2.684E-05	2.965E-05	3.408E-05	2.607E-05	1.748E-05	1.665E-05
PU	5.306E-02	5.398E-02	5.386E-02	5.279E-02	5.100E-02	4.490E-02	3.110E-02	1.655E-02	1.216E-02	8.544E-03	2.992E-04	2.028E-05
AM	3.433E-03	6.636E-03	9.682E-03	1.796E-02	2.925E-02	5.395E-02	6.258E-02	4.585E-02	1.510E-02	1.074E-04	2.277E-08	6.128E-13
CM	3.798E-02	2.796E-02	2.509E-02	2.192E-02	1.811E-02	8.457E-03	5.867E-04	1.696E-06	7.420E-07	2.609E-07	1.030E-10	3.141E-12
BK	4.413E-11	2.001E-11	9.070E-12	8.450E-13	1.618E-14	4.330E-21	2.146E-21	2.131E-21	2.072E-21	1.448E-21	4.015E-23	1.020E-25
CF	1.059E-10	9.378E-11	8.338E-11	6.069E-11	4.161E-11	1.948E-11	8.988E-12	5.908E-12	1.498E-12	3.039E-17	2.147E-22	5.456E-25
ES	5.604E-15	1.596E-15	6.368E-16	4.051E-17	4.119E-19	4.351E-27	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	9.453E-02	8.862E-02	8.868E-02	9.272E-02	9.842E-02	1.074E-01	9.433E-02	6.251E-02	2.734E-02	6.735E-03	5.140E-04	2.941E-04

TABLE A.52. WATTS OF PRINCIPAL ACTINIDE NUCLIDES IN PWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
PB209	2.938E-14	3.004E-14	3.094E-14	3.410E-14	4.088E-14	8.689E-14	5.101E-13	4.665E-12	7.237E-11	9.517E-09	2.151E-07	4.363E-07
PB214	2.971E-14	5.220E-14	8.172E-14	2.128E-13	5.754E-13	3.909E-12	4.215E-11	4.181E-10	4.881E-09	2.088E-07	1.658E-06	1.967E-06
BI210	7.854E-16	1.643E-15	3.058E-15	1.197E-14	5.011E-14	7.489E-13	1.679E-11	2.420E-10	3.929E-09	1.510E-07	1.197E-06	1.422E-06
BI211	8.684E-12	1.692E-11	2.461E-11	4.755E-11	8.558E-11	2.354E-10	7.475E-10	2.193E-09	7.496E-09	7.120E-08	4.539E-07	5.548E-07
BI213	1.074E-13	1.098E-13	1.131E-13	1.247E-13	1.494E-13	3.176E-13	1.865E-12	1.705E-11	2.645E-10	3.479E-08	7.862E-07	1.595E-06
BI214	1.194E-13	2.098E-13	3.264E-13	8.552E-13	2.312E-12	1.571E-11	1.694E-10	1.680E-09	1.962E-08	8.393E-07	6.656E-06	7.904E-06
PO210	6.921E-15	1.605E-14	3.146E-14	1.363E-13	6.967E-13	1.041E-11	2.335E-10	3.365E-09	4.906E-08	2.099E-06	1.665E-05	1.977E-05
PO213	1.265E-12	1.293E-12	1.332E-12	1.468E-12	1.760E-12	3.741E-12	2.196E-11	2.009E-10	3.116E-09	4.098E-07	9.259E-06	1.878E-05
PO214	4.330E-13	7.598E-13	1.189E-12	3.098E-12	8.376E-12	5.690E-11	6.135E-10	6.085E-09	7.106E-08	3.040E-06	2.411E-05	2.863E-05
PO215	9.719E-12	1.894E-11	2.754E-11	5.322E-11	9.578E-11	2.634E-10	8.370E-10	2.461E-09	8.389E-09	7.969E-08	5.080E-07	6.209E-07
PO218	3.376E-13	5.932E-13	9.287E-13	2.419E-12	6.539E-12	4.443E-11	4.790E-10	4.751E-09	5.548E-08	2.373E-06	1.882E-05	2.235E-05
AT217	1.090E-12	1.115E-12	1.148E-12	1.265E-12	1.517E-12	3.224E-12	1.893E-11	1.731E-10	2.685E-09	3.532E-07	7.980E-06	1.619E-05
RN219	1.633E-16	1.760E-11	2.560E-11	4.946E-11	8.903E-11	2.449E-10	7.780E-10	2.287E-09	7.798E-09	7.407E-08	4.722E-07	5.772E-07
RN222	5.745E-16	5.425E-13	8.492E-13	2.212E-12	5.980E-12	4.063E-11	4.380E-10	4.345E-09	5.073E-08	2.170E-06	1.721E-05	2.044E-05
FR221	9.861E-13	1.008E-12	1.038E-12	1.145E-12	1.372E-12	2.916E-12	1.712E-11	1.566E-10	2.429E-09	3.194E-07	7.218E-06	1.464E-05
RA223	7.752E-12	1.511E-11	2.197E-11	4.245E-11	7.640E-11	2.101E-10	6.676E-10	1.963E-09	6.692E-09	6.356E-08	4.052E-07	4.953E-07
RA226	2.690E-13	4.727E-13	7.400E-13	1.927E-12	5.211E-12	3.540E-11	3.817E-10	3.786E-09	4.421E-08	1.891E-06	1.500E-05	1.781E-05
AC225	8.925E-13	9.126E-13	9.398E-13	1.036E-12	1.242E-12	2.639E-12	1.549E-11	1.417E-10	2.198E-09	2.891E-07	6.533E-06	1.325E-05
TH227	7.808E-12	1.527E-11	2.220E-11	4.291E-11	7.723E-11	2.124E-10	6.745E-10	1.984E-09	6.764E-09	6.425E-08	4.096E-07	5.007E-07
TH229	7.775E-13	7.992E-13	8.231E-13	9.072E-13	1.087E-12	2.312E-12	1.357E-11	1.241E-10	1.925E-09	2.532E-07	5.721E-06	1.161E-05
TH230	3.893E-10	5.330E-10	6.777E-10	1.117E-09	1.865E-09	5.050E-09	1.810E-08	6.363E-08	2.384E-07	2.381E-06	1.463E-05	1.738E-05
PA231	1.893E-10	1.948E-10	2.003E-10	2.168E-10	2.442E-10	3.539E-10	7.375E-10	1.833E-09	5.661E-09	5.377E-08	3.428E-07	4.191E-07
PA233	3.540E-07	3.545E-07	3.546E-07	3.555E-07	3.581E-07	3.774E-07	4.730E-07	7.111E-07	1.136E-06	1.337E-06	1.298E-06	1.237E-06
PA234M	7.847E-07	7.847E-07	7.847E-07	7.847E-07	7.847E-07	7.847E-07	7.847E-07	7.847E-07	7.847E-07	7.847E-07	7.847E-07	7.848E-07
U233	2.071E-10	2.290E-10	2.510E-10	3.128E-10	4.126E-10	8.234E-10	2.487E-09	9.184E-09	4.683E-08	7.001E-07	5.957E-06	1.088E-05
U234	1.621E-05	1.631E-05	1.640E-05	1.669E-05	1.715E-05	1.882E-05	2.298E-05	2.749E-05	2.857E-05	2.797E-05	2.270E-05	1.642E-05
U235	2.253E-07	2.254E-07	2.254E-07	2.254E-07	2.254E-07	2.255E-07	2.258E-07	2.266E-07	2.293E-07	2.607E-07	3.598E-07	3.677E-07
U236	3.471E-06	3.471E-06	3.472E-06	3.472E-06	3.473E-06	3.478E-06	3.492E-06	3.534E-06	3.573E-06	4.781E-06	5.461E-06	5.437E-06
U238	4.027E-06	4.027E-06	4.027E-06	4.027E-06	4.027E-06	4.027E-06	4.027E-06	4.027E-06	4.027E-06	4.027E-06	4.028E-06	4.028E-06
NP237	4.771E-06	4.773E-06	4.775E-06	4.787E-06	4.822E-06	5.081E-06	6.370E-06	9.575E-06	1.529E-05	1.800E-05	1.748E-05	1.665E-05
NP239	2.064E-05	2.063E-05	2.063E-05	2.063E-05	2.062E-05	2.058E-05	2.044E-05	2.006E-05	1.879E-05	8.067E-06	1.721E-09	4.603E-14
PU238	3.810E-02	3.911E-02	3.908E-02	3.824E-02	3.676E-02	3.139E-02	1.808E-02	3.739E-03	1.600E-05	1.925E-24	0.0	0.0
PU239	4.825E-03	4.825E-03	4.825E-03	4.829E-03	4.824E-03	4.821E-03	4.812E-03	4.786E-03	4.696E-03	3.660E-03	2.773E-04	3.686E-06
PU240	8.191E-03	8.193E-03	8.194E-03	8.198E-03	8.203E-03	8.209E-03	8.167E-03	7.997E-03	7.425E-03	2.859E-03	2.051E-07	8.926E-12
PU241	1.914E-03	1.824E-03	1.738E-03	1.504E-03	1.182E-03	4.515E-04	1.553E-05	1.338E-09	2.972E-10	1.426E-10	9.255E-14	9.496E-19
PU242	2.596E-05	2.596E-05	2.596E-05	2.596E-05	2.596E-05	2.596E-05	2.595E-05	2.595E-05	2.592E-05	2.550E-05	2.171E-05	1.659E-05
AM241	3.156E-03	6.358E-03	9.405E-03	1.768E-02	2.898E-02	5.368E-02	6.230E-02	4.562E-02	1.485E-02	1.609E-07	9.917E-11	5.075E-16
AM243	2.744E-04	2.744E-04	2.744E-04	2.743E-04	2.742E-04	2.736E-04	2.719E-04	2.668E-04	2.498E-04	1.073E-04	2.267E-08	6.121E-13
CM242	1.146E-02	2.432E-03	5.168E-04	6.865E-06	1.722E-06	1.569E-06	1.140E-06	4.581E-07	1.882E-08	2.836E-26	0.0	0.0
CM243	2.676E-04	2.612E-04	2.549E-04	2.369E-04	2.098E-04	1.290E-04	2.351E-05	1.815E-07	7.332E-15	0.0	0.0	0.0
CM244	2.625E-02	2.526E-02	2.431E-02	2.168E-02	1.790E-02	8.326E-03	5.713E-04	2.706E-07	1.004E-15	1.004E-15	1.003E-15	1.002E-15
SUMTOT	9.452E-02	8.862E-02	8.868E-02	9.2[illegible]E-02	9.841E-02	1.074E-01	9.433E-02	6.251E-02	2.733E-02	6.735E-03	5.135E-04	2.934E-04
TOTAL	9.453E-02	8.862E-02	8.868E-02	9.272E-02	9.842E-02	1.074E-01	9.433E-02	6.251E-02	2.734E-02	6.735E-03	5.140E-04	2.941E-04

TABLE A.53. PHOTONS FROM ACTINIDES IN PWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS= METRIC TON OF INITIAL HEAVY METAL AT A REPROCESSING TIME OF 160 DAYS

EMEAN	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	7.534E+10	2.918E+10	1.976E+10	1.835E+10	1.993E+10	2.281E+10	2.085E+10	1.405E+10	5.681E+09	9.578E+08	1.150E+08	1.139E+08
2.500E-02	9.583E+07	1.860E+08	2.718E+08	5.050E+08	8.232E+08	1.519E+09	1.762E+09	1.292E+09	4.254E+08	6.146E+06	9.572E+06	1.101E+07
3.750E-02	1.996E+08	9.730E+07	8.071E+07	9.229E+07	1.163E+08	1.673E+08	1.775E+08	1.310E+08	5.656E+07	1.079E+07	7.411E+06	1.130E+07
5.750E-02	1.323E+09	2.649E+09	3.911E+09	7.340E+09	1.202E+10	2.225E+10	2.582E+10	1.891E+10	6.163E+09	7.415E+06	7.895E+06	9.434E+06
8.500E-02	2.942E+08	2.938E+08	2.935E+08	2.926E+08	2.907E+08	2.826E+08	2.642E+08	2.507E+08	2.301E+08	1.061E+08	2.488E+07	3.135E+07
1.250E-01	2.486E+08	2.412E+08	2.388E+08	2.352E+08	2.298E+08	2.114E+08	1.801E+08	1.643E+08	1.461E+08	6.307E+07	5.284E+06	6.432E+06
2.250E-01	1.972E+08	1.919E+08	1.892E+08	1.833E+08	1.745E+08	1.483E+08	1.132E+08	1.034E+08	9.650E+07	4.348E+07	1.296E+07	1.673E+07
3.750E-01	1.326E+07	1.329E+07	1.332E+07	1.343E+07	1.359E+07	1.399E+07	1.460E+07	1.570E+07	1.742E+07	1.431E+07	1.905E+07	2.250E+07
5.750E-01	1.210E+06	4.887E+05	3.583E+05	3.910E+05	4.847E+05	6.709E+05	7.183E+05	5.744E+05	3.599E+05	1.538E+06	1.096E+07	1.311E+07
8.500E-01	5.840E+05	4.286E+05	3.982E+05	3.958E+05	3.992E+05	3.846E+05	3.154E+05	2.158E+05	1.213E+05	4.077E+05	2.712E+06	3.228E+06
1.250E+00	2.504E+05	2.004E+05	1.876E+05	1.771E+05	1.654E+05	1.330E+05	9.391E+04	6.548E+04	6.520E+04	8.786E+05	6.677E+06	7.941E+06
1.750E+00	6.630E+04	4.707E+04	4.239E+04	3.884E+04	3.443E+04	2.138E+04	9.554E+03	8.520E+03	2.252E+04	6.809E+05	5.442E+06	6.573E+06
2.250E+00	3.443E+04	2.291E+04	1.990E+04	1.726E+04	1.434E+04	6.960E+03	9.917E+02	8.808E+02	5.237E+03	2.064E+05	1.635E+06	1.941E+06
2.750E+00	2.766E+04	2.733E+04	3.078E+04	3.934E+04	4.393E+04	3.652E+04	1.712E+04	2.695E+03	3.316E+02	3.711E+03	2.850E+04	3.383E+04
3.500E+00	1.792E+04	1.194E+04	1.038E+04	9.002E+03	7.479E+03	3.622E+03	4.877E+02	2.400E+02	2.316E+02	7.829E+02	5.385E+03	6.376E+03
5.000E+00	7.665E+03	5.109E+03	4.439E+03	3.850E+03	3.198E+03	1.547E+03	2.065E+02	1.008E+02	9.190E+01	4.679E+01	1.871E+01	1.438E+01
7.000E+00	8.823E+02	5.887E+02	5.117E+02	4.438E+02	3.686E+02	1.782E+02	2.352E+01	1.142E+01	1.050E+01	5.368E+00	2.153E+00	1.655E+00
1.100E+01	1.015E+02	6.766E+01	5.879E+01	5.098E+01	4.234E+01	2.045E+01	2.686E+00	1.302E+00	1.203E+00	6.163E-01	2.477E-01	1.904E-01
TOTAL	7.772E+10	3.286E+10	2.476E+10	2.702E+10	3.360E+10	4.740E+10	4.915E+10	3.492E+10	1.282E+10	1.213E+09	2.299E+08	2.555E+08
MEV/SEC	1.323E+09	7.028E+08	6.345E+08	8.150E+08	1.114E+09	1.756E+09	1.925E+09	1.407E+09	5.188E+08	5.140E+07	4.579E+07	5.481E+07

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS= METRIC TON OF INITIAL HEAVY METAL AT A REPROCESSING TIME OF 160 DAYS

EMEAN	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	1.130E+03	4.378E+02	2.964E+02	2.753E+02	2.990E+02	3.422E+02	3.128E+02	2.107E+02	8.521E+01	1.437E+01	1.725E+00	1.708E+00
2.500E-02	2.396E+00	4.650E+00	6.796E+00	1.262E+01	2.058E+01	3.797E+01	4.405E+01	3.230E+01	1.063E+01	1.537E-01	2.393E-01	2.751E-01
3.750E-02	7.485E+00	3.649E+00	3.027E+00	3.461E+00	4.360E+00	6.272E+00	6.657E+00	4.911E+00	2.121E+00	4.046E-01	2.779E-01	4.238E-01
5.750E-02	7.609E+01	1.523E+02	2.249E+02	4.220E+02	6.911E+02	1.279E+03	1.485E+03	1.087E+03	3.544E+02	4.264E-01	4.540E-01	5.425E-01
8.500E-02	2.501E+01	2.497E+01	2.495E+01	2.487E+01	2.471E+01	2.402E+01	2.246E+01	2.131E+01	1.955E+01	9.017E+00	2.115E+00	2.665E+00
1.250E-01	3.107E+01	3.015E+01	2.985E+01	2.940E+01	2.873E+01	2.642E+01	2.251E+01	2.053E+01	1.826E+01	7.884E+00	6.605E-01	8.040E-01
2.250E-01	4.437E+01	4.317E+01	4.258E+01	4.124E+01	3.927E+01	3.336E+01	2.547E+01	2.325E+01	2.171E+01	9.782E+00	2.915E+00	3.763E+00
3.750E-01	4.972E+00	4.982E+00	4.997E+00	5.038E+00	5.095E+00	5.246E+00	5.474E+00	5.888E+00	6.532E+00	5.367E+00	7.145E+00	8.437E+00
5.750E-01	6.959E-01	2.810E-01	2.060E-01	2.249E-01	2.787E-01	3.858E-01	4.130E-01	3.303E-01	2.069E-01	8.830E-01	6.303E+00	7.540E+00
8.500E-01	4.964E-01	3.643E-01	3.385E-01	3.364E-01	3.393E-01	3.269E-01	2.681E-01	1.832E-01	1.031E-01	3.466E-01	2.305E+00	2.744E+00
1.250E+00	3.129E-01	2.505E-01	2.345E-01	2.214E-01	2.067E-01	1.663E-01	1.174E-01	8.182E-02	8.150E-02	1.098E+00	8.346E+00	9.926E+00
1.750E+00	1.160E-01	8.237E-02	7.418E-02	6.796E-02	6.024E-02	3.741E-02	1.672E-02	1.491E-02	3.941E-02	1.192E+00	9.524E+00	1.150E+01
2.250E+00	7.746E-02	5.155E-02	4.478E-02	3.884E-02	3.228E-02	1.566E-02	2.231E-03	1.982E-03	1.178E-02	4.643E-01	3.679E+00	4.368E+00
2.750E+00	7.607E-02	7.517E-02	8.463E-02	1.082E-01	1.208E-01	1.004E-01	4.707E-02	7.410E-03	9.119E-04	1.021E-02	7.836E-02	9.304E-02
3.500E+00	6.272E-02	4.180E-02	3.633E-02	3.151E-02	2.618E-02	1.268E-02	1.707E-03	8.399E-04	8.105E-04	2.740E-03	1.885E-02	2.231E-02
5.000E+00	3.833E-02	2.554E-02	2.220E-02	1.925E-02	1.599E-02	7.737E-03	1.033E-03	5.039E-04	4.595E-04	2.339E-04	9.353E-05	7.188E-05
7.000E+00	6.176E-03	4.121E-03	3.582E-03	3.107E-03	2.580E-03	1.247E-03	1.647E-04	7.996E-05	7.353E-05	3.757E-05	1.507E-05	1.158E-05
1.100E+01	1.117E-03	7.443E-04	6.467E-04	5.608E-04	4.657E-04	2.250E-04	2.955E-05	1.432E-05	1.324E-05	6.779E-06	2.724E-06	2.094E-06
TOTAL	1.323E+03	7.028E+02	6.345E+02	8.150E+02	1.114E+03	1.756E+03	1.925E+03	1.407E+03	5.188E+02	5.140E+01	4.579E+01	5.481E+01
GAM POW	2.121E-04	1.127E-04	1.017E-04	1.306E-04	1.786E-04	2.815E-04	3.086E-04	2.255E-04	8.317E-05	8.239E-06	7.340E-06	8.787E-06

TABLE A.54. (ALPHA,N) NEUTRONS FROM ACTINIDES IN PWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
BI211	7.148E-06	1.393E-05	2.025E-05	3.914E-05	7.044E-05	1.937E-04	6.156E-04	1.810E-03	6.170E-03	5.860E-02	3.736E-01	4.567E-01
PO210	3.198E-10	7.418E-10	1.454E-09	6.300E-09	3.220E-08	4.812E-07	1.079E-05	1.555E-04	2.267E-03	9.700E-02	7.693E-01	9.135E-01
PO213	2.220E-05	2.270E-05	2.338E-05	2.577E-05	3.089E-05	6.565E-05	3.854E-04	3.525E-03	5.468E-02	7.191E+00	1.625E+02	3.297E+02
PO214	2.480E-06	4.352E-06	6.813E-06	1.774E-05	4.797E-05	3.259E-04	3.514E-03	3.485E-02	4.070E-01	1.741E+01	1.381E+02	1.640E+02
PO215	3.336E-05	6.504E-05	9.457E-05	1.828E-04	3.289E-04	9.047E-04	2.874E-03	8.451E-03	2.881E-02	2.737E-01	1.744E+00	2.132E+00
PO218	7.704E-08	1.354E-07	2.119E-07	5.519E-07	1.492E-06	1.014E-05	1.093E-04	1.084E-03	1.266E-02	5.416E-01	4.295E+00	5.100E+00
AT217	2.083E-06	2.130E-06	2.193E-06	2.417E-06	2.898E-06	6.159E-06	3.616E-05	3.307E-04	5.130E-03	6.746E-01	1.524E+01	3.093E+01
RN219	2.166E-10	2.335E-05	3.395E-05	6.561E-05	1.181E-04	3.248E-04	1.032E-03	3.034E-03	1.034E-02	9.825E-02	6.263E-01	7.656E-01
RN222	4.084E-13	3.856E-08	6.037E-08	1.572E-07	4.251E-07	2.888E-06	3.114E-05	3.088E-04	3.606E-03	1.543E-01	1.224E+00	1.453E+00
FR221	5.098E-07	5.213E-07	5.369E-07	5.918E-07	7.094E-07	1.508E-06	8.851E-06	8.095E-05	1.256E-03	1.652E-01	3.732E+00	7.571E+00
AC225	1.261E-07	1.289E-07	1.328E-07	1.463E-07	1.754E-07	3.729E-07	2.185E-06	2.903E-05	3.105E-04	4.084E-02	9.228E-01	1.872E+00
U234	1.861E-01	1.872E-01	1.883E-01	1.916E-01	1.969E-01	2.161E-01	2.638E-01	3.151E-01	3.280E-01	3.211E-01	2.606E-01	1.885E-01
NP237	1.185E-01	1.186E-01	1.186E-01	1.189E-01	1.198E-01	1.262E-01	1.582E-01	2.379E-01	3.799E-01	4.471E-01	4.343E-01	4.137E-01
PU238	1.343E+03	1.378E+03	1.377E+03	1.347E+03	1.295E+03	1.106E+03	6.369E+02	1.317E+02	5.638E-01	6.783E-20	0.0	0.0
PU239	1.133E+02	1.133E+02	1.133E+02	1.133E+02	1.133E+02	1.132E+02	1.130E+02	1.124E+02	1.103E+02	8.593E+01	6.511E+00	8.655E-02
PU240	1.962E+02	1.962E+02	1.962E+02	1.963E+02	1.965E+02	1.966E+02	1.956E+02	1.915E+02	1.778E+02	6.848E+01	4.912E-03	2.138E-07
PU242	6.209E-01	6.209E-01	6.209E-01	6.209E-01	6.209E-01	6.209E-01	6.209E-01	6.207E-01	6.199E-01	6.101E-01	5.193E-01	3.969E-01
AM241	1.107E+02	2.230E+02	3.298E+02	6.201E+02	1.016E+03	1.682E+03	2.185E+03	1.600E+03	5.208E+02	5.641E-03	3.478E-06	1.780E-11
AM243	1.315E+01	1.315E+01	1.314E+01	1.314E+01	1.313E+01	1.311E+01	1.302E+01	1.278E+01	1.197E+01	5.140E+00	1.086E-03	2.933E-08
CM242	7.964E+04	1.689E+04	3.590E+03	4.630E+01	1.196E+01	1.090E+01	7.921E+00	3.182E+00	1.307E-01	1.970E-19	0.0	0.0
CM243	7.379E+01	7.202E+01	7.029E+01	6.534E+01	5.786E+01	3.567E+01	6.483E+00	5.005E-02	2.022E-09	0.0	0.0	0.0
CM244	5.320E+03	5.120E+03	4.928E+03	4.393E+03	3.628E+03	1.687E+03	1.158E+02	5.484E-02	2.035E-10	2.034E-10	2.033E-10	2.030E-10
TOTALS												
TABLE	8.681E+04	2.401E+04	1.062E+04	6.799E+03	6.337E+03	5.050E+03	3.277E+03	2.053E+03	8.235E+02	1.878E+02	3.380E+02	5.470E+02
ACTUAL	8.681E+04	2.401E+04	1.062E+04	6.799E+03	6.337E+03	5.050E+03	3.277E+03	2.053E+03	8.235E+02	1.878E+02	3.380E+02	5.470E+02

TABLE A.55. SPONTANEOUS FISSION NEUTRONS FROM ACTINIDES IN PWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
U238	5.990E+00	5.990E+00	5.990E+00	5.990E+00	5.990E+00	5.990E+00	5.990E+00	5.990E+00	5.990E+00	5.990E+00	5.990E+00	5.991E+00
PU238	1.784E+02	1.831E+02	1.830E+02	1.790E+02	1.721E+02	1.470E+02	8.462E+01	1.750E+01	7.491E-02	9.013E-21	0.0	0.0
PU240	1.051E+03	1.051E+03	1.051E+03	1.052E+03	1.052E+03	1.053E+03	1.048E+03	1.026E+03	9.525E+02	3.668E+02	2.631E-02	1.145E-06
PU242	3.879E+02	3.879E+02	3.879E+02	3.879E+02	3.879E+02	3.879E+02	3.879E+02	3.877E+02	3.873E+02	3.811E+02	3.244E+02	2.479E+02
CM242	6.428E+04	1.363E+04	2.897E+03	3.737E+01	9.653E+00	8.797E+00	6.393E+00	2.566E+00	1.055E-01	1.590E-19	0.0	0.0
CM244	1.031E+05	9.923E+04	9.551E+04	8.515E+04	7.032E+04	3.270E+04	2.244E+03	1.063E+00	3.945E-09	3.942E-09	3.939E-09	3.935E-09
CM246	4.154E+02	4.154E+02	4.153E+02	4.151E+02	4.148E+02	4.136E+02	4.094E+02	3.976E+02	3.588E+02	9.599E+01	1.801E-04	5.263E-14
TOTALS												
TABLE	1.694E+05	1.149E+05	1.004E+05	8.722E+04	7.236E+04	3.472E+04	4.187E+03	1.839E+03	1.705E+03	8.504E+02	3.307E+02	2.542E+02
ACTUAL	1.694E+05	1.149E+05	1.004E+05	8.722E+04	7.236E+04	3.472E+04	4.187E+03	1.839E+03	1.705E+03	8.504E+02	3.307E+02	2.542E+02
OVERALL TOTALS												
TABLE	2.562E+05	1.389E+05	1.111E+05	9.402E+04	7.870E+04	3.977E+04	7.464E+03	3.893E+03	2.529E+03	1.038E+03	6.687E+02	8.012E+02
ACTUAL	2.562E+05	1.389E+05	1.111E+05	9.402E+04	7.870E+04	3.977E+04	7.464E+03	3.893E+03	2.529E+03	1.038E+03	6.687E+02	8.012E+02

TABLE A.56. GRAMS OF FISSION PRODUCT ELEMENTS IN PWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM40.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	1.657E-02	1.567E-02	1.481E-02	1.252E-02	9.453E-03	3.076E-03	6.047E-05	8.056E-10	6.951E-27	0.0	0.0	0.0
LI	9.587E-08	9.587E-08	9.587E-08	9.587E-08	9.587E-08	9.587E-08	9.587E-08	9.587E-08	9.587E-08	9.587E-08	9.587E-08	9.587E-08
BE	7.390E-08	7.390E-08	7.390E-08	7.390E-08	7.390E-08	7.390E-08	7.390E-08	7.389E-08	7.387E-08	7.362E-08	7.118E-08	6.730E-08
C	6.508E-13	6.507E-13	6.506E-13	6.504E-13	6.500E-13	6.484E-13	6.430E-13	6.276E-13	5.766E-13	1.941E-13	3.624E-18	4.761E-26
CU	2.085E-38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZN	1.890E-11	1.890E-11	1.890E-11	1.890E-11	1.890E-11	1.890E-11	1.890E-11	1.890E-11	1.890E-11	1.890E-11	1.890E-11	1.890E-11
GA	4.322E-10	4.322E-10	4.322E-10	4.322E-10	4.322E-10	4.322E-10	4.322E-10	4.322E-10	4.322E-10	4.322E-10	4.322E-10	4.322E-10
GE	3.301E-04	3.301E-04	3.301E-04	3.301E-04	3.301E-04	3.301E-04	3.301E-04	3.301E-04	3.301E-04	3.301E-04	3.301E-04	3.301E-04
AS	1.000E-04	1.000E-04	1.000E-04	1.000E-04	1.000E-04	1.000E-04	1.000E-04	1.000E-04	1.000E-04	1.000E-04	1.000E-04	1.000E-04
SE	2.817E-02	2.817E-02	2.817E-02	2.817E-02	2.817E-02	2.817E-02	2.816E-02	2.816E-02	2.814E-02	2.787E-02	2.624E-02	2.543E-02
BR	1.134E-05	1.137E-05	1.140E-05	1.150E-05	1.165E-05	1.228E-05	1.447E-05	2.072E-05	4.251E-05	3.085E-04	1.938E-03	2.744E-03
KR	7.231E-06	7.202E-06	7.175E-06	7.103E-06	7.011E-06	6.834E-06	6.769E-06	6.768E-06	6.768E-06	6.768E-06	6.768E-06	6.768E-06
RB	1.709E-01	1.709E-01	1.709E-01	1.709E-01	1.709E-01	1.709E-01	1.709E-01	1.709E-01	1.709E-01	1.709E-01	1.709E-01	1.709E-01
SR	4.419E-01	4.340E-01	4.279E-01	4.105E-01	3.841E-01	3.049E-01	1.996E-01	1.753E-01	1.750E-01	1.750E-01	1.750E-01	1.750E-01
Y	2.300E-01	2.282E-01	2.282E-01	2.281E-01	2.281E-01	2.281E-01	2.281E-01	2.281E-01	2.281E-01	2.281E-01	2.281E-01	2.281E-01
ZR	1.759E+00	1.763E+00	1.769E+00	1.786E+00	1.812E+00	1.892E+00	1.997E+00	2.021E+00	2.021E+00	2.020E+00	2.006E+00	1.983E+00
NB	7.184E-03	1.637E-04	4.124E-06	1.478E-06	2.292E-06	5.548E-06	1.694E-05	4.950E-05	1.634E-04	1.625E-03	1.592E-02	3.848E-02
MO	1.655E+00	1.668E+00	1.669E+00	1.669E+00	1.669E+00	1.669E+00	1.669E+00	1.669E+00	1.669E+00	1.669E+00	1.669E+00	1.669E+00
TC	3.855E-01	3.855E-01	3.855E-01	3.855E-01	3.855E-01	3.855E-01	3.854E-01	3.851E-01	3.842E-01	3.732E-01	2.784E-01	1.709E-01
RU	1.155E+00	1.122E+00	1.106E+00	1.092E+00	1.090E+00	1.089E+00	1.090E+00	1.090E+00	1.091E+00	1.102E+00	1.197E+00	1.304E+00
RH	2.322E-01	2.337E-01	2.337E-01	2.337E-01	2.337E-01	2.337E-01	2.337E-01	2.337E-01	2.337E-01	2.337E-01	2.337E-01	2.337E-01
PD	6.215E-01	6.535E-01	6.696E-01	6.838E-01	6.858E-01	6.859E-01	6.859E-01	6.859E-01	6.859E-01	6.858E-01	6.847E-01	6.830E-01
AG	3.845E-02	3.826E-02	3.819E-02	3.815E-02	3.815E-02	3.815E-02	3.815E-02	3.815E-02	3.816E-02	3.827E-02	3.931E-02	4.102E-02
CD	5.370E-02	5.389E-02	5.395E-02	5.397E-02	5.395E-02	5.390E-02	5.387E-02	5.387E-02	5.387E-02	5.387E-02	5.387E-02	5.387E-02
IN	1.201E-03	1.210E-03	1.216E-03	1.231E-03	1.252E-03	1.301E-03	1.331E-03	1.332E-03	1.332E-03	1.332E-03	1.332E-03	1.332E-03
SN	4.510E-02	4.501E-02	4.500E-02	4.499E-02	4.499E-02	4.499E-02	4.498E-02	4.496E-02	4.490E-02	4.408E-02	3.814E-02	3.372E-02
SB	1.560E-02	1.424E-02	1.313E-02	1.105E-02	9.720E-03	9.191E-03	9.188E-03	9.189E-03	9.189E-03	9.189E-03	9.189E-03	9.189E-03
TE	2.363E-01	2.374E-01	2.385E-01	2.406E-01	2.419E-01	2.424E-01	2.424E-01	2.425E-01	2.425E-01	2.433E-01	2.493E-01	2.537E-01
I	1.246E-04	4.327E-04	4.599E-04	4.629E-04	4.629E-04	4.629E-04	4.629E-04	4.629E-04	4.629E-04	4.628E-04	4.623E-04	4.615E-04
XE	1.398E-04	1.398E-04	1.398E-04	1.398E-04	1.398E-04	1.398E-04	1.398E-04	1.398E-04	1.398E-04	1.399E-04	1.404E-04	1.412E-04
CS	1.359E+00	1.330E+00	1.306E+00	1.252E+00	1.186E+00	1.010E+00	7.722E-01	7.139E-01	7.133E-01	7.129E-01	7.089E-01	7.025E-01
BA	6.945E-01	7.230E-01	7.468E-01	8.017E-01	8.672E-01	1.043E+00	1.281E+00	1.339E+00	1.340E+00	1.340E+00	1.344E+00	1.351E+00
LA	6.081E-01	6.081E-01	6.081E-01	6.081E-01	6.081E-01	6.081E-01	6.081E-01	6.081E-01	6.081E-01	6.081E-01	6.081E-01	6.081E-01
CE	1.317E+00	1.238E+00	1.205E+00	1.184E+00	1.183E+00	1.183E+00	1.183E+00	1.183E+00	1.183E+00	1.183E+00	1.183E+00	1.183E+00
PR	5.571E-01	5.580E-01	5.580E-01	5.580E-01	5.580E-01	5.580E-01	5.580E-01	5.580E-01	5.580E-01	5.580E-01	5.580E-01	5.580E-01
ND	1.879E+00	1.958E+00	1.990E+00	2.011E+00	2.013E+00	2.013E+00	2.013E+00	2.013E+00	2.013E+00	2.013E+00	2.013E+00	2.013E+00
PM	6.624E-02	5.082E-02	3.902E-02	1.766E-02	4.714E-03	2.393E-05	2.222E-13	0.0	0.0	0.0	0.0	0.0
SM	3.699E-01	3.853E-01	3.970E-01	4.182E-01	4.309E-01	4.347E-01	4.325E-01	4.300E-01	4.293E-01	4.293E-01	4.293E-01	4.293E-01
EU	8.024E-02	7.800E-02	7.598E-02	7.103E-02	6.551E-02	5.822E-02	5.872E-02	6.120E-02	6.187E-02	6.188E-02	6.188E-02	6.188E-02
GD	4.320E-02	4.550E-02	4.757E-02	5.267E-02	5.844E-02	6.663E-02	6.839E-02	6.839E-02	6.839E-02	6.839E-02	6.839E-02	6.839E-02
TB	1.301E-03	1.291E-03	1.291E-03	1.291E-03	1.291E-03	1.291E-03	1.291E-03	1.291E-03	1.291E-03	1.291E-03	1.291E-03	1.291E-03
DY	6.817E-04	6.911E-04	6.914E-04	6.914E-04	6.914E-04	6.914E-04	6.914E-04	6.914E-04	6.914E-04	6.914E-04	6.914E-04	6.914E-04
HO	7.106E-05	7.106E-05	7.106E-05	7.106E-05	7.106E-05	7.105E-05	7.102E-05	7.095E-05	7.075E-05	7.036E-05	7.036E-05	7.036E-05
ER	2.812E-05	2.812E-05	2.812E-05	2.812E-05	2.812E-05	2.813E-05	2.816E-05	2.823E-05	2.843E-05	2.882E-05	2.882E-05	2.882E-05
TM	2.995E-08	2.831E-08	2.802E-08	2.788E-08	2.783E-08	2.783E-08	2.783E-08	2.783E-08	2.783E-08	2.783E-08	2.783E-08	2.783E-08
YB	6.844E-09	8.491E-09	8.778E-09	8.920E-09	8.966E-09	8.975E-09	8.975E-09	8.975E-09	8.975E-09	8.975E-09	8.975E-09	8.975E-09
TOTAL	1.407E+01	1.407E+01	1.407E+01	1.407E+01	1.406E+01	1.406E+01	1.405E+01	1.405E+01	1.405E+01	1.405E+01	1.405E+01	1.405E+01

TABLE A.57. GRAMS OF PRINCIPAL FISSION PRODUCT NUCLIDES IN PWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM40.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H 3	1.657E-02	1.567E-02	1.481E-02	1.252E-02	9.453E-03	3.076E-03	6.047E-05	8.056E-10	6.951E-27	0.0	0.0	0.0
SE 82	1.682E-02	1.682E-02	1.682E-02	1.682E-02	1.682E-02	1.682E-02	1.682E-02	1.682E-02	1.682E-02	1.682E-02	1.682E-02	1.682E-02
RB 85	4.900E-02	4.900E-02	4.900E-02	4.900E-02	4.900E-02	4.900E-02	4.900E-02	4.900E-02	4.900E-02	4.900E-02	4.900E-02	4.900E-02
RB 87	1.218E-01	1.218E-01	1.218E-01	1.218E-01	1.218E-01	1.218E-01	1.218E-01	1.218E-01	1.218E-01	1.218E-01	1.218E-01	1.218E-01
SR 88	1.748E-01	1.748E-01	1.748E-01	1.748E-01	1.748E-01	1.748E-01	1.748E-01	1.748E-01	1.748E-01	1.748E-01	1.748E-01	1.748E-01
Y 89	2.264E-01	2.281E-01	2.281E-01	2.281E-01	2.281E-01	2.281E-01	2.281E-01	2.281E-01	2.281E-01	2.281E-01	2.281E-01	2.281E-01
SR 90	2.652E-01	2.590E-01	2.529E-01	2.358E-01	2.090E-01	1.299E-01	2.454E-03	2.104E-04	1.222E-11	0.0	0.0	0.0
ZR 90	1.190E-02	1.814E-02	2.423E-02	4.166E-02	6.809E-02	1.473E-01	2.526E-01	2.770E-01	2.772E-01	2.772E-01	2.772E-01	2.772E-01
ZR 91	2.915E-01	2.950E-01	2.951E-01	2.951E-01	2.951E-01	2.951E-01	2.951E-01	2.951E-01	2.951E-01	2.951E-01	2.951E-01	2.951E-01
ZR 92	3.198E-01	3.198E-01	3.198E-01	3.198E-01	3.198E-01	3.198E-01	3.198E-01	3.198E-01	3.198E-01	3.198E-01	3.198E-01	3.198E-01
ZR 93	3.593E-01	3.593E-01	3.593E-01	3.593E-01	3.593E-01	3.593E-01	3.593E-01	3.593E-01	3.592E-01	3.577E-01	3.434E-01	3.208E-01
NB 93	3.260E-08	5.737E-08	8.900E-08	2.217E-07	5.514E-07	2.741E-06	1.355E-05	4.609E-05	1.600E-04	1.622E-03	1.591E-02	3.848E-02
ZR 94	3.705E-01	3.705E-01	3.705E-01	3.705E-01	3.705E-01	3.705E-01	3.705E-01	3.705E-01	3.705E-01	3.705E-01	3.705E-01	3.705E-01
MO 95	3.650E-01	3.787E-01	3.790E-01	3.790E-01	3.790E-01	3.790E-01	3.790E-01	3.790E-01	3.790E-01	3.790E-01	3.790E-01	3.790E-01
ZR 96	3.996E-01	3.996E-01	3.996E-01	3.996E-01	3.996E-01	3.996E-01	3.996E-01	3.996E-01	3.996E-01	3.996E-01	3.996E-01	3.996E-01
MO 96	1.644E-02	1.644E-02	1.644E-02	1.644E-02	1.644E-02	1.644E-02	1.644E-02	1.644E-02	1.644E-02	1.644E-02	1.644E-02	1.644E-02
MO 97	3.956E-01	3.956E-01	3.956E-01	3.956E-01	3.956E-01	3.956E-01	3.956E-01	3.956E-01	3.956E-01	3.956E-01	3.956E-01	3.956E-01
MO 98	4.126E-01	4.126E-01	4.126E-01	4.126E-01	4.126E-01	4.126E-01	4.126E-01	4.126E-01	4.126E-01	4.126E-01	4.126E-01	4.126E-01
TC 99	3.855E-01	3.855E-01	3.855E-01	3.855E-01	3.855E-01	3.855E-01	3.854E-01	3.851E-01	3.842E-01	3.732E-01	2.784E-01	1.709E-01
RU 99	2.063E-06	3.318E-06	4.572E-06	8.336E-06	1.461E-05	3.970E-05	1.276E-04	3.782E-04	1.254E-03	1.234E-02	1.071E-01	2.146E-01
MO100	4.649E-01	4.649E-01	4.649E-01	4.649E-01	4.649E-01	4.649E-01	4.649E-01	4.649E-01	4.649E-01	4.649E-01	4.649E-01	4.649E-01
RU100	4.757E-02	4.757E-02	4.757E-02	4.757E-02	4.757E-02	4.757E-02	4.757E-02	4.757E-02	4.757E-02	4.757E-02	4.757E-02	4.757E-02
RU101	3.859E-01	3.859E-01	3.859E-01	3.859E-01	3.859E-01	3.859E-01	3.859E-01	3.859E-01	3.859E-01	3.859E-01	3.859E-01	3.859E-01
RU102	3.850E-01	3.850E-01	3.850E-01	3.850E-01	3.850E-01	3.850E-01	3.850E-01	3.850E-01	3.850E-01	3.850E-01	3.850E-01	3.850E-01
RH103	2.322E-01	2.337E-01	2.337E-01	2.337E-01	2.337E-01	2.337E-01	2.337E-01	2.337E-01	2.337E-01	2.337E-01	2.337E-01	2.337E-01
RU104	2.709E-01	2.709E-01	2.709E-01	2.709E-01	2.709E-01	2.709E-01	2.709E-01	2.709E-01	2.709E-01	2.709E-01	2.709E-01	2.709E-01
PD104	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
PD105	1.879E-01	1.879E-01	1.879E-01	1.879E-01	1.879E-01	1.879E-01	1.879E-01	1.879E-01	1.879E-01	1.879E-01	1.879E-01	1.879E-01
RU106	6.434E-02	3.235E-02	1.626E-02	2.067E-03	6.639E-05	7.067E-11	8.798E-32	0.0	0.0	0.0	0.0	0.0
PD106	1.161E-01	1.481E-01	1.642E-01	1.784E-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
PD107	1.091E-01	1.091E-01	1.091E-01	1.091E-01	1.091E-01	1.091E-01	1.091E-01	1.091E-01	1.091E-01	1.090E-01	1.079E-01	1.062E-01
PD108	7.509E-02	7.509E-02	7.509E-02	7.509E-02	7.509E-02	7.509E-02	7.509E-02	7.509E-02	7.509E-02	7.509E-02	7.509E-02	7.509E-02
AG109	3.815E-02	3.815E-02	3.815E-02	3.815E-02	3.815E-02	3.815E-02	3.815E-02	3.815E-02	3.815E-02	3.815E-02	3.815E-02	3.815E-02
PD110	2.461E-02	2.461E-02	2.461E-02	2.461E-02	2.461E-02	2.461E-02	2.461E-02	2.461E-02	2.461E-02	2.461E-02	2.461E-02	2.461E-02
CD110	1.644E-02	1.663E-02	1.670E-02	1.674E-02	1.674E-02	1.674E-02	1.674E-02	1.674E-02	1.674E-02	1.674E-02	1.674E-02	1.674E-02
TE128	5.514E-02	5.514E-02	5.514E-02	5.514E-02	5.514E-02	5.514E-02	5.514E-02	5.514E-02	5.514E-02	5.514E-02	5.514E-02	5.514E-02
TE130	1.770E-01	1.770E-01	1.770E-01	1.770E-01	1.770E-01	1.770E-01	1.770E-01	1.770E-01	1.770E-01	1.770E-01	1.770E-01	1.770E-01
CS133	5.635E-01	5.635E-01	5.635E-01	5.635E-01	5.635E-01	5.635E-01	5.635E-01	5.635E-01	5.635E-01	5.635E-01	5.635E-01	5.635E-01
CS134	5.214E-02	3.726E-02	2.662E-02	9.710E-03	1.808E-03	2.197E-06	1.325E-16	0.0	0.0	0.0	0.0	0.0
BA134	2.556E-02	4.045E-02	5.108E-02	6.799E-02	7.589E-02	7.770E-02	7.770E-02	7.770E-02	7.770E-02	7.770E-02	7.770E-02	7.770E-02
CS135	1.498E-01	1.498E-01	1.498E-01	1.498E-01	1.498E-01	1.498E-01	1.498E-01	1.498E-01	1.498E-01	1.493E-01	1.453E-01	1.389E-01
CS137	5.933E-01	5.797E-01	5.665E-01	5.285E-01	4.709E-01	2.966E-01	5.886E-02	5.793E-04	5.478E-11	0.0	0.0	0.0
BA137	2.290E-02	3.645E-02	4.969E-02	8.763E-02	1.453E-01	3.195E-01	5.573E-01	6.156E-01	6.162E-01	6.162E-01	6.162E-01	6.162E-01
BA138	6.373E-01	6.373E-01	6.373E-01	6.373E-01	6.373E-01	6.373E-01	6.373E-01	6.373E-01	6.373E-01	6.373E-01	6.373E-01	6.373E-01
LA139	6.081E-01	6.081E-01	6.081E-01	6.081E-01	6.081E-01	6.081E-01	6.081E-01	6.081E-01	6.081E-01	6.081E-01	6.081E-01	6.081E-01
CE140	6.196E-01	6.196E-01	6.196E-01	6.196E-01	6.196E-01	6.196E-01	6.196E-01	6.196E-01	6.196E-01	6.196E-01	6.196E-01	6.196E-01
PR141	5.571E-01	5.580E-01	5.580E-01	5.580E-01	5.580E-01	5.580E-01	5.580E-01	5.580E-01	5.580E-01	5.580E-01	5.580E-01	5.580E-01
CE142	5.631E-01	5.631E-01	5.631E-01	5.631E-01	5.631E-01	5.631E-01	5.631E-01	5.631E-01	5.631E-01	5.631E-01	5.631E-01	5.631E-01
ND143	3.890E-01	3.890E-01	3.890E-01	3.890E-01	3.890E-01	3.890E-01	3.890E-01	3.890E-01	3.890E-01	3.890E-01	3.890E-01	3.890E-01
CE144	1.337E-01	5.465E-02	2.251E-02	1.556E-03	1.812E-05	3.328E-13	0.0	0.0	0.0	0.0	0.0	0.0
ND144	5.256E-01	6.045E-01	6.368E-01	6.577E-01	6.593E-01	6.593E-01	6.593E-01	6.593E-01	6.593E-01	6.593E-01	6.593E-01	6.593E-01
ND145	3.362E-01	3.362E-01	3.362E-01	3.362E-01	3.362E-01	3.362E-01	3.362E-01	3.362E-01	3.362E-01	3.362E-01	3.362E-01	3.362E-01
ND146	3.424E-01	3.424E-01	3.424E-01	3.424E-01	3.424E-01	3.424E-01	3.424E-01	3.424E-01	3.424E-01	3.424E-01	3.424E-01	3.424E-01
PM147	6.619E-02	5.082E-02	3.902E-02	1.766E-02	4.714E-03	2.393E-05	2.222E-13	0.0	0.0	0.0	0.0	0.0
SM147	3.504E-02	5.041E-02	6.221E-02	8.357E-02	9.652E-02	1.012E-01	1.012E-01	1.012E-01	1.012E-01	1.012E-01	1.012E-01	1.012E-01
ND148	1.848E-01	1.848E-01	1.848E-01	1.848E-01	1.848E-01	1.848E-01	1.848E-01	1.848E-01	1.848E-01	1.848E-01	1.848E-01	1.848E-01
SM148	8.273E-02	8.278E-02	8.278E-02	8.278E-02	8.278E-02	8.278E-02	8.278E-02	8.278E-02	8.278E-02	8.278E-02	8.278E-02	8.278E-02
ND150	8.828E-02	8.828E-02	8.828E-02	8.828E-02	8.828E-02	8.828E-02	8.828E-02	8.828E-02	8.828E-02	8.828E-02	8.828E-02	8.828E-02
SM150	1.580E-01	1.580E-01	1.580E-01	1.580E-01	1.580E-01	1.580E-01	1.580E-01	1.580E-01	1.580E-01	1.580E-01	1.580E-01	1.580E-01
SM152	6.664E-02	6.664E-02	6.664E-02	6.664E-02	6.664E-02	6.665E-02	6.665E-02	6.665E-02	6.665E-02	6.665E-02	6.665E-02	6.665E-02
EU153	5.501E-02	5.501E-02	5.501E-02	5.502E-02	5.502E-02	5.502E-02	5.502E-02	5.502E-02	5.502E-02	5.502E-02	5.502E-02	5.502E-02
SM154	1.883E-02	1.883E-02	1.883E-02	1.883E-02	1.883E-02	1.883E-02	1.883E-02	1.883E-02	1.883E-02	1.883E-02	1.883E-02	1.883E-02
EU154	1.667E-02	1.722E-02	1.589E-02	1.247E-02	8.337E-03	1.663E-03	5.890E-06	5.882E-13	0.0	0.0	0.0	0.0
GD154	1.811E-03	3.257E-03	4.590E-03	8.002E-03	1.214E-02	1.881E-02	2.047E-02	2.048E-02	2.048E-02	2.048E-02	2.048E-02	2.048E-02
GD156	3.105E-02	3.105E-02	3.105E-02	3.105E-02	3.105E-02	3.105E-02	3.105E-02	3.105E-02	3.105E-02	3.105E-02	3.105E-02	3.105E-02
SUMTOT	1.388E+01	1.390E+01	1.390E+01	1.390E+01	1.390E+01	1.389E+01	1.389E+01	1.389E+01	1.389E+01	1.389E+01	1.388E+01	1.388E+01
TOTAL	1.407E+01	1.407E+01	1.407E+01	1.407E+01	1.406E+01	1.406E+01	1.406E+01	1.405E+01	1.405E+01	1.405E+01	1.405E+01	1.405E+01

TABLE A.58. CURIES OF FISSION PRODUCT ELEMENTS IN PWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	1.600E+02	1.512E+02	1.430E+02	1.208E+02	9.126E+01	2.970E+01	5.838E-01	7.777E-06	6.711E-23	0.0	0.0	0.0
BE	1.437E-09	1.437E-09	1.437E-09	1.437E-09	1.437E-09	1.437E-09	1.436E-09	1.436E-09	1.436E-09	1.430E-09	1.376E-09	1.289E-09
C	2.902E-12	2.902E-12	2.901E-12	2.900E-12	2.898E-12	2.891E-12	2.867E-12	2.798E-12	2.571E-12	8.655E-13	1.616E-17	2.123E-25
CU	1.577E-32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	2.046E-04	2.046E-04	2.046E-04	2.046E-04	2.046E-04	2.046E-04	2.044E-04	2.040E-04	2.025E-04	1.839E-04	7.040E-05	1.421E-05
KR	1.818E-04	1.704E-04	1.598E-04	1.316E-04	9.524E-05	2.613E-05	2.828E-07	7.030E-13	1.851E-14	1.797E-14	1.335E-14	8.134E-15
RB	2.590E-03	1.398E-08	1.067E-08	1.067E-08	1.067E-08	1.067E-08	1.067E-08	1.067E-08	1.067E-08	1.067E-08	1.067E-08	1.067E-08
SR	8.488E+01	3.566E+01	3.451E+01	3.213E+01	2.853E+01	1.772E+01	3.349E+00	2.871E-02	1.667E-09	0.0	0.0	0.0
Y	1.231E+02	3.650E+01	3.453E+01	3.214E+01	2.853E+01	1.773E+01	3.350E+00	2.871E-02	1.668E-09	0.0	0.0	0.0
ZR	1.457E+02	2.787E+00	5.419E-02	9.036E-04	9.032E-04	9.032E-04	9.032E-04	9.031E-04	9.028E-04	8.991E-04	8.632E-04	8.065E-04
NB	2.820E+02	6.391E+00	1.231E-01	2.502E-04	3.863E-04	6.879E-04	8.533E-04	8.580E-04	8.577E-04	8.542E-04	8.201E-04	7.662E-04
MO	2.782E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC	6.538E-03	6.538E-03	6.538E-03	6.538E-03	6.538E-03	6.537E-03	6.536E-03	6.532E-03	6.517E-03	6.329E-03	4.722E-03	2.898E-03
RU	2.644E+02	1.084E+02	5.444E+01	6.918E+00	2.222E-01	2.366E-07	2.945E-28	0.0	0.0	0.0	0.0	0.0
RH	2.595E+02	1.083E+02	5.444E+01	6.918E+00	2.222E-01	2.366E-07	2.945E-28	0.0	0.0	0.0	0.0	0.0
PD	5.613E-05	5.613E-05	5.613E-05	5.613E-05	5.613E-05	5.613E-05	5.613E-05	5.612E-05	5.612E-05	5.607E-05	5.553E-05	5.465E-05
AG	1.439E+00	5.224E-01	1.897E-01	9.078E-03	5.737E-05	1.333E-08	9.099E-09	3.055E-09	6.696E-11	3.119E-32	0.0	0.0
CD	1.091E-01	2.682E-02	2.531E-02	2.195E-02	1.731E-02	6.691E-03	2.405E-04	1.796E-08	6.468E-23	0.0	0.0	0.0
IN	2.804E-04	1.672E-06	1.000E-08	9.607E-15	7.441E-15	7.441E-15	7.441E-15	7.441E-15	7.441E-15	7.441E-15	7.441E-15	7.441E-15
SN	9.204E-01	1.474E-01	2.733E-02	9.902E-04	4.809E-04	4.565E-04	4.142E-04	3.896E-04	3.861E-04	3.627E-04	1.944E-04	6.874E-05
SB	6.832E+00	5.233E+00	4.073E+00	1.923E+00	5.506E-01	4.135E-03	4.429E-04	4.423E-04	4.401E-04	4.135E-04	2.216E-04	7.836E-05
TE	8.856E+00	1.838E+00	1.049E+00	4.691E-01	1.342E-01	9.007E-04	2.223E-11	1.117E-15	1.117E-15	1.117E-15	1.117E-15	1.117E-15
I	5.929E-07	2.224E-08	2.224E-08	2.224E-08	2.224E-08	2.224E-08	2.224E-08	2.224E-08	2.224E-08	2.223E-08	2.214E-08	2.200E-08
XE	1.126E-07	7.226E-17	4.148E-26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	1.191E+02	9.867E+01	8.375E+01	5.856E+01	4.332E+01	2.582E+01	5.122E+00	5.058E-02	1.725E-04	1.720E-04	1.674E-04	1.600E-04
BA	4.899E+01	4.772E+01	4.663E+01	4.351E+01	3.876E+01	2.442E+01	4.845E+00	4.769E-02	4.510E-09	0.0	0.0	0.0
LA	1.714E-01	4.334E-10	5.465E-14	5.465E-14	5.465E-14	5.465E-14	5.465E-14	5.465E-14	5.465E-14	5.465E-14	5.465E-14	5.465E-14
CE	4.540E+02	1.751E+02	7.184E+01	4.955E+00	5.782E-02	1.458E-08	1.352E-08	1.352E-08	1.352E-08	1.352E-08	1.352E-08	1.352E-08
PR	4.319E+02	1.772E+02	7.270E+01	5.025E+00	5.852E-02	1.075E-09	0.0	0.0	0.0	0.0	0.0	0.0
ND	1.462E-02	2.390E-12	7.536E-13	7.784E-13	7.802E-13	7.802E-13	7.802E-13	7.802E-13	7.802E-13	7.802E-13	7.802E-13	7.802E-13
PM	6.243E+01	4.714E+01	3.619E+01	1.638E+01	4.371E+00	2.219E-02	2.061E-10	0.0	0.0	0.0	0.0	0.0
SM	1.799E-01	1.785E-01	1.771E-01	1.731E-01	1.665E-01	1.427E-01	8.326E-02	1.784E-02	8.115E-05	2.302E-09	2.302E-09	2.302E-09
EU	8.148E+00	7.292E+00	6.587E+00	4.879E+00	3.003E+00	4.955E-01	1.609E-03	7.662E-10	1.949E-25	0.0	0.0	0.0
GD	1.425E-02	5.007E-03	1.759E-03	7.627E-05	4.087E-07	5.245E-16	2.091E-16	2.096E-16	2.096E-16	2.096E-16	2.096E-16	2.096E-16
TB	1.092E-01	3.293E-03	9.930E-05	2.722E-09	6.782E-17	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	1.173E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	1.266E-06	1.266E-06	1.265E-06	1.263E-06	1.259E-06	1.245E-06	1.195E-06	1.065E-06	7.107E-07	3.927E-09	1.041E-31	0.0
ER	1.130E-09	2.270E-21	4.562E-33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	1.112E-05	1.755E-06	3.866E-07	6.050E-08	9.856E-09	7.210E-12	7.635E-23	0.0	0.0	0.0	0.0	0.0
TOTAL	2.463E+03	1.010E+03	6.443E+02	3.349E+02	2.392E+02	1.161E+02	1.734E+01	1.829E-01	9.617E-03	9.270E-03	7.115E-03	4.847E-03

TABLE A.59. CURIES OF PRINCIPAL FISSION PRODUCT NUCLIDES IN PWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H 3	1.600E+02	1.512E+02	1.430E+02	1.208E+02	9.126E+01	2.970E+01	5.838E-01	7.777E-06	6.711E-23	0.0	0.0	0.0
SE 79	2.046E-04	2.046E-04	2.046E-04	2.046E-04	2.046E-04	2.046E-04	2.044E-04	2.040E-04	2.025E-04	1.839E-04	7.040E-05	1.421E-05
SR 90	3.619E+01	3.534E+01	3.451E+01	3.213E+01	2.853E+01	1.772E+01	3.349E+00	2.871E-02	1.667E-09	0.0	0.0	0.0
Y 90	3.520E+01	3.535E+01	3.452E+01	3.214E+01	2.853E+01	1.773E+01	3.350E+00	2.871E-02	1.668E-09	0.0	0.0	0.0
Y 91	8.694E+01	1.148E+00	1.516E-02	3.490E-06	1.401E-17	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZR 93	9.032E-04	9.032E-04	9.032E-04	9.032E-04	9.032E-04	9.032E-04	9.032E-04	9.031E-04	9.028E-04	8.991E-04	8.632E-04	8.065E-04
NB 93M	7.261E-05	1.116E-04	1.487E-04	2.493E-04	3.862E-04	6.876E-04	8.532E-04	8.580E-04	8.577E-04	8.542E-04	8.201E-04	7.662E-04
ZR 95	1.457E+02	2.786E+00	5.328E-02	3.725E-07	9.522E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 95	2.809E+02	6.370E+00	1.226E-01	8.270E-07	2.114E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC 99	6.538E-03	6.538E-03	6.538E-03	6.538E-03	6.538E-03	6.537E-03	6.536E-03	6.532E-03	6.517E-03	6.329E-03	4.722E-03	2.898E-03
RU106	2.154E+02	1.083E+02	5.444E+01	6.918E+00	2.222E-01	2.366E-07	2.945E-28	0.0	0.0	0.0	0.0	0.0
RH106	2.154E+02	1.083E+02	5.444E+01	6.918E+00	2.222E-01	2.366E-07	2.945E-28	0.0	0.0	0.0	0.0	0.0
PD107	5.613E-05	5.613E-05	5.613E-05	5.613E-05	5.613E-05	5.613E-05	5.613E-05	5.613E-05	5.612E-05	5.607E-05	5.553E-05	5.368E-05
SB125	6.719E+00	5.231E+00	4.073E+00	1.923E+00	5.501E-01	3.692E-03	9.111E-11	0.0	0.0	0.0	0.0	0.0
TE125M	1.598E+00	1.276E+00	9.938E-01	4.691E-01	1.342E-01	9.007E-04	2.223E-11	0.0	0.0	0.0	0.0	0.0
SN126	3.888E-04	3.888E-04	3.888E-04	3.888E-04	3.888E-04	3.887E-04	3.885E-04	3.880E-04	3.861E-04	3.627E-04	1.944E-04	6.874E-05
SB126	1.338E-04	5.443E-05	5.443E-05	5.443E-05	5.443E-05	5.442E-05	5.439E-05	5.432E-05	5.405E-05	5.078E-05	2.722E-05	9.623E-06
SB126M	3.888E-04	3.888E-04	3.888E-04	3.888E-04	3.888E-04	3.887E-04	3.885E-04	3.880E-04	3.861E-04	3.627E-04	1.944E-04	6.874E-05
CS134	6.749E+01	4.822E+01	3.446E+01	1.257E+01	2.341E+00	2.844E-03	1.715E-13	0.0	0.0	0.0	0.0	0.0
CS135	1.725E-04	1.725E-04	1.725E-04	1.725E-04	1.725E-04	1.725E-04	1.725E-04	1.725E-04	1.725E-04	1.720E-04	1.674E-04	1.600E-04
CS137	5.163E+01	5.045E+01	4.930E+01	4.599E+01	4.098E+01	2.581E+01	5.122E+00	5.041E-02	4.767E-09	0.0	0.0	0.0
BA137M	4.884E+01	4.772E+01	4.663E+01	4.351E+01	3.876E+01	2.442E+01	4.848E+00	4.769E-02	4.510E-09	0.0	0.0	0.0
CE144	4.265E+02	1.750E+02	7.184E+01	4.965E+00	5.782E-02	1.062E-09	0.0	0.0	0.0	0.0	0.0	0.0
PR144	4.265E+02	1.751E+02	7.184E+01	4.966E+00	5.783E-02	1.062E-09	0.0	0.0	0.0	0.0	0.0	0.0
PR144M	5.118E+00	2.101E+00	8.621E-01	5.959E-02	6.939E-04	1.274E-11	0.0	0.0	0.0	0.0	0.0	0.0
PM147	6.139E+01	4.713E+01	3.619E+01	1.636E+01	4.371E+00	2.219E-02	2.061E-10	0.0	0.0	0.0	0.0	0.0
SM151	1.799E-01	1.785E-01	1.771E-01	1.731E-01	1.665E-01	1.427E-01	8.326E-02	1.784E-02	8.114E-05	0.0	0.0	0.0
EU154	5.040E+00	4.650E+00	4.290E+00	3.369E+00	2.251E+00	4.491E-01	1.591E-03	1.586E-10	0.0	0.0	0.0	0.0
EU155	3.035E+00	2.639E+00	2.295E+00	1.509E+00	7.501E-01	4.582E-02	2.582E-06	1.869E-18	0.0	0.0	0.0	0.0
SUMTOT	2.281E+03	1.008E+03	6.440E+02	3.348E+02	2.392E+02	1.161E+02	1.734E+01	1.829E-01	9.616E-03	9.270E-03	7.115E-03	4.847E-03
TOTAL	2.463E+03	1.010E+03	6.443E+02	3.349E+02	2.392E+02	1.161E+02	1.734E+01	1.829E-01	9.617E-03	9.270E-03	7.115E-03	4.847E-03

TABLE A.60. WATTS OF FISSION PRODUCT ELEMENTS IN PWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	5.386E-03	5.092E-03	4.814E-03	4.068E-03	3.073E-03	9.999E-04	1.965E-05	2.618E-10	2.260E-27	0.0	0.0	0.0
BE	1.724E-12	1.724E-12	1.724E-12	1.724E-12	1.724E-12	1.724E-12	1.724E-12	1.724E-12	1.724E-12	1.717E-12	1.651E-12	1.547E-12
C	8.509E-16	8.508E-16	8.507E-16	8.504E-16	8.499E-16	8.479E-16	8.407E-16	8.206E-16	7.540E-16	2.538E-16	4.738E-21	6.225E-29
CU	2.532E-35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	5.095E-08	5.095E-08	5.095E-08	5.095E-08	5.094E-08	5.093E-08	5.089E-08	5.079E-08	5.041E-08	4.579E-08	1.753E-08	3.537E-09
KR	2.723E-07	2.553E-07	2.393E-07	1.971E-07	1.427E-07	3.915E-08	4.236E-10	1.041E-15	1.536E-17	1.491E-17	1.108E-17	6.750E-18
RB	1.170E-05	2.388E-11	8.915E-12	8.915E-12	8.915E-12	8.915E-12	8.915E-12	8.915E-12	8.915E-12	8.915E-12	8.915E-12	8.915E-12
SR	2.103E-01	4.214E-02	4.006E-02	3.729E-02	3.311E-02	2.057E-02	3.887E-03	3.332E-05	1.935E-12	0.0	0.0	0.0
Y	5.129E-01	2.000E-01	1.914E-01	1.781E-01	1.581E-01	9.824E-02	1.856E-02	1.591E-04	9.243E-12	0.0	0.0	0.0
ZR	7.381E-01	1.411E-02	2.700E-04	1.068E-07	1.049E-07	1.049E-07	1.049E-07	1.049E-07	1.049E-07	1.045E-07	1.003E-07	9.370E-08
NB	1.349E+00	3.058E-02	5.884E-04	4.886E-08	6.915E-08	1.226E-07	1.519E-07	1.527E-07	1.527E-07	1.519E-07	1.453E-07	1.357E-07
MO	8.935E-18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC	3.279E-06	3.279E-06	3.279E-06	3.279E-06	3.279E-06	3.278E-06	3.278E-06	3.275E-06	3.268E-06	3.174E-06	2.368E-06	1.453E-06
RU	1.767E-01	6.695E-03	3.237E-03	4.113E-04	1.321E-05	1.406E-11	1.751E-32	0.0	0.0	0.0	0.0	0.0
RH	2.076E+00	1.039E+00	5.221E-01	6.635E-02	2.131E-03	2.269E-09	2.824E-30	0.0	0.0	0.0	0.0	0.0
PD	3.327E-09	3.327E-09	3.327E-09	3.327E-09	3.327E-09	3.327E-09	3.327E-09	3.327E-09	3.327E-09	3.324E-09	3.292E-09	3.240E-09
AG	2.385E-02	8.658E-03	3.144E-03	1.505E-04	9.508E-07	1.232E-10	8.405E-11	2.822E-11	6.185E-13	2.881E-34	0.0	0.0
CD	3.500E-04	4.572E-05	4.261E-05	3.694E-05	2.913E-05	1.126E-05	4.049E-07	3.024E-11	1.089E-25	0.0	0.0	0.0
IN	8.260E-07	4.940E-09	2.961E-11	1.710E-17	1.067E-17	1.067E-17	1.067E-17	1.067E-17	1.067E-17	1.067E-17	1.067E-17	1.067E-17
SN	2.664E-03	3.847E-04	5.796E-05	1.059E-06	6.655E-07	6.206E-07	5.360E-07	4.871E-07	4.815E-07	4.524E-07	2.425E-07	8.573E-08
SB	2.251E-02	1.638E-02	1.274E-02	6.016E-03	1.726E-03	1.750E-05	5.952E-06	5.943E-06	5.915E-06	5.557E-06	2.978E-06	1.053E-06
TE	1.051E-02	1.602E-03	8.871E-04	3.943E-04	1.128E-04	7.570E-07	1.869E-14	1.671E-19	1.671E-19	1.671E-19	1.671E-19	1.671E-19
I	1.965E-09	1.029E-11	1.029E-11	1.029E-11	1.029E-11	1.029E-11	1.029E-11	1.029E-11	1.029E-11	1.028E-11	1.024E-11	1.018E-11
XE	1.083E-10	6.952E-20	3.991E-29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	7.441E-01	5.466E-01	4.052E-01	1.788E-01	6.915E-02	2.858E-02	5.665E-03	5.581E-05	5.757E-08	5.741E-08	5.587E-08	5.340E-08
BA	1.922E-01	1.874E-01	1.831E-01	1.708E-01	1.522E-01	9.588E-02	1.902E-02	1.872E-04	1.771E-11	0.0	0.0	0.0
LA	2.873E-03	7.265E-12	9.415E-17	9.413E-17	9.413E-17	9.413E-17	9.413E-17	9.413E-17	9.413E-17	9.413E-17	9.413E-17	9.413E-17
CE	3.231E-01	1.161E-01	4.765E-02	3.294E-03	3.836E-05	7.044E-13	0.0	0.0	0.0	0.0	0.0	0.0
PR	3.137E+00	1.287E+00	5.283E-01	3.652E-02	4.253E-04	7.811E-12	0.0	0.0	0.0	0.0	0.0	0.0
ND	3.528E-09	4.040E-15	4.626E-25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM	3.498E-02	1.693E-02	1.298E-02	5.876E-03	1.568E-03	7.961E-06	7.392E-14	0.0	0.0	0.0	0.0	0.0
SM	2.109E-05	2.093E-05	2.077E-05	2.029E-05	1.952E-05	1.674E-05	9.762E-06	2.092E-06	9.546E-09	3.151E-11	3.151E-11	3.151E-11
EU	4.804E-02	4.353E-02	4.006E-02	3.124E-02	2.069E-02	4.055E-03	1.435E-05	6.025E-12	1.478E-27	0.0	0.0	0.0
GD	1.229E-05	4.316E-06	1.516E-06	6.573E-08	3.522E-10	2.757E-18	2.724E-18	2.732E-18	2.732E-18	2.732E-18	2.732E-18	2.731E-18
TB	8.896E-04	2.682E-05	8.087E-07	2.217E-11	5.524E-19	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	1.369E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	1.403E-08	1.402E-08	1.401E-08	1.399E-08	1.395E-08	1.379E-08	1.324E-08	1.180E-08	7.874E-09	4.350E-11	1.153E-33	0.0
ER	2.277E-12	4.576E-24	9.194E-36	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	2.140E-08	3.019E-09	4.434E-10	1.042E-11	1.528E-12	1.118E-15	1.184E-26	0.0	0.0	0.0	0.0	0.0
TOTAL	9.612E+00	3.562E+00	1.997E+00	7.194E-01	4.424E-01	2.484E-01	4.720E-02	4.476E-04	1.005E-05	9.546E-06	5.911E-06	2.882E-06

TABLE A.61. WATTS OF PRINCIPAL FISSION PRODUCT NUCLIDES IN PWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H 3	5.386E-03	5.092E-03	4.814E-03	4.068E-03	3.073E-03	9.999E-04	1.965E-05	2.618E-10	2.260E-27	0.0	0.0	0.0
SE 79	5.095E-08	5.095E-08	5.095E-08	5.095E-08	5.094E-08	5.093E-08	5.089E-08	5.079E-08	5.041E-08	4.579E-08	1.753E-08	3.537E-09
SR 90	4.200E-02	4.102E-02	4.005E-02	3.729E-02	3.311E-02	2.057E-02	3.887E-03	3.332E-05	1.935E-12	0.0	0.0	0.0
Y 90	2.006E-01	1.959E-01	1.913E-01	1.781E-01	1.581E-01	9.824E-02	1.856E-02	1.591E-04	9.243E-12	0.0	0.0	0.0
Y 91	3.122E-01	4.123E-03	5.444E-05	1.253E-10	5.031E-20	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZR 93	1.049E-07	1.049E-07	1.049E-07	1.049E-07	1.049E-07	1.049E-07	1.049E-07	1.045E-07	1.049E-07	1.045E-07	1.003E-07	9.370E-08
NB 93M	1.286E-08	1.978E-08	2.635E-08	4.417E-08	6.843E-08	1.219E-07	1.512E-07	1.520E-07	1.520E-07	1.513E-07	1.453E-07	1.357E-07
ZR 95	7.381E-01	1.411E-02	2.699E-04	1.887E-09	4.823E-18	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 95	1.347E+00	3.056E-02	5.879E-04	3.967E-09	1.014E-17	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC 99	3.279E-06	3.279E-06	3.279E-06	3.279E-06	3.279E-06	3.278E-06	3.278E-06	3.275E-06	3.268E-06	3.174E-06	2.368E-06	1.453E-06
RU106	1.280E-02	6.438E-03	3.237E-03	4.113E-04	1.321E-05	1.406E-11	1.751E-32	0.0	0.0	0.0	0.0	0.0
RH106	2.066E+00	1.038E+00	5.221E-01	6.635E-02	2.131E-03	2.269E-09	2.824E-30	0.0	0.0	0.0	0.0	0.0
PD107	3.327E-09	3.327E-09	3.327E-09	3.327E-09	3.327E-09	3.327E-09	3.327E-09	3.327E-09	3.327E-09	3.324E-09	3.292E-09	3.240E-09
AG110M	2.371E-02	8.609E-03	3.126E-03	1.496E-04	9.452E-07	1.498E-15	0.0	0.0	0.0	0.0	0.0	0.0
SB125	2.100E-02	1.635E-02	1.273E-02	6.010E-03	1.720E-03	1.154E-05	2.848E-13	0.0	0.0	0.0	0.0	0.0
SN126	4.849E-07	4.849E-07	4.849E-07	4.849E-07	4.848E-07	4.848E-07	4.845E-07	4.839E-07	4.815E-07	4.524E-07	2.425E-07	8.573E-08
SB126	2.472E-06	1.006E-06	1.006E-06	1.006E-06	1.006E-06	1.005E-06	1.005E-06	1.004E-06	9.987E-07	9.383E-07	5.029E-07	1.778E-07
SB126M	4.950E-06	4.950E-06	4.950E-06	4.950E-06	4.950E-06	4.949E-06	4.947E-06	4.940E-06	4.916E-06	4.619E-06	2.475E-06	8.752E-07
CS134	6.869E-01	4.908E-01	3.507E-01	1.279E-01	2.382E-02	2.694E-05	1.746E-15	0.0	0.0	0.0	0.0	0.0
CS135	5.758E-08	5.758E-08	5.758E-08	5.758E-08	5.758E-08	5.758E-08	5.758E-08	5.756E-08	5.757E-08	5.741E-08	5.587E-08	5.340E-08
CS137	5.710E-02	5.580E-02	5.453E-02	5.087E-02	4.532E-02	2.855E-02	5.665E-03	5.576E-05	5.273E-12	0.0	0.0	0.0
BA137M	1.918E-01	1.874E-01	1.831E-01	1.706E-01	1.522E-01	9.588E-02	1.902E-02	1.872E-04	1.771E-11	0.0	0.0	0.0
CE144	2.829E-01	1.161E-01	4.765E-02	3.294E-03	3.836E-05	7.044E-13	0.0	0.0	0.0	0.0	0.0	0.0
PR144	3.135E+00	1.287E+00	5.280E-01	3.650E-02	4.250E-04	7.806E-12	0.0	0.0	0.0	0.0	0.0	0.0
PM147	2.202E-02	1.691E-02	1.298E-02	5.876E-03	1.568E-03	7.961E-06	7.392E-14	0.0	0.0	0.0	0.0	0.0
SM151	2.109E-05	2.093E-05	2.077E-05	2.029E-05	1.952E-05	1.674E-05	9.762E-06	2.092E-06	9.514E-09	0.0	0.0	0.0
EU154	4.508E-02	4.159E-02	3.837E-02	3.013E-02	2.014E-02	4.017E-03	1.423E-05	1.421E-12	0.0	0.0	0.0	0.0
EU155	2.207E-03	1.919E-03	1.669E-03	1.097E-03	5.456E-04	3.333E-05	1.878E-09	1.360E-21	0.0	0.0	0.0	0.0
SUMTOT	9.192E+00	3.558E+00	1.995E+00	7.190E-01	4.423E-01	2.484E-01	4.719E-02	4.476E-04	1.004E-05	9.545E-06	5.911E-06	2.882E-06
TOTAL	9.612E+00	3.562E+00	1.997E+00	7.194E-01	4.424E-01	2.484E-01	4.720E-02	4.476E-04	1.005E-05	9.546E-06	5.911E-06	2.882E-06

TABLE A.62. PHOTONS FROM FISSION PRODUCTS IN PWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	2.391E+13	1.065E+13	5.879E+12	2.245E+12	1.633E+12	9.924E+11	1.880E+11	1.676E+09	3.502E+07	3.393E+07	2.542E+07	1.674E+07
2.500E-02	5.362E+12	2.390E+12	1.340E+12	5.113E+11	3.502E+11	2.057E+11	3.895E+10	3.495E+08	1.066E+07	1.014E+07	6.214E+06	2.929E+06
3.750E-02	5.435E+12	2.406E+12	1.301E+12	4.821E+11	3.413E+11	1.967E+11	3.699E+10	3.375E+08	2.968E+06	2.855E+06	1.965E+06	1.100E+06
5.750E-02	4.901E+12	2.214E+12	1.208E+12	4.422E+11	3.175E+11	1.919E+11	3.617E+10	3.184E+08	4.869E+06	4.639E+06	2.958E+06	1.485E+06
8.500E-02	3.422E+12	1.549E+12	8.274E+11	2.839E+11	1.965E+11	1.156E+11	2.177E+10	1.965E+08	8.184E+06	7.713E+06	4.306E+06	1.682E+06
1.250E-01	4.514E+12	1.757E+12	8.802E+11	2.516E+11	1.596E+11	8.127E+10	1.408E+10	1.221E+08	6.745E+05	6.428E+05	4.043E+05	1.963E+05
2.250E-01	2.964E+12	1.351E+12	7.228E+11	2.434E+11	1.678E+11	9.961E+10	1.859E+10	1.605E+08	7.910E+05	7.198E+05	4.000E+05	1.546E+05
3.750E-01	1.550E+12	7.314E+11	3.989E+11	1.303E+11	7.776E+10	4.290E+10	8.073E+09	8.491E+07	1.566E+07	1.471E+07	7.884E+06	2.788E+06
5.750E-01	1.034E+13	5.910E+12	4.333E+12	2.428E+12	1.643E+12	9.544E+11	1.888E+11	1.885E+09	3.477E+07	3.266E+07	1.750E+07	6.189E+06
8.500E-01	1.679E+13	2.151E+12	1.299E+12	4.895E+11	1.273E+11	1.490E+10	1.332E+09	1.297E+07	1.782E+06	1.638E+06	8.763E+05	3.098E+05
1.250E+00	6.216E+11	3.626E+11	2.386E+11	1.051E+11	5.285E+10	1.105E+10	4.617E+08	4.111E+06	4.232E+05	3.968E+05	2.127E+05	7.520E+04
1.750E+00	7.101E+10	3.090E+10	1.591E+10	3.732E+09	1.643E+09	4.402E+08	3.451E+07	2.875E+05	1.802E+01	1.692E+01	9.067E+00	3.206E+00
2.250E+00	1.325E+11	5.517E+10	2.318E+10	1.774E+09	2.839E+07	1.955E+04	3.692E+03	3.165E+01	2.117E-06	2.791E-07	2.791E-07	2.791E-07
2.750E+00	2.031E+09	9.053E+08	4.511E+08	5.627E+07	1.782E+06	1.882E+00	1.399E-07	1.399E-07	1.399E-07	1.399E-07	1.399E-07	1.398E-07
3.500E+00	2.256E+08	1.125E+08	5.658E+07	7.191E+06	2.310E+05	2.459E-01	1.030E-07	1.030E-07	1.030E-07	1.030E-07	1.030E-07	1.030E-07
5.000E+00	2.774E-08	2.842E-08	2.894E-08	2.938E-08	3.045E-08	3.066E-08	3.066E-08	3.066E-08	3.066E-08	3.066E-08	3.066E-08	3.066E-08
7.000E+00	1.800E-09	1.844E-09	1.878E-09	1.939E-09	1.976E-09	1.989E-09	1.990E-09	1.990E-09	1.990E-09	1.990E-09	1.989E-09	1.989E-09
1.100E+01	1.138E-10	1.166E-10	1.188E-10	1.226E-10	1.250E-10	1.258E-10	1.258E-10	1.258E-10	1.258E-10	1.258E-10	1.258E-10	1.258E-10
TOTAL	8.002E+13	3.156E+13	1.847E+13	7.618E+12	5.068E+12	2.908E+12	5.533E+11	5.151E+09	1.158E+08	1.100E+08	6.814E+07	3.365E+07
MEV/SEC	2.451E+13	7.227E+12	4.707E+12	2.204E+12	1.290E+12	6.730E+11	1.284E+11	1.267E+09	3.005E+07	2.822E+07	1.532E+07	5.615E+06

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS= METRIC TON OF INITIAL HEAVY METAL AT A REPROCESSING TIME OF 160 DAYS

EMEAN	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	3.586E+05	1.597E+05	8.818E+04	3.367E+04	2.449E+04	1.490E+04	2.821E+03	2.514E+01	5.252E-01	5.090E-01	3.812E-01	2.511E-01
2.500E-02	1.340E+05	5.974E+04	3.349E+04	1.278E+04	8.755E+03	5.144E+03	9.739E+02	8.736E+00	2.666E-01	2.534E-01	1.553E-01	7.322E-02
3.750E-02	2.038E+05	9.024E+04	4.880E+04	1.808E+04	1.280E+04	7.376E+03	1.387E+03	1.266E+01	1.113E-01	1.071E-01	7.368E-02	4.126E-02
5.750E-02	2.818E+05	1.273E+05	6.944E+04	2.543E+04	1.826E+04	1.103E+04	2.080E+03	1.831E+01	2.800E-01	2.667E-01	1.701E-01	8.537E-02
8.500E-02	2.909E+05	1.317E+05	7.033E+04	2.413E+04	1.671E+04	9.824E+03	1.851E+03	1.670E+01	6.957E-01	6.556E-01	3.660E-01	1.430E-01
1.250E-01	5.643E+05	2.196E+05	1.100E+05	3.145E+04	1.995E+04	1.016E+04	1.760E+03	1.526E+01	8.431E-02	8.035E-02	5.054E-02	2.479E-02
2.250E-01	6.669E+05	3.040E+05	1.626E+05	5.477E+04	3.775E+04	2.241E+04	4.183E+03	3.615E+01	1.780E-01	1.620E-01	8.999E-02	3.479E-02
3.750E-01	5.814E+05	2.743E+05	1.496E+05	4.886E+04	2.916E+04	1.609E+04	3.027E+03	3.184E+01	5.873E+00	5.517E+00	2.956E+00	1.045E+00
5.750E-01	5.947E+06	3.398E+06	2.492E+06	1.396E+06	9.446E+05	5.488E+05	1.086E+05	1.086E+03	1.999E+01	1.878E+01	1.006E+01	3.559E+00
8.500E-01	1.427E+07	1.828E+06	1.104E+06	4.161E+05	1.082E+05	1.266E+04	1.132E+03	1.103E+01	1.514E+00	1.393E+00	7.448E-01	2.633E-01
1.250E+00	7.770E+05	4.533E+05	2.982E+05	1.314E+05	6.607E+04	1.381E+04	5.771E+02	5.139E+00	5.290E-01	4.961E-01	2.658E-01	9.400E-02
1.750E+00	1.243E+05	5.407E+04	2.785E+04	6.531E+03	2.876E+03	7.704E+02	6.039E+01	5.037E-01	3.154E-05	2.961E-05	1.587E-05	5.610E-06
2.250E+00	2.981E+05	1.241E+05	5.216E+04	3.991E+03	6.368E+01	4.399E-02	8.308E-03	7.122E-05	4.764E-12	6.280E-13	6.280E-13	6.280E-13
2.750E+00	5.585E+03	2.490E+03	1.240E+03	1.547E+02	4.900E+00	5.174E-06	3.846E-13	3.846E-13	3.846E-13	3.846E-13	3.846E-13	3.846E-13
3.500E+00	7.896E+02	3.939E+02	1.980E+02	2.517E+01	8.084E-01	8.606E-07	3.605E-13	3.605E-13	3.605E-13	3.605E-13	3.605E-13	3.604E-13
5.000E+00	1.387E-13	1.421E-13	1.447E-13	1.494E-13	1.523E-13	1.533E-13	1.533E-13	1.533E-13	1.533E-13	1.533E-13	1.533E-13	1.533E-13
7.000E+00	1.260E-14	1.291E-14	1.315E-14	1.357E-14	1.383E-14	1.393E-14	1.393E-14	1.393E-14	1.393E-14	1.393E-14	1.393E-14	1.393E-14
1.100E+01	1.252E-15	1.283E-15	1.306E-15	1.349E-15	1.375E-15	1.384E-15	1.384E-15	1.384E-15	1.384E-15	1.384E-15	1.384E-15	1.384E-15
TOTAL	2.451E+07	7.227E+06	4.707E+06	2.204E+06	1.290E+06	6.730E+05	1.284E+05	1.267E+03	3.005E+01	2.822E+01	1.532E+01	5.615E+00
GAM POW	3.929E+00	1.158E+00	7.546E-01	3.532E-01	2.067E-01	1.079E-01	2.059E-02	2.031E-04	4.817E-06	4.524E-06	2.456E-06	9.001E-07

APPENDIX B: CHARACTERIZATION OF BWR SPENT FUEL, HIGH-LEVEL WASTE, AND FUEL-ASSEMBLY STRUCTURAL MATERIAL WASTE

Appendix B.1: Characteristics of BWR Spent Fuel

TABLE B.1. GRAMS OF ACTIVATION PRODUCT ELEMENTS IN BWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	7.426E+00	7.425E+00	7.423E+00	7.419E+00	7.415E+00	7.404E+00	7.399E+00	7.399E+00	7.399E+00	7.399E+00	7.399E+00	7.399E+00
HE	1.669E+00	1.670E+00	1.672E+00	1.675E+00	1.680E+00	1.691E+00	1.695E+00	1.696E+00	1.696E+00	1.696E+00	1.696E+00	1.696E+00
LI	1.099E+00	1.099E+00	1.099E+00	1.099E+00	1.099E+00	1.099E+00	1.099E+00	1.099E+00	1.099E+00	1.099E+00	1.099E+00	1.099E+00
BE	8.024E-04	8.024E-04	8.024E-04	8.024E-04	8.024E-04	8.024E-04	8.024E-04	8.024E-04	8.024E-04	8.022E-04	8.005E-04	7.977E-04
B	9.966E-01	9.966E-01	9.966E-01	9.966E-01	9.966E-01	9.966E-01	9.966E-01	9.966E-01	9.966E-01	9.966E-01	9.966E-01	9.966E-01
C	2.035E+02	2.035E+02	2.035E+02	2.035E+02	2.035E+02	2.035E+02	2.035E+02	2.035E+02	2.035E+02	2.033E+02	2.031E+02	2.031E+02
N	1.390E+02	1.390E+02	1.390E+02	1.390E+02	1.390E+02	1.390E+02	1.390E+02	1.390E+02	1.390E+02	1.393E+02	1.394E+02	1.394E+02
O	1.350E+05	1.350E+05	1.350E+05	1.350E+05	1.350E+05	1.350E+05	1.350E+05	1.350E+05	1.350E+05	1.350E+05	1.350E+05	1.350E+05
F	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01
NE	3.635E-04	3.635E-04	3.635E-04	3.635E-04	3.635E-04	3.635E-04	3.635E-04	3.635E-04	3.635E-04	3.635E-04	3.635E-04	3.635E-04
NA	1.497E+01	1.497E+01	1.497E+01	1.497E+01	1.497E+01	1.497E+01	1.497E+01	1.497E+01	1.497E+01	1.497E+01	1.497E+01	1.497E+01
MG	2.032E+00	2.032E+00	2.032E+00	2.032E+00	2.032E+00	2.032E+00	2.032E+00	2.032E+00	2.032E+00	2.032E+00	2.032E+00	2.032E+00
AL	5.060E+01	5.060E+01	5.060E+01	5.060E+01	5.060E+01	5.060E+01	5.060E+01	5.060E+01	5.060E+01	5.060E+01	5.060E+01	5.060E+01
SI	5.178E+02	5.178E+02	5.178E+02	5.178E+02	5.178E+02	5.178E+02	5.178E+02	5.178E+02	5.178E+02	5.178E+02	5.178E+02	5.178E+02
P	5.744E+01	5.744E+01	5.744E+01	5.744E+01	5.744E+01	5.744E+01	5.744E+01	5.744E+01	5.744E+01	5.744E+01	5.744E+01	5.744E+01
S	3.495E+01	3.495E+01	3.495E+01	3.495E+01	3.495E+01	3.495E+01	3.495E+01	3.495E+01	3.495E+01	3.495E+01	3.495E+01	3.495E+01
CL	5.308E+00	5.308E+00	5.309E+00	5.309E+00	5.309E+00	5.309E+00	5.308E+00	5.308E+00	5.303E+00	5.301E+00	5.240E+00	5.162E+00
AR	1.303E-03	1.300E-03	1.300E-03	1.303E-03	1.307E-03	1.322E-03	1.374E-03	1.525E-03	2.053E-03	8.774E-03	6.886E-02	1.451E-01
K	4.573E-04	4.573E-04	4.573E-04	4.573E-04	4.574E-04	4.578E-04	4.590E-04	4.623E-04	4.726E-04	5.919E-04	1.391E-03	1.889E-03
CA	2.000E+00	1.999E+00	1.999E+00	1.999E+00	1.999E+00	1.999E+00	1.999E+00	1.999E+00	1.999E+00	1.999E+00	1.999E+00	1.998E+00
SC	1.025E-04	9.486E-05	9.761E-05	9.859E-05	9.860E-05	9.860E-05	9.860E-05	9.860E-05	9.860E-05	9.860E-05	9.860E-05	9.860E-05
TI	3.949E+01	3.949E+01	3.949E+01	3.949E+01	3.949E+01	3.949E+01	3.949E+01	3.949E+01	3.949E+01	3.949E+01	3.949E+01	3.949E+01
V	1.815E+01	1.833E+01	1.833E+01	1.833E+01	1.833E+01	1.833E+01	1.833E+01	1.833E+01	1.833E+01	1.833E+01	1.833E+01	1.833E+01
CR	1.083E+04	1.083E+04	1.083E+04	1.083E+04	1.083E+04	1.083E+04	1.083E+04	1.083E+04	1.083E+04	1.083E+04	1.083E+04	1.083E+04
MN	1.012E+03	1.012E+03	1.012E+03	1.013E+03	1.013E+03	1.013E+03	1.013E+03	1.013E+03	1.013E+03	1.013E+03	1.013E+03	1.013E+03
FE	3.625E+04	3.625E+04	3.625E+04	3.625E+04	3.625E+04	3.625E+04	3.625E+04	3.625E+04	3.625E+04	3.625E+04	3.625E+04	3.625E+04
CO	6.233E+01	6.196E+01	6.168E+01	6.103E+01	6.038E+01	5.973E+01	5.969E+01	5.971E+01	5.981E+01	6.095E+01	6.861E+01	7.333E+01
NI	6.310E+03	6.311E+03	6.311E+03	6.312E+03	6.312E+03	6.312E+03	6.312E+03	6.310E+03	6.310E+03	6.309E+03	6.301E+03	6.297E+03
CU	1.568E+01	1.571E+01	1.573E+01	1.580E+01	1.590E+01	1.627E+01	1.719E+01	1.823E+01	1.852E+01	1.852E+01	1.852E+01	1.852E+01
ZN	4.031E+01	4.030E+01	4.030E+01	4.030E+01	4.030E+01	4.030E+01	4.030E+01	4.030E+01	4.030E+01	4.030E+01	4.030E+01	4.030E+01
GA	2.980E-02	2.980E-02	2.980E-02	2.980E-02	2.980E-02	2.980E-02	2.980E-02	2.980E-02	2.980E-02	2.980E-02	2.980E-02	2.980E-02
GE	1.761E-04	1.761E-04	1.761E-04	1.761E-04	1.761E-04	1.761E-04	1.761E-04	1.761E-04	1.761E-04	1.761E-04	1.761E-04	1.761E-04
AS	3.355E-15	3.356E-15	3.356E-15	3.356E-15	3.356E-15	3.356E-15	3.356E-15	3.356E-15	3.356E-15	3.356E-15	3.356E-15	3.356E-15
SE	2.697E-17	2.724E-17	2.724E-17	2.724E-17	2.724E-17	2.724E-17	2.724E-17	2.724E-17	2.724E-17	2.724E-17	2.724E-17	2.724E-17
SR	4.590E-01	4.563E-01	4.563E-01	4.563E-01	4.563E-01	4.563E-01	4.563E-01	4.563E-01	4.563E-01	4.563E-01	4.563E-01	4.563E-01
Y	4.500E-02	3.449E-02	3.440E-02	3.440E-02	3.440E-02	3.440E-02	3.440E-02	3.440E-02	3.440E-02	3.440E-02	3.440E-02	3.440E-02
ZR	5.519E+05	5.519E+05	5.519E+05	5.519E+05	5.519E+05	5.519E+05	5.519E+05	5.519E+05	5.519E+05	5.519E+05	5.519E+05	5.519E+05
NB	1.906E+02	1.884E+02	1.883E+02	1.883E+02	1.883E+02	1.883E+02	1.883E+02	1.883E+02	1.883E+02	1.884E+02	1.922E+02	2.000E+02
MO	2.121E+02	2.185E+02	2.187E+02	2.187E+02	2.187E+02	2.187E+02	2.187E+02	2.187E+02	2.187E+02	2.192E+02	2.203E+02	2.204E+02
TC	7.519E-02	7.555E-02	7.555E-02	7.555E-02	7.555E-02	7.554E-02	7.552E-02	7.547E-02	7.530E-02	7.313E-02	5.456E-02	3.349E-02
RU	4.522E-02	4.522E-02	4.522E-02	4.522E-02	4.523E-02	4.523E-02	4.525E-02	4.530E-02	4.547E-02	4.764E-02	6.621E-02	8.728E-02
RH	1.615E-07	1.987E-07	1.988E-07	1.988E-07	1.988E-07	1.988E-07	1.988E-07	1.988E-07	1.988E-07	1.988E-07	1.988E-07	1.988E-07
PD	2.293E-04	2.316E-04	2.339E-04	2.406E-04	2.517E-04	2.929E-04	4.064E-04	5.684E-04	6.485E-04	6.503E-04	6.503E-04	6.503E-04
AG	6.563E-02	6.539E-02	6.530E-02	6.525E-02	6.523E-02	6.519E-02	6.506E-02	6.488E-02	6.480E-02	6.479E-02	6.479E-02	6.479E-02
CD	2.500E+01	2.500E+01	2.500E+01	2.500E+01	2.500E+01	2.500E+01	2.500E+01	2.500E+01	2.500E+01	2.500E+01	2.500E+01	2.500E+01
IN	4.987E-01	4.958E-01	4.958E-01	4.958E-01	4.958E-01	4.958E-01	4.958E-01	4.958E-01	4.958E-01	4.958E-01	4.958E-01	4.958E-01
SN	9.017E+03	9.017E+03	9.017E+03	9.017E+03	9.017E+03	9.017E+03	9.017E+03	9.017E+03	9.017E+03	9.017E+03	9.017E+03	9.017E+03
SB	7.299E+00	6.658E+00	6.085E+00	5.006E+00	4.318E+00	4.048E+00	4.055E+00	4.060E+00	4.061E+00	4.061E+00	4.061E+00	4.061E+00
TE	1.561E+00	2.314E+00	2.896E+00	3.977E+00	4.667E+00	4.942E+00	4.944E+00	4.944E+00	4.944E+00	4.944E+00	4.944E+00	4.944E+00
I	1.282E-04	1.325E-04	1.329E-04	1.330E-04	1.330E-04	1.330E-04	1.330E-04	1.330E-04	1.330E-04	1.330E-04	1.330E-04	1.330E-04
XE	3.221E-06	3.222E-06	3.222E-06	3.222E-06	3.222E-06	3.222E-06	3.222E-06	3.222E-06	3.222E-06	3.222E-06	3.222E-06	3.222E-06
CS	1.192E-17	1.276E-17	1.271E-17	1.262E-17	1.258E-17	1.257E-17	1.257E-17	1.257E-17	1.257E-17	1.257E-17	1.257E-17	1.257E-17
BA	2.191E-20	1.005E-19	1.567E-19	2.460E-19	2.877E-19	2.972E-19	2.972E-19	2.972E-19	2.972E-19	2.972E-19	2.975E-19	2.979E-19
PR	5.171E-23	4.054E-31	3.179E-39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ND	8.034E-14	8.033E-14	8.033E-14	8.033E-14	8.033E-14	8.033E-14	8.033E-14	8.033E-14	8.033E-14	8.033E-14	8.033E-14	8.033E-14
PM	1.249E-09	6.742E-17	5.176E-17	2.343E-17	6.253E-18	3.178E-20	2.951E-28	0.0	0.0	0.0	0.0	0.0
SM	1.265E-05	1.264E-05	1.264E-05	1.263E-05	1.262E-05	1.259E-05	1.251E-05	1.243E-05	1.240E-05	1.240E-05	1.240E-05	1.240E-05
EU	1.916E+00	2.091E+00	2.127E+00	2.026E+00	1.858E+00	1.613E+00	1.560E+00	1.560E+00	1.560E+00	1.560E+00	1.560E+00	1.560E+00
GD	1.538E+03	1.538E+03	1.538E+03	1.538E+03	1.538E+03	1.538E+03	1.538E+03	1.538E+03	1.538E+03	1.538E+03	1.538E+03	1.538E+03
TB	2.273E+01	2.210E+01	2.209E+01	2.209E+01	2.209E+01	2.209E+01	2.209E+01	2.209E+01	2.209E+01	2.209E+01	2.209E+01	2.209E+01
DY	5.964E+00	6.620E+00	6.638E+00	6.639E+00	6.639E+00	6.639E+00	6.639E+00	6.639E+00	6.639E+00	6.639E+00	6.639E+00	6.639E+00
HO	1.002E-01	1.002E-01	1.002E-01	1.002E-01	1.002E-01	1.002E-01	1.002E-01	1.001E-01	9.996E-02	9.966E-02	9.966E-02	9.966E-02
ER	1.182E-02	1.193E-02	1.193E-02	1.193E-02	1.193E-02	1.194E-02	1.196E-02	1.202E-02	1.217E-02	1.247E-02	1.247E-02	1.247E-02
TM	4.414E-07	4.653E-07	4.608E-07	4.596E-07	4.595E-07	4.594E-07	4.594E-07	4.594E-07	4.594E-07	4.594E-07	4.594E-07	4.594E-07
YB	2.311E-08	5.358E-08	5.808E-08	5.922E-08	5.942E-08	5.945E-08	5.945E-08	5.945E-08	5.945E-08	5.945E-08	5.945E-08	5.945E-08
LU	3.112E-02	3.397E-02	3.405E-02	3.405E-02	3.405E-02	3.405E-02	3.405E-02	3.405E-02	3.405E-02	3.405E-02	3.405E-02	3.405E-02
HF	4.336E+01	4.330E+01	4.330E+01	4.330E+01	4.330E+01	4.330E+01	4.330E+01	4.330E+01	4.330E+01	4.330E+01	4.330E+01	4.330E+01
TA	6.313E-01	6.771E-01	6.761E-01	6.760E-01	6.760E-01	6.760E-01	6.760E-01	6.760E-01	6.760E-01	6.760E-01	6.760E-01	6.760E-01
W	1.225E+01	1.225E+01	1.225E+01	1.225E+01	1.225E+01	1.225E+01	1.225E+01	1.225E+01	1.225E+01	1.225E+01	1.225E+01	1.225E+01
RE	9.359E-01	9.923E-01	9.924E-01	9.924E-01	9.924E-01	9.924E-01	9.924E-01	9.924E-01	9.924E-01	9.924E-01	9.924E-01	9.924E-01
OS	1.778E-01	1.785E-01	1.785E-01	1.785E-01	1.785E-01	1.785E-01	1.785E-01	1.785E-01	1.785E-01	1.785E-01	1.785E-01	1.785E-01
IR	2.917E-06	2.852E-06	2.835E-06	2.835E-06	2.835E-06	2.835E-06	2.836E-06	2.837E-06	2.840E-06	2.842E-06	2.842E-06	2.842E-06
PT	7.724E-07	1.256E-06	1.272E-06	1.272E-06	1.272E-06	1.272E-06	1.271E-06	1.270E-06	1.267E-06	1.265E-06	1.265E-06	1.265E-06
AU	1.740E-16	1.755E-16	1.755E-16	1.755E-16	1.755E-16	1.755E-16	1.755E-16	1.755E-16	1.755E-16	1.755E-16	1.755E-16	1.755E-16
HG	1.614E-17	1.699E-17	1.705E-17	1.725E-17	1.759E-17	1.892E-17	2.359E-17	3.694E-17	8.367E-17	6.844E-16	6.692E-15	1.670E-14
TL	9.491E-13	1.629E-12	2.309E-12	4.348E-12	7.747E-12	2.134E-11	6.893E-11	2.045E-10	6.800E-10	6.798E-09	6.791E-08	1.695E-07
PB	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
BI	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01
PO	7.588E-06	1.267E-06	2.035E-07	8.411E-10	1.040E-13	1.415E-14	1.415E-14	1.415E-14	1.414E-14	1.411E-14	1.382E-14	1.335E-14
TOTAL	7.536E+05	7.536E+05	7.536E+05	7.536E+05	7.536E+05	7.536E+05	7.536E+05	7.536E+05	7.536E+05	7.536E+05	7.536E+05	7.536E+05

TABLE 8.2. GRAMS OF PRINCIPAL ACTIVATION PRODUCT NUCLIDES IN BWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
O 16	1.346E+05	1.346E+05	1.346E+05	1.346E+05	1.346E+05	1.346E+05	1.346E+05	1.346E+05	1.346E+05	1.346E+05	1.346E+05	1.346E+05
CR 52	9.051E+03	9.051E+03	9.051E+03	9.051E+03	9.051E+03	9.051E+03	9.051E+03	9.051E+03	9.051E+03	9.051E+03	9.051E+03	9.051E+03
CR 53	1.054E+03	1.054E+03	1.054E+03	1.054E+03	1.054E+03	1.054E+03	1.054E+03	1.054E+03	1.054E+03	1.054E+03	1.054E+03	1.054E+03
MN 55	1.012E+03	1.012E+03	1.012E+03	1.013E+03	1.013E+03	1.013E+03	1.013E+03	1.013E+03	1.013E+03	1.013E+03	1.013E+03	1.013E+03
FE 54	2.032E+03	2.032E+03	2.032E+03	2.032E+03	2.032E+03	2.032E+03	2.032E+03	2.032E+03	2.032E+03	2.032E+03	2.032E+03	2.032E+03
FE 56	3.327E+04	3.327E+04	3.327E+04	3.327E+04	3.327E+04	3.327E+04	3.327E+04	3.327E+04	3.327E+04	3.327E+04	3.327E+04	3.327E+04
FE 57	8.372E+02	8.372E+02	8.372E+02	8.372E+02	8.372E+02	8.372E+02	8.372E+02	8.372E+02	8.372E+02	8.372E+02	8.372E+02	8.372E+02
NI 58	4.235E+03	4.235E+03	4.235E+03	4.235E+03	4.235E+03	4.235E+03	4.235E+03	4.235E+03	4.235E+03	4.235E+03	4.235E+03	4.235E+03
NI 60	1.680E+03	1.680E+03	1.680E+03	1.681E+03	1.682E+03	1.682E+03	1.682E+03	1.682E+03	1.682E+03	1.682E+03	1.682E+03	1.682E+03
ZR 90	2.800E+05	2.800E+05	2.800E+05	2.800E+05	2.800E+05	2.800E+05	2.800E+05	2.800E+05	2.800E+05	2.800E+05	2.800E+05	2.800E+05
ZR 91	6.139E+04	6.139E+04	6.139E+04	6.139E+04	6.139E+04	6.139E+04	6.139E+04	6.139E+04	6.139E+04	6.139E+04	6.139E+04	6.139E+04
ZR 92	9.535E+04	9.535E+04	9.535E+04	9.535E+04	9.535E+04	9.535E+04	9.535E+04	9.535E+04	9.535E+04	9.535E+04	9.535E+04	9.535E+04
ZR 94	9.883E+04	9.883E+04	9.883E+04	9.883E+04	9.883E+04	9.883E+04	9.883E+04	9.883E+04	9.883E+04	9.883E+04	9.883E+04	9.883E+04
ZR 96	1.619E+04	1.619E+04	1.619E+04	1.619E+04	1.619E+04	1.619E+04	1.619E+04	1.619E+04	1.619E+04	1.619E+04	1.619E+04	1.619E+04
SN116	1.283E+03	1.283E+03	1.283E+03	1.283E+03	1.283E+03	1.283E+03	1.283E+03	1.283E+03	1.283E+03	1.283E+03	1.283E+03	1.283E+03
SN118	2.171E+03	2.171E+03	2.171E+03	2.171E+03	2.171E+03	2.171E+03	2.171E+03	2.171E+03	2.171E+03	2.171E+03	2.171E+03	2.171E+03
SN119	7.923E+02	7.941E+02	7.948E+02	7.951E+02	7.951E+02	7.951E+02	7.951E+02	7.951E+02	7.951E+02	7.951E+02	7.951E+02	7.951E+02
SN120	2.952E+03	2.952E+03	2.952E+03	2.952E+03	2.952E+03	2.952E+03	2.952E+03	2.952E+03	2.952E+03	2.952E+03	2.952E+03	2.952E+03
SUMTOT	7.468E+05	7.468E+05	7.468E+05	7.468E+05	7.468E+05	7.468E+05	7.468E+05	7.468E+05	7.468E+05	7.468E+05	7.468E+05	7.468E+05
TOTAL	7.536E+05	7.536E+05	7.536E+05	7.536E+05	7.536E+05	7.536E+05	7.536E+05	7.536E+05	7.536E+05	7.536E+05	7.536E+05	7.536E+05

TABLE B.3. CURIES OF ACTIVATION PRODUCT ELEMENTS IN BWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	2.626E+02	2.444E+02	2.311E+02	1.953E+02	1.475E+02	4.800E+01	9.436E-01	1.253E-05	1.005E-22	0.0	0.0	0.0
HE	1.758E-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LI	2.208E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BE	2.886E-06	1.023E-06	1.023E-06	1.023E-06	1.023E-06	1.023E-06	1.023E-06	1.023E-06	1.023E-06	1.019E-06	9.799E-07	9.182E-07
B	1.917E-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C	2.793E+01	1.620E+00	1.619E+00	1.619E+00	1.618E+00	1.614E+00	1.600E+00	1.562E+00	1.435E+00	4.831E-01	9.019E-06	1.185E-13
N	1.648E+02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
O	3.452E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F	3.402E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NE	1.013E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NA	3.790E+02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MG	6.089E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AL	2.082E+02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SI	4.577E+01	1.561E-08	1.560E-08	1.555E-08	1.546E-08	1.514E-08	1.405E-08	1.135E-08	5.381E-09	3.654E-13	0.0	0.0
P	1.348E+02	2.968E-06	1.561E-08	1.555E-08	1.547E-08	1.514E-08	1.405E-08	1.135E-08	5.381E-09	3.654E-13	0.0	0.0
S	2.699E+01	1.514E+00	8.524E-02	1.522E-05	8.612E-12	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CL	6.970E+00	1.105E-02	1.105E-02	1.105E-02	1.105E-02	1.105E-02	1.105E-02	1.104E-02	1.103E-02	1.089E-02	8.773E-03	6.214E-03
AR	3.780E-01	3.297E-04	5.560E-05	5.498E-05	5.427E-05	5.155E-05	4.304E-05	2.571E-05	4.234E-06	3.581E-16	0.0	0.0
K	7.440E-03	3.096E-09	3.096E-09	3.096E-09	3.096E-09	3.096E-09	3.096E-09	3.096E-09	3.096E-09	3.096E-09	3.095E-09	3.095E-09
CA	4.652E-01	8.933E-02	1.903E-02	3.529E-04	1.747E-04	1.746E-04	1.745E-04	1.742E-04	1.731E-04	1.603E-04	7.420E-05	2.056E-05
SC	2.562E+00	4.285E-02	2.088E-03	2.418E-07	6.650E-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TI	3.468E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	7.472E+02	8.055E-15	8.055E-15	8.055E-15	8.055E-15	8.055E-15	8.055E-15	8.055E-15	8.055E-15	8.055E-15	8.055E-15	8.055E-15
CR	1.661E+04	1.763E+00	1.897E-04	2.364E-16	3.410E-36	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MN	2.545E+04	2.056E+02	9.143E+01	8.046E+00	1.401E-01	1.287E-08	0.0	0.0	0.0	0.0	0.0	0.0
FE	4.079E+03	2.948E+03	2.258E+03	1.015E+03	2.676E+02	1.296E+00	1.019E-08	0.0	0.0	0.0	0.0	0.0
CO	9.899E+03	2.630E+03	2.272E+03	1.530E+03	7.928E+02	5.711E+01	5.728E-03	2.153E-14	0.0	0.0	0.0	0.0
NI	4.446E+02	1.746E+02	1.733E+02	1.694E+02	1.632E+02	1.405E+02	8.341E+01	1.939E+01	1.252E+00	1.071E+00	4.913E-01	1.339E-01
CU	4.492E+02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZN	2.097E+02	4.112E+01	1.456E+01	6.464E-01	3.620E-03	3.470E-12	0.0	0.0	0.0	0.0	0.0	0.0
GA	1.015E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GE	3.959E-03	1.755E-12	8.443E-22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AS	4.298E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SR	9.224E+01	5.152E-01	5.686E-03	2.118E-03	1.881E-03	1.168E-03	2.208E-04	1.889E-06	1.097E-13	0.0	0.0	0.0
Y	3.415E+03	2.585E+00	3.638E-02	2.119E-03	1.881E-03	1.169E-03	2.208E-04	1.891E-06	1.098E-13	0.0	0.0	0.0
ZR	2.200E+05	1.724E+03	3.327E+01	3.150E-01	3.147E-01	3.147E-01	3.147E-01	3.147E-01	3.146E-01	3.133E-01	3.008E-01	2.810E-01
NB	3.483E+05	3.890E+03	7.636E+01	3.997E-01	4.477E-01	5.545E-01	6.124E-01	6.120E-01	6.045E-01	5.224E-01	2.962E-01	2.671E-01
MO	1.443E+03	6.703E-03	6.702E-03	6.698E-03	6.691E-03	6.665E-03	6.573E-03	6.318E-03	5.500E-03	9.245E-04	1.665E-11	2.061E-24
TC	1.051E+02	1.281E-03	1.281E-03	1.281E-03	1.281E-03	1.281E-03	1.281E-03	1.280E-03	1.277E-03	1.240E-03	9.254E-04	5.680E-04
RU	1.212E-02	1.936E-05	3.045E-08	1.513E-15	4.467E-17	4.755E-23	5.919E-44	0.0	0.0	0.0	0.0	0.0
RH	3.381E-04	2.178E-14	1.095E-14	1.391E-15	4.469E-17	4.755E-23	5.919E-44	0.0	0.0	0.0	0.0	0.0
PD	4.601E-02	8.419E-12	8.419E-12	8.419E-12	8.419E-12	8.419E-12	8.419E-12	8.419E-12	8.419E-12	8.411E-12	8.330E-12	8.198E-12
AG	4.502E+01	6.697E-01	2.514E-01	2.415E-02	1.247E-02	1.112E-02	7.586E-03	2.547E-03	5.582E-05	2.600E-26	0.0	0.0
CD	2.986E+02	7.159E-01	3.705E-01	7.205E-02	4.708E-03	8.582E-08	2.220E-24	0.0	0.0	0.0	0.0	0.0
IN	6.137E+02	1.024E+00	6.164E-03	1.343E-09	2.899E-13	2.899E-13	2.899E-13	2.899E-13	2.899E-13	2.899E-13	2.899E-13	2.899E-13
SN	4.347E+04	4.824E+03	1.652E+03	7.417E+01	1.571E+00	8.749E-01	3.313E-01	2.068E-02	1.255E-06	0.0	0.0	0.0
SB	4.318E+03	2.717E+03	2.115E+03	9.985E+02	2.857E+02	1.915E+00	4.726E-08	0.0	0.0	0.0	0.0	0.0
TE	7.479E+02	6.621E+02	5.162E+02	2.436E+02	6.971E+01	4.674E-01	1.153E-08	8.418E-13	8.418E-13	8.418E-13	8.418E-13	8.418E-13
I	2.197E-02	2.427E-14	2.427E-14	2.427E-14	2.427E-14	2.427E-14	2.427E-14	2.427E-14	2.427E-14	2.426E-14	2.417E-14	2.401E-14
XE	5.531E-06	4.003E-19	1.725E-28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	7.838E-16	2.546E-16	1.820E-16	6.637E-17	1.236E-17	1.948E-20	1.046E-23	1.046E-23	1.046E-23	1.044E-23	1.016E-23	9.697E-24
PR	3.482E-18	2.730E-26	2.141E-34	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ND	2.114E-11	4.342E-23	5.306E-33	3.337E-34	3.337E-34	3.337E-34	3.337E-34	3.337E-34	3.337E-34	3.337E-34	5.605E-34	1.868E-33
PM	9.189E-04	6.256E-14	4.801E-14	2.173E-14	5.799E-15	2.947E-17	2.737E-25	0.0	0.0	0.0	0.0	0.0
SM	3.738E-03	6.290E-06	6.241E-06	6.099E-06	5.868E-06	5.031E-06	2.934E-06	6.287E-07	2.845E-09	1.795E-21	1.809E-21	1.832E-21
EU	1.972E+03	2.143E+02	1.939E+02	1.441E+02	8.920E+01	1.493E+01	4.805E-02	4.792E-09	9.679E-30	0.0	0.0	0.0
GD	3.954E+04	5.246E+02	1.843E+02	7.991E+00	4.265E-02	3.670E-11	1.741E-12	1.741E-12	1.741E-12	1.741E-12	1.741E-12	1.741E-12
TB	1.195E+04	2.160E+02	6.512E+00	1.785E-04	4.448E-12	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	7.562E+02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	7.006E+01	9.798E-04	9.792E-04	9.775E-04	9.747E-04	9.635E-04	9.253E-04	8.244E-04	5.502E-04	3.040E-06	8.057E-29	0.0
ER	7.079E-01	8.986E-15	1.806E-26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	2.567E-04	3.025E-05	4.830E-06	2.682E-07	4.231E-08	3.095E-11	3.277E-22	0.0	0.0	0.0	0.0	0.0
YB	3.106E-08	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LU	1.785E+01	2.803E-03	5.473E-04	4.073E-06	1.220E-09	6.338E-11	6.338E-11	6.338E-11	6.338E-11	6.338E-11	6.338E-11	6.338E-11
HF	7.104E+03	3.362E+00	2.930E-02	1.227E-06	7.826E-07	7.826E-07	7.826E-07	7.826E-07	7.826E-07	7.820E-07	7.766E-07	7.677E-07
TA	2.055E+02	8.375E+00	9.265E-01	1.267E-03	8.036E-07	7.826E-07	7.826E-07	7.826E-07	7.826E-07	7.820E-07	7.766E-07	7.677E-07
W	1.073E+03	2.099E+00	9.283E-02	5.747E-05	1.597E-09	1.139E-27	0.0	0.0	0.0	0.0	0.0	0.0
RE	6.470E+02	6.644E-02	1.730E-03	6.731E-08	3.676E-08	3.676E-08	3.676E-08	3.676E-08	3.676E-08	3.676E-08	3.676E-08	3.676E-08
OS	3.385E-02	1.491E-09	5.124E-11	3.623E-11	2.033E-11	2.017E-12	6.205E-16	5.734E-26	0.0	0.0	0.0	0.0
IR	4.997E-03	1.577E-04	5.166E-05	9.626E-09	9.295E-09	8.759E-09	7.160E-09	4.028E-09	5.379E-10	3.089E-21	0.0	0.0
PT	8.718E-06	2.848E-08	2.844E-08	2.832E-08	2.812E-08	2.735E-08	2.482E-08	1.881E-08	7.129E-09	2.719E-14	0.0	0.0
AU	1.844E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TL	1.583E-08	1.583E-08	1.583E-08	1.583E-08	1.583E-08	1.583E-08	1.583E-08	1.583E-08	1.583E-08	1.579E-08	1.547E-08	1.494E-08
PB	5.197E-04	1.711E-09	1.711E-09	1.711E-09	1.711E-09	1.711E-09	1.711E-09	1.711E-09	1.711E-09	1.711E-09	1.707E-09	1.701E-09
BI	3.648E-02	3.370E-08	3.370E-08	3.370E-08	3.370E-08	3.370E-08	3.370E-08	3.369E-08	3.367E-08	3.333E-08	3.028E-08	2.612E-08
PO	3.410E-02	5.696E-03	9.146E-04	3.780E-06	4.672E-10	6.358E-11	6.357E-11	6.357E-11	6.356E-11	6.343E-11	6.212E-11	6.001E-11
TOTAL	7.484E+05	2.104E+04	9.821E+03	4.389E+03	1.820E+03	2.676E+02	8.729E+01	2.192E+01	3.625E+00	2.403E+00	1.099E+00	6.888E-01

TABLE B.4. CURIES OF PRINCIPAL ACTIVATION PRODUCT NUCLIDES IN BWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H 3	2.586E+02	2.444E+02	2.311E+02	1.953E+02	1.475E+02	4.800E+01	9.438E-01	1.257E-05	1.088E-22	0.0	0.0	0.0
C 14	1.620E+00	1.620E+00	1.619E+00	1.619E+00	1.618E+00	1.614E+00	1.600E+00	1.562E+00	1.435E+00	4.831E-01	9.019E-06	1.185E-13
CL 36	1.105E-02	1.105E-02	1.105E-02	1.105E-02	1.105E-02	1.105E-02	1.105E-02	1.104E-02	1.103E-02	1.080E-02	8.778E-03	6.214E-03
MN 54	4.622E+02	2.056E+02	9.143E+01	8.046E+00	1.401E-01	1.287E-08	0.0	0.0	0.0	0.0	0.0	0.0
FE 55	3.848E+03	2.947E+03	2.258E+03	1.015E+03	2.676E+02	1.296E+00	1.019E-08	0.0	0.0	0.0	0.0	0.0
CO 58	1.432E+03	4.002E+01	1.119E+00	2.445E-05	4.175E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CO 60	2.954E+03	2.590E+03	2.271E+03	1.530E+03	7.928E+02	5.711E+01	5.728E-03	2.153E-14	0.0	0.0	0.0	0.0
NI 59	1.168E+00	1.168E+00	1.168E+00	1.168E+00	1.168E+00	1.168E+00	1.167E+00	1.165E+00	1.158E+00	1.071E+00	4.913E-01	1.339E-01
NI 63	1.747E+02	1.734E+02	1.721E+02	1.682E+02	1.620E+02	1.394E+02	8.224E+01	1.822E+01	9.355E-02	0.0	0.0	0.0
ZN 65	1.161E+02	4.112E+01	1.456E+01	6.464E-01	3.620E-03	3.478E-12	0.0	0.0	0.0	0.0	0.0	0.0
ZR 93	3.148E-01	3.148E-01	3.148E-01	3.147E-01	3.147E-01	3.147E-01	3.147E-01	3.147E-01	3.146E-01	3.133E-01	3.008E-01	2.810E-01
ZR 95	9.013E+04	1.723E+03	3.295E+01	2.304E-04	5.669E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 93M	2.034E-02	3.419E-02	4.735E-02	8.303E-02	1.316E-01	2.386E-01	2.973E-01	2.990E-01	2.989E-01	2.977E-01	2.858E-01	2.670E-01
NB 94	3.162E-01	3.162E-01	3.162E-01	3.162E-01	3.161E-01	3.159E-01	3.151E-01	3.130E-01	3.056E-01	2.247E-01	1.040E-02	6.198E-05
NB 95	8.907E+04	3.877E+02	7.575E+01	5.115E-04	1.307E-12	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MO 93	6.705E-03	6.703E-03	6.702E-03	6.696E-03	6.691E-03	6.665E-03	6.573E-03	6.316E-03	5.500E-03	9.245E-04	1.665E-11	2.061E-24
SN113	1.714E+03	1.900E+02	2.106E+01	2.855E-02	4.780E-07	3.757E-26	0.0	0.0	0.0	0.0	0.0	0.0
SN119M	1.277E+04	4.545E+03	1.617E+03	7.287E+01	4.165E-01	4.414E-10	0.0	0.0	0.0	0.0	0.0	0.0
SN121M	1.326E+00	1.308E+00	1.290E+00	1.237E+00	1.155E+00	8.749E-01	3.313E-01	2.068E-02	1.258E-06	0.0	0.0	0.0
SN123	6.215E+02	8.753E+01	1.233E+01	3.426E-02	1.899E-06	1.794E-23	0.0	0.0	0.0	0.0	0.0	0.0
SB125	3.449E+03	2.717E+03	2.115E+03	9.985E+02	2.857E+02	1.915E+00	4.726E-08	0.0	0.0	0.0	0.0	0.0
TE125M	7.425E+02	6.615E+02	5.161E+02	2.436E+02	6.971E+01	4.674E-01	1.153E-08	0.0	0.0	0.0	0.0	0.0
EU154	1.533E+02	1.414E+02	1.305E+02	1.025E+02	6.848E+01	1.368E+01	4.798E-02	4.792E-09	0.0	0.0	0.0	0.0
EU155	8.383E+01	7.290E+01	6.339E+01	4.168E+01	2.072E+01	1.286E+00	7.133E-05	5.164E-17	0.0	0.0	0.0	0.0
GD153	1.493E+03	5.246E+02	1.843E+02	7.991E+00	4.265E-02	3.496E-11	0.0	0.0	0.0	0.0	0.0	0.0
TB160	7.163E+03	2.160E+02	6.512E+00	1.785E-04	4.448E-12	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUMTOT	2.166E+05	2.100E+04	9.819E+03	4.389E+03	1.820E+03	2.676E+02	8.728E+01	2.192E+01	3.623E+00	2.402E+00	1.097E+00	6.882E-01
TOTAL	7.484E+05	2.104E+04	9.821E+03	4.389E+03	1.820E+03	2.676E+02	8.729E+01	2.192E+01	3.625E+00	2.403E+00	1.098E+00	6.888E-01

TABLE B.5. WATTS OF ACTIVATION PRODUCT ELEMENTS IN BWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	8.705E-03	8.230E-03	7.781E-03	6.575E-03	4.966E-03	1.616E-03	3.177E-05	4.232E-10	3.652E-27	0.0	0.0	0.0
HE	1.634E-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LI	8.234E-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BE	1.283E-07	1.228E-09	1.228E-09	1.228E-09	1.228E-09	1.228E-09	1.228E-09	1.228E-09	1.228E-09	1.223E-09	1.176E-09	1.102E-09
B	1.519E-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C	4.482E-01	4.749E-04	4.749E-04	4.747E-04	4.744E-04	4.733E-04	4.693E-04	4.581E-04	4.209E-04	1.417E-04	2.645E-09	3.475E-17
N	7.140E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
O	5.859E-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F	1.418E-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NE	1.242E-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NA	7.725E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MG	5.750E-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AL	3.733E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SI	1.618E-01	1.944E-11	1.942E-11	1.935E-11	1.925E-11	1.884E-11	1.749E-11	1.413E-11	6.698E-12	4.548E-16	0.0	0.0
P	1.368E+00	2.840E-08	1.581E-10	1.576E-10	1.568E-10	1.535E-10	1.424E-10	1.151E-10	5.455E-11	3.704E-15	0.0	0.0
S	2.714E-02	1.502E-02	8.458E-05	1.510E-08	8.545E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CL	1.233E-01	1.616E-05	1.616E-05	1.616E-05	1.616E-05	1.616E-05	1.616E-05	1.615E-05	1.612E-05	1.579E-05	1.284E-05	9.087E-06
AR	5.660E-06	1.896E-07	1.856E-07	1.841E-07	1.818E-07	1.726E-07	1.441E-07	8.610E-08	1.418E-08	1.199E-18	0.0	0.0
K	7.643E-05	1.251E-11	1.251E-11	1.251E-11	1.251E-11	1.251E-11	1.251E-11	1.251E-11	1.251E-11	1.251E-11	1.251E-11	1.251E-11
CA	1.536E-03	4.124E-05	9.071E-06	5.235E-07	4.419E-07	4.418E-07	4.416E-07	4.408E-07	4.382E-07	4.057E-07	1.878E-07	5.203E-08
SC	1.808E-02	5.390E-04	2.627E-05	3.041E-09	8.365E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TI	2.539E-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	1.113E+01	8.881E-17	8.881E-17	8.881E-17	8.881E-17	8.881E-17	8.881E-17	8.881E-17	8.881E-17	8.881E-17	8.881E-17	8.881E-17
CR	5.003E+00	3.773E-04	4.059E-08	5.058E-20	7.298E-40	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MN	3.759E+02	1.024E+00	4.553E-01	4.006E-02	6.975E-04	6.407E-11	0.0	0.0	0.0	0.0	0.0	0.0
FE	7.444E+00	4.061E+00	3.105E+00	1.395E+00	3.679E-01	1.782E-03	1.401E-11	0.0	0.0	0.0	0.0	0.0
CO	5.630E+01	4.017E+01	3.502E+01	2.360E+01	1.222E+01	8.805E-01	8.831E-05	3.320E-16	0.0	0.0	0.0	0.0
NI	1.958E+00	7.630E-02	7.578E-02	7.425E-02	7.178E-02	6.278E-02	4.009E-02	1.466E-02	7.412E-03	6.821E-03	3.128E-03	8.527E-04
CU	1.238E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZN	5.910E-01	1.441E-01	5.101E-02	2.265E-03	1.268E-05	1.219E-14	0.0	0.0	0.0	0.0	0.0	0.0
GA	3.986E-03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GE	5.443E-06	2.445E-15	1.176E-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AS	3.806E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SP	3.878E-01	1.776E-03	1.443E-05	2.459E-06	2.183E-06	1.356E-06	2.562E-07	2.193E-09	1.274E-16	0.0	0.0	0.0
Y	2.026E+01	9.289E-03	1.351E-04	1.174E-05	1.043E-05	6.477E-06	1.224E-06	1.048E-08	6.084E-16	0.0	0.0	0.0
ZR	1.149E+03	8.729E+00	1.670E-01	3.774E-05	3.657E-05	3.657E-05	3.657E-05	3.656E-05	3.655E-05	3.640E-05	3.495E-05	3.269E-05
NB	1.867E+03	1.862E+01	3.669E-01	3.239E-03	3.244E-03	3.261E-03	3.264E-03	3.242E-03	3.167E-03	2.343E-03	1.556E-04	4.794E-05
MO	5.249E+00	6.266E-07	6.265E-07	6.261E-07	6.255E-07	6.230E-07	6.145E-07	5.906E-07	5.141E-07	8.642E-08	1.556E-15	1.927E-28
TC	6.275E-01	6.425E-07	6.425E-07	6.425E-07	6.425E-07	6.425E-07	6.423E-07	6.419E-07	6.405E-07	6.220E-07	4.641E-07	2.848E-07
RU	4.054E-05	6.477E-08	1.019E-10	4.911E-19	2.656E-21	2.827E-27	3.519E-48	0.0	0.0	0.0	0.0	0.0
RH	1.941E-06	2.089E-16	1.050E-16	1.334E-17	4.286E-19	4.561E-25	5.677E-46	0.0	0.0	0.0	0.0	0.0
PD	1.239E-04	4.991E-16	4.991E-16	4.991E-16	4.991E-16	4.991E-16	4.991E-16	4.991E-16	4.990E-16	4.985E-16	4.938E-16	4.859E-16
AG	2.981E-01	1.100E-02	4.071E-03	3.068E-04	1.157E-04	1.027E-04	7.007E-05	2.352E-05	5.156E-07	2.401E-28	0.0	0.0
CD	9.862E-01	6.938E-04	2.367E-04	4.587E-05	2.997E-06	5.463E-11	1.413E-27	0.0	0.0	0.0	0.0	0.0
IN	4.763E+00	3.037E-03	1.828E-05	3.983E-12	4.158E-16	4.158E-16	4.158E-16	4.158E-16	4.158E-16	4.158E-16	4.158E-16	4.158E-16
SN	9.733E+01	2.658E+00	8.807E-01	4.026E-02	2.528E-03	1.753E-03	6.638E-04	4.143E-05	2.515E-09	0.0	0.0	0.0
SB	1.729E+01	8.500E+00	6.613E+00	3.122E+00	8.933E-01	5.986E-03	1.477E-10	0.0	0.0	0.0	0.0	0.0
TE	6.319E-01	5.569E-01	4.339E-01	2.048E-01	5.860E-02	3.929E-04	9.692E-12	1.259E-16	1.259E-16	1.259E-16	1.259E-16	1.259E-16
I	1.084E-04	1.123E-17	1.123E-17	1.123E-17	1.123E-17	1.123E-17	1.123E-17	1.123E-17	1.123E-17	1.122E-17	1.118E-17	1.111E-17
XE	7.737E-09	4.286E-22	1.660E-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	3.969E-18	2.592E-18	1.852E-18	6.755E-19	1.258E-19	1.982E-22	3.491E-27	3.491E-27	3.491E-27	3.484E-27	3.389E-27	3.236E-27
PR	6.487E-21	5.087E-25	3.989E-37	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ND	1.104E-13	1.048E-25	1.200E-35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM	3.417E-06	2.291E-17	1.722E-17	7.794E-18	2.080E-18	1.057E-20	9.816E-29	0.0	0.0	0.0	0.0	0.0
SM	7.618E-06	7.374E-10	7.318E-10	7.151E-10	6.881E-10	5.898E-10	3.440E-10	7.372E-11	3.336E-13	5.368E-26	2.158E-25	4.859E-25
EU	1.934E+01	1.318E+00	1.213E+00	9.468E-01	6.276E-01	1.231E-01	4.292E-04	4.286E-11	7.338E-32	0.0	0.0	0.0
GD	1.396E+02	4.522E-01	1.589E-01	6.887E-03	3.676E-05	5.282E-14	2.269E-14	2.269E-14	2.269E-14	2.269E-14	2.269E-14	2.269E-14
TB	6.796E+01	1.759E+00	5.304E-02	1.454E-06	3.623E-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	2.603E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	3.003E-01	1.085E-05	1.085E-05	1.083E-05	1.080E-05	1.067E-05	1.025E-05	9.133E-06	6.096E-05	3.368E-08	8.926E-31	0.0
ER	8.763E-04	1.811E-17	3.639E-29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	4.986E-07	5.803E-08	8.196E-09	6.167E-11	6.562E-12	4.799E-15	5.082E-26	0.0	0.0	0.0	0.0	0.0
YB	5.739E-11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LU	1.062E-01	1.891E-05	3.693E-06	2.748E-08	8.185E-12	3.832E-13	3.832E-13	3.832E-13	3.832E-13	3.832E-13	3.832E-13	3.832E-13
HF	1.841E+01	1.420E-02	1.087E-04	3.875E-09	2.320E-09	2.320E-09	2.320E-09	2.319E-09	2.319E-09	2.318E-09	2.302E-09	2.275E-09
TA	2.004E+00	7.456E-02	8.249E-03	1.128E-05	7.155E-09	6.968E-09	6.968E-09	6.968E-09	6.967E-09	6.962E-09	6.914E-09	6.835E-09
W	4.737E+00	4.709E-03	1.674E-04	2.192E-08	4.506E-13	3.212E-31	0.0	0.0	0.0	0.0	0.0	0.0
RE	2.058E+00	3.297E-04	8.586E-06	7.160E-10	5.644E-10	5.644E-10	5.644E-10	5.644E-10	5.644E-10	5.644E-10	5.644E-10	5.644E-10
OS	3.445E-05	2.115E-12	2.946E-14	2.083E-14	1.169E-14	1.160E-15	3.568E-19	3.297E-29	0.0	0.0	0.0	0.0
IR	2.936E-05	9.311E-07	3.048E-08	3.353E-11	3.192E-11	3.005E-11	2.456E-11	1.382E-11	1.845E-12	1.059E-23	0.0	0.0
PT	7.636E-09	8.440E-12	8.428E-12	8.393E-12	8.335E-12	8.107E-12	7.358E-12	5.576E-12	2.113E-12	8.060E-18	0.0	0.0
AU	1.277E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TL	1.430E-10	1.430E-10	1.430E-10	1.430E-10	1.430E-10	1.430E-10	1.430E-10	1.430E-10	1.430E-10	1.427E-10	1.397E-10	1.350E-10
PB	5.976E-07	3.550E-13	3.550E-13	3.550E-13	3.550E-13	3.550E-13	3.550E-13	3.550E-13	3.550E-13	3.549E-13	3.542E-13	3.530E-13
BI	8.413E-05	8.019E-10	8.019E-10	8.019E-10	8.019E-10	8.019E-10	8.018E-10	8.017E-10	8.012E-10	7.951E-10	7.385E-10	6.601E-10
PO	1.093E-03	1.826E-04	2.932E-05	1.212E-07	1.498E-11	2.038E-12	2.038E-12	2.038E-12	2.038E-12	2.033E-12	1.991E-12	1.924E-12
TOTAL	3.902E+03	8.820E+01	4.861E+01	2.944E+01	1.426E+01	1.082E+00	4.518E-02	1.849E-02	1.106E-02	9.359E-03	3.333E-03	9.427E-04

TABLE B.6. WATTS OF PRINCIPAL ACTIVATION PRODUCT NUCLIDES IN BWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H 3	8.705E-03	8.230E-03	7.781E-03	6.575E-03	4.966E-03	1.616E-03	3.177E-05	4.232E-10	3.652E-27	0.0	0.0	0.0
C 14	4.750E-04	4.749E-04	4.749E-04	4.747E-04	4.744E-04	4.733E-04	4.693E-04	4.581E-04	4.209E-04	1.417E-04	2.645E-09	3.475E-17
CL 36	1.616E-05	1.616E-05	1.616E-05	1.616E-05	1.616E-05	1.616E-05	1.616E-05	1.615E-05	1.612E-05	1.579E-05	1.284E-05	9.087E-06
MN 54	2.301E+00	1.024E+00	4.553E-01	4.006E-02	6.975E-04	6.407E-11	0.0	0.0	0.0	0.0	0.0	0.0
FE 55	5.292E+00	4.053E+00	3.105E+00	1.395E+00	3.679E-01	1.782E-03	1.401E-11	0.0	0.0	0.0	0.0	0.0
CO 58	8.572E+00	2.396E-01	6.699E-03	1.464E-07	2.499E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CO 60	4.555E+01	3.993E+01	3.501E+01	2.360E+01	1.222E+01	8.805E-01	8.831E-05	3.320E-16	0.0	0.0	0.0	0.0
NI 59	7.439E-03	7.439E-03	7.439E-03	7.438E-03	7.438E-03	7.437E-03	7.432E-03	7.420E-03	7.375E-03	6.821E-03	3.128E-03	8.527E-04
NI 63	6.938E-02	6.886E-02	6.834E-02	6.682E-02	6.435E-02	5.534E-02	3.266E-02	7.236E-03	3.716E-05	0.0	0.0	0.0
ZN 65	4.068E-01	1.441E-01	5.101E-02	2.265E-03	1.268E-05	1.219E-14	0.0	0.0	0.0	0.0	0.0	0.0
ZR 93	3.657E-05	3.657E-05	3.657E-05	3.657E-05	3.657E-05	3.657E-05	3.657E-05	3.656E-05	3.655E-05	3.640E-05	3.495E-05	3.265E-05
ZR 95	4.565E+02	8.729E+00	1.669E-01	1.167E-06	2.983E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 93M	3.604E-06	6.057E-06	8.389E-06	1.471E-05	2.332E-05	4.228E-05	5.267E-05	5.297E-05	5.295E-05	5.274E-05	5.063E-05	4.731E-05
NB 94	3.222E-03	3.222E-03	3.222E-03	3.222E-03	3.221E-03	3.219E-03	3.211E-03	3.189E-03	3.114E-03	2.290E-03	1.060E-04	6.316E-07
NB 95	4.272E+02	1.860E+01	3.633E-01	2.453E-06	6.271E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AG108M	1.169E-04	1.163E-04	1.157E-04	1.138E-04	1.107E-04	9.928E-05	6.776E-05	2.275E-05	4.986E-07	2.322E-28	0.0	0.0
SN119M	6.602E+00	2.349E+00	8.360E-01	3.767E-02	2.153E-04	2.282E-13	0.0	0.0	0.0	0.0	0.0	0.0
SN121M	2.657E-03	2.621E-03	2.585E-03	2.479E-03	2.313E-03	1.753E-03	6.638E-04	4.143E-05	2.515E-09	0.0	0.0	0.0
SN123	1.941E+00	2.734E-01	3.851E-02	1.070E-04	5.932E-09	5.604E-26	0.0	0.0	0.0	0.0	0.0	0.0
SB125	1.078E+01	8.494E+00	6.613E+00	3.122E+00	8.933E-01	5.986E-03	1.477E-10	0.0	0.0	0.0	0.0	0.0
TE125M	6.241E-01	5.560E-01	4.338E-01	2.048E-01	5.860E-02	3.929E-04	9.692E-12	0.0	0.0	0.0	0.0	0.0
SU154	1.371E+00	1.265E+00	1.167E+00	9.165E-01	6.125E-01	1.222E-01	4.292E-04	4.286E-11	0.0	0.0	0.0	0.0
SU155	6.097E-02	5.302E-02	4.610E-02	3.031E-02	1.507E-02	9.206E-04	5.188E-08	3.756E-20	0.0	0.0	0.0	0.0
GD153	1.287E+00	4.522E-01	1.589E-01	6.887E-03	3.676E-05	3.013E-14	0.0	0.0	0.0	0.0	0.0	0.0
TB160	5.834E+01	1.759E+00	5.304E-02	1.454E-06	3.623E-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUMTOT	1.027E+03	8.801E+01	4.860E+01	2.944E+01	1.426E+01	1.082E+00	4.516E-02	1.847E-02	1.105E-02	9.358E-03	3.332E-03	9.424E-04
TOTAL	3.902E+03	8.820E+01	4.861E+01	2.944E+01	1.426E+01	1.082E+00	4.518E-02	1.849E-02	1.106E-02	9.359E-03	3.333E-03	9.427E-04

TABLE B.7. PHOTONS FROM ACTIVATION PRODUCTS IN BWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTIHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS= ONE METRIC TON OF INITIAL HEAVY METAL(MTIHM)

EMEAN	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	5.214E+15	3.623E+13	1.625E+13	7.009E+12	2.961E+12	2.472E+11	2.203E+10	8.533E+09	4.652E+09	3.365E+09	2.152E+09	1.969E+09
2.500E-02	1.683E+15	1.491E+14	8.052E+13	2.672E+13	7.478E+12	8.343E+10	1.618E+09	6.635E+08	3.689E+08	2.037E+08	2.005E+07	1.106E+07
3.750E-02	7.426E+14	4.155E+13	2.310E+13	8.319E+12	2.790E+12	1.396E+11	8.641E+08	2.533E+08	1.974E+08	1.134E+08	1.029E+07	4.971E+06
5.750E-02	1.018E+15	8.937E+12	3.128E+12	9.627E+11	4.509E+11	4.986E+10	3.731E+08	2.296E+08	2.119E+08	1.267E+08	1.218E+07	5.535E+06
8.500E-02	6.158E+14	9.508E+12	3.587E+12	8.614E+11	3.700E+11	2.646E+10	1.267E+08	8.865E+07	7.930E+07	5.331E+07	6.116E+06	2.869E+06
1.250E-01	3.953E+14	6.896E+12	4.044E+12	2.097E+12	1.243E+12	2.161E+11	7.588E+08	3.433E+07	3.326E+07	2.475E+07	3.262E+06	1.602E+06
2.250E-01	1.015E+15	1.070E+13	5.344E+12	2.581E+12	8.643E+11	4.749E+10	2.084E+08	5.335E+07	4.208E+07	1.613E+07	2.693E+06	1.470E+06
3.750E-01	5.390E+14	3.662E+13	2.833E+13	1.339E+13	3.852E+12	3.292E+10	3.005E+08	9.714E+07	7.087E+06	1.088E+06	3.770E+05	2.461E+05
5.750E-01	6.145E+15	4.776E+13	3.681E+13	1.750E+13	5.144E+12	8.111E+10	4.295E+08	9.350E+07	8.123E+06	1.638E+05	1.055E+05	7.470E+04
8.500E-01	1.122E+16	2.018E+14	9.459E+12	2.123E+12	1.235E+12	2.626E+11	2.266E+10	2.153E+10	2.094E+10	1.538E+10	7.117E+08	4.242E+06
1.250E+00	7.385E+14	1.978E+14	1.709E+14	1.152E+14	5.999E+13	4.491E+12	1.360E+09	9.625E+05	6.497E+05	3.030E+04	2.667E+04	2.637E+04
1.750E+00	3.688E+14	1.018E+11	7.768E+10	5.993E+10	4.002E+10	7.984E+09	2.804E+07	9.335E+01	1.569E+00	5.307E-06	5.258E-06	5.185E-06
2.250E+00	1.396E+14	2.034E+05	9.056E+08	6.001E+08	3.109E+08	2.239E+07	2.246E+03	2.085E-03	2.805E-07	2.798E-07	2.740E-07	2.647E-07
2.750E+00	2.747E+13	3.836E+06	2.766E+06	1.857E+06	9.619E+05	6.929E+04	6.949E+00	1.423E-07	1.405E-07	1.402E-07	1.373E-07	1.326E-07
3.500E+00	1.579E+12	3.708E-02	5.955E-03	2.480E-05	1.838E-07	1.544E-07	1.151E-07	1.039E-07	1.033E-07	1.031E-07	1.009E-07	9.751E-08
5.000E+00	2.743E+10	1.104E-02	1.773E-03	7.356E-06	3.160E-08	3.082E-08	3.081E-08	3.081E-08	3.081E-08	3.074E-08	3.011E-08	2.909E-08
7.000E+00	3.999E+12	7.163E-04	1.150E-04	4.773E-07	2.046E-09	1.995E-09	1.995E-09	1.995E-09	1.995E-09	1.991E-09	1.950E-09	1.883E-09
1.100E+01	4.187E+09	4.530E-05	7.274E-06	3.018E-08	1.295E-10	1.263E-10	1.263E-10	1.263E-10	1.263E-10	1.260E-10	1.234E-10	1.192E-10
TOTAL	2.986E+16	7.470E+14	3.815E+14	1.969E+14	8.642E+13	5.706E+12	5.076E+10	3.156E+10	2.654E+10	1.928E+10	2.918E+09	2.001E+09
MEV/SEC	1.580E+16	4.706E+14	2.589E+14	1.631E+14	8.125E+13	5.965E+12	2.195E+10	1.858E+10	1.793E+10	1.315E+10	6.406E+08	3.487E+07

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS= ONE METRIC TON OF INITIAL HEAVY METAL(MTIHM)

EMEAN	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	7.820E+07	5.435E+05	2.438E+05	1.051E+05	4.442E+04	3.708E+03	3.305E+02	1.280E+02	6.979E+01	5.048E+01	3.227E+01	2.954E+01
2.500E-02	4.207E+07	3.726E+06	2.013E+06	6.681E+05	1.870E+05	2.086E+03	4.046E+01	1.659E+01	9.222E+00	5.093E+00	5.013E-01	2.764E-01
3.750E-02	2.785E+07	1.558E+06	8.664E+05	3.119E+05	1.046E+05	5.986E+03	3.240E+01	9.510E+00	7.403E+00	4.252E+00	3.860E-01	1.864E-01
5.750E-02	5.852E+07	5.139E+05	1.799E+05	5.535E+04	2.593E+04	2.867E+03	2.143E+01	1.320E+01	1.219E+01	7.288E+00	7.003E-01	3.183E-01
8.500E-02	5.235E+07	8.159E+05	3.049E+05	7.322E+04	3.145E+04	2.249E+03	1.077E+01	7.535E+00	6.740E+00	4.532E+00	5.199E-01	2.439E-01
1.250E-01	4.941E+07	8.619E+05	5.055E+05	2.621E+05	1.554E+05	2.701E+04	9.485E+01	4.291E+00	4.158E+00	3.093E+00	4.077E-01	2.002E-01
2.250E-01	2.284E+08	2.406E+06	1.202E+06	5.808E+05	1.945E+05	1.068E+04	4.689E+01	1.203E+01	9.469E+00	3.629E+00	6.059E-01	3.307E-01
3.750E-01	2.021E+08	1.373E+07	1.062E+07	5.021E+06	1.445E+06	1.234E+04	1.127E+02	3.643E+01	2.657E+00	4.079E-01	1.414E-01	9.230E-02
5.750E-01	3.533E+09	2.746E+07	2.116E+07	1.006E+07	2.958E+06	4.664E+04	2.470E+02	5.376E+01	4.671E+00	9.417E-02	6.067E-02	4.295E-02
8.500E-01	9.534E+09	1.715E+08	8.040E+06	1.805E+06	1.050E+06	2.232E+05	1.926E+04	1.830E+04	1.780E+04	1.307E+04	6.049E+02	3.605E+00
1.250E+00	9.231E+08	2.472E+08	2.136E+08	1.440E+08	7.499E+07	5.614E+06	1.700E+03	1.203E+00	8.121E-01	3.787E-02	3.334E-02	3.296E-02
1.750E+00	6.453E+08	1.782E+05	1.359E+05	1.049E+05	7.003E+04	1.397E+04	4.908E+01	1.634E-04	2.747E-06	9.287E-12	9.201E-12	9.074E-12
2.250E+00	3.140E+08	4.576E+03	2.038E+03	1.350E+03	6.994E+02	5.038E+01	5.054E-03	4.690E-09	6.310E-13	6.295E-13	6.165E-13	5.955E-13
2.750E+00	7.554E+07	1.069E+01	7.607E+00	5.106E+00	2.645E+00	1.905E-01	1.911E-05	3.914E-13	3.863E-13	3.855E-13	3.775E-13	3.647E-13
3.500E+00	5.527E+06	1.298E-07	2.084E-08	8.679E-11	6.433E-13	5.405E-13	4.027E-13	3.622E-13	3.615E-13	3.607E-13	3.533E-13	3.413E-13
5.000E+00	1.372E+05	5.520E-08	8.864E-09	3.678E-11	1.580E-13	1.541E-13	1.541E-13	1.541E-13	1.540E-13	1.537E-13	1.506E-13	1.454E-13
7.000E+00	2.799E+07	5.014E-09	8.052E-10	3.341E-12	1.432E-14	1.397E-14	1.397E-14	1.397E-14	1.396E-14	1.394E-14	1.365E-14	1.318E-14
1.100E+01	4.606E+04	4.983E-10	8.001E-11	3.320E-13	1.425E-15	1.390E-15	1.390E-15	1.390E-15	1.389E-15	1.386E-15	1.358E-15	1.312E-15
TOTAL	1.580E+10	4.706E+08	2.589E+08	1.631E+08	8.125E+07	5.965E+06	2.195E+04	1.858E+04	1.793E+04	1.315E+04	6.406E+02	3.487E+01
GAM POW	2.532E+03	7.543E+01	4.150E+01	2.614E+01	1.302E+01	9.561E-01	3.518E-03	2.979E-03	2.874E-03	2.108E-03	1.027E-04	5.589E-06

TABLE B.8. GRAMS OF ACTINIDE ELEMENTS IN BWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
HE	2.336E-01	4.007E-01	4.604E-01	5.650E-01	7.406E-01	1.544E+00	4.453E+00	1.085E+01	2.323E+01	6.550E+01	1.413E+02	1.611E+02
SE	1.235E-06	2.502E-06	3.282E-06	5.141E-06	7.769E-06	1.457E-05	2.107E-05	2.501E-05	3.677E-05	1.420E-04	5.082E-04	9.478E-04
TL	1.177E-12	2.396E-12	3.331E-12	4.965E-12	5.817E-12	5.223E-12	2.822E-12	9.359E-13	1.872E-12	1.845E-11	1.302E-10	1.731E-10
PB	3.205E-07	9.166E-07	1.867E-06	6.086E-06	1.517E-05	5.228E-05	1.402E-04	2.319E-04	6.593E-04	1.892E-01	2.072E+01	8.225E+01
BI	1.203E-10	2.179E-10	2.959E-10	4.703E-10	6.782E-10	1.859E-09	1.426E-08	2.793E-07	1.305E-05	1.997E-02	6.355E+00	3.781E+01
PO	1.662E-13	3.439E-13	5.492E-13	1.658E-12	8.744E-12	1.266E-10	2.789E-09	3.937E-08	5.640E-07	2.395E-05	1.909E-04	2.297E-04
AT	1.064E-19	3.896E-20	4.036E-20	4.497E-20	5.392E-20	1.057E-19	5.108E-19	4.273E-18	6.624E-17	8.914E-15	2.020E-13	4.098E-13
RN	1.159E-12	2.323E-12	3.250E-12	5.177E-12	7.223E-12	1.848E-11	1.497E-10	1.434E-09	1.648E-08	6.996E-07	5.577E-06	6.710E-06
FR	1.093E-15	6.186E-16	7.663E-16	1.218E-15	1.972E-15	5.057E-15	1.748E-14	7.618E-14	7.285E-13	8.215E-11	1.642E-09	3.731E-09
RA	2.392E-08	4.295E-06	6.440E-08	1.463E-07	3.525E-07	2.189E-06	2.294E-05	2.231E-04	2.563E-03	1.088E-01	8.677E-01	1.044E+00
AC	4.945E-09	1.026E-06	1.557E-08	3.139E-08	5.744E-08	1.588E-07	4.977E-07	1.449E-06	4.921E-06	4.695E-05	3.041E-04	3.764E-04
TH	1.407E-03	1.943E-03	2.482E-03	4.111E-03	6.868E-03	1.840E-02	6.378E-02	2.153E-01	7.886E-01	8.112E+00	5.893E+01	9.250E+01
PA	2.750E-04	2.830E-04	2.903E-04	3.122E-04	3.488E-04	4.951E-04	1.008E-03	2.472E-03	7.873E-03	7.155E-02	4.571E-01	5.590E-01
U	9.627E+05	9.627E+05	9.627E+05	9.627E+05	9.627E+05	9.627E+05	9.628E+05	9.629E+05	9.631E+05	9.653E+05	9.694E+05	9.697E+05
NP	4.071E+02	3.449E+02	3.451E+02	3.461E+02	3.489E+02	3.704E+02	4.782E+02	7.467E+02	1.226E+03	1.453E+03	1.411E+03	1.344E+03
PU	8.428E+03	8.453E+03	8.405E+03	8.270E+03	8.081E+03	7.646E+03	7.340E+03	7.223E+03	6.974E+03	4.757E+03	5.927E+02	2.456E+02
AM	9.813E+01	1.496E+02	1.985E+02	3.314E+02	5.129E+02	9.098E+02	1.049E+03	7.842E+02	2.930E+02	2.490E+01	5.336E-03	1.024E-07
CM	2.387E+01	1.490E+01	1.266E+01	1.089E+01	9.026E+00	4.298E+00	4.324E-01	1.308E-01	1.207E-01	4.801E-02	2.417E-04	2.158E-04
BK	4.481E-08	2.032E-08	9.213E-09	8.584E-10	1.644E-11	2.210E-18	5.240E-23	5.199E-23	5.056E-23	3.533E-23	9.796E-25	2.492E-27
CF	1.704E-08	4.075E-08	5.110E-08	5.748E-08	5.564E-08	5.004E-08	4.194E-08	2.837E-08	7.368E-09	4.393E-13	3.486E-20	8.867E-23
ES	2.178E-12	1.824E-14	7.247E-15	4.610E-16	4.673E-18	4.937E-26	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	9.717E+05	9.717E+05	9.716E+05	9.716E+05	9.716E+05	9.717E+05	9.716E+05	9.717E+05	9.717E+05	9.717E+05	9.717E+05	9.717E+05

TABLE B.9. GRAMS OF PRINCIPAL ACTINIDE NUCLIDES IN BWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
U235	7.524E+03	7.524E+03	7.525E+03	7.525E+03	7.526E+03	7.528E+03	7.538E+03	7.569E+03	7.659E+03	8.719E+03	1.206E+04	1.233E+04
U236	3.314E+03	3.314E+03	3.314E+03	3.315E+03	3.316E+03	3.320E+03	3.335E+03	3.379E+03	3.522E+03	4.667E+03	5.371E+03	5.348E+03
U238	9.517E+05	9.517E+05	9.517E+05	9.517E+05	9.517E+05	9.517E+05	9.517E+05	9.517E+05	9.517E+05	9.517E+05	9.517E+05	9.518E+05
NP237	3.379E+02	3.449E+02	3.451E+02	3.461E+02	3.489E+02	3.704E+02	4.782E+02	7.467E+02	1.226E+03	1.453E+03	1.411E+03	1.344E+03
PU239	4.763E+03	4.832E+03	4.832E+03	4.831E+03	4.831E+03	4.828E+03	4.819E+03	4.792E+03	4.709E+03	3.655E+03	2.762E+02	3.671E+00
PU240	2.096E+03	2.096E+03	2.096E+03	2.097E+03	2.097E+03	2.097E+03	2.086E+03	2.042E+03	1.896E+03	7.302E+02	5.237E-02	1.437E-06
PU241	1.097E+03	1.045E+03	9.960E+02	8.620E+02	6.776E+02	2.587E+02	8.901E+00	7.159E-04	1.224E-04	5.673E-05	3.811E-08	1.847E-13
AM241	3.401E+01	8.545E+01	1.344E+02	2.673E+02	4.488E+02	8.459E+02	9.861E+02	7.222E+02	2.350E+02	1.890E-03	1.144E-06	5.840E-12
SUMTOT	9.709E+05	9.709E+05	9.709E+05	9.709E+05	9.709E+05	9.709E+05	9.709E+05	9.709E+05	9.709E+05	9.709E+05	9.709E+05	9.708E+05
TOTAL	9.716E+05	9.716E+05	9.716E+05	9.716E+05	9.716E+05	9.716E+05	9.716E+05	9.716E+05	9.716E+05	9.717E+05	9.717E+05	9.717E+05

TABLE 8.10. CURIES OF ACTINIDE ELEMENTS IN BWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL	3.466E-04	7.055E-04	9.805E-04	1.461E-03	1.711E-03	1.532E-03	8.116E-04	2.185E-04	3.583E-04	3.681E-03	2.856E-02	4.060E-02
PB	9.643E-04	1.962E-03	2.727E-03	4.063E-03	4.756E-03	4.247E-03	2.231E-03	8.260E-04	5.535E-03	2.330E-01	2.063E+00	2.751E+00
BI	9.643E-04	1.962E-03	2.727E-03	4.063E-03	4.756E-03	4.247E-03	2.231E-03	8.260E-04	5.535E-03	2.330E-01	2.063E+00	2.751E+00
PO	1.582E-03	3.219E-03	4.473E-03	6.665E-03	7.800E-03	6.961E-03	3.637E-03	1.250E-03	8.070E-03	3.403E-01	2.914E+00	3.769E+00
AT	1.713E-07	6.273E-08	6.500E-08	7.242E-08	8.683E-08	1.701E-07	8.225E-07	6.880E-06	1.067E-04	1.435E-02	3.252E-01	6.599E-01
RN	9.641E-04	1.962E-03	2.727E-03	4.063E-03	4.756E-03	4.246E-03	2.217E-03	6.423E-04	2.894E-03	1.110E-01	8.798E-01	1.059E+00
FR	1.762E-07	7.298E-08	8.054E-08	1.038E-07	1.442E-07	3.287E-07	1.319E-06	8.327E-06	1.116E-04	1.440E-02	3.255E-01	6.602E-01
RA	9.643E-04	1.962E-03	2.727E-03	4.063E-03	4.756E-03	4.246E-03	2.218E-03	6.492E-04	3.001E-03	1.254E-01	1.205E+00	1.719E+00
AC	5.156E-06	8.054E-07	1.192E-06	2.343E-06	4.243E-06	1.166E-05	3.684E-05	1.117E-04	4.626E-04	1.773E-02	3.468E-01	6.863E-01
TH	9.121E-01	3.384E-01	3.391E-01	3.405E-01	3.412E-01	3.409E-01	3.397E-01	3.406E-01	3.510E-01	4.949E-01	1.547E+00	2.060E+00
PA	9.031E-01	5.638E-01	5.639E-01	5.646E-01	5.666E-01	5.817E-01	6.578E-01	8.472E-01	1.185E+00	1.348E+00	1.337E+00	1.295E+00
U	1.645E+07	1.570E+00	1.574E+00	1.585E+00	1.605E+00	1.681E+00	1.891E+00	2.126E+00	2.196E+00	2.279E+00	2.359E+00	2.310E+00
NP	1.609E+07	1.296E+01	1.296E+01	1.296E+01	1.295E+01	1.294E+01	1.293E+01	1.288E+01	1.243E+01	5.989E+00	9.960E-01	9.478E-01
PU	3.218E+05	1.102E+05	1.052E+05	9.136E+04	7.229E+04	2.887E+04	2.514E+03	9.351E+02	7.267E+02	3.952E+02	1.840E+01	1.152E+00
AM	1.120E+05	3.146E+02	4.826E+02	9.390E+02	1.562E+03	2.924E+03	3.404E+03	2.494E+03	8.186E+02	4.971E+00	1.068E-03	2.047E-08
CM	3.509E+04	8.442E+03	2.547E+03	8.824E+02	7.175E+02	3.367E+02	2.584E+01	9.490E-01	6.408E-02	9.918E-03	3.960E-06	3.913E-08
BK	2.149E-04	3.331E-05	1.510E-05	1.407E-06	2.695E-08	3.827E-15	2.040E-16	2.023E-16	1.968E-16	1.375E-16	3.812E-18	9.697E-21
CF	1.814E-06	1.638E-06	1.518E-06	1.203E-06	8.859E-07	4.157E-07	1.748E-07	1.143E-07	2.904E-08	6.975E-13	3.812E-18	9.697E-21
ES	5.435E-08	3.592E-11	1.352E-11	8.600E-13	8.717E-15	9.209E-23	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	3.301E+07	1.190E+05	1.082E+05	9.320E+04	7.458E+04	3.215E+04	5.960E+03	3.446E+03	1.562E+03	4.114E+02	3.479E+01	2.186E+01

TABLE 8.11. CURIES OF PRINCIPAL ACTINIDE NUCLIDES IN BWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL207	3.243E-07	7.414E-07	1.125E-06	2.267E-06	4.149E-06	1.146E-05	3.592E-05	1.045E-04	3.550E-04	3.370E-03	2.154E-02	2.634E-02
PB209	1.716E-07	6.273E-08	6.500E-08	7.242E-08	8.683E-08	1.701E-07	8.225E-07	6.880E-06	1.067E-04	1.435E-02	3.252E-01	6.599E-01
PB210	1.220E-09	1.963E-09	3.069E-09	9.965E-09	3.922E-08	5.689E-07	1.253E-05	1.769E-04	2.534E-03	1.076E-01	8.579E-01	1.032E+00
PB211	3.252E-07	7.434E-07	1.128E-06	2.273E-06	4.161E-06	1.149E-05	3.602E-05	1.048E-04	3.560E-04	3.379E-03	2.160E-02	2.641E-02
PB214	1.768E-08	3.028E-08	4.675E-08	1.194E-07	3.190E-07	2.138E-06	2.267E-05	2.206E-04	2.535E-03	1.076E-01	8.580E-01	1.032E+00
BI210	1.225E-09	1.964E-09	3.070E-09	9.967E-09	3.923E-08	5.689E-07	1.253E-05	1.769E-04	2.534E-03	1.076E-01	8.579E-01	1.032E+00
BI211	3.252E-07	7.434E-07	1.128E-06	2.273E-06	4.161E-06	1.149E-05	3.602E-05	1.048E-04	3.560E-04	3.379E-03	2.160E-02	2.641E-02
BI213	1.713E-07	6.273E-08	6.500E-08	7.242E-08	8.683E-08	1.701E-07	8.225E-07	6.880E-06	1.067E-04	1.435E-02	3.252E-01	6.599E-01
BI214	1.768E-08	3.028E-08	4.675E-08	1.194E-07	3.190E-07	2.138E-06	2.267E-05	2.206E-04	2.535E-03	1.076E-01	8.580E-01	1.032E+00
PO210	7.342E-10	1.520E-09	2.432E-09	8.295E-09	3.923E-08	5.689E-07	1.253E-05	1.769E-04	2.534E-03	1.076E-01	8.579E-01	1.032E+00
PO213	0.0	6.138E-08	6.359E-08	7.086E-08	8.496E-08	1.665E-07	8.047E-07	6.731E-06	1.044E-04	1.404E-02	3.182E-01	6.456E-01
PO214	4.142E-08	3.028E-08	4.674E-08	1.194E-07	3.190E-07	2.137E-06	2.267E-05	2.205E-04	2.534E-03	1.076E-01	8.579E-01	1.032E+00
PO215	3.252E-07	7.434E-07	1.128E-06	2.273E-06	4.161E-06	1.149E-05	3.602E-05	1.048E-04	3.560E-04	3.379E-03	2.160E-02	2.641E-02
PO218	1.768E-08	3.029E-08	4.676E-08	1.194E-07	3.191E-07	2.138E-06	2.268E-05	2.206E-04	2.535E-03	1.077E-01	8.582E-01	1.032E+00
AT217	1.713E-07	6.273E-08	6.500E-08	7.242E-08	8.683E-08	1.701E-07	8.225E-07	6.880E-06	1.067E-04	1.435E-02	3.252E-01	6.599E-01
RN219	3.252E-07	7.434E-07	1.128E-06	2.273E-06	4.161E-06	1.149E-05	3.602E-05	1.048E-04	3.560E-04	3.379E-03	2.160E-02	2.641E-02
RN222	1.768E-08	3.029E-08	4.676E-08	1.194E-07	3.191E-07	2.138E-06	2.268E-05	2.206E-04	2.535E-03	1.077E-01	8.582E-01	1.032E+00
FR221	1.713E-07	6.273E-08	6.500E-08	7.242E-08	8.683E-08	1.701E-07	8.225E-07	6.880E-06	1.067E-04	1.435E-02	3.252E-01	6.599E-01
RA223	3.252E-07	7.434E-07	1.128E-06	2.273E-06	4.161E-06	1.149E-05	3.602E-05	1.048E-04	3.560E-04	3.379E-03	2.160E-02	2.641E-02
RA225	1.772E-07	6.273E-08	6.500E-08	7.242E-08	8.683E-08	1.701E-07	8.225E-07	6.880E-06	1.067E-04	1.435E-02	3.252E-01	6.599E-01
RA226	1.767E-08	3.029E-08	4.676E-08	1.194E-07	3.191E-07	2.138E-06	2.268E-05	2.206E-04	2.535E-03	1.077E-01	8.582E-01	1.032E+00
AC225	1.713E-07	6.273E-08	6.500E-08	7.242E-08	8.683E-08	1.701E-07	8.225E-07	6.880E-06	1.067E-04	1.435E-02	3.252E-01	6.599E-01
AC227	3.575E-07	7.426E-07	1.127E-06	2.271E-06	4.156E-06	1.149E-05	3.602E-05	1.048E-04	3.560E-04	3.379E-03	2.160E-02	2.641E-02
TH227	3.321E-07	7.332E-07	1.113E-06	2.242E-06	4.104E-06	1.133E-05	3.552E-05	1.034E-04	3.511E-04	3.333E-03	2.130E-02	2.605E-02
TH229	6.058E-08	6.273E-08	6.500E-08	7.242E-08	8.683E-08	1.701E-07	8.225E-07	6.880E-06	1.067E-04	1.435E-02	3.252E-01	6.599E-01
TH230	2.473E-05	3.360E-05	4.251E-05	6.953E-05	1.154E-04	3.093E-04	1.089E-03	3.754E-03	1.390E-02	1.383E-01	8.540E-01	1.028E+00
TH231	5.808E-01	1.627E-02	1.627E-02	1.627E-02	1.627E-02	1.628E-02	1.630E-02	1.638E-02	1.656E-02	1.885E-02	2.609E-02	2.666E-02
TH234	3.203E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01
PA231	1.242E-05	1.282E-05	1.317E-05	1.420E-05	1.592E-05	2.280E-05	4.687E-05	1.156E-04	3.559E-04	3.379E-03	2.160E-02	2.641E-02
PA233	2.329E-01	2.433E-01	2.434E-01	2.440E-01	2.461E-01	2.612E-01	3.372E-01	5.266E-01	8.643E-01	1.024E+00	9.949E-01	9.478E-01
PA234M	3.230E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01
U233	2.221E-05	2.338E-05	2.456E-05	2.787E-05	3.322E-05	5.534E-05	1.467E-04	5.285E-04	2.747E-03	4.182E-02	3.564E-01	6.509E-01
U234	9.832E-01	9.880E-01	9.930E-01	1.008E+00	1.032E+00	1.119E+00	1.337E+00	1.570E+00	1.629E+00	1.596E+00	1.309E+00	9.664E-01
U235	1.627E-02	1.627E-02	1.627E-02	1.627E-02	1.627E-02	1.628E-02	1.630E-02	1.636E-02	1.656E-02	1.885E-02	2.609E-02	2.666E-02
U236	2.145E-01	2.145E-01	2.145E-01	2.145E-01	2.146E-01	2.149E-01	2.159E-01	2.187E-01	2.280E-01	3.021E-01	3.476E-01	3.461E-01
U238	3.201E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01	3.201E-01
NP237	2.383E-01	2.432E-01	2.434E-01	2.440E-01	2.461E-01	2.612E-01	3.372E-01	5.266E-01	8.643E-01	1.024E+00	9.949E-01	9.478E-01
NP239	1.587E+07	1.270E+01	1.270E+01	1.269E+01	1.269E+01	1.266E+01	1.259E+01	1.235E+01	1.156E+01	4.965E+00	1.064E-03	2.042E-08
PU238	1.611E+03	1.753E+03	1.768E+03	1.735E+03	1.668E+03	1.425E+03	8.206E+02	1.701E+02	7.553E-01	1.327E-19	0.0	0.0
PU239	2.962E+02	3.005E+02	3.005E+02	3.004E+02	3.004E+02	3.002E+02	2.997E+02	2.980E+02	2.923E+02	2.273E+02	1.718E+01	2.283E-01
PU240	4.777E+02	4.778E+02	4.779E+02	4.779E+02	4.781E+02	4.781E+02	4.754E+02	4.655E+02	4.322E+02	1.664E+02	1.194E-02	3.275E-07
PU241	1.130E+05	1.077E+05	1.026E+05	8.884E+04	6.984E+04	2.667E+04	9.173E+02	7.379E-02	1.261E-02	6.053E-03	3.928E-06	1.903E-11
PU242	1.446E+00	1.446E+00	1.446E+00	1.446E+00	1.446E+00	1.446E+00	1.445E+00	1.445E+00	1.443E+00	1.420E+00	1.209E+00	9.240E-01
AM241	1.168E+02	2.934E+02	4.614E+02	9.179E+02	1.541E+03	2.904E+03	3.386E+03	2.480E+03	8.070E+02	6.488E-03	3.928E-06	2.005E-11
AM243	1.266E+01	1.270E+01	1.270E+01	1.269E+01	1.269E+01	1.266E+01	1.258E+01	1.235E+01	1.156E+01	4.965E+00	1.064E-03	2.042E-08
CM242	3.485E+04	7.436E+03	1.579E+03	1.846E+01	3.387E+00	3.085E+00	2.242E+00	9.005E-01	3.700E-02	5.576E-20	0.0	0.0
CM244	1.033E+03	9.940E+02	9.567E+02	8.529E+02	7.043E+02	3.276E+02	2.248E+01	1.065E-02	3.276E-11	3.273E-11	3.271E-11	3.267E-11
SUMTOT	1.602E+07	1.190E+05	1.082E+05	9.318E+04	7.456E+04	3.213E+04	5.953E+03	3.444E+03	1.562E+03	4.113E+02	3.478E+01	2.184E+01
TOTAL	3.301E+07	1.190E+05	1.082E+05	9.320E+04	7.458E+04	3.215E+04	5.960E+03	3.446E+03	1.562E+03	4.114E+02	3.479E+01	2.186E+01

TABLE B.12. WATTS OF ACTINIDE ELEMENTS IN BWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL	8.150E-06	1.659E-05	2.305E-05	3.434E-05	4.019E-05	3.582E-05	1.838E-05	2.988E-06	1.104E-06	1.507E-05	1.800E-04	3.142E-04
PB	1.836E-06	3.737E-06	5.193E-06	7.739E-06	9.060E-06	8.100E-06	4.294E-06	1.670E-06	9.866E-08	3.948E-04	3.374E-03	4.369E-03
BI	1.640E-05	3.339E-05	4.640E-05	6.915E-05	8.097E-05	7.247E-05	3.847E-05	1.283E-05	5.302E-05	1.823E-03	1.520E-02	1.944E-02
PO	7.219E-05	1.469E-04	2.042E-04	3.042E-04	3.560E-04	3.177E-04	1.656E-04	5.267E-05	3.122E-04	1.321E-02	1.155E-01	1.523E-01
AT	7.310E-09	2.677E-09	2.774E-09	3.090E-09	3.705E-09	7.260E-09	3.510E-08	2.936E-07	4.552E-06	6.125E-04	1.388E-02	2.816E-02
RN	3.661E-05	7.451E-05	1.035E-04	1.543E-04	1.806E-04	1.612E-04	8.421E-05	2.365E-05	9.889E-05	3.708E-03	2.933E-02	3.531E-02
FR	6.624E-09	2.448E-09	2.549E-09	2.876E-09	3.500E-09	6.978E-09	3.303E-08	2.693E-07	4.129E-06	5.541E-04	1.255E-02	2.547E-02
RA	3.309E-05	6.735E-05	9.359E-05	1.395E-04	1.632E-04	1.457E-04	7.603E-05	2.098E-05	8.605E-05	3.239E-03	2.578E-02	3.121E-02
AC	4.614E-08	2.551E-09	2.816E-09	3.630E-09	5.046E-09	1.151E-08	4.618E-08	2.911E-07	3.896E-06	5.031E-04	1.137E-02	2.306E-02
TH	5.131E-04	2.039E-04	2.291E-04	2.736E-04	2.976E-04	2.865E-04	2.417E-04	2.595E-04	5.487E-04	4.615E-03	3.504E-02	5.037E-02
PA	4.420E-03	2.140E-02	2.141E-03	2.142E-03	2.147E-03	2.181E-03	2.355E-03	2.786E-03	3.560E-03	4.015E-03	4.497E-03	4.535E-03
U	4.383E+04	4.300E-02	4.315E-02	4.358E-02	4.427E-02	4.676E-02	5.296E-02	5.972E-02	6.173E-02	6.399E-02	6.628E-02	6.495E-02
NP	3.953E+04	3.823E-02	3.823E-02	3.824E-02	3.829E-02	3.868E-02	4.078E-02	4.594E-02	5.436E-02	4.331E-02	3.041E-02	2.897E-02
PU	3.192E+02	8.560E+01	8.597E+01	8.444E+01	8.163E+01	7.222E+01	5.131E+01	2.936E+01	2.253E+01	1.223E+01	5.654E-01	3.432E-02
AM	2.191E+02	1.016E+01	1.674E+01	3.091E+01	5.151E+01	9.689E+01	1.129E+02	8.277E+01	2.718E+01	1.598E-01	3.433E-05	6.572E-10
CM	7.706E+01	4.385E+01	3.673E+01	3.025E+01	2.500E+01	1.168E+01	8.298E-01	2.695E-03	9.351E-04	3.274E-04	1.338E-07	3.052E-09
BK	1.038E-06	2.466E-08	1.119E-08	1.043E-09	1.997E-11	4.105E-18	1.417E-18	1.400E-18	1.367E-18	9.551E-19	2.649E-20	6.737E-23
CF	8.874E-08	7.870E-08	7.074E-08	5.234E-08	3.631E-08	1.721E-08	8.022E-09	5.275E-09	1.336E-09	2.493E-14	1.416E-19	3.602E-22
ES	6.114E-11	1.332E-12	5.307E-13	3.376E-14	3.422E-16	3.615E-24	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	8.397E+04	1.397E+02	1.375E+02	1.457E+02	1.583E+02	1.809E+02	1.651E+02	1.122E+02	4.983E+01	1.253E+01	9.288E-01	5.027E-01

TABLE B.13. WATTS OF PRINCIPAL ACTINIDE NUCLIDES IN BWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
PB209	1.973E-10	7.214E-11	7.474E-11	8.328E-11	9.985E-11	1.957E-10	9.458E-10	7.912E-09	1.227E-07	1.651E-05	3.746E-04	7.588E-04
PB214	5.637E-11	9.658E-11	1.491E-10	3.808E-10	1.017E-09	6.818E-09	7.231E-08	7.035E-07	8.084E-06	3.433E-04	2.736E-03	3.292E-03
BI210	2.825E-12	4.529E-12	7.080E-12	2.298E-11	9.045E-11	1.312E-09	2.890E-08	4.080E-07	5.844E-06	2.481E-04	1.978E-03	2.380E-03
BI211	1.297E-08	2.965E-08	4.500E-08	9.069E-08	1.660E-07	4.584E-07	1.437E-06	4.181E-06	1.420E-05	1.348E-04	8.615E-04	1.054E-03
BI213	7.201E-10	2.637E-10	2.732E-10	3.044E-10	3.650E-10	7.153E-10	3.458E-09	2.892E-08	4.484E-07	6.034E-05	1.367E-03	2.774E-03
BI214	2.265E-10	3.881E-10	5.991E-10	1.530E-09	4.089E-09	2.740E-08	2.906E-07	2.827E-06	3.249E-05	1.379E-03	1.100E-02	1.323E-02
PO210	2.354E-11	4.872E-11	7.796E-11	2.659E-10	1.257E-09	1.824E-08	4.018E-07	5.672E-06	8.124E-05	3.450E-03	2.750E-02	3.308E-02
PO213	0.0	3.106E-09	3.218E-09	3.586E-09	4.299E-09	8.424E-09	4.072E-08	3.406E-07	5.281E-06	7.107E-04	1.810E-02	3.267E-02
PO214	1.923E-09	1.406E-09	2.170E-09	5.543E-09	1.481E-08	9.925E-08	1.053E-06	1.024E-05	1.177E-04	4.997E-03	3.983E-02	4.792E-02
PO215	1.452E-08	3.319E-08	5.037E-08	1.018E-07	1.857E-07	5.131E-07	1.608E-06	4.680E-06	1.589E-05	1.509E-04	9.642E-04	1.179E-03
PO218	6.407E-10	1.098E-09	1.694E-09	4.327E-09	1.156E-08	7.749E-08	8.218E-07	7.995E-06	9.187E-05	3.901E-03	3.110E-02	3.741E-02
AT217	7.310E-09	2.677E-09	2.774E-09	3.090E-09	3.705E-09	7.260E-09	3.510E-08	2.936E-07	4.552E-06	6.125E-04	1.388E-02	2.816E-02
RN219	1.349E-08	3.085E-08	4.681E-08	9.433E-08	1.727E-07	4.769E-07	1.495E-06	4.350E-06	1.477E-05	1.402E-04	8.962E-04	1.096E-03
RN222	5.859E-10	1.004E-09	1.549E-09	3.957E-09	1.057E-08	7.086E-08	7.515E-07	7.311E-06	8.401E-05	3.567E-03	2.844E-02	3.421E-02
FR221	6.611E-09	2.421E-09	2.509E-09	2.795E-09	3.351E-09	6.567E-09	3.174E-08	2.655E-07	4.117E-06	5.540E-04	1.255E-02	2.547E-02
RA223	1.158E-08	2.647E-08	4.017E-08	8.095E-08	1.482E-07	4.092E-07	1.283E-06	3.733E-06	1.268E-05	1.203E-04	7.691E-04	9.406E-04
RA226	5.101E-10	8.746E-10	1.350E-09	3.448E-09	9.214E-09	6.174E-08	6.548E-07	6.371E-06	7.320E-05	3.108E-03	2.478E-02	2.981E-02
AC225	5.984E-09	2.191E-09	2.270E-09	2.530E-09	3.033E-09	5.943E-09	2.873E-08	2.403E-07	3.726E-06	5.014E-04	1.136E-02	2.305E-02
TH227	1.212E-08	2.675E-08	4.061E-08	8.183E-08	1.498E-07	4.137E-07	1.296E-06	3.772E-06	1.281E-05	1.216E-04	7.774E-04	9.507E-04
TH229	1.853E-09	1.919E-09	1.988E-09	2.216E-09	2.656E-09	5.205E-09	2.516E-08	2.105E-07	3.263E-06	4.391E-04	9.949E-03	2.019E-02
TH230	6.997E-07	9.508E-07	1.203E-06	1.968E-06	3.267E-06	8.752E-06	3.082E-05	1.062E-04	3.934E-04	3.914E-03	2.417E-02	2.908E-02
PA231	3.744E-07	3.863E-07	4.278E-07	4.278E-07	4.797E-07	6.870E-07	1.412E-06	3.484E-06	1.072E-05	1.018E-04	6.507E-04	7.969E-04
PA233	5.286E-04	5.521E-04	5.524E-04	5.539E-04	5.585E-04	5.929E-04	7.654E-04	1.195E-03	1.962E-03	2.325E-03	2.258E-03	2.151E-03
PA234M	1.596E-03	1.582E-03	1.582E-03	1.582E-03	1.582E-03	1.582E-03	1.582E-03	1.582E-03	1.582E-03	1.582E-03	1.582E-03	1.582E-03
U233	6.456E-07	6.797E-07	7.139E-07	8.102E-07	9.658E-07	1.609E-06	4.264E-06	1.536E-05	7.986E-05	1.216E-03	1.036E-02	1.892E-02
U234	2.832E-02	2.846E-02	2.860E-02	2.903E-02	2.973E-02	3.224E-02	3.850E-02	4.523E-02	4.692E-02	4.598E-02	3.770E-02	2.783E-02
U235	4.261E-04	4.261E-04	4.261E-04	4.261E-04	4.262E-04	4.263E-04	4.269E-04	4.284E-04	4.337E-04	4.938E-04	6.832E-04	6.983E-04
U236	5.810E-03	5.810E-03	5.811E-03	5.812E-03	5.814E-03	5.821E-03	5.848E-03	5.924E-03	6.175E-03	8.184E-03	9.418E-03	9.376E-03
U238	8.119E-03	8.119E-03	8.119E-03	8.119E-03	8.119E-03	8.119E-03	8.119E-03	8.119E-03	8.119E-03	8.119E-03	8.119E-03	8.119E-03
NP237	7.283E-03	7.434E-03	7.438E-03	7.459E-03	7.520E-03	7.983E-03	1.031E-02	1.609E-02	2.642E-02	3.131E-02	3.041E-02	2.897E-02
PU238	5.341E+01	5.808E+01	5.861E+01	5.750E+01	5.528E+01	4.721E+01	2.720E+01	5.637E+00	2.503E-02	4.397E-21	0.0	0.0
PU239	9.128E+00	9.260E+00	9.259E+00	9.259E+00	9.257E+00	9.253E+00	9.235E+00	9.184E+00	9.008E+00	7.005E+00	5.293E-01	7.035E-03
PU240	1.487E+01	1.488E+01	1.488E+01	1.488E+01	1.489E+01	1.489E+01	1.450E+01	1.346E+01	5.183E+00	3.717E-04	1.029E-08	
PU241	3.504E+00	3.339E+00	3.182E+00	2.754E+00	2.165E+00	8.267E-01	2.844E-02	2.287E-06	3.910E-07	1.877E-07	1.218E-10	5.909E-16
PU242	4.269E-02	4.269E-02	4.269E-02	4.269E-02	4.269E-02	4.269E-02	4.269E-02	4.267E-02	4.262E-02	4.195E-02	3.570E-02	2.729E-02
AM241	3.879E+00	9.746E+00	1.533E+01	3.049E+01	5.119E+01	9.648E+01	1.125E+02	8.237E+01	2.661E+01	2.155E-04	1.305E-07	6.660E-13
AM243	4.077E-01	4.082E-01	4.081E-01	4.080E-01	4.078E-01	4.071E-01	4.044E-01	3.965E-01	3.716E-01	1.596E-01	3.420E-05	6.564E-10
CM242	4.049E+01	8.639E+00	1.834E+00	2.149E-02	3.935E-03	3.584E-03	2.604E-03	1.046E-03	4.299E-05	6.478E-23	0.0	0.0
CM243	4.551E-01	4.441E-01	4.335E-01	4.030E-01	3.568E-01	2.194E-01	3.998E-02	3.066E-04	1.247E-11	0.0	0.0	0.0
CM244	3.612E+01	3.477E+01	3.346E+01	2.983E+01	2.464E+01	1.146E+01	7.863E-01	3.724E-04	1.146E-12	1.145E-12	1.144E-12	1.143E-12
SUMTOT	1.624E+02	1.397E+02	1.375E+02	1.456E+02	1.583E+02	1.808E+02	1.651E+02	1.122E+02	4.981E+01	1.292E+01	9.280E-01	5.015E-01
TOTAL	8.397E+04	1.397E+02	1.375E+02	1.457E+02	1.583E+02	1.809E+02	1.651E+02	1.122E+02	4.983E+01	1.253E+01	9.288E-01	5.027E-01

TABLE B.14. PHOTONS FROM ACTINIDES IN BWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS= ONE METRIC TON OF INITIAL HEAVY METAL(MTIHM)

EMEAN	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	8.378E+17	7.039E+13	3.618E+13	2.932E+13	3.253E+13	3.882E+13	3.661E+13	2.511E+13	1.019E+13	1.712E+12	2.019E+11	1.973E+11
2.500E-02	3.719E+16	2.864E+11	4.436E+11	8.708E+11	1.454E+12	2.729E+12	3.180E+12	2.332E+12	7.670E+11	1.061E+10	1.659E+10	1.914E+10
3.750E-02	5.426E+16	2.068E+11	1.367E+11	1.478E+11	1.925E+11	2.882E+11	3.108E+11	2.290E+11	9.564E+10	1.673E+10	1.285E+10	1.964E+10
5.750E-02	4.751E+16	4.064E+12	6.376E+12	1.266E+13	2.123E+13	3.999E+13	4.661E+13	3.414E+13	1.113E+13	1.276E+10	1.368E+10	1.640E+10
8.500E-02	3.762E+17	4.502E+11	4.499E+11	4.485E+11	4.458E+11	4.329E+11	4.022E+11	3.793E+11	3.465E+11	1.615E+11	4.304E+10	5.437E+10
1.250E-01	2.965E+17	3.837E+11	3.775E+11	3.709E+11	3.621E+11	3.315E+11	2.780E+11	2.501E+11	2.196E+11	9.488E+10	9.200E+09	1.121E+10
2.250E-01	2.100E+17	3.058E+11	3.002E+11	2.898E+11	2.749E+11	2.304E+11	1.709E+11	1.545E+11	1.442E+11	6.548E+10	2.200E+10	2.866E+10
3.750E-01	2.291E+16	2.030E+10	2.037E+10	2.057E+10	2.086E+10	2.160E+10	2.272E+10	2.477E+10	2.807E+10	2.395E+10	3.258E+10	3.864E+10
5.750E-01	3.972E+15	1.243E+09	7.290E+08	7.137E+08	8.814E+08	1.222E+09	1.313E+09	1.056E+09	6.653E+08	2.582E+09	1.818E+10	2.202E+10
8.500E-01	8.124E+15	8.451E+08	7.337E+08	7.194E+08	7.330E+08	7.283E+08	6.140E+08	4.178E+08	2.339E+08	6.989E+08	4.513E+09	5.436E+09
1.250E+00	1.722E+15	3.977E+08	3.582E+08	3.371E+08	3.194E+08	2.694E+08	1.997E+08	1.357E+08	1.241E+08	1.460E+09	1.105E+10	1.331E+10
1.750E+00	1.471E+12	8.034E+07	6.559E+07	5.871E+07	5.263E+07	3.447E+07	1.781E+07	1.637E+07	3.952E+07	1.122E+09	9.004E+09	1.102E+10
2.250E+00	7.693E+07	3.797E+07	2.887E+07	2.391E+07	1.989E+07	9.732E+06	1.529E+06	1.479E+06	8.681E+06	3.392E+08	2.701E+09	3.249E+09
2.750E+00	5.664E+07	4.672E+07	5.110E+07	6.507E+07	7.144E+07	5.901E+07	2.807E+07	4.455E+06	5.794E+05	6.129E+06	4.709E+07	5.663E+07
3.500E+00	3.999E+07	1.978E+07	1.505E+07	1.247E+07	1.037E+07	5.061E+06	7.463E+05	4.015E+05	3.872E+05	1.291E+06	8.895E+06	1.067E+07
5.000E+00	1.711E+07	8.460E+06	6.437E+06	5.333E+06	4.433E+06	2.161E+06	3.155E+05	1.684E+05	1.537E+05	7.878E+04	3.090E+04	2.377E+04
7.000E+00	1.967E+06	9.742E+05	7.418E+05	6.147E+05	5.109E+05	2.488E+05	3.588E+04	1.906E+04	1.755E+04	9.034E+03	3.555E+03	2.736E+03
1.100E+01	2.267E+05	1.121E+05	8.525E+04	7.061E+04	5.867E+04	2.855E+04	4.093E+03	2.171E+03	2.009E+03	1.037E+03	4.090E+02	3.148E+02
TOTAL	1.896E+18	7.611E+13	4.429E+13	4.412E+13	5.651E+13	8.284E+13	8.759E+13	6.262E+13	2.292E+13	2.104E+12	3.973E+11	4.405E+11
MEV/SEC	1.545E+17	1.469E+12	1.088E+12	1.354E+12	1.907E+12	3.101E+12	3.438E+12	2.515E+12	9.160E+11	8.326E+10	7.678E+10	9.279E+10

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS= ONE METRIC TON OF INITIAL HEAVY METAL(MTIHM)

EMEAN	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	1.257E+10	1.056E+06	5.427E+05	4.398E+05	4.879E+05	5.823E+05	5.491E+05	3.766E+05	1.529E+05	2.568E+04	3.028E+03	2.960E+03
2.500E-02	9.296E+08	7.159E+03	1.109E+04	2.177E+04	3.635E+04	6.824E+04	7.949E+04	5.829E+04	1.917E+04	2.653E+02	4.148E+02	4.784E+02
3.750E-02	2.035E+09	7.754E+03	5.127E+03	5.544E+03	7.218E+03	1.081E+04	1.165E+04	8.588E+03	3.586E+03	6.274E+02	4.917E+02	7.366E+02
5.750E-02	2.732E+09	2.337E+05	3.666E+05	7.278E+05	1.221E+06	2.299E+06	2.680E+06	1.963E+06	6.397E+05	7.338E+02	7.867E+02	9.432E+02
8.500E-02	3.198E+10	3.826E+04	3.824E+04	3.812E+04	3.789E+04	3.680E+04	3.418E+04	3.224E+04	2.945E+04	1.373E+04	3.658E+03	4.622E+03
1.250E-01	3.707E+10	4.797E+04	4.719E+04	4.637E+04	4.527E+04	4.143E+04	3.475E+04	3.126E+04	2.745E+04	1.186E+04	1.150E+03	1.402E+03
2.250E-01	4.724E+10	6.881E+04	6.754E+04	6.520E+04	6.186E+04	5.183E+04	3.846E+04	3.477E+04	3.244E+04	1.473E+04	4.950E+03	6.448E+03
3.750E-01	8.592E+09	7.613E+03	7.640E+03	7.715E+03	7.822E+03	8.099E+03	8.522E+03	9.290E+03	1.053E+04	8.980E+03	1.222E+04	1.449E+04
5.750E-01	2.284E+09	7.145E+02	4.192E+02	4.104E+02	5.068E+02	7.025E+02	7.552E+02	6.071E+02	3.825E+02	1.485E+03	1.045E+04	1.266E+04
8.500E-01	6.906E+09	7.184E+02	6.236E+02	6.115E+02	6.231E+02	6.190E+02	5.219E+02	3.551E+02	1.988E+02	5.940E+02	3.836E+03	4.621E+03
1.250E+00	2.153E+09	4.971E+02	4.477E+02	4.213E+02	3.993E+02	3.367E+02	2.496E+02	1.697E+02	1.553E+02	1.826E+03	1.381E+04	1.664E+04
1.750E+00	2.574E+06	1.406E+02	1.148E+02	1.027E+02	9.211E+01	6.032E+01	3.117E+01	2.864E+01	6.916E+01	1.964E+03	1.576E+04	1.929E+04
2.250E+00	1.731E+02	8.544E+01	6.495E+01	5.381E+01	4.475E+01	2.190E+01	3.440E+00	3.327E+00	1.953E+01	7.631E+02	6.077E+03	7.311E+03
2.750E+00	1.558E+02	1.285E+02	1.405E+02	1.789E+02	1.965E+02	1.623E+02	7.718E+01	1.226E+01	1.593E+00	1.686E+01	1.295E+02	1.557E+02
3.500E+00	1.400E+02	6.922E+01	5.268E+01	4.365E+01	3.629E+01	1.771E+01	2.612E+00	1.409E+00	1.355E+00	4.519E+00	3.113E+01	3.735E+01
5.000E+00	8.554E+01	4.230E+01	3.218E+01	2.666E+01	2.216E+01	1.081E+01	1.578E+00	8.421E-01	7.683E-01	3.939E-01	1.545E-01	1.189E-01
7.000E+00	1.377E+01	6.820E+00	5.193E+00	4.303E+00	3.576E+00	1.741E+00	2.511E-01	1.335E-01	1.228E-01	6.324E-02	2.489E-02	1.915E-02
1.100E+01	2.493E+00	1.233E+00	9.377E-01	7.767E-01	6.454E-01	3.141E-01	4.502E-02	2.389E-02	2.210E-02	1.141E-02	4.499E-03	3.463E-03
TOTAL	1.545E+11	1.469E+06	1.088E+06	1.354E+06	1.907E+06	3.101E+06	3.438E+06	2.515E+06	9.160E+05	8.326E+04	7.678E+04	9.279E+04
GAM POW	2.476E+04	2.356E-01	1.744E-01	2.171E-01	3.057E-01	4.970E-01	5.511E-01	4.032E-01	1.468E-01	1.335E-02	1.231E-02	1.487E-02

TABLE 8.15. (ALPHA,N) NEUTRONS FROM ACTINIDES IN BWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
BI211	1.069E-02	2.441E-02	3.704E-02	7.464E-02	1.366E-01	3.773E-01	1.183E+00	3.442E+00	1.169E+01	1.109E+02	7.091E+02	8.672E+02
PO210	1.086E-06	2.252E-06	3.603E-06	1.229E-05	5.611E-05	8.428E-04	1.857E-02	2.621E-01	3.755E+00	1.594E+02	1.271E+03	1.529E+03
PO213	0.0	5.451E-02	5.647E-02	6.292E-02	7.545E-02	1.478E-01	7.146E-01	5.971E+00	9.269E+01	1.247E+04	2.826E+05	5.733E+05
PO214	1.102E-02	8.052E-03	1.243E-02	3.175E-02	8.483E-02	5.685E-01	6.029E+00	5.865E+01	6.740E+02	2.862E+04	2.281E+05	2.745E+05
PO215	4.986E-02	1.140E-01	1.730E-01	3.485E-01	6.379E-01	1.762E+00	5.522E+00	1.607E+01	5.457E+01	5.181E+02	3.311E+03	4.049E+03
PO218	1.462E-04	2.504E-04	3.866E-04	9.874E-04	2.638E-03	1.768E-02	1.875E-01	1.824E+00	2.096E+01	8.901E+02	7.096E+03	8.537E+03
AT217	1.396E-02	5.114E-02	5.298E-03	5.903E-03	7.078E-03	1.387E-02	6.704E-02	5.608E-01	8.695E+00	1.170E+03	2.651E+04	5.379E+04
RN219	1.790E-02	4.092E-02	6.210E-02	1.251E-01	2.290E-01	6.326E-01	1.982E+00	5.769E+00	1.959E+01	1.860E+02	1.189E+03	1.454E+03
RN222	4.165E-05	7.135E-05	1.101E-04	2.813E-04	7.517E-04	5.037E-03	5.342E-02	5.197E-01	5.972E+00	2.536E+02	2.022E+03	2.432E+03
FR221	3.418E-03	1.252E-03	1.297E-03	1.445E-03	1.733E-03	3.395E-03	1.641E-02	1.373E-01	2.128E+00	2.864E+02	6.490E+03	1.317E+04
AC225	8.453E-04	3.096E-04	3.207E-04	3.574E-04	4.285E-04	8.396E-04	4.059E-03	3.395E-02	5.264E-01	7.084E+01	1.605E+03	3.256E+03
U234	3.251E+02	3.267E+02	3.283E+02	3.333E+02	3.412E+02	3.702E+02	4.420E+02	5.192E+02	5.386E+02	5.278E+02	4.328E+02	3.195E+02
NP237	1.809E+02	1.847E+02	1.848E+02	1.853E+02	1.868E+02	1.983E+02	2.560E+02	3.998E+02	6.562E+02	7.777E+02	7.554E+02	7.195E+02
PU238	1.882E+06	2.047E+06	2.065E+06	2.026E+06	1.948E+06	1.664E+06	9.563E+05	1.986E+05	8.821E+02	1.549E-16	0.0	0.0
PU239	2.143E+05	2.174E+05	2.174E+05	2.174E+05	2.174E+05	2.173E+05	2.168E+05	2.157E+05	2.119E+05	1.645E+05	1.243E+04	1.652E+02
PU240	3.562E+05	3.563E+05	3.563E+05	3.564E+05	3.566E+05	3.566E+05	3.546E+05	3.472E+05	3.223E+05	1.241E+05	6.903E+00	2.443E-04
PU242	1.021E+03	1.021E+03	1.021E+03	1.021E+03	1.021E+03	1.021E+03	1.021E+03	1.021E+03	1.020E+03	1.003E+03	8.540E+02	6.528E+02
AM241	1.360E+05	3.418E+05	5.376E+05	1.069E+06	1.795E+06	3.384E+06	3.944E+06	2.889E+06	9.402E+05	7.559E+00	4.576E-03	2.336E-08
AM243	1.953E+04	1.956E+04	1.955E+04	1.955E+04	1.954E+04	1.950E+04	1.937E+04	1.901E+04	1.780E+04	7.646E+03	1.639E+00	3.145E-05
CM242	2.812E+08	6.001E+07	1.274E+07	1.490E+05	2.733E+04	2.489E+04	1.809E+04	7.266E+03	2.986E+02	4.500E-16	0.0	0.0
CM243	1.255E+05	1.225E+05	1.195E+05	1.111E+05	9.840E+04	6.050E+04	1.102E+04	8.511E+01	3.438E-06	0.0	0.0	0.0
CM244	7.319E+06	7.046E+06	6.782E+06	6.046E+06	4.993E+06	2.322E+06	1.593E+05	7.548E+01	2.322E-07	2.320E-07	2.319E-07	2.316E-07
TOTALS												
TABLE	2.913E+08	7.017E+07	2.285E+07	1.000E+07	9.463E+06	8.055E+06	5.687E+06	3.679E+06	1.496E+06	3.436E+05	5.767E+05	9.406E+05
ACTUAL	2.913E+08	7.017E+07	2.285E+07	1.000E+07	9.463E+06	8.055E+06	5.687E+06	3.679E+06	1.496E+06	3.436E+05	5.767E+05	9.406E+05

TABLE 8.16. SPONTANEOUS FISSION NEUTRONS FROM ACTINIDES IN BWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
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	1.208E+04	1.208E+04
PU238	2.500E+05	2.719E+05	2.744E+05	2.692E+05	2.588E+05	2.210E+05	1.273E+05	2.639E+04	1.172E+02	2.059E-17	0.0	0.0
PU240	1.908E+06	1.908E+06	1.909E+06	1.909E+06	1.910E+06	1.910E+06	1.899E+06	1.855E+06	1.726E+06	6.648E+05	4.768E+01	1.308E-03
PU242	6.379E+05	6.380E+05	6.380E+05	6.380E+05	6.379E+05	6.379E+05	6.379E+05	6.377E+05	6.370E+05	6.268E+05	5.335E+05	4.078E+05
CM242	2.270E+08	4.844E+07	1.028E+07	1.203E+05	2.206E+04	2.009E+04	1.460E+04	5.866E+03	2.410E+02	3.632E-16	0.0	0.0
CM244	1.419E+08	1.366E+08	1.314E+08	1.172E+08	9.677E+07	4.501E+07	3.088E+06	1.463E+03	4.501E-06	4.497E-06	4.494E-06	4.489E-06
CM246	4.857E+05	4.857E+05	4.856E+05	4.854E+05	4.850E+05	4.836E+05	4.787E+05	4.648E+05	4.195E+05	1.122E+05	2.108E-01	6.093E-11
TOTALS												
TABLE	3.721E+08	1.883E+08	1.450E+08	1.206E+08	1.001E+08	4.830E+07	6.260E+06	3.009E+06	2.796E+06	1.417E+06	5.460E+05	4.201E+05
ACTUAL	3.721E+08	1.883E+08	1.450E+08	1.206E+08	1.001E+08	4.830E+07	6.260E+06	3.009E+06	2.796E+06	1.417E+06	5.460E+05	4.201E+05
OVERALL TOTALS												
TABLE	6.634E+08	2.585E+08	1.679E+08	1.306E+08	1.096E+08	5.635E+07	1.195E+07	6.689E+06	4.293E+06	1.760E+06	1.123E+06	1.361E+06
ACTUAL	6.634E+08	2.585E+08	1.679E+08	1.306E+08	1.096E+08	5.635E+07	1.195E+07	6.689E+06	4.293E+06	1.760E+06	1.123E+06	1.361E+06

TABLE B.17. GRAMS OF FISSION PRODUCT ELEMENTS IN BWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	4.671E-02	4.416E-02	4.175E-02	3.528E-02	2.665E-02	8.672E-03	1.705E-04	2.271E-09	1.960E-26	0.0	0.0	0.0
LI	1.658E-04	1.658E-04	1.658E-04	1.658E-04	1.658E-04	1.658E-04	1.658E-04	1.658E-04	1.658E-04	1.658E-04	1.658E-04	1.658E-04
BE	1.238E-04	1.238E-04	1.238E-04	1.238E-04	1.238E-04	1.238E-04	1.238E-04	1.238E-04	1.237E-04	1.233E-04	1.192E-04	1.127E-04
C	2.177E-05	2.176E-05	2.176E-05	2.175E-05	2.174E-05	2.169E-05	2.150E-05	2.099E-05	1.929E-05	6.491E-06	1.212E-10	1.592E-18
CO	1.010E-12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NI	3.707E-10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CU	3.390E-09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZN	4.885E-05	2.562E-08	2.562E-08	2.562E-08	2.562E-08	2.562E-08	2.562E-08	2.562E-08	2.562E-08	2.562E-08	2.562E-08	2.562E-08
GA	2.704E-05	6.843E-07	6.843E-07	6.843E-07	6.843E-07	6.843E-07	6.843E-07	6.843E-07	6.843E-07	6.843E-07	6.843E-07	6.843E-07
GE	5.292E-01	5.289E-01	5.289E-01	5.289E-01	5.289E-01	5.289E-01	5.289E-01	5.289E-01	5.289E-01	5.289E-01	5.289E-01	5.289E-01
AS	1.615E-01	1.595E-01	1.595E-01	1.595E-01	1.595E-01	1.595E-01	1.595E-01	1.595E-01	1.595E-01	1.595E-01	1.595E-01	1.595E-01
SE	4.668E+01	4.668E+01	4.668E+01	4.668E+01	4.668E+01	4.668E+01	4.668E+01	4.667E+01	4.663E+01	4.619E+01	4.350E+01	4.217E+01
BR	1.808E+01	1.807E+01	1.807E+01	1.807E+01	1.807E+01	1.807E+01	1.807E+01	1.808E+01	1.812E+01	1.856E+01	2.125E+01	2.258E+01
KR	3.056E+02	3.044E+02	3.032E+02	3.002E+02	2.962E+02	2.888E+02	2.860E+02	2.859E+02	2.859E+02	2.859E+02	2.859E+02	2.859E+02
RB	2.831E+02	2.844E+02	2.855E+02	2.886E+02	2.925E+02	3.000E+02	3.027E+02	3.028E+02	3.028E+02	3.028E+02	3.028E+02	3.028E+02
SR	7.532E+02	7.221E+02	7.118E+02	6.828E+02	6.387E+02	5.067E+02	3.312E+02	2.906E+02	2.903E+02	2.903E+02	2.903E+02	2.903E+02
Y	3.908E+02	3.793E+02	3.790E+02	3.790E+02	3.789E+02	3.789E+02	3.789E+02	3.789E+02	3.789E+02	3.789E+02	3.789E+02	3.789E+02
ZR	2.940E+03	2.930E+03	2.940E+03	2.969E+03	3.013E+03	3.145E+03	3.320E+03	3.361E+03	3.361E+03	3.358E+03	3.335E+03	3.297E+03
NB	2.938E+01	1.251E+00	2.604E-02	2.442E-03	3.797E-03	9.217E-03	2.818E-02	8.237E-02	2.720E-01	2.705E+00	2.650E+01	6.405E+01
MO	2.694E+03	2.772E+03	2.774E+03	2.774E+03	2.774E+03	2.774E+03	2.774E+03	2.774E+03	2.774E+03	2.774E+03	2.774E+03	2.774E+03
TC	6.540E+02	6.567E+02	6.567E+02	6.567E+02	6.567E+02	6.566E+02	6.565E+02	6.560E+02	6.546E+02	6.357E+02	4.743E+02	2.911E+02
RU	1.974E+03	1.873E+03	1.840E+03	1.811E+03	1.807E+03	1.807E+03	1.807E+03	1.807E+03	1.809E+03	1.829E+03	1.989E+03	2.172E+03
RH	3.713E+02	4.057E+02	4.058E+02	4.058E+02	4.058E+02	4.058E+02	4.058E+02	4.058E+02	4.058E+02	4.058E+02	4.058E+02	4.058E+02
PD	1.005E+03	1.071E+03	1.104E+03	1.134E+03	1.138E+03	1.138E+03	1.138E+03	1.138E+03	1.138E+03	1.138E+03	1.136E+03	1.133E+03
AG	6.692E+01	6.628E+01	6.612E+01	6.604E+01	6.604E+01	6.604E+01	6.604E+01	6.604E+01	6.606E+01	6.623E+01	6.799E+01	7.089E+01
CD	8.320E+01	8.390E+01	8.405E+01	8.410E+01	8.408E+01	8.400E+01	8.396E+01	8.395E+01	8.395E+01	8.395E+01	8.395E+01	8.395E+01
IN	1.929E+00	2.008E+00	2.017E+00	2.041E+00	2.074E+00	2.149E+00	2.195E+00	2.195E+00	2.196E+00	2.196E+00	2.196E+00	2.196E+00
SN	6.994E+01	6.956E+01	6.952E+01	6.952E+01	6.952E+01	6.951E+01	6.950E+01	6.947E+01	6.936E+01	6.804E+01	5.850E+01	5.139E+01
SB	2.504E+01	2.258E+01	2.073E+01	1.724E+01	1.501E+01	1.412E+01	1.412E+01	1.412E+01	1.412E+01	1.412E+01	1.412E+01	1.412E+01
TE	3.966E+02	3.934E+02	3.952E+02	3.987E+02	4.009E+02	4.018E+02	4.018E+02	4.018E+02	4.019E+02	4.033E+02	4.128E+02	4.199E+02
I	2.003E+02	1.953E+02	1.954E+02	1.954E+02	1.954E+02	1.954E+02	1.954E+02	1.954E+02	1.954E+02	1.954E+02	1.948E+02	1.938E+02
XE	4.376E+03	4.377E+03	4.377E+03	4.377E+03	4.377E+03	4.377E+03	4.377E+03	4.377E+03	4.377E+03	4.377E+03	4.378E+03	4.379E+03
CS	2.340E+03	2.301E+03	2.261E+03	2.170E+03	2.060E+03	1.765E+03	1.366E+03	1.268E+03	1.267E+03	1.266E+03	1.258E+03	1.245E+03
BA	1.157E+03	1.189E+03	1.229E+03	1.321E+03	1.431E+03	1.726E+03	2.124E+03	2.222E+03	2.223E+03	2.224E+03	2.232E+03	2.246E+03
LA	1.017E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03
CE	2.277E+03	2.086E+03	2.018E+03	1.973E+03	1.970E+03	1.970E+03	1.970E+03	1.970E+03	1.970E+03	1.970E+03	1.970E+03	1.970E+03
PR	9.093E+02	9.343E+02	9.343E+02	9.343E+02	9.343E+02	9.343E+02	9.343E+02	9.343E+02	9.343E+02	9.343E+02	9.343E+02	9.343E+02
ND	3.051E+03	3.229E+03	3.298E+03	3.343E+03	3.346E+03	3.346E+03	3.346E+03	3.346E+03	3.346E+03	3.346E+03	3.346E+03	3.346E+03
PM	1.266E+02	9.888E+01	7.592E+01	3.437E+01	9.170E+00	4.660E-02	4.327E-10	0.0	0.0	0.0	0.0	0.0
SM	6.016E+02	6.346E+02	6.574E+02	6.987E+02	7.235E+02	7.310E+02	7.269E+02	7.225E+02	7.212E+02	7.212E+02	7.212E+02	7.212E+02
EU	1.308E+02	1.256E+02	1.223E+02	1.142E+02	1.052E+02	9.337E+01	9.458E+01	9.906E+01	1.003E+02	1.003E+02	1.003E+02	1.003E+02
GD	6.156E+01	6.757E+01	7.099E+01	7.939E+01	8.887E+01	1.023E+02	1.051E+02	1.051E+02	1.051E+02	1.051E+02	1.051E+02	1.051E+02
TB	2.209E+00	2.148E+00	2.146E+00	2.146E+00	2.146E+00	2.146E+00	2.146E+00	2.146E+00	2.146E+00	2.146E+00	2.146E+00	2.146E+00
DY	1.059E+00	1.125E+00	1.126E+00	1.126E+00	1.126E+00	1.126E+00	1.126E+00	1.126E+00	1.126E+00	1.126E+00	1.126E+00	1.126E+00
HO	1.056E-01	1.055E-01	1.055E-01	1.055E-01	1.055E-01	1.055E-01	1.054E-01	1.053E-01	1.051E-01	1.045E-01	1.045E-01	1.045E-01
ER	4.037E-02	4.061E-02	4.061E-02	4.061E-02	4.061E-02	4.062E-02	4.066E-02	4.076E-02	4.103E-02	4.156E-02	4.157E-02	4.157E-02
TM	4.017E-05	3.797E-05	3.732E-05	3.711E-05	3.705E-05	3.704E-05	3.704E-05	3.704E-05	3.704E-05	3.704E-05	3.704E-05	3.704E-05
YB	5.886E-06	1.007E-05	1.072E-05	1.094E-05	1.099E-05	1.100E-05	1.100E-05	1.100E-05	1.100E-05	1.100E-05	1.100E-05	1.100E-05
TOTAL	2.836E+04	2.836E+04	2.836E+04	2.836E+04	2.836E+04	2.836E+04	2.836E+04	2.836E+04	2.836E+04	2.836E+04	2.836E+04	2.836E+04

TABLE B.19. CURIES OF FISSION PRODUCT ELEMENTS IN BWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	4.510E+02	4.264E+02	4.031E+02	3.406E+02	2.573E+02	8.372E+01	1.646E+00	2.192E-05	1.892E-22	0.0	0.0	0.0
BE	2.406E-06	2.406E-06	2.406E-06	2.406E-06	2.406E-06	2.406E-06	2.406E-06	2.406E-06	2.406E-06	2.396E-06	2.304E-06	2.159E-06
C	9.705E-05	9.704E-05	9.703E-05	9.699E-05	9.694E-05	9.670E-05	9.589E-05	9.359E-05	8.599E-05	2.895E-05	5.404E-10	7.100E-18
CO	1.312E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NI	4.781E+01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CU	2.998E+02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZN	2.702E+03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GA	1.312E+04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GE	8.256E+04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AS	2.414E+05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	7.064E+05	3.382E-01	3.382E-01	3.382E-01	3.382E-01	3.381E-01	3.378E-01	3.371E-01	3.346E-01	3.040E-01	1.153E-01	2.348E-02
BR	1.508E+06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KR	2.731E+06	7.232E+03	6.779E+03	5.584E+03	4.042E+03	1.109E+03	1.200E+01	2.940E-05	3.665E-07	3.558E-07	2.643E-07	1.611E-07
RB	3.886E+06	1.597E-03	1.769E-05	1.768E-05	1.768E-05	1.768E-05	1.768E-05	1.768E-05	1.768E-05	1.768E-05	1.768E-05	1.768E-05
SR	5.984E+06	6.290E+04	5.765E+04	5.356E+04	4.755E+04	2.954E+04	5.582E+03	4.784E+01	2.778E-06	0.0	0.0	0.0
Y	8.327E+06	6.939E+04	5.767E+04	5.357E+04	4.756E+04	2.955E+04	5.583E+03	4.785E+01	2.779E-06	0.0	0.0	0.0
ZR	6.856E+06	2.172E+04	4.169E+02	1.506E+00	1.504E+00	1.504E+00	1.503E+00	1.503E+00	1.503E+00	1.497E+00	1.437E+00	1.343E+00
NB	1.034E+07	4.905E+04	9.581E+02	4.122E-01	6.358E-01	1.142E+00	1.420E+00	1.428E+00	1.428E+00	1.422E+00	1.365E+00	1.275E+00
MO	6.815E+06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC	7.823E+06	1.114E+01	1.114E+01	1.114E+01	1.114E+01	1.114E+01	1.113E+01	1.113E+01	1.110E+01	1.078E+01	8.044E+00	4.937E+00
RU	3.587E+06	2.243E+05	1.118E+05	1.421E+04	4.556E+02	4.861E-04	6.050E-25	0.0	0.0	0.0	0.0	0.0
RH	4.568E+06	2.241E+05	1.118E+05	1.421E+04	4.556E+02	4.861E-04	6.050E-25	0.0	0.0	0.0	0.0	0.0
PD	5.233E+05	9.478E-02	9.478E-02	9.478E-02	9.478E-02	9.478E-02	9.478E-02	9.477E-02	9.477E-02	9.468E-02	9.377E-02	9.228E-02
AG	6.023E+05	1.147E+03	4.165E+02	1.993E+01	1.261E-01	2.328E-05	1.589E-05	5.334E-06	1.169E-07	5.445E-29	0.0	0.0
CD	1.102E+05	4.498E+01	3.690E+01	3.372E+01	2.659E+01	1.028E+01	3.495E-01	2.760E-05	9.937E-20	0.0	0.0	0.0
IN	2.493E+05	2.198E-02	1.315E-04	4.084E-11	1.238E-11	1.238E-11	1.238E-11	1.238E-11	1.238E-11	1.238E-11	1.238E-11	1.238E-11
SN	1.014E+06	4.221E+02	7.269E+01	1.865E+00	7.814E-01	7.394E-01	6.679E-01	6.264E-01	6.207E-01	5.832E-01	3.125E-01	1.105E-01
SB	2.563E+06	8.801E+03	6.843E+03	3.230E+03	9.249E+02	6.915E+00	7.120E-01	7.110E-01	7.076E-01	6.648E-01	3.563E-01	1.260E-01
TE	5.524E+06	4.303E+03	1.878E+03	7.882E+02	2.255E+02	1.313E+00	3.735E-08	1.426E-12	1.426E-12	1.426E-12	1.426E-12	1.426E-12
I	8.268E+06	2.644E-02	2.644E-02	2.644E-02	2.644E-02	2.644E-02	2.644E-02	2.644E-02	2.644E-02	2.643E-02	2.632E-02	2.615E-02
XE	6.201E+06	1.371E-05	7.871E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	5.477E+06	1.654E+05	1.404E+05	9.815E+04	7.260E+04	4.327E+04	8.584E+03	8.484E+01	3.593E-01	3.583E-01	3.487E-01	3.333E-01
BA	6.845E+06	7.999E+04	7.816E+04	7.293E+04	6.497E+04	4.093E+04	8.121E+03	7.992E+01	7.558E-06	0.0	0.0	0.0
LA	6.787E+06	3.502E-03	1.022E-10	9.336E-11	9.336E-11	9.336E-11	9.336E-11	9.336E-11	9.336E-11	9.336E-11	9.336E-11	9.336E-11
CE	5.424E+06	3.726E+05	1.527E+05	1.056E+04	1.229E+02	2.476E-05	2.250E-05	2.250E-05	2.250E-05	2.250E-05	2.250E-05	2.250E-05
PR	4.667E+06	3.766E+05	1.545E+05	1.068E+04	1.244E+02	2.288E-06	0.0	0.0	0.0	0.0	0.0	0.0
ND	1.079E+06	5.236E-05	1.207E-09	1.259E-09	1.263E-09	1.263E-09	1.263E-09	1.263E-09	1.263E-09	1.263E-09	1.263E-09	1.263E-09
PM	1.152E+06	9.176E+04	7.041E+04	3.187E+04	8.505E+03	4.322E+01	4.013E-07	0.0	0.0	0.0	0.0	0.0
SM	3.895E+05	3.219E+02	3.194E+02	3.121E+02	3.003E+02	2.575E+02	1.502E+02	3.218E+01	1.456E-01	4.213E-06	4.213E-06	4.213E-06
EU	1.671E+05	1.203E+04	1.086E+04	8.030E+03	4.930E+03	8.083E+02	2.617E+00	1.746E-06	4.780E-22	0.0	0.0	0.0
GD	6.348E+03	1.615E+01	5.674E+00	2.460E-01	1.318E-03	1.549E-12	5.164E-13	5.178E-13	5.178E-13	5.178E-13	5.178E-13	5.178E-13
TB	2.368E+03	2.001E+01	5.033E-01	1.654E-05	4.121E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	5.192E+02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	9.496E+01	1.723E-03	1.722E-03	1.719E-03	1.714E-03	1.694E-03	1.627E-03	1.449E-03	9.673E-04	5.345E-06	1.417E-28	0.0
ER	2.137E+00	3.289E-13	6.609E-25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	3.199E-02	4.245E-03	7.573E-04	7.120E-05	1.146E-05	8.386E-09	8.679E-20	0.0	0.0	0.0	0.0	0.0
TOTAL	1.205E+08	1.773E+06	9.641E+05	3.781E+05	2.531E+05	1.456E+05	2.605E+04	3.085E+02	1.632E+01	1.573E+01	1.210E+01	8.267E+00

TABLE B.18. GRAMS OF PRINCIPAL FISSION PRODUCT NUCLIDES IN BWR SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
KR 83	3.516E+01	3.517E+01	3.517E+01	3.517E+01	3.517E+01	3.517E+01	3.517E+01	3.517E+01	3.517E+01	3.517E+01	3.517E+01	3.517E+01
KR 84	9.260E+01	9.260E+01	9.260E+01	9.260E+01	9.260E+01	9.260E+01	9.260E+01	9.260E+01	9.260E+01	9.260E+01	9.260E+01	9.260E+01
RB 85	8.110E+01	8.234E+01	8.350E+01	8.654E+01	9.047E+01	9.795E+01	1.007E+02	1.008E+02	1.008E+02	1.008E+02	1.008E+02	1.008E+02
KR 86	1.574E+02	1.574E+02	1.574E+02	1.574E+02	1.574E+02	1.574E+02	1.574E+02	1.574E+02	1.574E+02	1.574E+02	1.574E+02	1.574E+02
RB 87	2.020E+02	2.020E+02	2.020E+02	2.020E+02	2.020E+02	2.020E+02	2.020E+02	2.020E+02	2.020E+02	2.020E+02	2.020E+02	2.020E+02
SR 88	2.899E+02	2.900E+02	2.900E+02	2.900E+02	2.900E+02	2.900E+02	2.900E+02	2.900E+02	2.900E+02	2.900E+02	2.900E+02	2.900E+02
Y 89	3.582E+02	3.787E+02	3.789E+02	3.789E+02	3.789E+02	3.789E+02	3.789E+02	3.789E+02	3.789E+02	3.789E+02	3.789E+02	3.789E+02
SR 90	4.421E+02	4.317E+02	4.215E+02	3.925E+02	3.484E+02	2.165E+02	4.091E+01	3.506E-01	2.036E-08	0.0	0.0	0.0
ZR 90	1.787E+01	2.828E+01	3.843E+01	6.749E+01	1.115E+02	2.435E+02	4.191E+02	4.597E+02	4.601E+02	4.601E+02	4.601E+02	4.601E+02
ZR 91	4.574E+02	4.893E+02	4.897E+02	4.897E+02	4.897E+02	4.897E+02	4.897E+02	4.897E+02	4.897E+02	4.897E+02	4.897E+02	4.897E+02
ZR 92	5.301E+02	5.302E+02	5.302E+02	5.302E+02	5.302E+02	5.302E+02	5.302E+02	5.302E+02	5.302E+02	5.302E+02	5.302E+02	5.302E+02
ZR 93	5.979E+02	5.981E+02	5.981E+02	5.981E+02	5.981E+02	5.981E+02	5.981E+02	5.981E+02	5.979E+02	5.954E+02	5.717E+02	5.341E+02
NB 93	4.989E-05	8.900E-05	1.396E-04	3.551E-04	8.964E-04	4.525E-03	2.251E-02	7.668E-02	2.663E-01	2.699E+00	2.649E+01	6.405E+01
ZR 94	6.170E+02	6.170E+02	6.170E+02	6.170E+02	6.170E+02	6.170E+02	6.170E+02	6.170E+02	6.170E+02	6.170E+02	6.170E+02	6.170E+02
MO 95	6.505E+02	6.304E+02	6.327E+02	6.327E+02	6.327E+02	6.327E+02	6.327E+02	6.327E+02	6.327E+02	6.327E+02	6.327E+02	6.327E+02
ZR 96	6.660E+02	6.660E+02	6.660E+02	6.660E+02	6.660E+02	6.660E+02	6.660E+02	6.660E+02	6.660E+02	6.660E+02	6.660E+02	6.660E+02
MO 97	6.587E+02	6.594E+02	6.594E+02	6.594E+02	6.594E+02	6.594E+02	6.594E+02	6.594E+02	6.594E+02	6.594E+02	6.594E+02	6.594E+02
MO 98	6.806E+02	6.806E+02	6.806E+02	6.806E+02	6.806E+02	6.806E+02	6.806E+02	6.806E+02	6.806E+02	6.806E+02	6.806E+02	6.806E+02
TC 99	6.538E+02	6.567E+02	6.567E+02	6.567E+02	6.567E+02	6.566E+02	6.565E+02	6.560E+02	6.546E+02	6.357E+02	4.743E+02	2.911E+02
RU 99	3.097E-03	5.234E-03	7.371E-03	1.378E-02	2.447E-02	6.720E-02	2.168E-01	6.439E-01	2.137E+00	2.103E+01	1.824E+02	3.656E+02
MO100	7.760E+02	7.760E+02	7.760E+02	7.760E+02	7.760E+02	7.760E+02	7.760E+02	7.760E+02	7.760E+02	7.760E+02	7.760E+02	7.760E+02
RU100	7.083E+01	7.083E+01	7.083E+01	7.083E+01	7.083E+01	7.083E+01	7.083E+01	7.083E+01	7.083E+01	7.083E+01	7.083E+01	7.083E+01
RU101	6.450E+02	6.450E+02	6.450E+02	6.450E+02	6.450E+02	6.450E+02	6.450E+02	6.450E+02	6.450E+02	6.450E+02	6.450E+02	6.450E+02
RU102	6.390E+02	6.390E+02	6.390E+02	6.390E+02	6.390E+02	6.390E+02	6.390E+02	6.390E+02	6.390E+02	6.390E+02	6.390E+02	6.390E+02
RH103	3.703E+02	4.057E+02	4.058E+02	4.058E+02	4.058E+02	4.058E+02	4.058E+02	4.058E+02	4.058E+02	4.058E+02	4.058E+02	4.058E+02
RU104	4.519E+02	4.519E+02	4.519E+02	4.519E+02	4.519E+02	4.519E+02	4.519E+02	4.519E+02	4.519E+02	4.519E+02	4.519E+02	4.519E+02
PD104	1.677E+02	1.677E+02	1.677E+02	1.677E+02	1.677E+02	1.677E+02	1.677E+02	1.677E+02	1.677E+02	1.677E+02	1.677E+02	1.677E+02
PD105	3.225E+02	3.235E+02	3.235E+02	3.235E+02	3.235E+02	3.235E+02	3.235E+02	3.235E+02	3.235E+02	3.235E+02	3.235E+02	3.235E+02
RU106	1.322E+02	6.646E+01	3.341E+01	4.246E+00	1.364E-01	1.452E-07	1.808E-28	0.0	0.0	0.0	0.0	0.0
PD106	1.626E+02	2.283E+02	2.614E+02	2.905E+02	2.946E+02	2.948E+02	2.948E+02	2.948E+02	2.948E+02	2.948E+02	2.948E+02	2.948E+02
PD107	1.842E+02	1.842E+02	1.842E+02	1.842E+02	1.842E+02	1.842E+02	1.842E+02	1.842E+02	1.842E+02	1.840E+02	1.822E+02	1.793E+02
PD108	1.268E+02	1.268E+02	1.268E+02	1.268E+02	1.268E+02	1.268E+02	1.268E+02	1.268E+02	1.268E+02	1.268E+02	1.268E+02	1.268E+02
AG109	6.592E+01	6.604E+01	6.604E+01	6.604E+01	6.604E+01	6.604E+01	6.604E+01	6.604E+01	6.604E+01	6.604E+01	6.604E+01	6.604E+01
PD110	4.082E+01	4.082E+01	4.082E+01	4.082E+01	4.082E+01	4.082E+01	4.082E+01	4.082E+01	4.082E+01	4.082E+01	4.082E+01	4.082E+01
I127	4.426E+01	4.560E+01	4.571E+01	4.572E+01	4.572E+01	4.572E+01	4.572E+01	4.572E+01	4.572E+01	4.572E+01	4.572E+01	4.572E+01
TE128	9.099E+01	9.100E+01	9.100E+01	9.100E+01	9.100E+01	9.100E+01	9.100E+01	9.100E+01	9.100E+01	9.100E+01	9.100E+01	9.100E+01
I129	1.485E+02	1.497E+02	1.497E+02	1.497E+02	1.497E+02	1.497E+02	1.497E+02	1.497E+02	1.497E+02	1.496E+02	1.491E+02	1.481E+02
TE130	2.946E+02	2.946E+02	2.946E+02	2.946E+02	2.946E+02	2.946E+02	2.946E+02	2.946E+02	2.946E+02	2.946E+02	2.946E+02	2.946E+02
XE131	3.668E+02	3.727E+02	3.727E+02	3.727E+02	3.727E+02	3.727E+02	3.727E+02	3.727E+02	3.727E+02	3.727E+02	3.727E+02	3.727E+02
XE132	8.817E+02	8.850E+02	8.850E+02	8.850E+02	8.850E+02	8.850E+02	8.850E+02	8.850E+02	8.850E+02	8.850E+02	8.850E+02	8.850E+02
CS133	9.465E+02	9.554E+02	9.554E+02	9.554E+02	9.554E+02	9.554E+02	9.554E+02	9.554E+02	9.554E+02	9.554E+02	9.554E+02	9.554E+02
XE134	1.223E+03	1.223E+03	1.223E+03	1.223E+03	1.223E+03	1.223E+03	1.223E+03	1.223E+03	1.223E+03	1.223E+03	1.223E+03	1.223E+03
CS134	8.739E+01	6.244E+01	4.461E+01	1.627E+01	3.031E+00	3.694E-03	2.228E-13	0.0	0.0	0.0	0.0	0.0
BA134	3.063E+01	5.558E+01	7.340E+01	1.017E+02	1.150E+02	1.180E+02	1.180E+02	1.180E+02	1.180E+02	1.180E+02	1.180E+02	1.180E+02
CS135	3.115E+02	3.120E+02	3.120E+02	3.120E+02	3.120E+02	3.120E+02	3.120E+02	3.120E+02	3.119E+02	3.111E+02	3.027E+02	2.893E+02
XE136	1.885E+03	1.885E+03	1.885E+03	1.885E+03	1.885E+03	1.885E+03	1.885E+03	1.885E+03	1.885E+03	1.885E+03	1.885E+03	1.885E+03
CS137	9.943E+02	9.716E+02	9.494E+02	8.858E+02	7.892E+02	4.972E+02	9.864E+01	9.709E-01	9.181E-08	0.0	0.0	0.0
BA137	3.379E+01	5.650E+01	7.869E+01	1.423E+02	2.389E+02	5.310E+02	9.295E+02	1.027E+03	1.028E+03	1.028E+03	1.028E+03	1.028E+03
BA138	1.062E+03	1.062E+03	1.062E+03	1.062E+03	1.062E+03	1.062E+03	1.062E+03	1.062E+03	1.062E+03	1.062E+03	1.062E+03	1.062E+03
LA139	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03
CE140	1.014E+03	1.032E+03	1.032E+03	1.032E+03	1.032E+03	1.032E+03	1.032E+03	1.032E+03	1.032E+03	1.032E+03	1.032E+03	1.032E+03
PR141	8.939E+02	9.343E+02	9.343E+02	9.343E+02	9.343E+02	9.343E+02	9.343E+02	9.343E+02	9.343E+02	9.343E+02	9.343E+02	9.343E+02
CE142	9.373E+02	9.374E+02	9.374E+02	9.374E+02	9.374E+02	9.374E+02	9.374E+02	9.374E+02	9.374E+02	9.374E+02	9.374E+02	9.374E+02
ND143	6.614E+02	6.781E+02	6.781E+02	6.781E+02	6.781E+02	6.781E+02	6.781E+02	6.781E+02	6.781E+02	6.781E+02	6.781E+02	6.781E+02
CE144	2.841E+02	1.166E+02	4.785E+01	3.307E+00	3.852E-02	7.074E-10	0.0	0.0	0.0	0.0	0.0	0.0
ND144	7.834E+02	9.510E+02	1.020E+03	1.064E+03	1.068E+03	1.068E+03	1.068E+03	1.068E+03	1.068E+03	1.068E+03	1.068E+03	1.068E+03
ND145	5.665E+02	5.667E+02	5.667E+02	5.667E+02	5.667E+02	5.667E+02	5.667E+02	5.667E+02	5.667E+02	5.667E+02	5.667E+02	5.667E+02
ND146	5.609E+02	5.609E+02	5.609E+02	5.609E+02	5.609E+02	5.609E+02	5.609E+02	5.609E+02	5.609E+02	5.609E+02	5.609E+02	5.609E+02
PM147	1.230E+02	9.888E+01	7.592E+01	3.437E+01	9.170E+00	4.660E-02	4.327E-10	0.0	0.0	0.0	0.0	0.0
SM147	5.653E+01	8.643E+01	1.094E+02	1.509E+02	1.761E+02	1.853E+02	1.853E+02	1.853E+02	1.853E+02	1.853E+02	1.853E+02	1.853E+02
ND148	3.067E+02	3.067E+02	3.067E+02	3.067E+02	3.067E+02	3.067E+02	3.067E+02	3.067E+02	3.067E+02	3.067E+02	3.067E+02	3.067E+02
SM148	1.334E+02	1.358E+02	1.358E+02	1.358E+02	1.358E+02	1.358E+02	1.358E+02	1.358E+02	1.358E+02	1.358E+02	1.358E+02	1.358E+02
ND150	1.467E+02	1.467E+02	1.467E+02	1.467E+02	1.467E+02	1.467E+02	1.467E+02	1.467E+02	1.467E+02	1.467E+02	1.467E+02	1.467E+02
SM150	2.520E+02	2.520E+02	2.520E+02	2.520E+02	2.520E+02	2.520E+02	2.520E+02	2.520E+02	2.520E+02	2.520E+02	2.520E+02	2.520E+02
SM152	1.140E+02	1.140E+02	1.140E+02	1.140E+02	1.140E+02	1.140E+02	1.140E+02	1.140E+02	1.140E+02	1.140E+02	1.140E+02	1.140E+02
EU153	8.721E+01	8.794E+01	8.794E+01	8.794E+01	8.794E+01	8.794E+01	8.794E+01	8.794E+01	8.794E+01	8.794E+01	8.794E+01	8.794E+01
SM154	3.090E+01	3.119E+01	3.119E+01	3.119E+01	3.119E+01	3.119E+01	3.119E+01	3.119E+01	3.119E+01	3.119E+01	3.119E+01	3.119E+01
GD154	2.168E+00	4.515E+00	6.680E+00	1.222E+01	1.894E+01	2.977E+01	3.247E+01	3.248E+01	3.248E+01	3.248E+01	3.248E+01	3.248E+01
GD156	4.387E+01	4.610E+01	4.610E+01	4.610E+01	4.610E+01	4.610E+01	4.610E+01	4.610E+01	4.610E+01	4.610E+01	4.610E+01	4.610E+01
SUMTOT	2.766E+04	2.794E+04	2.795E+04	2.796E+04	2.797E+04	2.799E+04	2.799E+04	2.799E+04	2.799E+04	2.799E+04	2.798E+04	2.796E+04
TOTAL	2.836E+04	2.836E+04	2.836E+04	2.836E+04	2.836E+04	2.836E+04	2.836E+04	2.836E+04	2.836E+04	2.836E+04	2.836E+04	2.836E+04

TABLE 8.20. CURIES OF PRINCIPAL FISSION PRODUCT NUCLIDES IN BWR SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H 3	4.510E+02	4.264E+02	4.031E+02	3.408E+02	2.573E+02	8.372E+01	1.646E+00	2.192E-05	1.892E-22	0.0	0.0	0.0
SE 79	3.382E-01	3.382E-01	3.382E-01	3.382E-01	3.382E-01	3.381E-01	3.378E-01	3.371E-01	3.346E-01	3.040E-01	1.153E-01	2.348E-02
KR 85	7.714E+03	7.232E+03	6.779E+03	5.584E+03	4.042E+03	1.109E+03	1.200E+01	2.903E-05	6.400E-25	0.0	0.0	0.0
SR 89	6.003E+05	3.992E+03	2.651E+01	7.788E-06	1.011E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SR 90	6.032E+04	5.891E+04	5.752E+04	5.356E+04	4.755E+04	2.954E+04	5.582E+03	4.784E+01	2.778E-06	0.0	0.0	0.0
Y 90	6.270E+04	5.892E+04	5.753E+04	5.357E+04	4.756E+04	2.955E+04	5.583E+03	4.785E+01	2.779E-06	0.0	0.0	0.0
Y 91	7.673E+05	1.047E+04	1.383E+02	3.183E-04	1.278E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZR 93	1.503E+00	1.504E+00	1.504E+00	1.504E+00	1.504E+00	1.504E+00	1.503E+00	1.503E+00	1.503E+00	1.497E+00	1.437E+00	1.343E+00
NB 93M	1.088E-01	1.743E-01	2.366E-01	4.056E-01	6.357E-01	1.142E+00	1.420E+00	1.428E+00	1.428E+00	1.422E+00	1.365E+00	1.275E+00
ZR 95	1.136E+06	2.172E+04	4.154E+02	2.904E-03	7.423E-12	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 95	1.147E+06	4.889E+04	9.548E+02	6.447E-03	1.648E-11	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC 99	1.109E+01	1.114E+01	1.114E+01	1.114E+01	1.114E+01	1.114E+01	1.113E+01	1.113E+01	1.110E+01	1.078E+01	8.044E+00	4.937E+00
RU103	1.143E+06	1.864E+03	2.980E+00	1.195E-08	1.209E-22	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RU106	4.425E+05	2.225E+05	1.118E+05	1.421E+04	4.586E+02	4.861E-04	6.050E-25	0.0	0.0	0.0	0.0	0.0
RH106	4.805E+05	2.225E+05	1.118E+05	1.421E+04	4.586E+02	4.861E-04	6.050E-25	0.0	0.0	0.0	0.0	0.0
PD107	9.477E-02	9.478E-02	9.478E-02	9.478E-02	9.478E-02	9.478E-02	9.478E-02	9.477E-02	9.477E-02	9.468E-02	9.377E-02	9.228E-02
SB125	1.119E+04	8.788E+03	6.842E+03	3.230E+03	9.241E+02	6.202E+00	1.531E-07	0.0	0.0	0.0	0.0	0.0
TE125M	2.394E+03	2.139E+03	1.869E+03	7.880E+02	2.258E+02	1.513E+00	3.735E-08	0.0	0.0	0.0	0.0	0.0
SN126	6.250E-01	6.250E-01	6.250E-01	6.250E-01	6.250E-01	6.249E-01	6.246E-01	6.237E-01	6.207E-01	5.832E-01	3.125E-01	1.105E-01
SB126	7.677E+02	8.750E-02	8.750E-02	8.750E-02	8.750E-02	8.748E-02	8.744E-02	8.732E-02	8.690E-02	8.164E-02	4.375E-02	1.547E-02
SB126M	3.797E+02	6.250E-01	6.250E-01	6.250E-01	6.250E-01	6.249E-01	6.246E-01	6.237E-01	6.207E-01	5.832E-01	3.125E-01	1.105E-01
I129	2.623E-02	2.644E-02	2.644E-02	2.644E-02	2.644E-02	2.644E-02	2.844E-02	2.644E-02	2.644E-02	2.643E-02	2.632E-02	2.615E-02
CS134	1.131E+05	8.083E+04	5.775E+04	2.107E+04	3.923E+03	4.782E+00	2.884E-10	0.0	0.0	0.0	0.0	0.0
CS135	3.588E-01	3.594E-01	3.594E-01	3.594E-01	3.594E-01	3.594E-01	3.594E-01	3.593E-01	3.593E-01	3.583E-01	3.487E-01	3.333E-01
CS137	8.653E+04	8.455E+04	8.262E+04	7.709E+04	6.858E+04	4.326E+04	8.584E+03	8.448E+01	7.990E-06	0.0	0.0	0.0
BA137M	8.203E+04	7.999E+04	7.816E+04	7.293E+04	6.497E+04	4.093E+04	8.121E+03	7.992E+01	7.558E-06	0.0	0.0	0.0
CE144	9.067E+05	3.721E+05	1.527E+05	1.056E+04	1.229E+02	2.258E-06	0.0	0.0	0.0	0.0	0.0	0.0
PR144	9.124E+05	3.721E+05	1.527E+05	1.056E+04	1.229E+02	2.258E-06	0.0	0.0	0.0	0.0	0.0	0.0
PR144M	1.089E+04	4.465E+03	1.833E+03	1.267E+02	1.475E+00	2.709E-08	0.0	0.0	0.0	0.0	0.0	0.0
PM147	1.141E+05	9.170E+04	7.041E+04	3.187E+04	8.505E+03	4.322E+01	4.013E-07	0.0	0.0	0.0	0.0	0.0
SM151	3.192E+02	3.219E+02	3.194E+02	3.121E+02	3.003E+02	2.579E+02	1.502E+02	3.218E+01	1.466E-01	0.0	0.0	0.0
EU154	8.184E+03	7.550E+03	6.966E+03	5.470E+03	3.655E+03	7.293E+02	2.573E+00	2.569E-07	0.0	0.0	0.0	0.0
EU155	5.140E+03	4.470E+03	3.887E+03	2.556E+03	1.271E+03	7.762E+01	4.374E-03	3.166E-15	0.0	0.0	0.0	0.0
SUMTOT	8.121E+06	1.766E+06	9.634E+05	3.780E+05	2.530E+05	1.456E+05	2.805E+04	3.085E+02	1.632E+01	1.573E+01	1.210E+01	8.267E+00
TOTAL	1.205E+08	1.773E+06	9.641E+05	3.781E+05	2.531E+05	1.456E+05	2.805E+04	3.085E+02	1.632E+01	1.573E+01	1.210E+01	8.267E+00

TABLE B.21. WATTS OF FISSION PRODUCT ELEMENTS IN BWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	1.518E-02	1.435E-02	1.357E-02	1.147E-02	8.662E-03	2.819E-03	5.541E-05	7.381E-10	6.370E-27	0.0	0.0	0.0
BE	2.889E-09	2.889E-09	2.889E-09	2.889E-09	2.889E-09	2.888E-09	2.888E-09	2.888E-09	2.887E-09	2.876E-09	2.766E-09	2.592E-09
C	2.846E-08	2.846E-08	2.845E-08	2.844E-08	2.843E-08	2.836E-08	2.812E-08	2.745E-08	2.522E-08	8.488E-09	1.585E-13	2.082E-21
CO	6.536E-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NI	1.247E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CU	9.119E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZN	5.369E+01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GA	3.420E+02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GE	1.267E+03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AS	5.389E+03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	1.113E+04	8.420E-05	8.420E-05	8.419E-05	8.419E-05	8.417E-05	8.411E-05	8.393E-05	8.330E-05	7.568E-05	2.897E-05	5.845E-06
BR	3.140E+04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KR	4.225E+04	1.083E+01	1.016E+01	8.365E+00	6.054E+00	1.661E+00	1.797E-02	4.379E-08	3.042E-10	2.953E-10	2.193E-10	1.337E-10
RB	8.572E+04	7.149E-06	1.479E-08	1.478E-08	1.478E-08	1.478E-08	1.478E-08	1.478E-08	1.478E-08	1.478E-08	1.478E-08	1.478E-08
SR	7.736E+04	8.217E+01	6.685E+01	6.216E+01	5.518E+01	3.428E+01	6.479E+00	5.552E-02	3.225E-09	0.0	0.0	0.0
Y	1.247E+05	3.641E+02	3.194E+02	2.969E+02	2.636E+02	1.638E+02	3.094E+01	2.652E-01	1.540E-08	0.0	0.0	0.0
ZR	6.412E+04	1.100E+02	2.104E+00	1.894E-04	1.747E-04	1.747E-04	1.747E-04	1.747E-04	1.746E-04	1.739E-04	1.669E-04	1.560E-04
NB	1.375E+05	2.347E+02	4.584E+00	1.041E-04	1.139E-04	2.036E-04	2.529E-04	2.543E-04	2.542E-04	2.528E-04	2.419E-04	2.260E-04
MO	5.994E+04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC	8.522E+04	5.585E-03	5.585E-03	5.585E-03	5.585E-03	5.585E-03	5.583E-03	5.580E-03	5.567E-03	5.406E-03	4.034E-03	2.476E-03
RU	1.975E+04	1.946E+01	6.660E+00	8.450E-01	2.715E-02	2.890E-08	3.597E-29	0.0	0.0	0.0	0.0	0.0
RH	2.350E+04	2.134E+03	1.073E+03	1.363E+02	4.379E+00	4.662E-06	5.803E-27	0.0	0.0	0.0	0.0	0.0
PD	2.182E+03	5.618E-06	5.618E-06	5.618E-06	5.618E-06	5.618E-06	5.618E-06	5.618E-06	5.617E-06	5.612E-06	5.559E-06	5.470E-06
AG	2.999E+03	1.901E+01	6.902E+00	3.303E-01	2.089E-03	2.151E-07	1.468E-07	4.927E-08	1.080E-09	5.029E-31	0.0	0.0
CD	1.244E+03	8.432E-02	6.551E-02	5.676E-02	4.476E-02	1.731E-02	6.220E-04	4.646E-08	1.673E-22	0.0	0.0	0.0
IN	5.301E+03	6.490E-05	3.890E-07	1.021E-13	1.776E-14	1.776E-14	1.776E-14	1.776E-14	1.776E-14	1.776E-14	1.776E-14	1.776E-14
SN	1.245E+04	1.165E+00	1.715E-01	2.033E-03	1.085E-03	1.009E-03	8.659E-04	7.833E-04	7.741E-04	7.273E-04	3.898E-04	1.378E-04
SB	4.952E+04	2.764E+01	2.140E+01	1.011E+01	2.899E+00	2.896E-02	9.568E-03	9.555E-03	9.509E-03	8.934E-03	4.788E-03	1.693E-03
TE	5.205E+04	3.879E+00	1.600E+00	6.625E-01	1.895E-01	1.272E-03	3.139E-11	2.133E-16	2.133E-16	2.133E-16	2.133E-16	2.133E-16
I	1.210E+05	1.223E-05	1.223E-05	1.223E-05	1.223E-05	1.223E-05	1.223E-05	1.223E-05	1.223E-05	1.223E-05	1.218E-05	1.210E-05
XE	5.752E+04	1.319E-08	7.572E-18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	1.047E+05	9.161E+02	6.792E+02	2.997E+02	1.159E+02	4.790E+01	9.495E+00	9.357E-02	1.199E-04	1.196E-04	1.164E-04	1.112E-04
BA	6.179E+04	3.141E+02	3.069E+02	2.863E+02	2.551E+02	1.607E+02	3.189E+01	3.138E-01	2.968E-08	0.0	0.0	0.0
LA	1.076E+05	5.871E-05	3.093E-13	1.608E-13	1.608E-13	1.608E-13	1.608E-13	1.608E-13	1.608E-13	1.608E-13	1.608E-13	1.608E-13
CE	2.577E+04	2.475E+02	1.013E+02	7.001E+00	8.153E-02	1.497E-09	0.0	0.0	0.0	0.0	0.0	0.0
PR	3.887E+04	2.737E+03	1.123E+03	7.763E+01	9.040E-01	1.660E-08	0.0	0.0	0.0	0.0	0.0	0.0
ND	5.309E+03	1.263E-07	1.447E-17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM	6.158E+03	3.362E+01	2.526E+01	1.143E+01	3.050E+00	1.550E-02	1.439E-10	0.0	0.0	0.0	0.0	0.0
SM	1.036E+03	3.774E-02	3.745E-02	3.660E-02	3.521E-02	3.019E-02	1.761E-02	3.773E-03	1.724E-05	5.769E-08	5.769E-08	5.769E-08
EU	1.585E+03	7.084E+01	6.518E+01	5.082E+01	3.365E+01	6.590E+00	2.332E-02	1.359E-08	3.624E-24	0.0	0.0	0.0
GD	2.576E+01	1.392E-02	4.890E-03	2.120E-04	1.136E-06	7.033E-15	6.728E-15	6.746E-15	6.746E-15	6.746E-15	6.746E-15	6.746E-15
TB	1.400E+01	1.630E-01	4.914E-03	1.347E-07	3.356E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	1.719E+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	4.070E-01	1.908E-05	1.907E-05	1.904E-05	1.898E-05	1.877E-05	1.802E-05	1.606E-05	1.072E-05	5.921E-08	1.569E-30	0.0
ER	2.763E-03	6.629E-16	1.332E-27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	5.659E-05	7.885E-06	1.126E-06	1.378E-08	1.778E-09	1.300E-12	1.377E-23	0.0	0.0	0.0	0.0	0.0
TOTAL	1.427E+06	7.326E+03	3.814E+03	1.249E+03	7.411E+02	4.150E+02	7.888E+01	7.483E-01	1.653E-02	1.571E-02	9.783E-03	4.823E-03

TABLE 8.22. WATTS OF PRINCIPAL FISSION PRODUCT NUCLIDES IN BWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
SE 79	8.420E-05	8.420E-05	8.420E-05	8.419E-05	8.419E-05	8.417E-05	8.411E-05	8.393E-05	8.330E-05	7.569E-05	2.897E-05	5.845E-06
KR 85	1.155E+01	1.083E+01	1.016E+01	8.365E+00	6.054E+00	1.661E+00	1.797E-02	4.348E-08	9.586E-28	0.0	0.0	0.0
SR 89	2.075E+03	1.380E+01	9.166E-02	2.692E-08	3.494E-19	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SR 90	7.001E+01	6.837E+01	6.676E+01	6.216E+01	5.518E+01	3.428E+01	6.479E+00	5.852E-02	3.225E-09	0.0	0.0	0.0
Y 90	3.475E+02	3.266E+02	3.189E+02	2.969E+02	2.636E+02	1.638E+02	3.094E+01	2.852E-01	1.540E-08	0.0	0.0	0.0
Y 91	2.828E+03	3.789E+01	4.965E-01	1.143E-06	4.589E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZR 93	1.746E-04	1.747E-04	1.747E-04	1.747E-04	1.747E-04	1.747E-04	1.747E-04	1.747E-04	1.746E-04	1.739E-04	1.659E-04	1.560E-04
NB 93M	1.927E-05	3.089E-05	4.193E-05	7.186E-05	1.126E-04	2.024E-04	2.516E-04	2.531E-04	2.530E-04	2.519E-04	2.419E-04	2.260E-04
ZR 95	5.754E+03	1.100E+02	2.104E+00	1.471E-05	3.750E-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 95	5.500E+03	2.345E+02	4.580E+00	3.092E-05	7.905E-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC 99	5.561E-03	5.588E-03	5.589E-03	5.585E-03	5.555E-03	5.585E-03	5.583E-03	5.580E-03	5.567E-03	5.406E-03	4.034E-03	2.476E-03
RU106	2.631E+01	1.323E+01	6.650E+00	8.450E-01	2.715E-02	2.890E-08	3.597E-29	0.0	0.0	0.0	0.0	0.0
RH106	4.608E+03	2.134E+03	1.073E+03	1.363E+02	4.379E+00	4.662E-06	5.803E-27	0.0	0.0	0.0	0.0	0.0
PD107	5.618E-06	5.618E-06	5.618E-06	5.618E-06	5.618E-06	5.618E-06	5.618E-06	5.618E-06	5.617E-06	5.612E-06	5.558E-06	5.470E-06
AG110M	5.206E+01	1.890E+01	6.863E+00	3.285E-01	2.077E-03	3.291E-12	0.0	0.0	0.0	0.0	0.0	0.0
SB125	3.499E+01	2.747E+01	2.139E+01	1.010E+01	2.899E+00	1.939E-02	4.785E-10	0.0	0.0	0.0	0.0	0.0
SN126	7.795E-04	7.795E-04	7.795E-04	7.795E-04	7.794E-04	7.793E-04	7.790E-04	7.779E-04	7.741E-04	7.273E-04	3.898E-04	1.378E-04
SB126	1.418E+01	1.617E-03	1.617E-03	1.617E-03	1.617E-03	1.616E-03	1.616E-03	1.613E-03	1.606E-03	1.508E-03	8.084E-04	2.858E-04
SB126M	4.835E+00	7.958E-03	7.958E-03	7.958E-03	7.957E-03	7.956E-03	7.953E-03	7.942E-03	7.903E-03	7.425E-03	3.979E-03	1.407E-03
I129	1.213E-05	1.223E-05	1.223E-05	1.223E-05	1.223E-05	1.223E-05	1.223E-05	1.223E-05	1.223E-05	1.223E-05	1.218E-05	1.210E-05
CS134	1.151E+03	8.226E+02	5.878E+02	2.144E+02	3.993E+01	4.867E-02	2.936E-12	0.0	0.0	0.0	0.0	0.0
CS135	1.197E-04	1.199E-04	1.199E-04	1.199E-04	1.199E-04	1.199E-04	1.199E-04	1.199E-04	1.199E-04	1.196E-04	1.164E-04	1.112E-04
CS137	9.571E+01	9.352E+01	9.139E+01	8.527E+01	7.596E+01	4.789E+01	9.499E+00	9.345E-02	8.838E-09	0.0	0.0	0.0
BA137M	3.221E+02	3.141E+02	3.069E+02	2.863E+02	2.551E+02	1.607E+02	3.189E+01	3.138E-01	2.968E-08	0.0	0.0	0.0
CE144	6.014E+02	2.468E+02	1.013E+02	7.001E+00	8.153E-02	1.497E-09	0.0	0.0	0.0	0.0	0.0	0.0
PR144	6.706E+03	2.735E+03	1.122E+03	7.759E+01	9.035E-01	1.659E-08	0.0	0.0	0.0	0.0	0.0	0.0
PM147	4.092E+01	3.289E+01	2.525E+01	1.143E+01	3.050E+00	1.550E-02	1.439E-10	0.0	0.0	0.0	0.0	0.0
SM151	3.742E-02	3.774E-02	3.745E-02	3.660E-02	3.521E-02	3.019E-02	1.761E-02	3.773E-03	1.719E-05	0.0	0.0	0.0
EU154	7.321E+01	6.754E+01	6.231E+01	4.893E+01	3.270E+01	6.523E+00	2.301E-02	2.298E-09	0.0	0.0	0.0	0.0
EU155	3.739E+00	3.251E+00	2.827E+00	1.859E+00	9.241E-01	9.645E-02	3.181E-06	2.303E-18	0.0	0.0	0.0	0.0
SUMTOT	3.032E+04	7.311E+03	3.811E+03	1.248E+03	7.406E+02	4.150E+02	7.888E+01	7.483E-01	1.652E-02	1.571E-02	9.783E-03	4.823E-03
TOTAL	1.427E+06	7.326E+03	3.814E+03	1.249E+03	7.411E+02	4.150E+02	7.888E+01	7.483E-01	1.653E-02	1.571E-02	9.783E-03	4.823E-03

TABLE B.23. PHOTONS FROM FISSION PRODUCTS IN BWR SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS= ONE METRIC TON OF INITIAL HEAVY METAL(MTIHM)

EMEAN	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	1.562E+18	2.165E+16	1.145E+16	3.924E+15	2.748E+15	1.662E+15	3.137E+14	2.796E+12	5.894E+10	5.713E+10	4.289E+10	2.831E+10
2.500E-02	4.066E+17	4.825E+15	2.583E+15	8.920E+14	5.894E+14	3.443E+14	6.498E+13	5.832E+11	1.818E+10	1.732E+10	1.093E+10	5.539E+09
3.750E-02	3.294E+17	4.883E+15	2.535E+15	8.385E+14	5.727E+14	3.291E+14	6.179E+13	5.640E+11	5.176E+09	4.988E+09	3.505E+09	2.057E+09
5.750E-02	3.359E+17	4.503E+15	2.361E+15	7.744E+14	5.338E+14	3.209E+14	6.033E+13	5.308E+11	8.053E+09	7.678E+09	4.921E+09	2.491E+09
8.500E-02	2.459E+17	3.158E+15	1.626E+15	4.987E+14	3.303E+14	1.933E+14	3.631E+13	3.272E+11	1.324E+10	1.248E+10	6.982E+09	2.742E+09
1.250E-01	2.620E+17	3.621E+15	1.754E+15	4.426E+14	2.664E+14	1.355E+14	2.340E+13	2.035E+11	1.113E+09	1.061E+09	6.705E+08	3.315E+08
2.250E-01	5.616E+17	2.752E+15	1.421E+15	4.271E+14	2.809E+14	1.663E+14	3.100E+13	2.680E+11	1.272E+09	1.164E+09	6.479E+08	2.516E+08
3.750E-01	4.135E+17	1.472E+15	7.754E+14	2.282E+14	1.301E+14	7.156E+13	1.346E+13	1.406E+11	2.518E+10	2.365E+10	1.267E+10	4.481E+09
5.750E-01	6.758E+17	1.062E+16	7.579E+15	4.106E+15	2.754E+15	1.599E+15	3.165E+14	3.161E+12	5.590E+10	5.251E+10	2.814E+10	9.950E+09
8.500E-01	7.089E+17	5.500E+15	2.242E+15	8.203E+14	2.113E+14	2.450E+13	2.219E+12	2.150E+10	2.856E+09	2.634E+09	1.409E+09	4.980E+08
1.250E+00	3.920E+17	6.710E+14	4.262E+14	1.760E+14	8.637E+13	1.805E+13	7.682E+11	6.826E+09	6.801E+08	6.380E+08	3.419E+08	1.209E+08
1.750E+00	1.475E+17	6.311E+13	3.179E+13	6.714E+12	2.699E+12	7.225E+11	5.748E+10	4.797E+08	2.898E+04	2.720E+04	1.458E+04	5.154E+03
2.250E+00	7.384E+16	1.169E+14	4.907E+13	3.744E+12	5.948E+10	3.259E+07	6.154E+06	5.274E+04	3.535E-03	4.714E-04	4.714E-04	4.714E-04
2.750E+00	3.225E+16	1.863E+12	9.280E+11	1.157E+11	3.662E+09	3.866E+03	2.362E-04	2.362E-04	2.362E-04	2.362E-04	2.362E-04	2.362E-04
3.500E+00	1.705E+16	2.312E+11	1.163E+11	1.477E+10	4.746E+08	5.052E+02	1.739E-04	1.739E-04	1.739E-04	1.739E-04	1.739E-04	1.739E-04
5.000E+00	8.445E+15	4.743E-05	4.844E-05	5.027E-05	5.138E-05	5.178E-05	5.178E-05	5.178E-05	5.178E-05	5.178E-05	5.178E-05	5.178E-05
7.000E+00	6.192E+13	3.077E-06	3.143E-06	3.262E-06	3.334E-06	3.360E-06	3.360E-06	3.360E-06	3.360E-06	3.360E-06	3.360E-06	3.360E-06
1.100E+01	1.303E+10	1.946E-07	1.987E-07	2.063E-07	2.108E-07	2.125E-07	2.125E-07	2.125E-07	2.125E-07	2.125E-07	2.125E-07	2.125E-07
TOTAL	6.173E+18	6.384E+16	3.484E+16	1.314E+16	8.506E+15	4.866E+15	9.245E+14	8.604E+12	1.906E+11	1.813E+11	1.131E+11	5.678E+10
MEV/SEC	2.497E+18	1.478E+16	8.400E+15	3.736E+15	2.158E+15	1.126E+15	2.151E+14	2.120E+12	4.841E+10	4.547E+10	2.471E+10	9.091E+09

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS= ONE METRIC TON OF INITIAL HEAVY METAL(MTIHM)

EMEAN	DISCHARGE	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	2.343E+10	3.247E+08	1.717E+08	5.887E+07	4.121E+07	2.493E+07	4.705E+06	4.194E+04	8.840E+02	8.569E+02	6.433E+02	4.247E+02
2.500E-02	1.016E+10	1.206E+08	6.470E+07	2.230E+07	1.474E+07	8.607E+06	1.624E+06	1.458E+04	4.545E+02	4.331E+02	2.731E+02	1.385E+02
3.750E-02	1.235E+10	1.831E+08	9.506E+07	3.144E+07	2.148E+07	1.234E+07	2.317E+06	2.115E+04	1.941E+02	1.870E+02	1.314E+02	7.714E+01
5.750E-02	1.931E+10	2.589E+08	1.358E+08	4.453E+07	3.069E+07	1.845E+07	3.469E+06	3.052E+04	4.630E+02	4.415E+02	2.829E+02	1.432E+02
8.500E-02	2.091E+10	2.684E+08	1.382E+08	4.239E+07	2.808E+07	1.643E+07	3.086E+06	2.781E+04	1.125E+03	1.061E+03	5.935E+02	2.331E+02
1.250E-01	3.276E+10	4.527E+08	2.192E+08	5.533E+07	3.330E+07	1.694E+07	2.935E+06	2.544E+04	1.391E+02	1.326E+02	8.381E+01	4.144E+01
2.250E-01	1.264E+11	6.191E+08	3.196E+08	9.610E+07	6.321E+07	3.742E+07	6.974E+06	6.031E+04	2.861E+02	2.618E+02	1.458E+02	5.660E+01
3.750E-01	1.551E+11	5.519E+08	2.908E+08	8.556E+07	4.879E+07	2.684E+07	5.046E+06	5.271E+04	9.442E+03	8.869E+03	4.753E+03	1.680E+03
5.750E-01	3.886E+11	6.109E+09	4.358E+09	2.361E+09	1.584E+09	9.197E+08	1.820E+08	1.818E+06	3.214E+04	3.019E+04	1.618E+04	5.721E+03
8.500E-01	6.026E+11	4.675E+09	1.905E+09	6.973E+08	1.796E+08	2.083E+07	1.886E+06	1.827E+04	2.428E+03	2.239E+03	1.197E+03	4.233E+02
1.250E+00	4.900E+11	8.388E+08	5.328E+08	2.200E+08	1.080E+08	2.256E+07	9.603E+05	8.532E+03	8.502E+02	7.975E+02	4.274E+02	1.511E+02
1.750E+00	2.582E+11	1.104E+08	5.563E+07	1.175E+07	4.723E+06	1.264E+06	1.006E+05	8.394E+02	5.071E-02	4.760E-02	2.551E-02	9.019E-03
2.250E+00	1.661E+11	2.630E+08	1.104E+08	8.424E+06	1.338E+05	7.334E+01	1.385E+01	1.187E-01	7.953E-09	1.061E-09	1.061E-09	1.061E-09
2.750E+00	8.870E+10	5.123E+06	2.552E+06	3.182E+05	1.007E+04	1.063E-02	6.495E-10	6.495E-10	6.495E-10	6.495E-10	6.495E-10	6.495E-10
3.500E+00	5.967E+10	8.093E+05	4.069E+05	5.171E+04	1.661E+03	1.768E-03	6.088E-10	6.088E-10	6.088E-10	6.088E-10	6.088E-10	6.088E-10
5.000E+00	4.222E+10	2.371E-10	2.422E-10	2.513E-10	2.569E-10	2.589E-10	2.589E-10	2.589E-10	2.589E-10	2.589E-10	2.589E-10	2.589E-10
7.000E+00	4.335E+08	2.154E-11	2.200E-11	2.283E-11	2.334E-11	2.352E-11	2.352E-11	2.352E-11	2.352E-11	2.352E-11	2.352E-11	2.352E-11
1.100E+01	1.433E+05	2.141E-12	2.186E-12	2.269E-12	2.319E-12	2.337E-12	2.337E-12	2.337E-12	2.337E-12	2.337E-12	2.337E-12	2.337E-12
TOTAL	2.497E+12	1.478E+10	8.400E+09	3.736E+09	2.158E+09	1.126E+09	2.151E+08	2.120E+06	4.841E+04	4.547E+04	2.471E+04	9.091E+03
GAM POW	4.002E+05	2.370E+03	1.347E+03	5.988E+02	3.459E+02	1.805E+02	3.448E+01	3.398E-01	7.760E-03	7.289E-03	3.961E-03	1.457E-03

Appendix B.2: Characteristics of BWR High-Level Waste

TABLE B.24. GRAMS OF ACTINIDE ELEMENTS IN BWR HIGH-LEVEL WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
HE	0.0	7.985E-02	1.046E-01	1.367E-01	1.789E-01	3.026E-01	5.143E-01	8.312E-01	1.379E+00	2.554E+00	4.748E+00	6.396E+00
SF	1.903E-06	2.852E-06	3.542E-06	5.304E-06	7.804E-06	1.416E-05	1.943E-05	2.025E-05	2.170E-05	3.172E-05	3.731E-05	3.980E-05
TL	1.751E-12	1.232E-12	8.696E-13	3.224E-13	9.577E-14	6.820E-14	7.890E-14	7.305E-14	7.943E-14	3.751E-13	5.819E-12	1.109E-11
PB	5.313E-07	1.019E-06	1.361E-06	1.896E-06	2.166E-06	2.447E-06	3.240E-06	5.133E-06	1.923E-05	4.848E-03	5.236E-01	2.023E+00
BI	1.677E-10	1.635E-10	1.681E-10	2.128E-10	3.307E-10	1.009E-09	9.451E-09	1.934E-07	6.997E-06	6.178E-03	1.785E+00	1.056E+01
PO	2.476E-13	4.172E-13	6.403E-13	1.759E-12	5.479E-12	3.260E-11	2.195E-10	1.344E-09	1.503E-08	6.246E-07	4.857E-06	5.505E-06
AT	3.836E-20	3.822E-20	3.833E-20	3.905E-20	4.152E-20	6.703E-20	3.542E-19	2.893E-18	3.224E-17	2.657E-15	5.646E-14	1.143E-13
RN	0.0	1.319E-12	1.076E-12	8.269E-13	1.025E-12	2.653E-12	9.609E-12	4.705E-11	4.390E-10	1.825E-08	1.419E-07	1.608E-07
FR	5.360E-16	6.699E-16	8.018E-16	1.177E-15	1.742E-15	3.456E-15	7.576E-15	3.092E-14	2.978E-13	2.413E-11	5.128E-10	1.038E-09
RA	3.197E-08	4.182E-08	5.249E-08	8.737E-08	1.494E-07	4.093E-07	1.493E-06	7.324E-06	6.829E-05	2.839E-03	2.208E-02	2.502E-02
AC	7.271E-09	1.251E-08	1.758E-08	3.188E-08	5.288E-08	1.103E-07	1.689E-07	1.795E-07	1.955E-07	4.602E-07	4.251E-06	6.791E-06
TH	1.640E-03	1.629E-03	1.631E-03	1.640E-03	1.657E-03	1.755E-03	2.382E-03	5.437E-03	1.895E-02	2.062E-01	1.611E+00	2.361E+00
PA	2.788E-04	2.789E-04	2.789E-04	2.790E-04	2.792E-04	2.798E-04	2.822E-04	2.888E-04	3.113E-04	6.054E-04	4.124E-03	5.560E-03
U	4.811E+03	4.811E+03	4.811E+03	4.811E+03	4.811E+03	4.812E+03	4.814E+03	4.817E+03	4.820E+03	4.844E+03	4.928E+03	4.941E+03
NP	3.447E+02	3.448E+02	3.449E+02	3.451E+02	3.456E+02	3.474E+02	3.536E+02	3.675E+02	3.934E+02	4.046E+02	3.930E+02	3.744E+02
PU	4.238E+01	4.674E+01	4.780E+01	4.852E+01	4.923E+01	5.106E+01	5.190E+01	5.060E+01	5.174E+01	6.056E+01	8.117E+00	1.377E+00
AM	1.209E+02	1.211E+02	1.212E+02	1.216E+02	1.220E+02	1.220E+02	1.164E+02	1.005E+02	7.049E+01	2.488E+01	5.393E-03	1.024E-07
CM	1.828E+01	1.358E+01	1.222E+01	1.071E+01	8.875E+00	4.227E+00	4.273E-01	1.305E-01	1.206E-01	4.799E-02	2.415E-04	2.157E-04
BK	3.168E-08	1.436E-08	6.511E-09	6.056E-10	1.162E-11	1.562E-18	5.238E-23	5.196E-23	5.053E-23	3.531E-23	9.791E-25	2.488E-27
CF	2.982E-08	4.634E-08	5.345E-08	5.745E-08	5.563E-08	4.993E-08	4.188E-08	2.833E-08	7.358E-09	4.394E-13	3.484E-20	8.854E-23
ES	8.854E-14	1.214E-14	4.845E-15	3.082E-16	3.125E-18	3.302E-26	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	5.337E+03	5.337E+03	5.337E+03	5.337E+03	5.337E+03	5.337E+03	5.337E+03	5.337E+03	5.337E+03	5.337E+03	5.337E+03	5.338E+03

TABLE B.25. GRAMS OF PRINCIPAL ACTINIDE NUCLIDES IN BWR HIGH-LEVEL WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
HE 4	0.0	7.985E-02	1.046E-01	1.367E-01	1.789E-01	3.026E-01	5.143E-01	8.312E-01	1.379E+00	2.554E+00	4.748E+00	6.396E+00
BI209	6.986E-11	9.478E-11	1.197E-10	1.953E-10	3.262E-10	1.007E-09	9.442E-09	1.934E-07	6.997E-06	6.178E-03	1.785E+00	1.056E+01
U233	1.170E-05	1.332E-04	2.547E-04	5.960E-04	1.146E-03	3.353E-03	1.116E-02	3.414E-02	1.193E-01	1.251E+00	1.028E+01	1.874E+01
U234	7.877E-01	8.117E-01	8.518E-01	9.824E-01	1.195E+00	1.971E+00	3.921E+00	6.119E+00	6.798E+00	6.643E+00	5.205E+00	3.491E+00
U235	3.760E+01	3.761E+01	3.761E+01	3.761E+01	3.761E+01	3.763E+01	3.767E+01	3.782E+01	3.836E+01	4.924E+01	1.168E+02	1.230E+02
U236	1.656E+01	1.656E+01	1.656E+01	1.657E+01	1.657E+01	1.661E+01	1.676E+01	1.723E+01	1.879E+01	3.120E+01	3.888E+01	3.871E+01
U238	4.756E+03	4.756E+03	4.756E+03	4.756E+03	4.756E+03	4.756E+03	4.756E+03	4.756E+03	4.756E+03	4.756E+03	4.756E+03	4.757E+03
NP237	3.447E+02	3.448E+02	3.449E+02	3.451E+02	3.456E+02	3.474E+02	3.536E+02	3.679E+02	3.934E+02	4.046E+02	3.930E+02	3.744E+02
PU238	4.983E-01	4.638E+00	5.481E+00	5.588E+00	5.381E+00	4.622E+00	2.724E+00	6.219E-01	7.089E-03	7.728E-21	0.0	0.0
PU239	2.415E+01	2.416E+01	2.417E+01	2.420E+01	2.425E+01	2.443E+01	2.488E+01	2.590E+01	2.922E+01	5.067E+01	6.426E+00	8.551E-02
PU240	1.047E+01	1.094E+01	1.138E+01	1.262E+01	1.438E+01	1.885E+01	2.233E+01	2.213E+01	2.055E+01	7.912E+00	5.675E-04	7.431E-09
AM241	5.683E+01	5.699E+01	5.714E+01	5.752E+01	5.796E+01	5.814E+01	5.310E+01	3.856E+01	1.255E+01	1.769E-03	1.143E-06	5.828E-12
AM243	6.364E+01	6.364E+01	6.363E+01	6.361E+01	6.358E+01	6.346E+01	6.305E+01	6.187E+01	5.794E+01	2.488E+01	5.392E-03	1.024E-07
CM244	1.254E+01	1.207E+01	1.162E+01	1.036E+01	8.553E+00	3.978E+00	2.730E-01	1.293E-04	2.321E-15	2.024E-15	2.047E-15	2.077E-15
SUMTOT	5.324E+03	5.328E+03	5.330E+03	5.330E+03	5.331E+03	5.334E+03	5.335E+03	5.335E+03	5.335E+03	5.335E+03	5.333E+03	5.332E+03
TOTAL	5.337E+03	5.337E+03	5.337E+03	5.337E+03	5.337E+03	5.337E+03	5.337E+03	5.337E+03	5.337E+03	5.337E+03	5.337E+03	5.338E+03

TABLE 8.26. CURIES OF ACTINIDE ELEMENTS IN BWR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL	5.155E-04	3.625E-04	2.555E-04	9.372E-05	2.613E-05	1.574E-05	1.659E-05	1.446E-05	1.604E-05	1.211E-04	2.156E-03	4.236E-03
PB	1.434E-03	1.007E-03	7.089E-04	2.569E-04	6.615E-05	3.028E-05	2.746E-05	3.481E-05	2.035E-04	9.922E-03	1.348E-01	2.337E-01
BI	1.434E-03	1.007E-03	7.089E-04	2.569E-04	6.615E-05	3.028E-05	2.746E-05	3.481E-05	2.035E-04	9.922E-03	1.348E-01	2.337E-01
PO	2.352E-03	1.652E-03	1.162E-03	4.200E-04	1.061E-04	4.457E-05	3.678E-05	4.446E-05	2.715E-04	1.264E-02	1.546E-01	2.545E-01
AT	6.177E-08	6.154E-08	6.172E-08	6.288E-08	6.686E-08	1.079E-07	5.704E-07	4.659E-06	5.191E-05	4.278E-03	9.092E-02	1.840E-01
RN	0.0	1.007E-03	7.088E-04	2.568E-04	6.606E-05	3.003E-05	2.590E-05	2.410E-05	8.406E-05	2.838E-03	2.203E-02	2.501E-02
FR	6.903E-08	7.403E-08	7.928E-08	9.472E-08	1.197E-07	2.181E-07	7.390E-07	4.839E-06	5.210E-05	4.278E-03	9.092E-02	1.840E-01
RA	1.434E-03	1.007E-03	7.089E-04	2.569E-04	6.613E-05	3.013E-05	2.647E-05	2.876E-05	1.360E-04	7.116E-03	1.130E-01	2.090E-01
AC	5.879E-07	9.667E-07	1.334E-06	2.370E-06	3.893E-06	8.091E-06	1.279E-05	1.767E-05	6.600E-05	4.306E-03	9.111E-02	1.842E-01
TH	3.376E-01	2.721E-03	2.415E-03	1.965E-03	1.776E-03	1.742E-03	1.749E-03	1.805E-03	2.114E-03	9.620E-03	1.147E-01	2.107E-01
PA	5.633E-01	2.448E-01	2.448E-01	2.450E-01	2.453E-01	2.466E-01	2.510E-01	2.611E-01	2.790E-01	2.870E-01	2.789E-01	2.659E-01
U	8.041E-03	7.980E-03	8.227E-03	9.031E-03	1.035E-02	1.516E-02	2.740E-02	4.138E-02	4.655E-02	5.737E-02	1.365E-01	2.077E-01
NP	1.296E+01	1.296E+01	1.295E+01	1.295E+01	1.294E+01	1.292E+01	1.284E+01	1.260E+01	1.183E+01	5.247E+00	2.782E-01	2.640E-01
PU	5.655E+02	6.105E+02	6.003E+02	5.348E+02	4.387E+02	2.155E+02	5.780E+01	1.733E+01	6.642E+00	4.968E+00	4.062E-01	1.025E-02
AM	2.164E+02	2.169E+02	2.174E+02	2.185E+02	2.199E+02	2.197E+02	2.003E+02	1.469E+02	5.474E+01	4.968E+00	1.079E-03	2.044E-08
CM	1.879E+04	4.758E+03	1.754E+03	8.602E+02	7.053E+02	3.310E+02	2.544E+01	9.464E-01	6.397E-02	9.913E-03	3.952E-06	3.908E-08
BK	5.194E-05	2.354E-05	1.067E-05	9.945E-07	1.905E-08	2.765E-15	2.038E-16	2.022E-16	1.967E-16	1.374E-16	3.810E-18	9.683E-21
CF	1.700E-06	1.585E-06	1.465E-06	1.165E-06	8.657E-07	4.102E-07	1.744E-07	1.141E-07	2.900E-08	6.976E-13	3.810E-18	9.683E-21
ES	1.522E-09	2.265E-11	9.037E-12	5.749E-13	5.830E-15	6.159E-23	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	1.959E+04	5.598E+03	2.584E+03	1.627E+03	1.377E+03	7.794E+02	2.966E+02	1.781E+02	7.361E+01	1.560E+01	2.050E+00	2.471E+00

TABLE 8.27. CURIES OF PRINCIPAL ACTINIDE NUCLIDES IN BWR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL209	1.334E-09	1.329E-09	1.333E-09	1.358E-09	1.444E-09	2.331E-09	1.232E-08	1.006E-07	1.121E-06	9.240E-05	1.964E-03	3.974E-03
PB209	6.178E-08	6.154E-08	6.172E-08	6.288E-08	6.686E-08	1.079E-07	5.704E-07	4.659E-06	5.191E-05	4.278E-03	9.092E-02	1.840E-01
PB210	1.533E-09	2.358E-09	3.547E-09	9.133E-09	2.461E-08	1.465E-07	9.866E-07	6.050E-06	6.752E-05	2.807E-03	2.183E-02	2.474E-02
PB214	2.271E-08	3.509E-08	4.749E-08	8.477E-08	1.473E-07	4.045E-07	1.476E-06	7.242E-06	6.753E-05	2.807E-03	2.183E-02	2.474E-02
BI210	1.534E-09	2.359E-09	3.549E-09	9.135E-09	2.462E-08	1.465E-07	9.866E-07	6.050E-06	6.752E-05	2.807E-03	2.183E-02	2.474E-02
BI213	6.177E-08	6.154E-08	6.172E-08	6.288E-08	6.686E-08	1.079E-07	5.704E-07	4.659E-06	5.191E-05	4.278E-03	9.092E-02	1.840E-01
BI214	2.271E-08	3.509E-08	4.749E-08	8.477E-08	1.473E-07	4.045E-07	1.476E-06	7.242E-06	6.753E-05	2.807E-03	2.183E-02	2.474E-02
PO210	1.094E-09	1.861E-09	2.867E-09	7.901E-09	2.462E-08	1.465E-07	9.866E-07	6.050E-06	6.752E-05	2.807E-03	2.183E-02	2.474E-02
PO213	6.044E-08	6.021E-08	6.038E-08	6.152E-08	6.542E-08	1.056E-07	5.580E-07	4.559E-06	5.079E-05	4.185E-03	8.896E-02	1.800E-01
PO214	2.282E-08	3.508E-08	4.748E-08	8.476E-08	1.473E-07	4.044E-07	1.476E-06	7.241E-06	6.752E-05	2.807E-03	2.183E-02	2.474E-02
PO218	2.271E-08	3.510E-08	4.750E-08	8.479E-08	1.473E-07	4.046E-07	1.476E-06	7.244E-06	6.755E-05	2.808E-03	2.184E-02	2.475E-02
AT217	6.177E-08	6.154E-08	6.172E-08	6.288E-08	6.686E-08	1.079E-07	5.704E-07	4.659E-06	5.191E-05	4.278E-03	9.092E-02	1.840E-01
RN222	0.0	3.510E-08	4.750E-08	8.479E-08	1.473E-07	4.046E-07	1.476E-06	7.244E-06	6.755E-05	2.808E-03	2.184E-02	2.475E-02
FR221	6.177E-08	6.154E-08	6.172E-08	6.288E-08	6.686E-08	1.079E-07	5.704E-07	4.659E-06	5.191E-05	4.278E-03	9.092E-02	1.840E-01
RA225	6.157E-08	6.154E-08	6.172E-08	6.288E-08	6.686E-08	1.079E-07	5.704E-07	4.659E-06	5.191E-05	4.278E-03	9.092E-02	1.840E-01
RA226	2.271E-08	3.510E-08	4.750E-08	8.479E-08	1.473E-07	4.046E-07	1.476E-06	7.244E-06	6.755E-05	2.808E-03	2.184E-02	2.475E-02
AC225	6.177E-08	6.154E-08	6.172E-08	6.288E-08	6.686E-08	1.079E-07	5.704E-07	4.659E-06	5.191E-05	4.278E-03	9.092E-02	1.840E-01
TH229	6.147E-08	6.154E-08	6.172E-08	6.288E-08	6.686E-08	1.079E-07	5.704E-07	4.659E-06	5.191E-05	4.278E-03	9.092E-02	1.840E-01
TH230	2.859E-05	2.864E-05	2.868E-05	2.884E-05	2.914E-05	3.093E-05	4.285E-05	1.022E-04	3.632E-04	3.606E-03	2.173E-02	2.463E-02
PA233	2.429E-01	2.432E-01	2.432E-01	2.434E-01	2.437E-01	2.450E-01	2.494E-01	2.594E-01	2.774E-01	2.853E-01	2.772E-01	2.640E-01
U233	1.133E-07	1.290E-06	2.467E-06	5.772E-06	1.110E-05	3.247E-05	1.081E-04	3.307E-04	1.155E-03	1.212E-02	9.959E-02	1.815E-01
U234	4.924E-03	5.074E-03	5.325E-03	6.141E-03	7.473E-03	1.232E-02	2.451E-02	3.822E-02	4.249E-02	4.153E-02	3.254E-02	2.182E-02
U236	1.072E-03	1.072E-03	1.072E-03	1.072E-03	1.073E-03	1.075E-03	1.085E-03	1.119E-03	1.216E-03	2.020E-03	2.517E-03	2.505E-03
NP237	2.431E-01	2.431E-01	2.432E-01	2.434E-01	2.437E-01	2.450E-01	2.494E-01	2.594E-01	2.774E-01	2.853E-01	2.772E-01	2.640E-01
NP239	1.269E+01	1.269E+01	1.269E+01	1.269E+01	1.268E+01	1.266E+01	1.257E+01	1.234E+01	1.155E+01	4.962E+00	1.079E-03	2.042E-08
PU238	8.534E+00	7.942E+01	9.386E+01	9.570E+01	9.216E+01	7.916E+01	4.665E+01	1.065E+01	1.214E-01	1.324E-19	0.0	0.0
PU239	1.502E+00	1.502E+00	1.503E+00	1.505E+00	1.508E+00	1.519E+00	1.547E+00	1.611E+00	1.817E+00	3.151E+00	3.998E-01	5.317E-03
PU240	2.387E+00	2.493E+00	2.594E+00	2.876E+00	3.279E+00	4.296E+00	5.091E+00	5.044E+00	4.683E+00	1.804E+00	1.294E-04	1.594E-09
PU241	5.531E+02	5.271E+02	5.023E+02	4.348E+02	3.418E+02	1.305E+02	4.502E+00	1.364E-02	1.260E-02	6.050E-03	3.925E-06	1.899E-11
PU242	7.225E-03	7.226E-03	7.228E-03	7.232E-03	7.238E-03	7.263E-03	7.333E-03	7.446E-03	7.527E-03	7.538E-03	6.456E-03	4.935E-03
AM241	1.951E+02	1.957E+02	1.962E+02	1.975E+02	1.990E+02	1.996E+02	1.823E+02	1.324E+02	4.310E+01	6.073E-03	3.925E-06	2.001E-11
AM242M	4.287E+00	4.268E+00	4.249E+00	4.191E+00	4.096E+00	3.739E+00	2.717E+00	1.092E+00	4.486E-02	6.739E-20	0.0	0.0
AM242	4.266E+00	4.247E+00	4.227E+00	4.170E+00	4.076E+00	3.721E+00	2.704E+00	1.086E+00	4.463E-02	6.705E-20	0.0	0.0
AM243	1.269E+01	1.269E+01	1.269E+01	1.269E+01	1.268E+01	1.266E+01	1.257E+01	1.234E+01	1.155E+01	4.962E+00	1.075E-03	2.042E-08
CM242	1.777E+04	3.769E+03	8.016E+02	1.105E+01	3.375E+00	3.077E+00	2.236E+00	8.983E-01	3.691E-02	5.562E-20	0.0	0.0
CM243	1.227E+01	1.197E+01	1.166E+01	1.086E+01	9.618E+00	5.914E+00	1.078E+00	8.318E-03	3.360E-10	0.0	0.0	0.0
CM244	1.015E+03	9.770E+02	9.403E+02	8.383E+02	6.923E+02	3.220E+02	2.209E+01	1.047E-02	1.878E-13	1.638E-13	1.657E-13	1.681E-13
SUMTOT	1.959E+04	5.598E+03	2.584E+03	1.627E+03	1.377E+03	7.794E+02	2.966E+02	1.781E+02	7.357E+01	1.559E+01	2.043E+00	2.463E+00
TOTAL	1.959E+04	5.598E+03	2.584E+03	1.627E+03	1.377E+03	7.794E+02	2.966E+02	1.781E+02	7.361E+01	1.560E+01	2.050E+00	2.471E+00

TABLE B.28. WATTS OF ACTINIDE ELEMENTS IN BWR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL	1.212E-05	8.513E-06	5.986E-06	2.158E-06	5.361E-07	2.063E-07	1.392E-07	7.231E-08	8.040E-08	1.637E-06	3.321E-05	6.680E-05
PB	2.731E-06	1.919E-06	1.351E-06	4.917E-07	1.302E-07	6.657E-08	6.546E-08	7.617E-08	3.375E-07	1.461E-05	1.798E-04	2.970E-04
BI	2.440E-05	1.715E-05	1.208E-05	4.420E-06	1.211E-06	6.925E-07	7.187E-07	7.108E-07	1.843E-06	6.159E-05	7.201E-04	1.158E-03
PO	1.074E-04	7.542E-05	5.305E-05	1.917E-05	4.837E-06	2.021E-06	1.643E-06	1.894E-06	1.113E-05	5.353E-04	7.015E-03	1.196E-02
AT	2.636E-09	2.626E-09	2.634E-09	2.683E-09	2.853E-09	4.606E-09	2.434E-08	1.986E-07	2.215E-06	1.825E-04	3.880E-03	7.851E-03
RN	0.0	3.825E-05	2.691E-05	9.758E-06	2.521E-06	1.166E-06	1.019E-06	9.260E-07	2.915E-06	9.429E-05	7.316E-04	8.309E-04
FR	2.403E-09	2.408E-09	2.428E-09	2.510E-09	2.718E-09	4.452E-09	2.245E-08	1.803E-07	2.004E-06	1.651E-04	3.509E-03	7.101E-03
RA	4.921E-05	3.458E-05	2.433E-05	8.817E-06	2.271E-06	1.039E-06	8.971E-07	8.078E-07	2.572E-06	8.515E-05	7.012E-04	8.529E-04
AC	2.413E-09	2.588E-09	2.772E-09	3.314E-09	4.189E-09	7.636E-09	2.584E-08	1.691E-07	1.820E-06	1.494E-04	3.176E-03	6.427E-03
TH	1.864E-04	3.429E-05	2.457E-05	9.875E-06	3.682E-06	2.568E-06	2.763E-06	4.323E-06	1.315E-05	2.347E-04	3.404E-03	6.336E-03
PA	2.139E-03	5.603E-04	5.604E-04	5.607E-04	5.615E-04	5.644E-04	5.743E-04	5.972E-04	6.380E-04	6.564E-04	6.429E-04	6.150E-04
U	2.149E-04	2.199E-04	2.262E-04	2.498E-04	2.883E-04	4.283E-04	7.817E-04	1.184E-03	1.333E-03	1.646E-03	3.947E-03	6.019E-03
NP	3.821E-02	3.821E-02	3.821E-02	3.821E-02	3.820E-02	3.817E-02	3.808E-02	3.778E-02	3.641E-02	2.071E-02	8.473E-03	8.069E-03
PU	4.208E-01	2.773E+00	3.254E+00	3.321E+00	3.214E+00	2.808E+00	1.753E+00	5.599E-01	2.061E-01	1.535E-01	1.251E-02	3.096E-04
AM	6.897E+00	6.915E+00	6.932E+00	6.975E+00	7.025E+00	7.044E+00	6.464E+00	4.796E+00	1.803E+00	1.597E-01	3.470E-05	6.570E-10
CM	5.660E+01	3.899E+01	3.425E+01	2.974E+01	2.457E+01	1.148E+01	8.159E-01	2.682E-03	9.345E-04	3.272E-04	1.335E-07	3.049E-09
BK	3.848E-08	1.745E-08	7.909E-09	7.369E-10	1.411E-11	3.317E-18	1.416E-18	1.405E-18	1.366E-18	9.546E-19	2.647E-20	6.727E-23
CF	8.353E-08	7.509E-08	6.747E-08	5.032E-08	3.538E-08	1.700E-08	8.007E-09	5.268E-09	1.334E-09	2.493E-14	1.416E-19	3.597E-22
ES	3.134E-12	8.888E-13	3.548E-13	2.257E-14	2.289E-16	2.418E-24	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	6.396E+01	4.872E+01	4.448E+01	4.007E+01	3.485E+01	2.138E+01	9.072E+00	5.395E+00	2.048E+00	3.381E-01	4.896E-02	5.789E-02

TABLE B.29. WATTS OF PRINCIPAL ACTINIDE NUCLIDES IN BWR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL209	2.217E-11	2.209E-11	2.215E-11	2.257E-11	2.400E-11	3.874E-11	2.047E-10	1.672E-09	1.863E-08	1.535E-06	3.263E-05	6.603E-05
PB209	7.104E-11	7.077E-11	7.097E-11	7.231E-11	7.689E-11	1.241E-10	6.559E-10	5.356E-09	5.970E-08	4.919E-06	1.046E-04	2.116E-04
PB214	7.242E-11	1.119E-10	1.514E-10	2.703E-10	4.697E-10	1.290E-09	4.707E-09	2.310E-08	2.154E-07	8.953E-06	6.962E-05	7.891E-05
BI210	3.537E-12	5.440E-12	8.183E-12	2.106E-11	5.676E-11	3.378E-10	2.275E-09	1.395E-08	1.557E-07	6.472E-06	5.033E-05	5.704E-05
BI213	2.597E-10	2.587E-10	2.595E-10	2.644E-10	2.811E-10	4.538E-10	2.398E-09	1.955E-08	2.182E-07	1.798E-05	3.822E-04	7.734E-04
BI214	2.910E-10	4.497E-10	6.086E-10	1.086E-09	1.888E-09	5.184E-09	1.892E-08	9.282E-08	8.655E-07	3.598E-05	2.798E-04	3.171E-04
PO210	3.507E-11	5.967E-11	9.192E-11	2.533E-10	7.891E-10	4.695E-09	3.163E-08	1.935E-07	2.164E-06	8.998E-05	6.997E-04	7.930E-04
PO213	3.059E-09	3.047E-09	3.056E-09	3.113E-09	3.310E-09	5.344E-09	2.824E-08	2.307E-07	2.570E-06	2.118E-04	4.502E-03	9.109E-03
PO214	1.060E-09	1.629E-09	2.204E-09	3.935E-09	6.838E-09	1.878E-08	6.852E-08	3.362E-07	3.135E-06	1.303E-04	1.013E-03	1.149E-03
PO218	8.231E-10	1.272E-09	1.721E-09	3.072E-09	5.338E-09	1.466E-08	5.350E-08	2.625E-07	2.448E-06	1.018E-04	7.912E-04	8.967E-04
AT217	2.636E-09	2.626E-09	2.634E-09	2.683E-09	2.853E-09	4.606E-09	2.434E-08	1.986E-07	2.215E-06	1.825E-04	3.880E-03	7.851E-03
RN222	0.0	1.163E-09	1.574E-09	2.810E-09	4.882E-09	1.341E-08	4.892E-08	2.400E-07	2.238E-06	9.304E-05	7.235E-04	8.200E-04
FR221	2.384E-09	2.375E-09	2.382E-09	2.427E-09	2.581E-09	4.166E-09	2.201E-08	1.796E-07	2.003E-06	1.651E-04	3.509E-03	7.101E-03
RA225	4.318E-11	4.316E-11	4.328E-11	4.410E-11	4.689E-11	7.569E-11	4.000E-10	3.257E-09	3.640E-08	3.000E-06	6.376E-05	1.290E-04
RA226	6.558E-10	1.013E-09	1.371E-09	2.448E-09	4.254E-09	1.168E-08	4.263E-08	2.093E-07	1.950E-06	8.108E-05	6.305E-04	7.145E-04
AC225	2.158E-09	2.150E-09	2.156E-09	2.197E-09	2.336E-09	3.770E-09	1.992E-08	1.628E-07	1.813E-06	1.494E-04	3.176E-03	6.427E-03
TH229	1.881E-09	1.883E-09	1.888E-09	1.924E-09	2.045E-09	3.302E-09	1.745E-08	1.425E-07	1.588E-06	1.309E-04	2.782E-03	5.629E-03
TH230	8.091E-07	8.104E-07	8.117E-07	8.161E-07	8.247E-07	8.753E-07	1.213E-06	2.891E-06	1.028E-05	1.020E-04	6.148E-04	6.969E-04
PA233	5.513E-04	5.519E-04	5.520E-04	5.524E-04	5.532E-04	5.561E-04	5.660E-04	5.885E-04	6.297E-04	6.476E-04	6.290E-04	5.992E-04
U233	3.294E-09	3.749E-08	7.170E-08	1.678E-07	3.226E-07	9.438E-07	3.143E-06	9.612E-06	3.358E-05	3.522E-04	2.895E-03	5.275E-03
U234	1.418E-04	1.461E-04	1.534E-04	1.769E-04	2.152E-04	3.548E-04	7.060E-04	1.102E-03	1.224E-03	1.196E-03	9.371E-04	6.295E-04
U236	2.904E-05	2.904E-05	2.904E-05	2.905E-05	2.906E-05	2.912E-05	2.939E-05	3.021E-05	3.294E-05	5.471E-05	6.817E-05	6.787E-05
NP237	7.429E-03	7.431E-03	7.433E-03	7.439E-03	7.449E-03	7.488E-03	7.621E-03	7.930E-03	8.479E-03	8.720E-03	8.471E-03	8.069E-03
NP239	3.068E-02	3.068E-02	3.067E-02	3.067E-02	3.065E-02	3.059E-02	3.039E-02	2.983E-02	2.793E-02	1.199E-02	2.599E-06	4.936E-11
PU238	2.828E-01	2.632E+00	3.111E+00	3.171E+00	3.054E+00	2.624E+00	1.546E+00	3.530E-01	4.024E-03	4.386E-21	0.0	0.0
PU239	4.628E-02	4.630E-02	4.632E-02	4.638E-02	4.648E-02	4.681E-02	4.767E-02	4.964E-02	5.600E-02	9.711E-02	1.232E-02	1.639E-04
PU240	7.434E-02	7.762E-02	8.078E-02	8.955E-02	1.021E-01	1.338E-01	1.585E-01	1.571E-01	1.458E-01	5.616E-02	4.028E-06	5.275E-11
PU242	2.134E-04	2.134E-04	2.134E-04	2.136E-04	2.138E-04	2.145E-04	2.166E-04	2.199E-04	2.223E-04	2.226E-04	1.907E-04	1.457E-04
AM241	6.482E+00	6.500E+00	6.517E+00	6.561E+00	6.611E+00	6.631E+00	6.056E+00	4.398E+00	1.432E+00	2.017E-04	1.304E-07	6.647E-13
AM243	4.080E-01	4.080E-01	4.079E-01	4.078E-01	4.076E-01	4.068E-01	4.042E-01	3.967E-01	3.714E-01	1.595E-01	3.457E-05	6.563E-10
CM242	2.064E+01	4.379E+00	9.313E-01	1.284E-02	3.922E-03	3.575E-03	2.598E-03	1.048E-03	4.289E-05	6.462E-23	0.0	0.0
CM243	4.500E-01	4.392E-01	4.287E-01	3.985E-01	3.529E-01	2.170E-01	3.954E-02	3.052E-04	1.233E-11	0.0	0.0	0.0
CM244	3.551E+01	3.417E+01	3.289E+01	2.932E+01	2.422E+01	1.126E+01	7.728E-01	3.661E-04	6.570E-15	5.730E-15	5.796E-15	5.881E-15
SUMTOT	6.393E+01	4.870E+01	4.445E+01	4.005E+01	3.483E+01	2.136E+01	9.067E+00	5.396E+00	2.047E+00	3.377E-01	4.885E-02	5.777E-02
TOTAL	6.396E+01	4.872E+01	4.448E+01	4.007E+01	3.485E+01	2.138E+01	9.072E+00	5.395E+00	2.048E+00	3.381E-01	4.896E-02	5.789E-02

TABLE 8.30. PHOTONS FROM ACTINIDES IN BWR HIGH-LEVEL WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

16 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS= METRIC TON OF INITIAL HEAVY METAL AT A REPROCESSING TIME OF 160 DAYS

EMEAN	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	1.156E+14	3.138E+13	1.334E+13	7.998E+12	7.088E+12	4.826E+12	2.627E+12	1.769E+12	8.964E+11	2.463E+11	2.485E+10	3.036E+10
2.500E-02	1.944E+11	1.923E+11	1.927E+11	1.939E+11	1.953E+11	1.957E+11	1.789E+11	1.312E+11	4.679E+10	3.569E+09	1.762E+09	2.023E+09
3.750E-02	3.156E+11	1.169E+11	7.482E+10	6.259E+10	6.082E+10	5.619E+10	5.016E+10	4.415E+10	3.466E+10	1.359E+10	1.751E+09	3.364E+09
5.750E-02	2.703E+12	2.707E+12	2.714E+12	2.732E+12	2.753E+12	2.760E+12	2.521E+12	1.833E+12	6.028E+11	4.404E+09	6.414E+08	9.479E+08
8.500E-02	4.441E+11	4.401E+11	4.383E+11	4.330E+11	4.289E+11	4.006E+11	3.662E+11	3.497E+11	3.256E+11	1.430E+11	8.323E+09	1.082E+10
1.250E-01	3.900E+11	3.751E+11	3.697E+11	3.599E+11	3.459E+11	3.041E+11	2.467E+11	2.258E+11	2.079E+11	8.969E+10	1.498E+09	1.903E+09
2.250E-01	3.104E+11	3.001E+11	2.955E+11	2.853E+11	2.704E+11	2.258E+11	1.670E+11	1.512E+11	1.413E+11	6.092E+10	1.589E+09	2.581E+09
3.750E-01	1.952E+10	1.892E+10	1.892E+10	1.890E+10	1.887E+10	1.878E+10	1.862E+10	1.843E+10	1.772E+10	1.015E+10	5.543E+09	6.533E+09
5.750E-01	2.181E+09	5.078E+08	2.160E+08	1.331E+08	1.298E+08	1.288E+08	1.226E+08	1.065E+08	7.933E+07	9.098E+07	5.226E+08	6.569E+08
8.500E-01	1.013E+09	5.651E+08	4.935E+08	4.499E+08	4.127E+08	3.144E+08	1.880E+08	7.892E+07	7.764E+06	1.561E+07	1.225E+08	1.497E+08
1.250E+00	4.589E+08	2.823E+08	2.599E+08	2.430E+08	2.253E+08	1.761E+08	1.080E+08	4.307E+07	3.331E+06	3.679E+07	2.899E+08	3.388E+08
1.750E+00	1.040E+08	5.602E+07	4.686E+07	3.965E+07	3.259E+07	1.528E+07	1.299E+06	3.080E+05	9.339E+05	3.181E+07	2.877E+08	3.838E+08
2.250E+00	5.209E+07	3.169E+07	2.660E+07	2.278E+07	1.880E+07	8.801E+06	7.033E+05	1.175E+05	2.954E+05	8.861E+06	6.872E+07	7.788E+07
2.750E+00	4.821E+07	3.105E+07	2.433E+07	1.639E+07	1.168E+07	5.371E+06	5.584E+05	1.037E+05	8.215E+04	1.963E+05	1.213E+06	1.362E+06
3.500E+00	2.710E+07	1.652E+07	1.388E+07	1.187E+07	9.811E+06	4.592E+06	3.638E+05	4.906E+04	4.359E+04	4.094E+04	2.249E+05	2.547E+05
5.000E+00	1.160E+07	7.069E+06	5.937E+06	5.080E+06	4.197E+06	1.964E+06	1.554E+05	2.084E+04	1.832E+04	5.159E+03	1.770E+02	1.368E+02
7.000E+00	1.335E+06	8.147E+05	6.846E+05	5.858E+05	4.840E+05	2.265E+05	1.790E+04	2.391E+03	2.110E+03	5.947E+02	2.025E+01	1.560E+01
1.100E+01	1.537E+05	9.367E+04	7.867E+04	6.731E+04	5.561E+04	2.602E+04	2.056E+03	2.740E+02	2.423E+02	6.837E+01	2.322E+00	1.786E+00
TOTAL	1.200E+14	3.551E+13	1.744E+13	1.208E+13	1.116E+13	8.788E+12	6.175E+12	4.523E+12	2.273E+12	5.718E+11	4.725E+10	6.014E+10
MEV/SEC	2.073E+12	7.956E+11	5.220E+11	4.383E+11	4.199E+11	3.687E+11	2.976E+11	2.359E+11	1.427E+11	4.561E+10	5.279E+09	6.655E+09

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS= METRIC TON OF INITIAL HEAVY METAL AT A REPROCESSING TIME OF 160 DAYS

EMEAN	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	1.734E+06	4.703E+05	2.001E+05	1.200E+05	1.063E+05	7.239E+04	3.940E+04	2.654E+04	1.345E+04	3.695E+03	3.720E+02	4.554E+02
2.500E-02	4.859E+03	4.806E+03	4.818E+03	4.848E+03	4.882E+03	4.891E+03	4.471E+03	3.280E+03	1.170E+03	8.921E+01	4.405E+01	5.057E+01
3.750E-02	1.183E+04	4.384E+03	2.806E+03	2.347E+03	2.281E+03	2.107E+03	1.881E+03	1.657E+03	1.300E+03	5.094E+02	6.565E+01	1.262E+02
5.750E-02	1.554E+05	1.557E+05	1.561E+05	1.571E+05	1.583E+05	1.587E+05	1.449E+05	1.054E+05	3.466E+04	2.532E+02	3.688E+01	5.450E+01
8.500E-02	3.774E+04	3.741E+04	3.725E+04	3.680E+04	3.612E+04	3.405E+04	3.113E+04	2.973E+04	2.767E+04	1.215E+04	7.075E+02	9.197E+02
1.250E-01	4.875E+04	4.689E+04	4.621E+04	4.498E+04	4.324E+04	3.801E+04	3.084E+04	2.822E+04	2.599E+04	1.121E+04	1.872E+02	2.378E+02
2.250E-01	6.983E+04	6.752E+04	6.649E+04	6.420E+04	6.083E+04	5.080E+04	3.757E+04	3.401E+04	3.180E+04	1.371E+04	3.575E+02	5.807E+02
3.750E-01	7.322E+03	7.097E+03	7.094E+03	7.087E+03	7.076E+03	7.042E+03	6.983E+03	6.910E+03	6.643E+03	3.808E+03	2.078E+03	2.450E+03
5.750E-01	1.254E+03	2.920E+02	1.242E+02	7.653E+01	7.464E+01	7.407E+01	7.046E+01	6.127E+01	4.562E+01	5.231E+01	3.005E+02	3.777E+02
8.500E-01	8.610E+02	4.803E+02	4.195E+02	3.824E+02	3.508E+02	2.672E+02	1.598E+02	6.708E+01	6.600E+00	1.327E+01	1.041E+02	1.273E+02
1.250E+00	5.736E+02	3.529E+02	3.249E+02	3.038E+02	2.816E+02	2.202E+02	1.350E+02	5.384E+01	4.164E+00	4.599E+01	3.623E+02	4.235E+02
1.750E+00	1.820E+02	9.803E+01	8.200E+01	6.939E+01	5.703E+01	2.674E+01	2.273E+00	5.389E-01	1.634E+00	5.568E+01	5.035E+02	6.716E+02
2.250E+00	1.172E+02	7.131E+01	5.985E+01	5.119E+01	4.230E+01	1.980E+01	1.582E+00	2.652E-01	6.647E-01	1.994E+01	1.546E+02	1.752E+02
2.750E+00	1.326E+02	8.539E+01	6.692E+01	4.508E+01	3.211E+01	1.477E+01	1.535E+00	2.852E-01	2.259E-01	5.398E-01	3.335E+00	3.746E+00
3.500E+00	9.487E+01	5.783E+01	4.857E+01	4.156E+01	3.434E+01	1.607E+01	1.273E+00	1.717E-01	1.526E-01	1.433E-01	7.872E-01	8.916E-01
5.000E+00	5.796E+01	3.535E+01	2.969E+01	2.540E+01	2.098E+01	9.821E+00	7.771E-01	1.042E-01	9.160E-02	2.580E-02	8.852E-04	6.840E-04
7.000E+00	9.342E+00	5.703E+00	4.792E+00	4.101E+00	3.388E+00	1.586E+00	1.253E-01	1.673E-02	1.477E-02	4.163E-03	1.417E-04	1.092E-04
1.100E+01	1.690E+00	1.030E+00	8.654E-01	7.404E-01	6.117E-01	2.863E-01	2.262E-02	3.014E-03	2.666E-03	7.520E-04	2.554E-05	1.964E-05
TOTAL	2.073E+06	7.956E+05	5.220E+05	4.383E+05	4.199E+05	3.687E+05	2.976E+05	2.359E+05	1.427E+05	4.561E+04	5.279E+03	6.655E+03
GAM POW	3.322E-01	1.275E-01	8.367E-02	7.026E-02	6.732E-02	5.910E-02	4.770E-02	3.782E-02	2.288E-02	7.312E-03	8.463E-04	1.067E-03

TABLE 8.31. (ALPHA,N) NEUTRONS FROM ACTINIDES IN BWR HIGH-LEVEL WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
PO213	5.367E-02	5.347E-02	5.363E-02	5.464E-02	5.809E-02	9.378E-02	4.956E-01	4.048E+00	4.510E+01	3.717E+03	7.900E+04	1.599E+05
PO214	6.069E-03	9.330E-03	1.263E-02	2.254E-02	3.916E-02	1.076E-01	3.925E-01	1.926E+00	1.796E+01	7.465E+02	5.805E+03	6.579E+03
PO218	1.878E-04	2.902E-04	3.927E-04	7.011E-04	1.218E-03	3.345E-03	1.221E-02	5.985E-02	5.585E-01	2.322E+01	1.905E+02	2.046E+02
AT217	5.036E-03	5.017E-03	5.031E-03	5.126E-03	5.450E-03	8.799E-03	4.649E-02	3.798E-01	4.232E+00	3.487E+02	7.411E+03	1.500E+04
FR221	1.233E-03	1.228E-03	1.232E-03	1.255E-03	1.334E-03	2.154E-03	1.138E-02	9.298E-02	1.036E+00	8.536E+01	1.814E+03	3.671E+03
AC225	3.048E-04	3.037E-04	3.046E-04	3.103E-04	3.299E-04	5.326E-04	2.815E-03	2.295E-02	2.562E-01	2.111E+01	4.487E+02	9.079E+02
NP237	1.845E+02	1.846E+02	1.846E+02	1.848E+02	1.850E+02	1.860E+02	1.893E+02	1.970E+02	2.106E+02	2.166E+02	2.104E+02	2.004E+02
PU238	9.966E+03	9.275E+04	1.096E+05	1.118E+05	1.076E+05	9.245E+04	5.448E+04	1.244E+04	1.418E+02	1.546E-16	0.0	0.0
PU239	1.087E+03	1.087E+03	1.088E+03	1.089E+03	1.091E+03	1.099E+03	1.119E+03	1.168E+03	1.315E+03	2.280E+03	2.892E+02	3.848E+00
PU240	1.780E+03	1.859E+03	1.935E+03	2.145E+03	2.445E+03	3.204E+03	3.797E+03	3.762E+03	3.493E+03	1.345E+03	9.647E-02	1.263E-06
AM241	2.273E+05	2.280E+05	2.286E+05	2.301E+05	2.318E+05	2.326E+05	2.124E+05	1.542E+05	5.021E+04	7.075E+00	4.573E-03	2.331E-08
AM243	1.955E+04	1.955E+04	1.954E+04	1.954E+04	1.953E+04	1.949E+04	1.936E+04	1.900E+04	1.779E+04	7.642E+03	1.656E+00	3.145E-05
CM242	1.434E+08	3.041E+07	6.469E+06	8.919E+04	2.724E+04	2.483E+04	1.805E+04	7.250E+03	2.979E+02	4.488E-16	0.0	0.0
CM243	1.241E+05	1.211E+05	1.182E+05	1.099E+05	9.730E+04	5.983E+04	1.090E+04	8.415E+01	3.399E-06	0.0	0.0	0.0
CM244	7.196E+06	6.926E+06	6.666E+06	5.943E+06	4.908E+06	2.283E+06	1.566E+05	7.419E+01	1.331E-09	1.161E-09	1.175E-09	1.192E-09
TOTALS												
TABLE	1.510E+08	3.781E+07	1.361E+07	6.507E+06	5.395E+06	2.716E+06	4.770E+05	1.983E+05	7.361E+04	1.650E+04	9.543E+04	1.868E+05
ACTUAL	1.510E+08	3.781E+07	1.361E+07	6.507E+06	5.395E+06	2.716E+06	4.770E+05	1.983E+05	7.361E+04	1.650E+04	9.543E+04	1.868E+05

TABLE 8.32. SPONTANEOUS FISSION NEUTRONS FROM ACTINIDES IN BWR HIGH-LEVEL WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
U238	6.034E+01	6.034E+01	6.034E+01	6.034E+01	6.034E+01	6.034E+01	6.034E+01	6.034E+01	6.034E+01	6.034E+01	6.035E+01	6.035E+01
PU238	1.324E+03	1.232E+04	1.456E+04	1.485E+04	1.430E+04	1.228E+04	7.238E+03	1.653E+03	1.834E+01	2.054E-17	0.0	0.0
PU240	9.536E+03	9.957E+03	1.036E+04	1.149E+04	1.310E+04	1.716E+04	2.034E+04	2.015E+04	1.871E+04	7.204E+03	5.167E-01	6.767E-06
PU242	3.189E+03	3.189E+03	3.190E+03	3.191E+03	3.194E+03	3.205E+03	3.236E+03	3.286E+03	3.322E+03	3.326E+03	2.849E+03	2.178E+03
CM242	1.157E+08	2.455E+07	5.221E+06	7.199E+04	2.199E+04	2.004E+04	1.457E+04	5.851E+03	2.404E+02	3.623E-16	0.0	0.0
CM244	1.395E+08	1.342E+08	1.292E+08	1.152E+08	9.512E+07	4.424E+07	3.035E+06	1.438E+03	2.581E-08	2.251E-08	2.277E-08	2.310E-08
CM246	4.855E+05	4.854E+05	4.853E+05	4.851E+05	4.847E+05	4.833E+05	4.784E+05	4.646E+05	4.193E+05	1.122E+05	2.105E-01	6.089E-11
CM248	3.317E+02	3.317E+02	3.317E+02	3.318E+02	3.318E+02	3.318E+02	3.317E+02	3.316E+02	3.311E+02	3.251E+02	2.704E+02	1.990E+02
TOTALS												
TABLE	2.557E+08	1.593E+08	1.349E+08	1.158E+08	9.565E+07	4.478E+07	3.560E+06	4.976E+05	4.422E+05	1.232E+05	3.181E+03	2.438E+03
ACTUAL	2.557E+08	1.593E+08	1.349E+08	1.158E+08	9.565E+07	4.478E+07	3.560E+06	4.976E+05	4.422E+05	1.232E+05	3.181E+03	2.438E+03
OVERALL TOTALS												
TABLE	4.067E+08	1.971E+08	1.485E+08	1.223E+08	1.010E+08	4.749E+07	4.037E+06	6.959E+05	5.158E+05	1.397E+05	9.861E+04	1.893E+05
ACTUAL	4.067E+08	1.971E+08	1.485E+08	1.223E+08	1.010E+08	4.749E+07	4.037E+06	6.959E+05	5.158E+05	1.397E+05	9.861E+04	1.893E+05

TABLE B.33. GRAMS OF FISSION PRODUCT ELEMENTS IN BWR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
LI	1.657E-04	1.657E-04	1.657E-04	1.657E-04	1.657E-04	1.657E-04	1.657E-04	1.657E-04	1.657E-04	1.657E-04	1.657E-04	1.657E-04
BE	1.237E-04	1.237E-04	1.237E-04	1.237E-04	1.237E-04	1.237E-04	1.237E-04	1.237E-04	1.237E-04	1.233E-04	1.192E-04	1.127E-04
CU	1.890E-35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZN	2.561E-08	2.561E-08	2.561E-08	2.561E-08	2.561E-08	2.561E-08	2.561E-08	2.561E-08	2.561E-08	2.561E-08	2.561E-08	2.561E-08
GA	6.840E-07	6.840E-07	6.840E-07	6.840E-07	6.840E-07	6.840E-07	6.840E-07	6.840E-07	6.840E-07	6.840E-07	6.840E-07	6.840E-07
GE	5.286E-01	5.286E-01	5.286E-01	5.286E-01	5.286E-01	5.286E-01	5.286E-01	5.286E-01	5.286E-01	5.286E-01	5.286E-01	5.286E-01
AS	1.595E-01	1.595E-01	1.595E-01	1.595E-01	1.595E-01	1.595E-01	1.595E-01	1.595E-01	1.595E-01	1.595E-01	1.595E-01	1.595E-01
SE	4.666E+01	4.666E+01	4.666E+01	4.666E+01	4.666E+01	4.666E+01	4.666E+01	4.665E+01	4.661E+01	4.617E+01	4.348E+01	4.215E+01
BR	1.806E-02	1.811E-02	1.816E-02	1.832E-02	1.858E-02	1.961E-02	2.323E-02	3.356E-02	6.954E-02	5.089E-01	3.200E+00	4.532E+00
RB	2.835E+02	2.835E+02	2.835E+02	2.839E+02	2.835E+02	2.839E+02	2.835E+02	2.835E+02	2.835E+02	2.835E+02	2.835E+02	2.835E+02
SR	7.297E+02	7.171E+02	7.071E+02	6.783E+02	6.348E+02	5.042E+02	3.306E+02	2.905E+02	2.901E+02	2.901E+02	2.901E+02	2.901E+02
Y	3.813E+02	3.788E+02	3.788E+02	3.788E+02	3.788E+02	3.787E+02	3.787E+02	3.787E+02	3.787E+02	3.787E+02	3.787E+02	3.787E+02
ZR	2.927E+03	2.932E+03	2.942E+03	2.971E+03	3.015E+03	3.145E+03	3.319E+03	3.355E+03	3.359E+03	3.357E+03	3.333E+03	3.295E+03
NB	9.890E+00	2.258E-01	6.062E-03	2.560E-03	3.914E-03	9.331E-03	2.829E-02	8.245E-02	2.720E-01	2.704E+00	2.648E+01	6.402E+01
MO	2.753E+03	2.772E+03	2.773E+03	2.773E+03	2.773E+03	2.773E+03	2.773E+03	2.773E+03	2.773E+03	2.773E+03	2.773E+03	2.773E+03
TC	6.564E+02	6.564E+02	6.564E+02	6.564E+02	6.563E+02	6.563E+02	6.561E+02	6.557E+02	6.542E+02	6.353E+02	4.740E+02	2.910E+02
RU	1.906E+03	1.855E+03	1.831E+03	1.809E+03	1.806E+03	1.806E+03	1.806E+03	1.806E+03	1.808E+03	1.827E+03	1.986E+03	2.171E+03
RH	4.035E+02	4.056E+02	4.056E+02	4.056E+02	4.056E+02	4.056E+02	4.056E+02	4.056E+02	4.056E+02	4.056E+02	4.056E+02	4.056E+02
PD	1.039E+03	1.088E+02	1.113E+03	1.134E+03	1.137E+03	1.137E+03	1.137E+03	1.137E+03	1.137E+03	1.137E+03	1.135E+03	1.132E+03
AG	6.643E+01	6.616E+01	6.606E+01	6.601E+01	6.601E+01	6.601E+01	6.601E+01	6.601E+01	6.602E+01	6.620E+01	6.796E+01	7.085E+01
CD	8.369E+01	8.394E+01	8.403E+01	8.406E+01	8.403E+01	8.396E+01	8.391E+01	8.391E+01	8.391E+01	8.391E+01	8.391E+01	8.391E+01
IN	1.999E+00	2.011E+00	2.020E+00	2.043E+00	2.075E+00	2.149E+00	2.194E+00	2.195E+00	2.195E+00	2.195E+00	2.195E+00	2.195E+00
SN	6.962E+01	6.950E+01	6.948E+01	6.948E+01	6.948E+01	6.948E+01	6.947E+01	6.943E+01	6.933E+01	6.801E+01	5.948E+01	5.136E+01
SB	2.377E+01	2.171E+01	2.004E+01	1.691E+01	1.491E+01	1.412E+01	1.411E+01	1.411E+01	1.411E+01	1.411E+01	1.411E+01	1.411E+01
TE	3.923E+02	3.940E+02	3.957E+02	3.988E+02	4.008E+02	4.016E+02	4.016E+02	4.016E+02	4.017E+02	4.031E+02	4.126E+02	4.197E+02
I	1.949E-01	6.181E-01	6.555E-01	6.595E-01	6.595E-01	6.595E-01	6.595E-01	6.595E-01	6.595E-01	6.594E-01	6.587E-01	6.574E-01
XE	0.0	1.448E-06	2.296E-08	4.840E-08	9.080E-08	2.604E-07	8.540E-07	2.550E-06	8.486E-06	8.479E-05	8.462E-04	2.108E-03
CS	2.326E+03	2.282E+03	2.245E+03	2.157E+03	2.050E+03	1.759E+03	1.364E+03	1.268E+03	1.267E+03	1.266E+03	1.257E+03	1.244E+03
BA	1.163E+03	1.207E+03	1.244E+03	1.331E+03	1.439E+03	1.730E+03	2.124E+03	2.221E+03	2.222E+03	2.223E+03	2.231E+03	2.245E+03
LA	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03
CE	2.162E+03	2.048E+03	2.001E+03	1.971E+03	1.969E+03	1.969E+03	1.969E+03	1.969E+03	1.969E+03	1.969E+03	1.969E+03	1.969E+03
PR	9.325E+02	9.339E+02	9.339E+02	9.339E+02	9.339E+02	9.339E+02	9.339E+02	9.339E+02	9.339E+02	9.339E+02	9.339E+02	9.339E+02
ND	3.152E+03	3.265E+03	3.312E+03	3.342E+03	3.344E+03	3.344E+03	3.344E+03	3.344E+03	3.344E+03	3.344E+03	3.344E+03	3.344E+03
PM	1.147E+02	8.803E+01	6.[illegible]39E+01	3.059E+01	8.164E+00	4.139E-02	3.843E-10	0.0	0.0	0.0	0.0	0.0
SM	6.184E+02	6.450E+02	6.653E+02	7.021E+02	7.241E+02	7.306E+02	7.266E+02	7.221E+02	7.209E+02	7.209E+02	7.209E+02	7.209E+02
EU	1.276E+02	1.241E+02	1.209E+02	1.132E+02	1.045E+02	9.326E+01	9.456E+01	9.901E+01	1.002E+02	1.002E+02	1.002E+02	1.002E+02
GD	6.546E+01	6.908E+01	7.234E+01	8.038E+01	8.946E+01	1.023E+02	1.051E+02	1.051E+02	1.051E+02	1.051E+02	1.051E+02	1.051E+02
TB	2.158E+00	2.145E+00	2.145E+00	2.145E+00	2.145E+00	2.145E+00	2.145E+00	2.145E+00	2.145E+00	2.145E+00	2.145E+00	2.145E+00
DY	1.113E+00	1.126E+00	1.126E+00	1.126E+00	1.126E+00	1.126E+00	1.126E+00	1.126E+00	1.126E+00	1.126E+00	1.126E+00	1.126E+00
HO	1.054E-01	1.054E-01	1.054E-01	1.054E-01	1.054E-01	1.054E-01	1.054E-01	1.053E-01	1.050E-01	1.045E-01	1.045E-01	1.045E-01
ER	4.059E-02	4.059E-02	4.059E-02	4.059E-02	4.059E-02	4.060E-02	4.064E-02	4.074E-02	4.101E-02	4.154E-02	4.154E-02	4.154E-02
TM	3.935E-05	3.753E-05	3.722E-05	3.708E-05	3.703E-05	3.702E-05	3.702E-05	3.702E-05	3.702E-05	3.702E-05	3.702E-05	3.702E-05
YB	8.671E-06	1.049E-05	1.080E-05	1.094E-05	1.099E-05	1.100E-05	1.100E-05	1.100E-05	1.100E-05	1.100E-05	1.100E-05	1.100E-05
TOTAL	2.345E+04	2.345E+04	2.345E+04	2.345E+04	2.345E+04	2.345E+04	2.345E+04	2.345E+04	2.345E+04	2.345E+04	2.345E+04	2.345E+04

TABLE B.34. GRAMS OF PRINCIPAL FISSION PRODUCT NUCLIDES IN BWR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
SE 82	2.785E+01	2.785E+01	2.785E+01	2.785E+01	2.785E+01	2.785E+01	2.785E+01	2.785E+01	2.785E+01	2.785E+01	2.785E+01	2.785E+01
RB 85	8.162E+01	8.162E+01	8.162E+01	8.162E+01	8.162E+01	8.162E+01	8.162E+01	8.162E+01	8.162E+01	8.162E+01	8.162E+01	8.162E+01
RB 87	2.019E+02	2.019E+02	2.019E+02	2.019E+02	2.019E+02	2.019E+02	2.019E+02	2.019E+02	2.019E+02	2.019E+02	2.019E+02	2.019E+02
SR 88	2.898E+02	2.898E+02	2.898E+02	2.898E+02	2.898E+02	2.898E+02	2.898E+02	2.898E+02	2.898E+02	2.898E+02	2.898E+02	2.898E+02
Y 89	3.764E+02	3.786E+02	3.787E+02	3.787E+02	3.787E+02	3.787E+02	3.787E+02	3.787E+02	3.787E+02	3.787E+02	3.787E+02	3.787E+02
SR 90	4.373E+02	4.270E+02	4.169E+02	3.882E+02	3.446E+02	2.141E+02	4.046E+01	3.467E-01	2.014E-08	0.0	0.0	0.0
ZR 90	2.245E+01	3.274E+01	4.279E+01	7.153E+01	1.151E+02	2.457E+02	4.194E+02	4.595E+02	4.598E+02	4.598E+02	4.598E+02	4.598E+02
ZR 91	4.846E+02	4.894E+02	4.895E+02	4.895E+02	4.895E+02	4.895E+02	4.895E+02	4.895E+02	4.895E+02	4.895E+02	4.895E+02	4.895E+02
ZR 92	5.300E+02	5.300E+02	5.300E+02	5.300E+02	5.300E+02	5.300E+02	5.300E+02	5.300E+02	5.300E+02	5.300E+02	5.300E+02	5.300E+02
ZR 93	5.978E+02	5.978E+02	5.978E+02	5.978E+02	5.978E+02	5.978E+02	5.978E+02	5.978E+02	5.976E+02	5.951E+02	5.714E+02	5.338E+02
NB 93	6.554E-05	1.097E-04	1.652E-04	3.937E-04	9.528E-04	4.619E-03	2.262E-02	7.676E-02	2.663E-01	2.698E+00	2.648E+01	6.402E+01
ZR 94	6.167E+02	6.167E+02	6.167E+02	6.167E+02	6.167E+02	6.167E+02	6.167E+02	6.167E+02	6.167E+02	6.167E+02	6.167E+02	6.167E+02
MO 95	6.131E+02	6.319E+02	6.323E+02	6.323E+02	6.323E+02	6.323E+02	6.323E+02	6.323E+02	6.323E+02	6.323E+02	6.323E+02	6.323E+02
ZR 96	6.656E+02	6.656E+02	6.656E+02	6.656E+02	6.656E+02	6.656E+02	6.656E+02	6.656E+02	6.656E+02	6.656E+02	6.656E+02	6.656E+02
MO 96	2.542E+01	2.542E+01	2.542E+01	2.542E+01	2.542E+01	2.542E+01	2.542E+01	2.542E+01	2.542E+01	2.542E+01	2.542E+01	2.542E+01
MO 97	6.591E+02	6.591E+02	6.591E+02	6.591E+02	6.591E+02	6.591E+02	6.591E+02	6.591E+02	6.591E+02	6.591E+02	6.591E+02	6.591E+02
MO 98	6.802E+02	6.802E+02	6.802E+02	6.802E+02	6.802E+02	6.802E+02	6.802E+02	6.802E+02	6.802E+02	6.802E+02	6.802E+02	6.802E+02
TC 99	6.564E+02	6.564E+02	6.564E+02	6.564E+02	6.563E+02	6.563E+02	6.561E+02	6.557E+02	6.542E+02	6.353E+02	4.740E+02	2.910E+02
RU 99	4.031E-03	6.167E-03	8.303E-03	1.471E-02	2.539E-02	6.810E-02	2.176E-01	6.445E-01	2.136E+00	2.102E+01	1.823E+02	3.654E+02
MO100	7.756E+02	7.756E+02	7.756E+02	7.756E+02	7.756E+02	7.756E+02	7.756E+02	7.756E+02	7.756E+02	7.756E+02	7.756E+02	7.756E+02
RU100	7.079E+01	7.079E+01	7.079E+01	7.079E+01	7.079E+01	7.079E+01	7.079E+01	7.079E+01	7.079E+01	7.079E+01	7.079E+01	7.079E+01
RU101	6.447E+02	6.447E+02	6.447E+02	6.447E+02	6.447E+02	6.447E+02	6.447E+02	6.447E+02	6.447E+02	6.447E+02	6.447E+02	6.447E+02
RU102	6.387E+02	6.387E+02	6.387E+02	6.387E+02	6.387E+02	6.387E+02	6.387E+02	6.387E+02	6.387E+02	6.387E+02	6.387E+02	6.387E+02
RH103	4.035E+02	4.056E+02	4.056E+02	4.056E+02	4.056E+02	4.056E+02	4.056E+02	4.056E+02	4.056E+02	4.056E+02	4.056E+02	4.056E+02
RU104	4.517E+02	4.517E+02	4.517E+02	4.517E+02	4.517E+02	4.517E+02	4.517E+02	4.517E+02	4.517E+02	4.517E+02	4.517E+02	4.517E+02
PD104	1.676E+02	1.676E+02	1.676E+02	1.676E+02	1.676E+02	1.676E+02	1.676E+02	1.676E+02	1.676E+02	1.676E+02	1.676E+02	1.676E+02
PD105	3.233E+02	3.233E+02	3.233E+02	3.233E+02	3.233E+02	3.233E+02	3.233E+02	3.233E+02	3.233E+02	3.233E+02	3.233E+02	3.233E+02
RU106	9.776E+01	4.915E+01	2.471E+01	3.140E+00	1.009E-01	1.074E-07	1.337E-28	0.0	0.0	0.0	0.0	0.0
PD106	1.969E+02	2.455E+02	2.699E+02	2.915E+02	2.945E+02	2.946E+02	2.946E+02	2.946E+02	2.946E+02	2.946E+02	2.946E+02	2.946E+02
PD107	1.841E+02	1.841E+02	1.841E+02	1.841E+02	1.841E+02	1.841E+02	1.841E+02	1.841E+02	1.841E+02	1.839E+02	1.822E+02	1.793E+02
PD108	1.267E+02	1.267E+02	1.267E+02	1.267E+02	1.267E+02	1.267E+02	1.267E+02	1.267E+02	1.267E+02	1.267E+02	1.267E+02	1.267E+02
AG109	6.601E+01	6.601E+01	6.601E+01	6.601E+01	6.601E+01	6.601E+01	6.601E+01	6.601E+01	6.601E+01	6.601E+01	6.601E+01	6.601E+01
PD110	4.080E+01	4.080E+01	4.080E+01	4.080E+01	4.080E+01	4.080E+01	4.080E+01	4.080E+01	4.080E+01	4.080E+01	4.080E+01	4.080E+01
CD110	2.491E+01	2.518E+01	2.528E+01	2.533E+01	2.533E+01	2.533E+01	2.533E+01	2.533E+01	2.533E+01	2.533E+01	2.533E+01	2.533E+01
TE128	9.095E+01	9.095E+01	9.095E+01	9.095E+01	9.095E+01	9.095E+01	9.095E+01	9.095E+01	9.095E+01	9.095E+01	9.095E+01	9.095E+01
TE130	2.945E+02	2.945E+02	2.945E+02	2.945E+02	2.945E+02	2.945E+02	2.945E+02	2.945E+02	2.945E+02	2.945E+02	2.945E+02	2.945E+02
CS133	9.549E+02	9.549E+02	9.549E+02	9.549E+02	9.549E+02	9.549E+02	9.549E+02	9.549E+02	9.549E+02	9.549E+02	9.549E+02	9.549E+02
CS134	7.539E+01	5.386E+01	3.849E+01	1.404E+01	2.614E+00	3.297E-03	1.989E-13	0.0	0.0	0.0	0.0	0.0
BA134	4.257E+01	6.409E+01	7.947E+01	1.039E+02	1.153E+02	1.180E+02	1.180E+02	1.180E+02	1.180E+02	1.180E+02	1.180E+02	1.180E+02
CS135	3.118E+02	3.118E+02	3.118E+02	3.118E+02	3.118E+02	3.118E+02	3.118E+02	3.118E+02	3.117E+02	3.109E+02	3.026E+02	2.892E+02
CS137	9.838E+02	9.614E+02	9.394E+02	8.765E+02	7.809E+02	4.919E+02	9.760E+01	9.607E-01	9.086E-08	0.0	0.0	0.0
BA137	4.378E+01	6.625E+01	8.821E+01	1.511E+02	2.467E+02	5.357E+02	9.300E+02	1.027E+03	1.028E+03	1.028E+03	1.028E+03	1.028E+03
BA138	1.061E+03	1.061E+03	1.061E+03	1.061E+03	1.061E+03	1.061E+03	1.061E+03	1.061E+03	1.061E+03	1.061E+03	1.061E+03	1.061E+03
LA139	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03	1.014E+03
CE140	1.032E+03	1.032E+03	1.032E+03	1.032E+03	1.032E+03	1.032E+03	1.032E+03	1.032E+03	1.032E+03	1.032E+03	1.032E+03	1.032E+03
PR141	9.325E+02	9.339E+02	9.339E+02	9.339E+02	9.339E+02	9.339E+02	9.339E+02	9.339E+02	9.339E+02	9.339E+02	9.339E+02	9.339E+02
CE142	9.369E+02	9.369E+02	9.369E+02	9.369E+02	9.369E+02	9.369E+02	9.369E+02	9.369E+02	9.369E+02	9.369E+02	9.369E+02	9.369E+02
ND143	6.778E+02	6.778E+02	6.778E+02	6.778E+02	6.778E+02	6.778E+02	6.778E+02	6.778E+02	6.778E+02	6.778E+02	6.778E+02	6.778E+02
CE144	1.922E+02	7.889E+01	3.238E+01	2.238E+00	2.606E-02	4.786E-10	0.0	0.0	0.0	0.0	0.0	0.0
ND144	8.748E+02	9.881E+02	1.035E+03	1.065E+03	1.067E+03	1.067E+03	1.067E+03	1.067E+03	1.067E+03	1.067E+03	1.067E+03	1.067E+03
ND145	5.664E+02	5.664E+02	5.664E+02	5.664E+02	5.664E+02	5.664E+02	5.664E+02	5.664E+02	5.664E+02	5.664E+02	5.664E+02	5.664E+02
ND146	5.606E+02	5.606E+02	5.606E+02	5.606E+02	5.606E+02	5.606E+02	5.606E+02	5.606E+02	5.606E+02	5.606E+02	5.606E+02	5.606E+02
PM147	1.146E+02	8.803E+01	6.759E+01	3.059E+01	8.164E+00	4.139E-02	3.843E-10	0.0	0.0	0.0	0.0	0.0
SM147	7.057E+01	9.719E+01	1.176E+02	1.546E+02	1.771E+02	1.852E+02	1.852E+02	1.852E+02	1.852E+02	1.852E+02	1.852E+02	1.852E+02
ND148	3.065E+02	3.065E+02	3.065E+02	3.065E+02	3.065E+02	3.065E+02	3.065E+02	3.065E+02	3.065E+02	3.065E+02	3.065E+02	3.065E+02
SM148	1.356E+02	1.357E+02	1.357E+02	1.357E+02	1.357E+02	1.357E+02	1.357E+02	1.357E+02	1.357E+02	1.357E+02	1.357E+02	1.357E+02
ND150	1.467E+02	1.467E+02	1.467E+02	1.467E+02	1.467E+02	1.467E+02	1.467E+02	1.467E+02	1.467E+02	1.467E+02	1.467E+02	1.467E+02
SM150	2.518E+02	2.518E+02	2.518E+02	2.518E+02	2.518E+02	2.518E+02	2.518E+02	2.518E+02	2.518E+02	2.518E+02	2.518E+02	2.518E+02
SM152	1.139E+02	1.139E+02	1.139E+02	1.139E+02	1.140E+02	1.140E+02	1.140E+02	1.140E+02	1.140E+02	1.140E+02	1.140E+02	1.140E+02
EU153	8.789E+01	8.790E+01	8.790E+01	8.790E+01	8.790E+01	8.790E+01	8.790E+01	8.790E+01	8.790E+01	8.790E+01	8.790E+01	8.790E+01
SM154	3.117E+01	3.117E+01	3.117E+01	3.117E+01	3.117E+01	3.117E+01	3.117E+01	3.117E+01	3.117E+01	3.117E+01	3.117E+01	3.117E+01
EU154	2.924E+01	2.698E+01	2.489E+01	1.954E+01	1.306E+01	2.606E+00	9.209E-03	9.197E-10	0.0	0.0	0.0	0.0
GD154	3.218E+00	5.482E+00	7.571E+00	1.292E+01	1.940E+01	2.985E+01	3.245E+01	3.246E+01	3.246E+01	3.246E+01	3.246E+01	3.246E+01
GD156	4.607E+01	4.607E+01	4.607E+01	4.607E+01	4.607E+01	4.607E+01	4.607E+01	4.607E+01	4.607E+01	4.607E+01	4.607E+01	4.607E+01
SUMTOY	2.316E+04	2.319E+04	2.319E+04	2.319E+04	2.319E+04	2.319E+04	2.319E+04	2.319E+04	2.319E+04	2.319E+04	2.318E+04	2.317E+04
TOTAL	2.345E+04	2.345E+04	2.345E+04	2.345E+04	2.345E+04	2.345E+04	2.345E+04	2.345E+04	2.345E+04	2.345E+04	2.345E+04	2.345E+04

TABLE B.35. CURIES OF FISSION PRODUCT ELEMENTS IN BWR HIGH-LEVEL WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
BE	2.405E-06	2.405E-06	2.405E-06	2.405E-06	2.405E-06	2.405E-06	2.405E-06	2.405E-06	2.404E-06	2.395E-06	2.303E-06	2.158E-06
CU	1.429E-29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	3.380E-01	3.380E-01	3.380E-01	3.380E-01	3.380E-01	3.379E-01	3.377E-01	3.369E-01	3.344E-01	3.038E-01	1.163E-01	2.347E-02
RB	3.248E+00	2.183E-05	1.767E-05	1.767E-05	1.767E-05	1.767E-05	1.767E-05	1.767E-05	1.767E-05	1.767E-05	1.767E-05	1.767E-05
SR	1.264E+05	5.871E+04	5.690E+04	5.297E+04	4.703E+04	2.922E+04	5.521E+03	4.731E+01	2.748E-06	0.0	0.0	0.0
Y	1.787E+05	5.985E+04	5.693E+04	5.299E+04	4.704E+04	2.922E+04	5.523E+03	4.733E+01	2.749E-06	0.0	0.0	0.0
ZR	2.006E+05	3.839E+03	7.487E+01	1.503E+00	1.503E+00	1.503E+00	1.503E+00	1.503E+00	1.502E+00	1.498E+00	1.436E+00	1.342E+00
NB	3.882E+05	8.800E+03	1.696E+02	4.292E-01	6.530E-01	1.148E+00	1.420E+00	1.422E+00	1.427E+00	1.421E+00	1.364E+00	1.275E+00
MO	3.932E-12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC	1.113E+01	1.113E+01	1.113E+01	1.113E+01	1.113E+01	1.113E+01	1.113E+01	1.112E+01	1.110E+01	1.078E+01	8.040E+00	4.935E+00
RU	3.951E+05	1.646E+05	8.271E+04	1.051E+04	3.376E+02	3.594E-04	4.474E-25	0.0	0.0	0.0	0.0	0.0
RH	3.884E+05	1.646E+05	8.271E+04	1.051E+04	3.376E+02	3.594E-04	4.474E-25	0.0	0.0	0.0	0.0	0.0
PD	9.473E-02	9.473E-02	9.473E-02	9.473E-02	9.473E-02	9.473E-02	9.473E-02	9.473E-02	9.472E-02	9.463E-02	9.372E-02	9.224E-02
AG	2.026E+03	7.356E+02	2.671E+02	1.278E+01	8.082E-02	2.321E-05	1.584E-05	5.319E-06	1.166E-07	5.430E-29	0.0	0.0
CD	1.435E+02	4.026E+01	3.806E+01	3.301E+01	2.603E+01	1.006E+01	3.617E-01	2.702E-05	9.728E-20	0.0	0.0	0.0
IN	3.903E-01	2.333E-02	1.399E-05	1.541E-11	1.237E-11	1.237E-11	1.237E-11	1.237E-11	1.237E-11	1.237E-11	1.237E-11	1.237E-11
SN	1.197E+03	1.916E+02	3.565E+01	1.441E+00	7.782E-01	7.383E-01	6.674E-01	6.261E-01	6.204E-01	5.829E-01	3.124E-01	1.104E-01
SB	1.024E+04	7.874E+03	6.129E+03	2.894E+03	8.285E+02	6.268E+00	7.117E-01	7.107E-01	7.072E-01	6.645E-01	3.561E-01	1.259E-01
TE	1.239E+04	2.692E+03	1.571E+03	7.059E+02	2.020E+02	1.385E+00	3.346E-08	1.425E-12	1.425E-12	1.425E-12	1.425E-12	1.425E-12
I	7.701E-04	3.392E-05	3.392E-05	3.392E-05	3.392E-05	3.392E-05	3.392E-05	3.392E-05	3.392E-05	3.390E-05	3.377E-05	3.355E-05
XE	0.0	9.877E-15	5.671E-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	1.832E+05	1.534E+05	1.316E+05	9.449E+04	7.134E+04	4.281E+04	8.494E+03	8.398E+01	3.591E-01	3.581E-01	3.485E-01	3.331E-01
BA	8.120E+04	7.914E+04	7.733E+04	7.215E+04	6.428E+04	4.049E+04	8.035E+03	7.905E+01	7.480E-06	0.0	0.0	0.0
LA	2.372E+02	6.000E-07	9.332E-11	9.332E-11	9.332E-11	9.332E-11	9.332E-11	9.332E-11	9.332E-11	9.332E-11	9.332E-11	9.332E-11
CE	6.515E+05	2.518E+05	1.033E+05	7.142E+03	8.317E+01	2.402E-05	2.249E-05	2.249E-05	2.249E-05	2.249E-05	2.249E-05	2.249E-05
PR	6.212E+05	2.548E+05	1.046E+05	7.228E+03	8.417E+01	1.546E-06	0.0	0.0	0.0	0.0	0.0	0.0
ND	2.019E+01	3.482E-09	1.224E-09	1.260E-09	1.263E-09	1.263E-09	1.263E-09	1.263E-09	1.263E-09	1.263E-09	1.263E-09	1.263E-09
PM	1.081E+05	8.164E+04	6.269E+04	2.837E+04	7.571E+03	3.838E+01	3.584E-07	0.0	0.0	0.0	0.0	0.0
SM	3.231E+02	3.206E+02	3.182E+02	3.109E+02	2.992E+02	2.565E+02	1.496E+02	3.205E+01	1.460E-01	4.211E-06	4.211E-06	4.211E-06
EU	1.282E+04	1.149E+04	1.038E+04	7.685E+03	4.725E+03	7.780E+02	2.530E+00	1.704E-06	4.672E-22	0.0	0.0	0.0
GD	2.906E+01	1.021E+01	3.586E+00	1.555E-01	8.328E-04	1.152E-12	5.162E-13	5.175E-13	5.175E-13	5.175E-13	5.175E-13	5.175E-13
TB	1.431E+02	4.314E+00	1.301E-01	3.569E-06	8.884E-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	1.507E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	1.722E-03	1.721E-03	1.720E-03	1.717E-03	1.712E-03	1.693E-03	1.626E-03	1.448E-03	9.666E-04	5.341E-06	1.415E-28	0.0
ER	1.230E-06	2.472E-18	4.966E-30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	1.230E-02	1.919E-03	4.083E-04	6.011E-05	9.781E-06	7.156E-09	7.577E-20	0.0	0.0	0.0	0.0	0.0
TOTAL	3.362E+06	1.305E+06	7.777E+05	3.480E+05	2.442E+05	1.429E+05	2.774E+04	3.056E+02	1.629E+01	1.570E+01	1.207E+01	8.237E+00

TABLE 8.36. CURIES OF PRINCIPAL FISSION PRODUCT NUCLIDES IN BWR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
SE 79	3.380E-01	3.380E-01	3.380E-01	3.380E-01	3.380E-01	3.379E-01	3.377E-01	3.369E-01	3.344E-01	3.038E-01	1.163E-01	2.347E-02
SR 90	5.967E+04	5.827E+04	5.690E+04	5.297E+04	4.703E+04	2.922E+04	5.521E+03	4.731E+01	2.748E-06	0.0	0.0	0.0
Y 90	5.968E+04	5.828E+04	5.691E+04	5.299E+04	4.704E+04	2.922E+04	5.523E+03	4.733E+01	2.749E-06	0.0	0.0	0.0
Y 91	1.190E+05	1.571E+03	2.075E+01	4.778E-05	1.918E-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZR 93	1.503E+00	1.503E+00	1.503E+00	1.503E+00	1.503E+00	1.503E+00	1.503E+00	1.503E+00	1.502E+00	1.496E+00	1.436E+00	1.342E+00
NB 93M	1.378E-01	2.019E-01	2.628E-01	4.280E-01	6.528E-01	1.148E+00	1.420E+00	1.426E+00	1.427E+00	1.421E+00	1.364E+00	1.275E+00
ZR 95	2.006E+05	3.837E+03	7.337E+01	5.129E-04	1.311E-12	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 95	3.867E+05	8.771E+03	1.688E+02	1.139E-03	2.911E-12	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC 99	1.113E+01	1.113E+01	1.113E+01	1.113E+01	1.113E+01	1.113E+01	1.113E+01	1.112E+01	1.110E+01	1.078E+01	8.040E+00	4.935E+00
RU106	3.272E+05	1.645E+05	8.271E+04	1.051E+04	3.376E+02	3.594E-04	4.474E-25	0.0	0.0	0.0	0.0	0.0
RH106	3.272E+05	1.645E+05	8.271E+04	1.051E+04	3.376E+02	3.594E-04	4.474E-25	0.0	0.0	0.0	0.0	0.0
PD107	9.473E-02	9.473E-02	9.473E-02	9.473E-02	9.473E-02	9.473E-02	9.473E-02	9.473E-02	9.472E-02	9.463E-02	9.372E-02	9.224E-02
SB125	1.011E+04	7.871E+03	6.129E+03	2.893E+03	8.278E+02	5.556E+00	1.371E-07	0.0	0.0	0.0	0.0	0.0
TE125M	2.413E+03	1.920E+03	1.495E+03	7.058E+02	2.020E+02	1.355E+00	3.346E-08	0.0	0.0	0.0	0.0	0.0
SN126	6.247E-01	6.247E-01	6.247E-01	6.247E-01	6.247E-01	6.246E-01	6.243E-01	6.234E-01	6.204E-01	5.829E-01	3.124E-01	1.104E-01
SB126	1.873E-01	8.746E-02	8.746E-02	8.745E-02	8.745E-02	8.744E-02	8.740E-02	8.728E-02	8.685E-02	8.160E-02	4.373E-02	1.546E-02
SB126M	6.247E-01	6.247E-01	6.247E-01	6.247E-01	6.247E-01	6.246E-01	6.243E-01	6.234E-01	6.204E-01	5.829E-01	3.124E-01	1.104E-01
CS134	9.758E+04	6.972E+04	4.982E+04	1.817E+04	3.384E+03	4.267E+00	2.574E-10	0.0	0.0	0.0	0.0	0.0
CS135	3.592E-01	3.592E-01	3.592E-01	3.592E-01	3.592E-01	3.592E-01	3.592E-01	3.592E-01	3.591E-01	3.581E-01	3.485E-01	3.331E-01
CS137	8.561E+04	8.366E+04	8.175E+04	7.627E+04	6.795E+04	4.281E+04	8.493E+03	8.360E+01	7.907E-06	0.0	0.0	0.0
BA137M	8.099E+04	7.914E+04	7.733E+04	7.215E+04	6.428E+04	4.049E+04	8.035E+03	7.905E+01	7.480E-06	0.0	0.0	0.0
CE144	6.135E+05	2.518E+05	1.033E+05	7.142E+03	8.317E+01	1.527E-06	0.0	0.0	0.0	0.0	0.0	0.0
PR144	6.135E+05	2.518E+05	1.033E+05	7.142E+03	8.317E+01	1.528E-06	0.0	0.0	0.0	0.0	0.0	0.0
PR144M	7.362E+03	3.021E+03	1.240E+03	8.570E+01	9.980E-01	1.833E-08	0.0	0.0	0.0	0.0	0.0	0.0
PM147	1.063E+05	8.164E+04	6.268E+04	2.837E+04	7.571E+03	3.838E+01	3.564E-07	0.0	0.0	0.0	0.0	0.0
SM151	3.231E+02	3.206E+02	3.182E+02	3.109E+02	2.992E+02	2.565E+02	1.496E+02	3.205E+01	1.460E-01	0.0	0.0	0.0
EU154	7.896E+03	7.285E+03	6.721E+03	5.277E+03	3.527E+03	7.036E+02	2.487E+00	2.484E-07	0.0	0.0	0.0	0.0
EU155	4.833E+03	4.202E+03	3.654E+03	2.403E+03	1.194E+03	7.297E+01	4.112E-03	2.977E-15	0.0	0.0	0.0	0.0
SUMTOT	3.111E+06	1.302E+06	7.773E+05	3.479E+05	2.442E+05	1.428E+05	2.774E+04	3.056E+02	1.629E+01	1.570E+01	1.207E+01	8.237E+00
TOTAL	3.362E+06	1.305E+06	7.777E+05	3.480E+05	2.442E+05	1.429E+05	2.774E+04	3.056E+02	1.629E+01	1.570E+01	1.207E+01	8.237E+00

TABLE 8.37. WATTS OF FISSION PRODUCT ELEMENTS IN BWR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	MLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
BE	2.887E-09	2.887E-09	2.887E-09	2.887E-09	2.887E-09	2.887E-09	2.887E-09	2.887E-09	2.886E-09	2.875E-09	2.765E-09	2.591E-09
CU	2.295E-32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	8.416E-05	8.415E-05	8.415E-05	8.415E-05	8.415E-05	8.413E-05	8.407E-05	8.389E-05	8.326E-05	7.564E-05	2.895E-05	5.842E-06
RB	1.467E-02	3.354E-08	1.477E-08	1.477E-08	1.477E-08	1.477E-08	1.477E-08	1.477E-08	1.477E-08	1.477E-08	1.477E-08	1.477E-08
SR	3.000E+02	6.916E+01	6.604E+01	6.148E+01	5.459E+01	3.391E+01	6.406E+00	5.491E-02	3.190E-09	0.0	0.0	0.0
Y	7.583E+02	3.287E+02	3.155E+02	2.937E+02	2.607E+02	1.620E+02	3.061E+01	2.623E-01	1.523E-08	0.0	0.0	0.0
ZR	1.016E+03	1.944E+01	3.718E-01	1.772E-04	1.746E-04	1.746E-04	1.746E-04	1.746E-04	1.745E-04	1.738E-04	1.669E-04	1.559E-04
NB	1.857E+03	4.211E+01	8.103E-01	8.254E-05	1.169E-04	2.047E-04	2.528E-04	2.542E-04	2.540E-04	2.527E-04	2.418E-04	2.259E-04
MO	1.263E-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC	5.582E-03	5.582E-03	5.582E-03	5.582E-03	5.582E-03	5.582E-03	5.581E-03	5.577E-03	5.564E-03	5.404E-03	4.032E-03	2.475E-03
RU	2.466E+02	1.015E+01	4.918E+00	6.249E-01	2.007E-02	2.137E-08	2.660E-29	0.0	0.0	0.0	0.0	0.0
RH	3.153E+03	1.578E+03	7.933E+02	1.008E+02	3.238E+00	3.447E-06	4.291E-27	0.0	0.0	0.0	0.0	0.0
PD	5.615E-06	5.615E-06	5.615E-06	5.615E-06	5.615E-06	5.615E-06	5.615E-06	5.615E-06	5.615E-06	5.609E-06	5.556E-06	5.467E-06
AG	3.358E+01	1.219E+01	4.426E+00	2.118E-01	1.339E-03	2.144E-07	1.463E-07	4.913E-08	1.077E-09	5.016E-31	0.0	0.0
CD	4.496E-01	6.850E-02	6.408E-02	5.556E-02	4.382E-02	1.694E-02	6.090E-04	4.548E-08	1.638E-22	0.0	0.0	0.0
IN	1.151E-03	6.896E-06	4.141E-08	2.674E-14	1.775E-14	1.775E-14	1.775E-14	1.775E-14	1.775E-14	1.775E-14	1.775E-14	1.775E-14
SN	3.464E+00	5.004E-01	7.556E-02	1.599E-03	1.082E-03	1.007E-03	8.649E-04	7.829E-04	7.737E-04	7.269E-04	3.896E-04	1.377E-04
SB	3.335E+01	2.464E+01	1.917E+01	9.053E+00	2.597E+00	2.694E-02	9.563E-03	9.550E-03	9.504E-03	8.929E-03	4.785E-03	1.692E-03
TE	1.463E+01	2.341E+00	1.328E+00	5.933E-01	1.698E-01	1.139E-03	2.812E-11	2.132E-16	2.132E-16	2.132E-16	2.132E-16	2.132E-16
I	2.538E-06	1.569E-08	1.569E-08	1.569E-08	1.569E-08	1.569E-08	1.569E-08	1.569E-08	1.569E-08	1.568E-08	1.562E-08	1.552E-08
XE	0.0	9.503E-18	5.455E-27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	1.088E+03	8.022E+02	5.975E+02	2.693E+02	1.096E+02	4.739E+01	9.395E+00	9.259E-02	1.198E-04	1.195E-04	1.163E-04	1.112E-04
BA	3.186E+02	3.107E+02	3.036E+02	2.833E+02	2.524E+02	1.590E+02	3.155E+01	3.105E-01	2.937E-08	0.0	0.0	0.0
LA	3.977E+00	1.006E-08	1.608E-13	1.607E-13	1.607E-13	1.607E-13	1.607E-13	1.607E-13	1.607E-13	1.607E-13	1.607E-13	1.607E-13
CE	4.626E+02	1.670E+02	6.854E+01	4.737E+00	5.516E-02	1.013E-09	0.0	0.0	0.0	0.0	0.0	0.0
PR	4.513E+03	1.852E+03	7.599E+02	5.253E+01	6.117E-01	1.123E-08	0.0	0.0	0.0	0.0	0.0	0.0
ND	4.872E-02	5.578E-12	6.388E-22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM	6.058E+01	2.933E+01	2.248E+01	1.018E+01	2.716E+00	1.377E-02	1.278E-10	0.0	0.0	0.0	0.0	0.0
SM	3.789E-02	3.760E-02	3.731E-02	3.645E-02	3.508E-02	3.007E-02	1.754E-02	3.756E-03	1.718E-05	5.766E-08	5.766E-08	5.766E-08
EU	7.505E+01	6.826E+01	6.282E+01	4.899E+01	3.245E+01	6.357E+00	2.254E-02	1.326E-08	3.542E-24	0.0	0.0	0.0
GD	2.504E-02	8.798E-03	3.091E-03	1.340E-04	7.178E-07	6.701E-15	6.725E-15	6.743E-15	6.743E-15	6.743E-15	6.743E-15	6.743E-15
TB	1.165E+00	3.513E-02	1.059E-03	2.904E-08	7.236E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	1.760E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	1.908E-05	1.907E-05	1.906E-05	1.902E-05	1.897E-05	1.875E-05	1.801E-05	1.604E-05	1.071E-05	5.917E-08	1.568E-30	0.0
ER	2.479E-09	4.981E-21	1.001E-32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	2.374E-05	3.346E-06	4.890E-07	1.047E-06	1.517E-09	1.110E-12	1.175E-23	0.0	0.0	0.0	0.0	0.0
TOTAL	1.394E+04	5.316E+03	3.021E+03	1.136E+03	7.193E+02	4.087E+02	7.802E+01	7.408E-01	1.651E-02	1.569E-02	9.766E-03	4.809E-03

TABLE B.38. WATTS OF PRINCIPAL FISSION PRODUCT NUCLIDES IN BWR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
SE 79	8.416E-05	8.415E-05	8.415E-05	8.415E-05	8.415E-05	8.413E-05	8.407E-05	8.389E-05	8.326E-05	7.564E-05	2.895E-05	5.842E-06
SR 90	6.925E+01	6.763E+01	6.603E+01	6.148E+01	5.459E+01	3.391E+01	6.408E+00	5.491E-02	3.190E-09	0.0	0.0	0.0
Y 90	3.308E+02	3.230E+02	3.154E+02	2.937E+02	2.607E+02	1.620E+02	3.061E+01	2.623E-01	1.523E-08	0.0	0.0	0.0
Y 91	4.275E+02	5.644E+00	7.454E-02	1.716E-07	6.889E-17	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZR 93	1.746E-04	1.746E-04	1.746E-04	1.746E-04	1.746E-04	1.746E-04	1.746E-04	1.746E-04	1.745E-04	1.738E-04	1.669E-04	1.559E-04
NB 93M	2.442E-05	3.577E-05	4.656E-05	7.583E-05	1.157E-04	2.034E-04	2.515E-04	2.529E-04	2.528E-04	2.518E-04	2.417E-04	2.259E-04
ZR 95	1.016E+03	1.944E+01	3.716E-01	2.598E-06	6.641E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 95	1.855E+03	4.207E+01	8.095E-01	5.462E-06	1.396E-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC 99	5.582E-03	5.582E-03	5.582E-03	5.582E-03	5.582E-03	5.582E-03	5.581E-03	5.577E-03	5.564E-03	5.404E-03	4.032E-03	2.475E-03
RU106	1.946E+01	9.781E+00	4.918E+00	6.249E-01	2.007E-02	2.137E-08	2.660E-29	0.0	0.0	0.0	0.0	0.0
RH106	3.138E+03	1.578E+03	7.933E+02	1.008E+02	3.238E+00	3.447E-06	4.291E-27	0.0	0.0	0.0	0.0	0.0
PD107	5.615E-06	5.615E-06	5.615E-06	5.615E-06	5.615E-06	5.615E-06	5.615E-06	5.615E-06	5.615E-06	5.609E-06	5.556E-06	5.467E-06
AG110M	3.339E+01	1.212E+01	4.401E+00	2.106E-01	1.331E-03	2.109E-12	0.0	0.0	0.0	0.0	0.0	0.0
SB125	3.160E+01	2.461E+01	1.916E+01	9.044E+00	2.588E+00	1.737E-02	4.287E-10	0.0	0.0	0.0	0.0	0.0
SN126	7.791E-04	7.791E-04	7.791E-04	7.791E-04	7.791E-04	7.789E-04	7.786E-04	7.775E-04	7.737E-04	7.269E-04	3.896E-04	1.377E-04
SB126	3.461E-03	1.616E-03	1.616E-03	1.616E-03	1.616E-03	1.616E-03	1.615E-03	1.613E-03	1.605E-03	1.508E-03	8.080E-04	2.857E-04
SB126M	7.954E-03	7.954E-03	7.954E-03	7.954E-03	7.953E-03	7.952E-03	7.949E-03	7.938E-03	7.899E-03	7.421E-03	3.977E-03	1.406E-03
CS134	9.932E+02	7.036E+02	5.070E+02	1.850E+02	3.444E+01	4.343E-02	2.620E-12	0.0	0.0	0.0	0.0	0.0
CS135	1.199E-04	1.199E-04	1.199E-04	1.199E-04	1.199E-04	1.199E-04	1.199E-04	1.199E-04	1.198E-04	1.195E-04	1.163E-04	1.112E-04
CS137	9.470E+01	9.254E+01	9.042E+01	8.437E+01	7.516E+01	4.735E+01	9.395E+00	9.247E-02	8.745E-09	0.0	0.0	0.0
BA137M	3.180E+02	3.107E+02	3.036E+02	2.833E+02	2.524E+02	1.590E+02	3.155E+01	3.105E-01	2.937E-08	0.0	0.0	0.0
CE144	4.069E+02	1.670E+02	6.854E+01	4.737E+00	5.516E-02	1.013E-09	0.0	0.0	0.0	0.0	0.0	0.0
PR144	4.509E+03	1.951E+03	7.595E+02	5.250E+01	6.113E-01	1.123E-08	0.0	0.0	0.0	0.0	0.0	0.0
PM147	3.814E+01	2.928E+01	2.248E+01	1.018E+01	2.716E+00	1.377E-02	1.278E-10	0.0	0.0	0.0	0.0	0.0
SM151	3.789E-02	3.760E-02	3.731E-02	3.645E-02	3.508E-02	3.007E-02	1.754E-02	3.756E-03	1.712E-05	0.0	0.0	0.0
EU154	7.063E+01	6.516E+01	6.012E+01	4.720E+01	3.155E+01	6.294E+00	2.224E-02	2.222E-09	0.0	0.0	0.0	0.0
EU155	3.515E+00	3.056E+00	2.658E+00	1.747E+00	8.688E-01	5.308E-02	2.991E-06	2.165E-18	0.0	0.0	0.0	0.0
SUMTOT	1.336E+04	5.310E+03	3.019E+03	1.135E+03	7.190E+02	4.087E+02	7.802E+01	7.405E-01	1.650E-02	1.569E-02	9.766E-03	4.809E-03
TOTAL	1.394E+04	5.316E+03	3.021E+03	1.136E+03	7.193E+02	4.087E+02	7.802E+01	7.405E-01	1.651E-02	1.569E-02	9.766E-03	4.809E-03

TABLE 8.39. PHOTONS FROM FISSION PRODUCTS IN BWR HIGH-LEVEL WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS= METRIC TON OF INITIAL HEAVY METAL AT A REPROCESSING TIME OF 160 DAYS

EMEAN	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	3.521E+16	1.602E+16	9.015E+15	3.632E+15	2.688E+15	1.638E+15	3.102E+14	2.767E+12	5.886E+10	5.705E+10	4.281E+10	2.825E+10
2.500E-02	7.892E+15	3.595E+15	2.051E+15	8.224E+14	5.750E+14	3.393E+14	6.426E+13	5.764E+11	1.751E+10	1.665E+10	1.026E+10	4.880E+09
3.750E-02	7.966E+15	3.595E+15	1.982E+15	7.771E+14	5.608E+14	3.246E+14	6.112E+13	5.578E+11	4.979E+09	4.791E+09	3.310E+09	1.864E+09
5.750E-02	7.226E+15	3.326E+15	1.849E+15	7.149E+14	5.227E+14	3.164E+14	5.966E+13	5.251E+11	8.048E+09	7.674E+09	4.918E+09	2.489E+09
8.500E-02	5.038E+15	2.320E+15	1.261E+15	4.578E+14	3.232E+14	1.906E+14	3.991E+13	3.238E+11	1.323E+10	1.247E+10	6.979E+09	2.741E+09
1.250E-01	6.550E+15	2.596E+15	1.320E+15	4.000E+14	2.600E+14	1.335E+14	2.322E+13	2.013E+11	1.112E+09	1.060E+09	6.702E+08	3.314E+08
2.250E-01	4.375E+15	2.026E+15	1.102E+15	3.918E+14	2.757E+14	1.641E+14	3.066E+13	2.651E+11	1.271E+09	1.163E+09	6.475E+08	2.514E+08
3.750E-01	2.294E+15	1.096E+15	6.056E+14	2.069E+14	1.270E+14	7.072E+13	1.331E+13	1.393E+11	2.517E+10	2.364E+10	1.267E+10	4.479E+09
5.750E-01	1.548E+16	9.043E+15	6.706E+15	3.881E+15	2.698E+15	1.582E+15	3.131E+14	3.129E+12	5.587E+10	5.248E+10	2.813E+10	9.945E+09
8.500E-01	2.333E+16	3.105E+15	1.891E+15	7.178E+14	1.911E+14	2.391E+13	2.194E+12	2.129E+10	2.854E+09	2.633E+09	1.408E+09	4.978E+08
1.250E+00	9.255E+14	5.431E+14	3.595E+14	1.613E+14	8.251E+13	1.750E+13	7.587E+11	6.756E+09	6.798E+08	6.377E+08	3.417E+08	1.208E+08
1.750E+00	1.045E+14	4.633E+13	2.404E+13	5.786E+12	2.596E+12	7.043E+11	5.682E+10	4.744E+08	2.896E+04	2.719E+04	1.457E+04	5.151E+03
2.250E+00	1.913E+14	7.982E+13	3.358E+13	2.582E+12	4.182E+10	3.223E+07	6.088E+06	5.217E+04	3.501E-03	4.712E-04	4.712E-04	4.712E-04
2.750E+00	3.049E+12	1.372E+12	6.839E+11	8.539E+10	2.706E+09	2.859E+03	2.361E-04	2.361E-04	2.361E-04	2.361E-04	2.361E-04	2.361E-04
3.500E+00	3.425E+11	1.710E+11	8.597E+10	1.093E+10	3.509E+08	3.736E+02	1.738E-04	1.738E-04	1.738E-04	1.738E-04	1.738E-04	1.738E-04
5.000E+00	4.671E-05	4.788E-05	4.876E-05	5.041E-05	5.140E-05	5.176E-05	5.176E-05	5.176E-05	5.176E-05	5.176E-05	5.176E-05	5.176E-05
7.000E+00	3.031E-06	3.107E-06	3.165E-06	3.271E-06	3.335E-06	3.358E-06	3.358E-06	3.358E-06	3.358E-06	3.358E-06	3.358E-06	3.358E-06
1.100E+01	1.916E-07	1.964E-07	2.001E-07	2.068E-07	2.109E-07	2.124E-07	2.124E-07	2.124E-07	2.124E-07	2.124E-07	2.124E-07	2.124E-07
TOTAL	1.166E+17	4.740E+16	2.820E+16	1.217E+16	8.306E+15	4.802E+15	9.145E+14	8.513E+12	1.896E+11	1.802E+11	1.121E+11	5.585E+10
MEV/SEC	3.504E+16	1.083E+16	7.147E+15	3.459E+15	2.097E+15	1.113E+15	2.128E+14	2.098E+12	4.836E+10	4.542E+10	2.467E+10	9.062E+09

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS= METRIC TON OF INITIAL HEAVY METAL AT A REPROCESSING TIME OF 160 DAYS

EMEAN	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	5.281E+08	2.404E+08	1.352E+08	5.448E+07	4.031E+07	2.457E+07	4.653E+06	4.150E+04	8.828E+02	8.557E+02	6.422E+02	4.237E+02
2.500E-02	1.973E+08	8.987E+07	5.126E+07	2.056E+07	1.437E+07	8.483E+06	1.607E+06	1.441E+04	4.377E+02	4.163E+02	2.565E+02	1.220E+02
3.750E-02	2.987E+08	1.348E+08	7.433E+07	2.914E+07	2.103E+07	1.217E+07	2.292E+06	2.092E+04	1.867E+02	1.797E+02	1.241E+02	6.990E+01
5.750E-02	4.155E+08	1.914E+08	1.063E+08	4.110E+07	3.005E+07	1.819E+07	3.431E+06	3.015E+04	4.627E+02	4.412E+02	2.828E+02	1.431E+02
8.500E-02	4.283E+08	1.972E+08	1.072E+08	3.891E+07	2.746E+07	1.620E+07	3.052E+06	2.752E+04	1.125E+03	1.060E+03	5.932E+02	2.330E+02
1.250E-01	8.187E+08	3.245E+08	1.651E+08	5.000E+07	3.249E+07	1.668E+07	2.903E+06	2.516E+04	1.390E+02	1.325E+02	8.377E+01	4.142E+01
2.250E-01	9.843E+08	4.559E+08	2.479E+08	8.815E+07	6.203E+07	3.693E+07	6.696E+06	5.965E+04	2.860E+02	2.617E+02	1.457E+02	5.657E+01
3.750E-01	8.603E+08	4.109E+08	2.271E+08	7.760E+07	4.761E+07	2.652E+07	4.991E+06	5.224E+04	9.437E+03	8.864E+03	4.750E+03	1.680E+03
5.750E-01	8.902E+09	5.200E+09	3.856E+09	2.232E+09	1.551E+09	9.098E+08	1.800E+08	1.799E+06	3.213E+04	3.018E+04	1.617E+04	5.718E+03
8.500E-01	1.983E+10	2.640E+09	1.608E+09	6.101E+08	1.625E+08	2.032E+07	1.865E+06	1.810E+04	2.426E+03	2.238E+03	1.197E+03	4.231E+02
1.250E+00	1.157E+09	6.788E+08	4.494E+08	2.016E+08	1.031E+08	2.188E+07	9.484E+05	8.448E+03	8.497E+02	7.971E+02	4.272E+02	1.510E+02
1.750E+00	1.830E+08	8.108E+07	4.206E+07	1.013E+07	4.543E+06	1.233E+06	9.943E+04	8.302E+02	5.069E-02	4.758E-02	2.550E-02	9.015E-03
2.250E+00	4.305E+08	1.796E+08	7.556E+07	5.810E+06	9.410E+04	7.253E+01	1.370E+01	1.174E-01	7.877E-09	1.060E-09	1.060E-09	1.060E-09
2.750E+00	8.384E+06	3.773E+06	1.881E+06	2.348E+05	7.442E+03	7.862E-03	6.492E-10	6.492E-10	6.492E-10	6.492E-10	6.492E-10	6.492E-10
3.500E+00	1.199E+06	5.985E+05	3.009E+05	3.824E+04	1.228E+03	1.308E-03	6.085E-10	6.085E-10	6.085E-10	6.085E-10	6.085E-10	6.085E-10
5.000E+00	2.335E-10	2.394E-10	2.439E-10	2.520E-10	2.570E-10	2.588E-10	2.588E-10	2.588E-10	2.588E-10	2.588E-10	2.588E-10	2.588E-10
7.000E+00	2.121E-11	2.175E-11	2.216E-11	2.290E-11	2.335E-11	2.351E-11	2.351E-11	2.351E-11	2.351E-11	2.351E-11	2.351E-11	2.351E-11
1.100E+01	2.108E-12	2.161E-12	2.202E-12	2.275E-12	2.320E-12	2.336E-12	2.336E-12	2.336E-12	2.336E-12	2.336E-12	2.336E-12	2.336E-12
TOTAL	3.504E+10	1.083E+10	7.147E+09	3.459E+09	2.097E+09	1.113E+09	2.128E+08	2.098E+06	4.836E+04	4.542E+04	2.467E+04	9.062E+03
GAM POW	5.618E+03	1.736E+03	1.146E+03	5.545E+02	3.362E+02	1.784E+02	3.411E+01	3.363E-01	7.752E-03	7.281E-03	3.955E-03	1.453E-03

Appendix B.3: Characteristics of BWR Structural Material Waste

TABLE B.40. GRAMS OF ACTIVATION PRODUCT ELEMENTS IN BWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	7.399E+00	7.398E+00	7.398E+00	7.397E+00	7.395E+00	7.392E+00	7.391E+00	7.391E+00	7.391E+00	7.391E+00	7.391E+00	7.391E+00
HE	6.872E-02	6.915E-02	6.955E-02	7.064E-02	7.209E-02	7.510E-02	7.653E-02	7.656E-02	7.656E-02	7.656E-02	7.656E-02	7.656E-02
LI	2.464E-02	2.464E-02	2.464E-02	2.464E-02	2.464E-02	2.464E-02	2.464E-02	2.464E-02	2.464E-02	2.464E-02	2.464E-02	2.464E-02
BE	3.576E-04	3.576E-04	3.576E-04	3.576E-04	3.576E-04	3.576E-04	3.576E-04	3.576E-04	3.575E-04	3.572E-04	3.565E-04	3.565E-04
B	1.734E-01	1.734E-01	1.734E-01	1.734E-01	1.734E-01	1.734E-01	1.734E-01	1.734E-01	1.734E-01	1.734E-01	1.734E-01	1.734E-01
C	1.092E+02	1.092E+02	1.092E+02	1.092E+02	1.092E+02	1.092E+02	1.092E+02	1.092E+02	1.092E+02	1.090E+02	1.089E+02	1.089E+02
N	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	1.143E+02	1.144E+02	1.144E+02
O	6.028E+02	6.028E+02	6.028E+02	6.028E+02	6.028E+02	6.028E+02	6.028E+02	6.028E+02	6.028E+02	6.028E+02	6.028E+02	6.028E+02
F	6.303E-06	6.303E-06	6.303E-06	6.303E-06	6.303E-06	6.303E-06	6.303E-06	6.303E-06	6.303E-06	6.303E-06	6.303E-06	6.303E-06
NE	3.797E-09	3.797E-09	3.797E-09	3.797E-09	3.797E-09	3.797E-09	3.797E-09	3.797E-09	3.797E-09	3.797E-09	3.797E-09	3.797E-09
NA	7.485E-03	7.485E-03	7.485E-03	7.485E-03	7.485E-03	7.485E-03	7.485E-03	7.485E-03	7.485E-03	7.485E-03	7.485E-03	7.485E-03
MG	1.538E-03	1.538E-03	1.538E-03	1.538E-03	1.538E-03	1.538E-03	1.538E-03	1.538E-03	1.538E-03	1.538E-03	1.538E-03	1.538E-03
AL	3.392E+01	3.392E+01	3.392E+01	3.392E+01	3.392E+01	3.392E+01	3.392E+01	3.392E+01	3.392E+01	3.392E+01	3.392E+01	3.392E+01
SI	5.057E+02	5.057E+02	5.057E+02	5.057E+02	5.057E+02	5.057E+02	5.057E+02	5.057E+02	5.057E+02	5.057E+02	5.057E+02	5.057E+02
P	2.247E+01	2.247E+01	2.247E+01	2.247E+01	2.247E+01	2.247E+01	2.247E+01	2.247E+01	2.247E+01	2.247E+01	2.247E+01	2.247E+01
S	3.494E+01	3.494E+01	3.494E+01	3.494E+01	3.494E+01	3.494E+01	3.494E+01	3.494E+01	3.494E+01	3.494E+01	3.494E+01	3.494E+01
CL	4.955E-04	5.136E-04	5.146E-04	5.147E-04	5.147E-04	5.147E-04	5.147E-04	5.147E-04	5.146E-04	5.143E-04	5.114E-04	5.076E-04
AR	8.555E-10	8.918E-10	9.281E-10	1.037E-09	1.218E-09	1.944E-09	4.483E-09	1.174E-08	3.709E-08	3.595E-07	3.242E-06	6.897E-06
K	2.286E-07	2.286E-07	2.286E-07	2.287E-07	2.287E-07	2.288E-07	2.293E-07	2.307E-07	2.355E-07	2.951E-07	6.948E-07	9.438E-07
CA	1.091E-03	1.091E-03	1.091E-03	1.091E-03	1.091E-03	1.091E-03	1.091E-03	1.091E-03	1.091E-03	1.091E-03	1.091E-03	1.091E-03
SC	7.999E-06	1.858E-06	1.584E-06	1.577E-06	1.577E-06	1.577E-06	1.577E-06	1.577E-06	1.577E-06	1.577E-06	1.577E-06	1.577E-06
TI	3.849E+01	3.849E+01	3.849E+01	3.849E+01	3.849E+01	3.849E+01	3.849E+01	3.849E+01	3.849E+01	3.849E+01	3.849E+01	3.849E+01
V	1.536E+01	1.536E+01	1.536E+01	1.536E+01	1.536E+01	1.536E+01	1.536E+01	1.536E+01	1.536E+01	1.536E+01	1.536E+01	1.536E+01
CR	1.083E+04	1.083E+04	1.083E+04	1.083E+04	1.083E+04	1.083E+04	1.083E+04	1.083E+04	1.083E+04	1.083E+04	1.083E+04	1.083E+04
MN	1.010E+03	1.011E+03	1.011E+03	1.011E+03	1.011E+03	1.012E+03	1.012E+03	1.012E+03	1.012E+03	1.012E+03	1.012E+03	1.012E+03
FE	3.623E+04	3.623E+04	3.623E+04	3.623E+04	3.623E+04	3.623E+04	3.623E+04	3.623E+04	3.623E+04	3.623E+04	3.623E+04	3.623E+04
CO	6.117E+01	6.087E+01	6.061E+01	6.001E+01	5.942E+01	5.883E+01	5.879E+01	5.882E+01	5.891E+01	6.004E+01	6.763E+01	7.231E+01
NI	6.287E+03	6.287E+03	6.287E+03	6.288E+03	6.288E+03	6.288E+03	6.287E+03	6.286E+03	6.286E+03	6.285E+03	6.277E+03	6.273E+03
CU	1.467E+01	1.469E+01	1.471E+01	1.477E+01	1.487E+01	1.523E+01	1.615E+01	1.717E+01	1.746E+01	1.746E+01	1.746E+01	1.746E+01
ZN	8.556E-02	8.555E-02	8.554E-02	8.554E-02	8.554E-02	8.554E-02	8.554E-02	8.554E-02	8.554E-02	8.554E-02	8.554E-02	8.554E-02
GA	1.490E-05	1.490E-05	1.490E-05	1.490E-05	1.490E-05	1.490E-05	1.490E-05	1.490E-05	1.490E-05	1.490E-05	1.490E-05	1.490E-05
GE	8.803E-08	8.803E-08	8.803E-08	8.803E-08	8.803E-08	8.803E-08	8.803E-08	8.803E-08	8.803E-08	8.803E-08	8.803E-08	8.803E-08
AS	1.678E-18	1.678E-18	1.678E-18	1.678E-18	1.678E-18	1.678E-18	1.678E-18	1.678E-18	1.678E-18	1.678E-18	1.678E-18	1.678E-18
SE	1.362E-20	1.362E-20	1.362E-20	1.362E-20	1.362E-20	1.362E-20	1.362E-20	1.362E-20	1.362E-20	1.362E-20	1.362E-20	1.362E-20
SR	4.566E-01	4.563E-01	4.563E-01	4.563E-01	4.563E-01	4.563E-01	4.563E-01	4.563E-01	4.563E-01	4.563E-01	4.563E-01	4.563E-01
Y	3.530E-02	3.441E-02	3.440E-02	3.440E-02	3.440E-02	3.440E-02	3.440E-02	3.440E-02	3.440E-02	3.440E-02	3.440E-02	3.440E-02
ZR	5.519E+05	5.519E+05	5.519E+05	5.519E+05	5.519E+05	5.519E+05	5.519E+05	5.519E+05	5.519E+05	5.519E+05	5.519E+05	5.519E+05
NB	1.891E+02	1.883E+02	1.883E+02	1.883E+02	1.883E+02	1.883E+02	1.883E+02	1.883E+02	1.883E+02	1.884E+02	1.922E+02	2.000E+02
MO	2.072E+02	2.087E+02	2.087E+02	2.087E+02	2.087E+02	2.087E+02	2.088E+02	2.088E+02	2.088E+02	2.092E+02	2.104E+02	2.104E+02
TC	6.885E-02	6.885E-02	6.885E-02	6.885E-02	6.885E-02	6.884E-02	6.883E-02	6.876E-02	6.863E-02	6.664E-02	4.972E-02	3.052E-02
RU	4.119E-02	4.119E-02	4.119E-02	4.119E-02	4.119E-02	4.120E-02	4.121E-02	4.126E-02	4.141E-02	4.339E-02	6.031E-02	7.952E-02
RH	1.790E-07	1.810E-07	1.810E-07	1.810E-07	1.810E-07	1.810E-07	1.810E-07	1.810E-07	1.810E-07	1.810E-07	1.810E-07	1.810E-07
PD	1.525E-07	1.537E-07	1.550E-07	1.586E-07	1.645E-07	1.865E-07	2.471E-07	3.336E-07	3.764E-07	3.774E-07	3.774E-07	3.774E-07
AG	3.608E-05	3.600E-05	3.597E-05	3.595E-05	3.594E-05	3.592E-05	3.585E-05	3.576E-05	3.571E-05	3.571E-05	3.571E-05	3.571E-05
CD	1.555E-01	1.555E-01	1.555E-01	1.555E-01	1.555E-01	1.555E-01	1.555E-01	1.555E-01	1.555E-01	1.555E-01	1.555E-01	1.555E-01
IN	3.850E-01	3.847E-01	3.847E-01	3.847E-01	3.847E-01	3.847E-01	3.847E-01	3.847E-01	3.847E-01	3.847E-01	3.847E-01	3.847E-01
SN	9.011E+03	9.011E+03	9.011E+03	9.011E+03	9.011E+03	9.011E+03	9.011E+03	9.011E+03	9.011E+03	9.011E+03	9.011E+03	9.011E+03
SB	7.031E+00	6.388E+00	5.871E+00	4.904E+00	4.287E+00	4.046E+00	4.053E+00	4.058E+00	4.059E+00	4.059E+00	4.059E+00	4.059E+00
TE	1.915E+00	2.586E+00	3.107E+00	4.076E+00	4.694E+00	4.940E+00	4.942E+00	4.942E+00	4.942E+00	4.942E+00	4.942E+00	4.942E+00
I	1.313E-04	1.328E-04	1.329E-04	1.329E-04	1.329E-04	1.329E-04	1.329E-04	1.329E-04	1.329E-04	1.329E-04	1.329E-04	1.329E-04
XE	3.220E-06	3.220E-06	3.220E-06	3.220E-06	3.220E-06	3.220E-06	3.220E-06	3.220E-06	3.220E-06	3.220E-06	3.220E-06	3.220E-06
CS	1.280E-17	1.273E-17	1.268E-17	1.261E-17	1.257E-17	1.256E-17	1.256E-17	1.256E-17	1.256E-17	1.256E-17	1.256E-17	1.256E-17
BA	5.960E-20	1.274E-19	1.759E-19	2.529E-19	2.889E-19	2.971E-19	2.971E-19	2.971E-19	2.971E-19	2.971E-19	2.974E-19	2.978E-19
PR	7.274E-30	5.704E-38	4.473E-46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ND	4.017E-17	4.017E-17	4.017E-17	4.017E-17	4.017E-17	4.017E-17	4.017E-17	4.017E-17	4.017E-17	4.017E-17	4.017E-17	4.017E-17
PM	3.913E-20	3.003E-20	2.303E-20	1.042E-20	2.794E-21	1.065E-23	9.890E-32	0.0	0.0	0.0	0.0	0.0
SM	6.321E-09	6.320E-09	6.319E-09	6.316E-09	6.312E-09	6.296E-09	6.257E-09	6.213E-09	6.201E-09	6.201E-09	6.201E-09	6.201E-09
EU	1.005E-03	1.059E-03	1.061E-03	1.004E-03	9.231E-04	8.055E-04	7.799E-04	7.798E-04	7.798E-04	7.798E-04	7.798E-04	7.798E-04
GD	7.688E-01	7.688E-01	7.688E-01	7.688E-01	7.689E-01	7.690E-01	7.691E-01	7.691E-01	7.691E-01	7.691E-01	7.691E-01	7.691E-01
TB	1.111E-02	1.104E-02	1.104E-02	1.104E-02	1.104E-02	1.104E-02	1.104E-02	1.104E-02	1.104E-02	1.104E-02	1.104E-02	1.104E-02
DY	3.251E-03	3.317E-03	3.319E-03	3.319E-03	3.319E-03	3.319E-03	3.319E-03	3.319E-03	3.319E-03	3.319E-03	3.319E-03	3.319E-03
HO	5.010E-05	5.010E-05	5.010E-05	5.010E-05	5.010E-05	5.010E-05	5.009E-05	5.008E-05	4.998E-05	4.983E-05	4.983E-05	4.983E-05
ER	5.964E-06	5.965E-06	5.965E-06	5.965E-06	5.966E-06	5.969E-06	5.980E-06	6.008E-06	6.084E-06	6.236E-06	6.237E-06	6.237E-06
TM	2.377E-10	2.312E-10	2.301E-10	2.298E-10	2.297E-10	2.297E-10	2.297E-10	2.297E-10	2.297E-10	2.297E-10	2.297E-10	2.297E-10
YB	3.899E-09	3.906E-09	3.907E-09	3.907E-09	3.907E-09	3.907E-09	3.907E-09	3.907E-09	3.907E-09	3.907E-09	3.907E-09	3.907E-09
LU	3.344E-02	3.403E-02	3.405E-02	3.405E-02	3.405E-02	3.405E-02	3.405E-02	3.405E-02	3.405E-02	3.405E-02	3.405E-02	3.405E-02
HF	4.330E+01	4.330E+01	4.330E+01	4.330E+01	4.330E+01	4.330E+01	4.330E+01	4.330E+01	4.330E+01	4.330E+01	4.330E+01	4.330E+01
TA	6.760E-01	6.762E-01	6.758E-01	6.757E-01	6.757E-01	6.757E-01	6.757E-01	6.757E-01	6.757E-01	6.757E-01	6.757E-01	6.757E-01
W	1.043E+01	1.043E+01	1.043E+01	1.043E+01	1.043E+01	1.043E+01	1.043E+01	1.043E+01	1.043E+01	1.043E+01	1.043E+01	1.043E+01
RE	8.419E-01	8.430E-01	8.430E-01	8.430E-01	8.430E-01	8.430E-01	8.430E-01	8.430E-01	8.430E-01	8.430E-01	8.430E-01	8.430E-01
OS	1.516E-01	1.516E-01	1.516E-01	1.516E-01	1.516E-01	1.516E-01	1.516E-01	1.516E-01	1.516E-01	1.516E-01	1.516E-01	1.516E-01
IR	2.507E-06	2.411E-06	2.408E-06	2.408E-06	2.408E-06	2.408E-06	2.409E-06	2.410E-06	2.412E-06	2.414E-06	2.414E-06	2.414E-06
PT	9.858E-07	1.078E-06	1.081E-06	1.081E-06	1.081E-06	1.080E-06	1.080E-06	1.079E-06	1.076E-06	1.075E-06	1.075E-06	1.075E-06
AU	1.491E-16	1.491E-16	1.491E-16	1.491E-16	1.491E-16	1.491E-16	1.491E-16	1.491E-16	1.491E-16	1.491E-16	1.491E-16	1.491E-16
HG	1.421E-17	1.421E-17	1.421E-17	1.421E-17	1.421E-17	1.421E-17	1.421E-17	1.422E-17	1.424E-17	1.454E-17	1.754E-17	2.255E-17
TL	6.234E-16	9.633E-16	1.303E-15	2.323E-15	4.023E-15	1.082E-14	3.461E-14	1.026E-13	3.405E-13	3.399E-12	3.395E-11	8.473E-11
PB	5.000E-04	5.000E-04	5.000E-04	5.000E-04	5.000E-04	5.000E-04	5.000E-04	5.000E-04	5.000E-04	5.000E-04	5.000E-04	5.000E-04
BI	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04
PO	1.771E-09	2.844E-10	4.567E-11	1.888E-13	2.724E-17	7.074E-18	7.074E-18	7.073E-18	7.072E-18	7.057E-18	6.912E-18	6.677E-18
TOTAL	6.173E+05	6.173E+05	6.173E+05	6.173E+05	6.173E+05	6.173E+05	6.173E+05	6.173E+05	6.173E+05	6.173E+05	6.173E+05	6.173E+05

TABLE B.41. GRAMS OF PRINCIPAL ACTIVATION PRODUCT NUCLIDES IN BWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
CR 52	9.048E+03	9.048E+03	9.048E+03	9.048E+03	9.048E+03	9.048E+03	9.048E+03	9.048E+03	9.048E+03	9.048E+03	9.048E+03	9.048E+03
CR 53	1.053E+03	1.053E+03	1.053E+03	1.053E+03	1.053E+03	1.053E+03	1.053E+03	1.053E+03	1.053E+03	1.053E+03	1.053E+03	1.053E+03
MN 55	1.010E+03	1.011E+03	1.011E+03	1.011E+03	1.011E+03	1.012E+03	1.012E+03	1.012E+03	1.012E+03	1.012E+03	1.012E+03	1.012E+03
FE 54	2.031E+03	2.031E+03	2.031E+03	2.031E+03	2.031E+03	2.031E+03	2.031E+03	2.031E+03	2.031E+03	2.031E+03	2.031E+03	2.031E+03
FE 56	3.326E+04	3.326E+04	3.326E+04	3.326E+04	3.326E+04	3.326E+04	3.326E+04	3.326E+04	3.326E+04	3.326E+04	3.326E+04	3.326E+04
FE 57	8.367E+02	8.367E+02	8.367E+02	8.367E+02	8.367E+02	8.367E+02	8.367E+02	8.367E+02	8.367E+02	8.367E+02	8.367E+02	8.367E+02
NI 58	4.219E+03	4.219E+03	4.219E+03	4.219E+03	4.219E+03	4.219E+03	4.219E+03	4.219E+03	4.219E+03	4.219E+03	4.219E+03	4.219E+03
NI 60	1.674E+03	1.674E+03	1.674E+03	1.675E+03	1.675E+03	1.676E+03	1.676E+03	1.676E+03	1.676E+03	1.676E+03	1.676E+03	1.676E+03
ZR 90	2.800E+05	2.800E+05	2.800E+05	2.800E+05	2.800E+05	2.800E+05	2.800E+05	2.800E+05	2.800E+05	2.800E+05	2.800E+05	2.800E+05
ZR 91	6.139E+04	6.139E+04	6.139E+04	6.139E+04	6.139E+04	6.139E+04	6.139E+04	6.139E+04	6.139E+04	6.139E+04	6.139E+04	6.139E+04
ZR 92	9.535E+04	9.535E+04	9.535E+04	9.535E+04	9.535E+04	9.535E+04	9.535E+04	9.535E+04	9.535E+04	9.535E+04	9.535E+04	9.535E+04
ZR 94	9.883E+04	9.883E+04	9.883E+04	9.883E+04	9.883E+04	9.883E+04	9.883E+04	9.883E+04	9.883E+04	9.883E+04	9.883E+04	9.883E+04
ZR 96	1.619E+04	1.619E+04	1.619E+04	1.619E+04	1.619E+04	1.619E+04	1.619E+04	1.619E+04	1.619E+04	1.619E+04	1.619E+04	1.619E+04
SN116	1.280E+03	1.280E+03	1.280E+03	1.280E+03	1.280E+03	1.280E+03	1.280E+03	1.280E+03	1.280E+03	1.280E+03	1.280E+03	1.280E+03
SN117	6.948E+02	6.948E+02	6.948E+02	6.948E+02	6.948E+02	6.948E+02	6.948E+02	6.948E+02	6.948E+02	6.948E+02	6.948E+02	6.948E+02
SN118	2.170E+03	2.170E+03	2.170E+03	2.170E+03	2.170E+03	2.170E+03	2.170E+03	2.170E+03	2.170E+03	2.170E+03	2.170E+03	2.170E+03
SN119	7.929E+02	7.941E+02	7.945E+02	7.947E+02	7.948E+02	7.948E+02	7.948E+02	7.948E+02	7.948E+02	7.948E+02	7.948E+02	7.948E+02
SN120	2.951E+03	2.951E+03	2.951E+03	2.951E+03	2.951E+03	2.951E+03	2.951E+03	2.951E+03	2.951E+03	2.951E+03	2.951E+03	2.951E+03
SUMTOT	6.128E+05	6.128E+05	6.128E+05	6.128E+05	6.128E+05	6.128E+05	6.128E+05	6.128E+05	6.128E+05	6.128E+05	6.128E+05	6.128E+05
TOTAL	6.173E+05	6.173E+05	6.173E+05	6.173E+05	6.173E+05	6.173E+05	6.173E+05	6.173E+05	6.173E+05	6.173E+05	6.173E+05	6.173E+05

TABLE B.42. CURIES OF ACTIVATION PRODUCT ELEMENTS IN BWR CLADDING WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	7.568E+01	7.155E+01	6.765E+01	5.716E+01	4.317E+01	1.405E+01	2.762E-01	3.675E-06	3.175E-23	0.0	0.0	0.0
BE	2.137E-07	2.137E-07	2.137E-07	2.137E-07	2.137E-07	2.137E-07	2.137E-07	2.137E-07	2.136E-07	2.128E-07	2.046E-07	1.918E-07
C	1.081E+00	1.081E+00	1.081E+00	1.080E+00	1.080E+00	1.077E+00	1.068E+00	1.042E+00	9.577E-01	3.224E-01	6.018E-06	7.907E-14
SI	1.120E-09	1.119E-09	1.117E-09	1.114E-09	1.108E-09	1.085E-09	1.007E-09	8.132E-10	3.855E-10	2.618E-14	0.0	0.0
P	2.165E-02	3.866E-09	1.118E-09	1.114E-09	1.108E-09	1.085E-09	1.007E-09	8.133E-10	3.855E-10	2.618E-14	0.0	0.0
S	8.145E-01	4.586E-02	2.582E-03	4.609E-07	2.609E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CL	5.301E-07	5.301E-07	5.301E-07	5.301E-07	5.301E-07	5.300E-07	5.300E-07	5.297E-07	5.289E-07	5.180E-07	4.211E-07	2.981E-07
AR	6.976E-11	8.810E-12	8.743E-12	8.676E-12	8.565E-12	8.134E-12	6.792E-12	4.057E-12	6.681E-13	5.673E-23	0.0	0.0
K	1.548E-12	1.548E-12	1.548E-12	1.548E-12	1.548E-12	1.548E-12	1.548E-12	1.548E-12	1.548E-12	1.548E-12	1.548E-12	1.548E-12
CA	3.493E-03	7.389E-04	1.563E-04	1.566E-06	8.792E-08	8.728E-08	8.723E-08	8.706E-08	8.656E-08	8.014E-08	3.710E-08	1.028E-08
SC	2.243E-01	1.093E-02	5.328E-04	6.168E-08	1.696E-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	6.935E-15	6.935E-15	6.935E-15	6.935E-15	6.935E-15	6.935E-15	6.935E-15	6.935E-15	6.935E-15	6.935E-15	6.935E-15	6.935E-15
CR	2.989E+02	3.216E-02	3.461E-06	4.312E-18	6.221E-38	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MN	3.234E+02	1.438E+02	6.397E+01	5.629E+00	9.801E-02	9.004E-09	0.0	0.0	0.0	0.0	0.0	0.0
FE	3.435E+03	2.616E+03	2.004E+03	9.007E+02	2.375E+02	1.148E+00	9.024E-09	0.0	0.0	0.0	0.0	0.0
CO	2.993E+03	2.372E+03	2.073E+03	1.397E+03	7.236E+02	5.212E+01	5.228E-03	1.965E-14	0.0	0.0	0.0	0.0
NI	1.737E+02	1.724E+02	1.711E+02	1.673E+02	1.612E+02	1.388E+02	8.238E+01	1.915E+01	1.240E+00	1.062E+00	4.869E-01	1.327E-01
CU	2.461E-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZN	1.493E-01	5.287E-02	1.872E-02	8.313E-04	4.635E-06	4.453E-15	0.0	0.0	0.0	0.0	0.0	0.0
GE	1.512E-10	7.271E-20	3.497E-29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SR	8.587E+00	5.936E-02	2.631E-03	2.096E-03	1.861E-03	1.156E-03	2.185E-04	1.870E-06	1.086E-13	0.0	0.0	0.0
Y	2.939E+01	3.906E-01	7.378E-03	2.097E-03	1.862E-03	1.156E-03	2.185E-04	1.871E-06	1.087E-13	0.0	0.0	0.0
ZR	1.592E+04	3.048E+02	6.137E+00	3.149E-01	3.147E-01	3.147E-01	3.147E-01	3.147E-01	3.146E-01	3.133E-01	3.008E-01	2.810E-01
NB	3.073E+04	6.987E+02	1.380E+01	4.040E-01	4.514E-01	5.558E-01	6.125E-01	6.120E-01	6.045E-01	5.224E-01	2.962E-01	2.671E-01
MO	6.106E-03	6.105E-03	6.103E-03	6.100E-03	6.094E-03	6.070E-03	5.986E-03	5.753E-03	5.008E-03	8.419E-04	1.516E-11	1.877E-24
TC	1.168E-03	1.168E-03	1.168E-03	1.168E-03	1.168E-03	1.168E-03	1.167E-03	1.167E-03	1.164E-03	1.130E-03	8.433E-04	5.176E-04
RU	6.557E-04	1.030E-06	1.636E-09	9.261E-16	2.952E-17	3.143E-23	3.912E-44	0.0	0.0	0.0	0.0	0.0
RH	2.863E-14	1.439E-14	7.236E-15	9.196E-16	2.954E-17	3.143E-23	3.912E-44	0.0	0.0	0.0	0.0	0.0
PD	4.510E-15	4.510E-15	4.510E-15	4.510E-15	4.510E-15	4.510E-15	4.510E-15	4.510E-15	4.510E-15	4.505E-15	4.462E-15	4.392E-15
AG	5.872E-04	2.176E-04	8.340E-05	1.046E-05	6.644E-06	5.937E-06	4.052E-06	1.360E-06	2.931E-08	1.389E-29	0.0	0.0
CD	1.697E-02	3.051E-03	1.745E-03	3.395E-04	2.218E-05	4.044E-10	1.046E-26	0.0	0.0	0.0	0.0	0.0
IN	1.531E+01	9.217E-02	5.546E-04	1.208E-10	3.672E-16	3.672E-16	3.672E-16	3.672E-16	3.672E-16	3.672E-16	3.672E-16	3.672E-16
SN	9.042E+03	3.000E+03	1.043E+03	4.758E+01	1.412E+00	8.692E-01	3.292E-01	2.054E-02	1.247E-06	0.0	0.0	0.0
SB	3.131E+03	2.434E+03	1.895E+03	8.944E+02	2.559E+02	1.717E+00	4.237E-08	0.0	0.0	0.0	0.0	0.0
TE	7.485E+02	5.938E+02	4.624E+02	2.182E+02	6.245E+01	4.188E-01	1.034E-08	8.414E-13	8.414E-13	8.414E-13	8.414E-13	8.414E-13
I	2.426E-14	2.426E-14	2.426E-14	2.426E-14	2.426E-14	2.426E-14	2.426E-14	2.426E-14	2.426E-14	2.425E-14	2.416E-14	2.400E-14
XE	5.319E-12	2.698E-23	1.544E-32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	3.075E-16	2.197E-16	1.570E-16	5.726E-17	1.068E-17	1.360E-21	1.046E-23	1.046E-23	1.046E-23	1.044E-23	1.016E-23	9.697E-24
PR	4.899E-25	3.841E-33	3.012E-41	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ND	8.376E-21	9.591E-31	1.669E-37	1.668E-37	1.668E-37	1.668E-37	1.668E-37	1.668E-37	1.668E-37	1.668E-37	1.668E-37	1.668E-37
PM	3.687E-17	2.806E-17	2.119E-17	9.666E-18	2.591E-18	9.878E-21	9.172E-29	0.0	0.0	0.0	0.0	0.0
SM	3.158E-09	3.134E-09	3.110E-09	3.039E-09	2.924E-09	2.507E-09	1.462E-09	3.133E-10	1.428E-12	8.977E-25	9.044E-25	9.158E-25
EU	1.140E-01	1.025E-01	9.279E-02	6.905E-02	4.279E-02	7.189E-03	2.334E-05	2.327E-12	4.733E-33	0.0	0.0	0.0
GD	4.722E-01	1.659E-01	5.828E-02	2.527E-03	1.357E-05	1.199E-14	8.706E-16	8.706E-16	8.706E-16	8.706E-16	8.706E-16	8.706E-16
TB	7.726E-01	2.329E-02	7.024E-04	1.925E-08	4.798E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	4.979E-18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	4.901E-07	4.898E-07	4.895E-07	4.886E-07	4.872E-07	4.816E-07	4.625E-07	4.121E-07	2.750E-07	1.520E-09	4.028E-32	0.0
ER	1.681E-11	3.378E-23	6.787E-35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	4.474E-08	6.619E-09	1.183E-09	1.121E-10	1.806E-11	1.321E-14	1.399E-25	0.0	0.0	0.0	0.0	0.0
YB	5.810E-20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LU	7.019E-03	1.371E-03	2.676E-04	1.990E-06	6.281E-10	6.338E-11	6.338E-11	6.338E-11	6.338E-11	6.338E-11	6.338E-11	6.338E-11
HF	7.868E+01	3.608E-01	5.175E-03	8.738E-07	7.826E-07	7.826E-07	7.826E-07	7.826E-07	7.825E-07	7.820E-07	7.766E-07	7.677E-07
TA	2.885E+01	3.192E+00	3.531E-01	4.726E-04	7.904E-07	7.826E-07	7.826E-07	7.826E-07	7.825E-07	7.820E-07	7.766E-07	7.677E-07
W	1.123E+01	4.405E-01	2.227E-02	1.943E-05	5.503E-10	3.926E-28	0.0	0.0	0.0	0.0	0.0	0.0
RE	4.384E-01	1.141E-02	2.973E-04	3.648E-08	3.123E-08	3.123E-08	3.123E-08	3.123E-08	3.123E-08	3.123E-08	3.123E-08	3.123E-08
OS	1.248E-05	4.735E-11	4.137E-11	2.926E-11	1.642E-11	1.629E-12	5.011E-16	4.630E-26	0.0	0.0	0.0	0.0
IR	9.158E-04	2.995E-05	9.872E-07	8.046E-09	7.885E-09	7.430E-09	6.074E-09	3.417E-09	4.563E-10	2.623E-21	0.0	0.0
PT	2.421E-08	2.417E-08	2.414E-08	2.404E-08	2.387E-08	2.322E-08	2.107E-08	1.597E-08	6.052E-09	2.305E-14	0.0	0.0
AU	1.312E-25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TL	7.915E-12	7.915E-12	7.915E-12	7.915E-12	7.915E-12	7.915E-12	7.915E-12	7.915E-12	7.913E-12	7.897E-12	7.734E-12	7.471E-12
PB	8.556E-13	8.556E-13	8.556E-13	8.556E-13	8.556E-13	8.556E-13	8.555E-13	8.555E-13	8.555E-13	8.554E-13	8.536E-13	8.506E-13
BI	1.686E-11	1.685E-11	1.685E-11	1.685E-11	1.685E-11	1.685E-11	1.685E-11	1.685E-11	1.683E-11	1.667E-11	1.514E-11	1.306E-11
PO	7.959E-06	1.278E-06	2.052E-07	8.486E-10	1.224E-13	3.179E-14	3.179E-14	3.179E-14	3.178E-14	3.171E-14	3.106E-14	3.000E-14
TOTAL	6.705E+04	1.241E+04	7.801E+03	3.690E+03	1.487E+03	2.111E+02	8.499E+01	2.115E+01	3.123E+00	2.222E+00	1.085E+00	6.814E-01

TABLE 8.43. CURIES OF PRINCIPAL ACTIVATION PRODUCT NUCLIDES IN BWR CLADDING WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H 3	7.568E+01	7.155E+01	6.765E+01	5.716E+01	4.317E+01	1.405E+01	2.762E-01	3.675E-06	3.175E-23	0.0	0.0	0.0
C 14	1.081E+00	1.081E+00	1.081E+00	1.080E+00	1.080E+00	1.077E+00	1.068E+00	1.042E+00	9.577E-01	3.224E-01	6.018E-06	7.907E-14
MN 54	3.234E+02	1.438E+02	6.397E+01	5.629E+00	9.801E-02	9.004E-09	0.0	0.0	0.0	0.0	0.0	0.0
FE 55	3.416E+03	2.616E+03	2.004E+03	9.007E+02	2.375E+02	1.148E+00	9.024E-09	0.0	0.0	0.0	0.0	0.0
CO 60	2.696E+03	2.364E+03	2.072E+03	1.397E+03	7.238E+02	5.212E+01	5.228E-03	1.965E-14	0.0	0.0	0.0	0.0
NI 59	1.158E+00	1.158E+00	1.158E+00	1.158E+00	1.158E+00	1.158E+00	1.157E+00	1.155E+00	1.148E+00	1.062E+00	4.869E-01	1.327E-01
NI 63	1.725E+02	1.712E+02	1.700E+02	1.662E+02	1.600E+02	1.376E+02	8.122E+01	1.800E+01	9.223E-02	0.0	0.0	0.0
ZR 93	3.148E-01	3.148E-01	3.147E-01	3.147E-01	3.147E-01	3.147E-01	3.147E-01	3.147E-01	3.146E-01	3.133E-01	3.008E-01	2.810E-01
ZR 95	1.592E+04	3.045E+02	5.822E+00	4.070E-05	1.040E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 93M	2.649E-02	4.003E-02	5.290E-02	8.780E-02	1.353E-01	2.399E-01	2.973E-01	2.990E-01	2.989E-01	2.977E-01	2.858E-01	2.670E-01
NB 94	3.162E-01	3.162E-01	3.162E-01	3.162E-01	3.161E-01	3.159E-01	3.151E-01	3.130E-01	3.056E-01	2.247E-01	1.040E-02	6.203E-05
NB 95	3.061E+04	6.961E+02	1.339E+01	9.036E-05	2.310E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MO 93	6.106E-03	6.105E-03	6.103E-03	6.100E-03	6.094E-03	6.070E-03	5.986E-03	5.753E-03	5.008E-03	8.419E-04	1.516E-11	1.877E-24
SN113	6.536E+02	7.245E+01	8.032E+00	1.096E-02	1.839E-07	1.442E-26	0.0	0.0	0.0	0.0	0.0	0.0
SN119M	8.119E+03	2.889E+03	1.028E+03	4.633E+01	2.649E-01	2.807E-10	0.0	0.0	0.0	0.0	0.0	0.0
SN121M	1.318E+00	1.300E+00	1.282E+00	1.229E+00	1.147E+00	8.692E-01	3.292E-01	2.054E-02	1.247E-06	0.0	0.0	0.0
SN123	2.632E+02	3.708E+01	5.222E+00	1.456E-02	8.073E-07	7.627E-24	0.0	0.0	0.0	0.0	0.0	0.0
SB125	3.126E+03	2.434E+03	1.895E+03	8.944E+02	2.559E+02	1.717E+00	4.237E-08	0.0	0.0	0.0	0.0	0.0
TE125M	7.466E+02	5.936E+02	4.623E+02	2.182E+02	6.245E+01	4.188E-01	1.034E-08	0.0	0.0	0.0	0.0	0.0
SUMTOT	6.613E+04	1.240E+04	7.800E+03	3.690E+03	1.487E+03	2.111E+02	8.499E+01	2.115E+01	3.122E+00	2.221E+00	1.084E+00	6.808E-01
TOTAL	6.705E+04	1.241E+04	7.801E+03	3.690E+03	1.487E+03	2.111E+02	8.499E+01	2.115E+01	3.123E+00	2.222E+00	1.085E+00	6.814E-01

TABLE B.44. WATTS OF ACTIVATION PRODUCT ELEMENTS IN BWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	2.548E-03	2.409E-03	2.278E-03	1.925E-03	1.454E-03	4.731E-04	9.299E-06	1.235E-10	1.069E-27	0.0	0.0	0.0
BE	2.565E-10	2.565E-10	2.565E-10	2.565E-10	2.565E-10	2.565E-10	2.565E-10	2.565E-10	2.564E-10	2.554E-10	2.456E-10	2.302E-10
C	3.170E-04	3.169E-04	3.169E-04	3.168E-04	3.166E-04	3.158E-04	3.132E-04	3.057E-04	2.808E-04	9.453E-05	1.765E-09	2.319E-17
SI	1.394E-12	1.392E-12	1.391E-12	1.387E-12	1.379E-12	1.350E-12	1.253E-12	1.012E-12	4.799E-13	3.258E-17	0.0	0.0
P	2.190E-04	1.921E-11	1.133E-11	1.129E-11	1.123E-11	1.099E-11	1.020E-11	8.243E-12	3.908E-12	2.653E-16	0.0	0.0
S	8.082E-04	4.551E-05	2.562E-06	4.574E-10	2.589E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CL	7.752E-10	7.752E-10	7.752E-10	7.752E-10	7.751E-10	7.751E-10	7.750E-10	7.746E-10	7.734E-10	7.575E-10	6.157E-10	4.359E-10
AR	3.022E-14	2.936E-14	2.928E-14	2.906E-14	2.868E-14	2.724E-14	2.275E-14	1.359E-14	2.237E-15	1.900E-25	0.0	0.0
K	6.257E-15	6.255E-15	6.255E-15	6.255E-15	6.255E-15	6.254E-15	6.254E-15	6.254E-15	6.254E-15	6.254E-15	6.253E-15	6.253E-15
CA	1.599E-06	3.383E-07	7.172E-08	8.976E-10	2.212E-10	2.209E-10	2.208E-10	2.204E-10	2.191E-10	2.028E-10	9.390E-11	2.602E-11
SC	2.821E-03	1.375E-04	6.701E-06	7.759E-10	2.134E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	7.646E-17	7.646E-17	7.646E-17	7.646E-17	7.646E-17	7.646E-17	7.646E-17	7.646E-17	7.646E-17	7.646E-17	7.646E-17	7.646E-17
CR	6.396E-02	6.882E-06	7.406E-10	9.227E-22	1.331E-41	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MN	1.610E+00	7.161E-01	3.185E-01	2.803E-02	4.880E-04	4.483E-11	0.0	0.0	0.0	0.0	0.0	0.0
FE	4.880E+00	3.599E+00	2.756E+00	1.239E+00	3.266E-01	1.579E-03	1.241E-11	0.0	0.0	0.0	0.0	0.0
CO	4.334E+01	3.649E+01	3.195E+01	2.153E+01	1.116E+01	8.036E-01	8.060E-05	3.030E-16	0.0	0.0	0.0	0.0
NI	7.589E-02	7.538E-02	7.487E-02	7.336E-02	7.092E-02	6.203E-02	3.962E-02	1.450E-02	7.346E-03	6.761E-03	3.100E-03	8.451E-04
CU	4.547E-26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZN	5.232E-04	1.853E-04	6.560E-05	2.913E-06	1.624E-08	1.560E-17	0.0	0.0	0.0	0.0	0.0	0.0
GE	2.106E-13	1.013E-22	4.871E-32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SR	2.968E-02	1.999E-04	3.925E-06	2.433E-06	2.160E-06	1.342E-06	2.536E-07	2.171E-09	1.261E-16	0.0	0.0	0.0
Y	1.056E-01	1.407E-03	3.089E-05	1.162E-05	1.032E-05	6.410E-06	1.213E-06	1.037E-08	6.022E-16	0.0	0.0	0.0
ZR	8.066E+01	1.542E+00	2.953E-02	3.677E-05	3.657E-05	3.657E-05	3.657E-05	3.656E-05	3.655E-05	3.640E-05	3.495E-05	3.265E-05
NB	1.470E+02	3.345E+00	6.752E-02	3.238E-03	3.245E-03	3.261E-03	3.264E-03	3.242E-03	3.167E-03	2.343E-03	1.566E-04	4.794E-05
MO	5.708E-07	5.707E-07	5.705E-07	5.702E-07	5.696E-07	5.674E-07	5.596E-07	5.378E-07	4.682E-07	7.870E-08	1.417E-15	1.755E-28
TC	5.856E-07	5.856E-07	5.856E-07	5.856E-07	5.855E-07	5.855E-07	5.854E-07	5.850E-07	5.837E-07	5.668E-07	4.229E-07	2.596E-07
RU	2.194E-06	3.444E-09	5.473E-12	7.661E-20	1.755E-21	1.869E-27	2.326E-48	0.0	0.0	0.0	0.0	0.0
RH	2.746E-16	1.330E-16	6.940E-17	8.820E-18	2.833E-19	3.014E-25	3.752E-46	0.0	0.0	0.0	0.0	0.0
PD	2.674E-19	2.674E-19	2.674E-19	2.674E-19	2.674E-19	2.674E-19	2.674E-19	2.673E-19	2.673E-19	2.671E-19	2.645E-19	2.603E-19
AG	9.680E-06	3.555E-06	1.331E-06	1.235E-07	6.154E-08	5.484E-08	3.742E-08	1.258E-08	2.754E-10	1.283E-31	0.0	0.0
CD	4.723E-05	2.067E-06	1.111E-06	2.161E-07	1.412E-08	2.574E-13	6.659E-30	0.0	0.0	0.0	0.0	0.0
IN	4.541E-02	2.734E-04	1.645E-06	3.582E-13	5.267E-19	5.267E-19	5.267E-19	5.267E-19	5.267E-19	5.267E-19	5.267E-19	5.267E-19
SN	5.142E+00	1.624E+00	5.517E-01	2.646E-02	2.435E-03	1.741E-03	6.595E-04	4.116E-05	2.498E-09	0.0	0.0	0.0
SB	5.843E+00	7.610E+00	5.924E+00	2.796E+00	8.002E-01	5.367E-03	1.325E-10	0.0	0.0	0.0	0.0	0.0
TE	6.303E-01	4.993E-01	3.887E-01	1.834E-01	5.249E-02	3.520E-04	8.689E-12	1.259E-16	1.259E-16	1.259E-16	1.259E-16	1.259E-16
I	1.123E-17	1.122E-17	1.122E-17	1.122E-17	1.122E-17	1.122E-17	1.122E-17	1.122E-17	1.122E-17	1.122E-17	1.117E-17	1.110E-17
XE	7.420E-15	2.600E-26	1.485E-36	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	3.129E-18	2.236E-18	1.598E-18	5.828E-19	1.087E-19	1.374E-23	3.491E-27	3.491E-27	3.491E-27	3.484E-27	3.389E-27	3.236E-27
PR	9.127E-26	7.157E-36	5.612E-44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ND	2.021E-23	2.314E-33	2.650E-43	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM	2.057E-20	1.269E-20	5.415E-21	3.467E-21	9.293E-22	3.543E-24	3.290E-32	0.0	0.0	0.0	0.0	0.0
SM	3.703E-13	3.675E-13	3.647E-13	3.563E-13	3.429E-13	2.939E-13	1.714E-13	3.674E-14	1.674E-16	2.684E-29	1.079E-28	2.429E-28
EU	6.966E-04	6.356E-04	5.850E-04	4.566E-04	3.027E-04	5.941E-05	2.085E-07	2.082E-14	3.588E-35	0.0	0.0	0.0
GD	4.070E-04	1.430E-04	5.023E-05	2.178E-06	1.169E-08	2.093E-17	1.134E-17	1.134E-17	1.134E-17	1.134E-17	1.134E-17	1.134E-17
TB	6.292E-03	1.897E-04	5.720E-06	1.568E-10	3.907E-18	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	5.815E-21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	5.429E-09	5.426E-09	5.423E-09	5.414E-09	5.398E-09	5.336E-09	5.124E-09	4.569E-09	3.047E-09	1.684E-11	4.462E-34	0.0
ER	3.388E-14	6.808E-26	1.368E-37	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	8.757E-11	1.228E-11	1.755E-12	2.166E-14	2.801E-15	2.049E-18	2.169E-29	0.0	0.0	0.0	0.0	0.0
YB	5.831E-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LU	4.735E-05	9.246E-06	1.806E-06	1.342E-08	4.193E-12	3.832E-13	3.832E-13	3.832E-13	3.832E-13	3.832E-13	3.832E-13	3.832E-13
HF	3.453E-01	1.442E-03	1.856E-05	2.638E-09	2.320E-09	2.320E-09	2.320E-09	2.319E-09	2.319E-09	2.318E-09	2.302E-09	2.275E-09
TA	2.568E-01	2.842E-02	3.144E-03	4.208E-06	7.038E-09	6.968E-09	6.968E-09	6.968E-09	6.967E-09	6.962E-09	6.914E-09	6.835E-09
W	2.644E-02	9.226E-04	3.368E-05	6.586E-09	1.552E-13	1.107E-31	0.0	0.0	0.0	0.0	0.0	0.0
RE	2.175E-03	5.664E-05	1.475E-06	5.055E-10	4.794E-10	4.794E-10	4.794E-10	4.794E-10	4.794E-10	4.794E-10	4.794E-10	4.794E-10
OS	1.813E-08	2.802E-14	2.379E-14	1.682E-14	9.441E-15	9.366E-16	2.881E-19	2.662E-29	0.0	0.0	0.0	0.0
IR	5.406E-06	1.768E-06	5.808E-09	2.774E-11	2.708E-11	2.549E-11	2.083E-11	1.172E-11	1.565E-12	8.997E-24	0.0	0.0
PT	7.175E-12	7.165E-12	7.155E-12	7.125E-12	7.076E-12	6.882E-12	6.246E-12	4.733E-12	1.794E-12	6.842E-18	0.0	0.0
AU	1.916E-32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TL	7.150E-14	7.150E-14	7.150E-14	7.150E-14	7.150E-14	7.150E-14	7.150E-14	7.150E-14	7.149E-14	7.134E-14	6.987E-14	6.749E-14
PB	1.775E-16	1.775E-16	1.775E-16	1.775E-16	1.775E-16	1.775E-16	1.775E-16	1.775E-16	1.775E-16	1.775E-16	1.771E-16	1.765E-16
BI	4.010E-13	4.010E-13	4.010E-13	4.010E-13	4.010E-13	4.009E-13	4.009E-13	4.009E-13	4.006E-13	3.976E-13	3.693E-13	3.301E-13
PO	2.551E-07	4.097E-08	6.580E-09	2.720E-11	3.924E-15	1.019E-15	1.019E-15	1.019E-15	1.019E-15	1.017E-15	9.957E-16	9.618E-16
TOTAL	2.941E+02	5.558E+01	4.207E+01	2.589E+01	1.241E+01	8.788E-01	4.399E-02	1.813E-02	1.083E-02	9.235E-03	3.292E-03	9.259E-04

TABLE B.45. WATTS OF PRINCIPAL ACTIVATION PRODUCT NUCLIDES IN BWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	5M+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
C 14	3.170E-04	3.169E-04	3.169E-04	3.168E-04	3.166E-04	3.158E-04	3.132E-04	3.057E-04	2.808E-04	9.453E-05	1.765E-09	2.319E-17
MN 54	1.610E+00	7.161E-01	3.185E-01	2.803E-02	4.880E-04	4.483E-11	0.0	0.0	0.0	0.0	0.0	0.0
FE 55	4.697E+00	3.598E+00	2.756E+00	1.239E+00	3.266E-01	1.579E-03	1.241E-11	0.0	0.0	0.0	0.0	0.0
CO 60	4.157E+01	3.645E+01	3.195E+01	2.153E+01	1.116E+01	8.036E-01	8.060E-05	3.030E-16	0.0	0.0	0.0	0.0
NI 59	7.373E-03	7.373E-03	7.372E-03	7.372E-03	7.372E-03	7.371E-03	7.366E-03	7.353E-03	7.309E-03	6.761E-03	3.100E-03	6.451E-04
NI 63	6.852E-02	6.801E-02	6.750E-02	6.599E-02	6.355E-02	5.466E-02	3.226E-02	7.148E-03	3.663E-05	0.0	0.0	0.0
ZR 93	3.657E-05	3.657E-05	3.657E-05	3.657E-05	3.657E-05	3.657E-05	3.657E-05	3.656E-05	3.655E-05	3.640E-05	3.495E-05	2.265E-05
ZR 95	8.066E+01	1.542E+00	2.949E-02	2.062E-07	5.270E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 93M	4.694E-06	7.093E-06	9.373E-06	1.556E-05	2.397E-05	4.251E-05	5.268E-05	5.297E-05	5.295E-05	5.274E-05	5.063E-05	4.731E-05
NB 94	3.222E-03	3.222E-03	3.222E-03	3.222E-03	3.221E-03	3.219E-03	3.211E-03	3.189E-03	3.114E-03	2.290E-03	1.060E-04	6.321E-07
NB 95	1.468E+02	3.339E+00	6.423E-02	4.334E-07	1.108E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SN119M	4.197E+00	1.493E+00	5.314E-01	2.395E-02	1.369E-04	1.451E-13	0.0	0.0	0.0	0.0	0.0	0.0
SN121M	2.640E-03	2.604E-03	2.568E-03	2.463E-03	2.298E-03	1.741E-03	6.595E-04	4.116E-05	2.498E-09	0.0	0.0	0.0
SN123	8.221E-01	1.158E-01	1.631E-02	4.548E-05	2.521E-09	2.382E-26	0.0	0.0	0.0	0.0	0.0	0.0
SB125	9.772E+00	7.609E+00	5.924E+00	2.796E+00	8.002E-01	5.367E-03	1.328E-10	0.0	0.0	0.0	0.0	0.0
TE125M	6.275E-01	4.989E-01	3.886E-01	1.834E-01	5.249E-02	3.520E-04	8.689E-12	0.0	0.0	0.0	0.0	0.0
SUMTOT	2.909E+02	5.544E+01	4.206E+01	2.588E+01	1.241E+01	8.783E-01	4.398E-02	1.813E-02	1.083E-02	9.234E-03	3.291E-03	9.257E-04
TOTAL	2.941E+02	5.554E+01	4.207E+01	2.589E+01	1.241E+01	8.788E-01	4.399E-02	1.813E-02	1.083E-02	9.235E-03	3.292E-03	9.259E-04

TABLE B.46. PHOTONS FROM ACTIVATION PRODUCTS IN BWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS= METRIC TON OF INITIAL HEAVY METAL AT A REPROCESSING TIME OF 160 DAYS

EMEAN	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	1.029E+14	1.896E+13	1.171E+13	5.529E+12	2.215E+12	1.396E+11	2.093E+10	7.948E+09	4.159E+09	3.167E+09	2.106E+09	1.937E+09
2.500E-02	2.385E+14	1.105E+14	6.486E+13	2.354E+13	6.636E+12	6.253E+10	1.333E+09	5.355E+08	2.981E+08	1.731E+08	1.114E+07	4.753E+06
3.750E-02	2.675E+13	1.633E+13	1.263E+13	6.039E+12	1.791E+12	2.175E+10	3.798E+08	2.151E+08	1.623E+08	9.710E+07	4.747E+06	1.048E+06
5.750E-02	1.015E+13	1.415E+12	9.000E+11	4.928E+11	2.116E+11	1.198E+10	2.069E+08	1.853E+08	1.737E+08	1.102E+08	4.779E+06	2.998E+05
8.500E-02	3.392E+12	5.383E+11	3.646E+11	2.036E+11	8.617E+10	4.721E+09	7.265E+07	7.024E+07	6.812E+07	4.723E+07	2.177E+06	8.162E+04
1.250E-01	3.556E+12	6.047E+11	4.263E+11	2.118E+11	7.162E+10	2.173E+09	3.247E+07	3.086E+07	3.009E+07	2.193E+07	1.047E+06	3.443E+04
2.250E-01	1.016E+13	5.673E+12	4.302E+12	2.027E+12	5.836E+11	4.471E+09	2.023E+07	1.880E+07	1.834E+07	1.349E+07	6.399E+05	1.678E+04
3.750E-01	4.319E+13	3.252E+13	2.531E+13	1.195E+13	3.420E+12	2.309E+10	1.591E+06	9.458E+05	8.723E+05	6.393E+05	2.961E+04	1.971E+02
5.750E-01	5.880E+13	4.187E+13	3.253E+13	1.535E+13	4.393E+12	2.950E+10	4.957E+05	5.193E+04	4.069E+03	2.344E+01	5.299E+00	3.817E+00
8.500E-01	1.554E+15	3.854E+13	2.994E+12	2.308E+11	2.777E+10	2.188E+10	2.157E+10	2.142E+10	2.091E+10	1.538E+10	7.117E+08	4.245E+06
1.250E+00	2.005E+14	1.750E+14	1.533E+14	1.033E+14	5.353E+13	3.856E+12	3.872E+08	2.757E+04	2.717E+04	2.685E+04	2.666E+04	2.635E+04
1.750E+00	1.483E+11	2.959E+09	1.005E+08	2.894E+07	1.933E+07	3.865E+06	1.581E+04	1.880E+01	8.489E-04	4.744E-06	4.711E-06	4.657E-06
2.250E+00	1.190E+10	1.088E+09	8.150E+08	5.476E+08	2.837E+08	2.044E+07	2.050E+03	2.063E-03	2.599E-10	1.399E-10	1.370E-10	1.323E-10
2.750E+00	1.117E+07	2.986E+06	2.516E+06	1.695E+06	8.779E+05	6.324E+04	6.343E+00	9.535E-11	7.023E-11	7.009E-11	6.865E-11	6.631E-11
3.500E+00	5.185E-05	8.336E-06	1.344E-06	6.592E-09	1.367E-10	8.698E-11	5.977E-11	5.177E-11	5.164E-11	5.154E-11	5.047E-11	4.876E-11
5.000E+00	1.543E-05	2.477E-06	3.978E-07	1.660E-09	1.558E-11	1.541E-11	1.541E-11	1.541E-11	1.540E-11	1.537E-11	1.506E-11	1.454E-11
7.000E+00	1.001E-06	1.607E-07	2.581E-08	1.077E-10	1.009E-12	9.977E-13	9.976E-13	9.976E-13	9.974E-13	9.954E-13	9.749E-13	9.417E-13
1.100E+01	6.330E-08	1.016E-08	1.632E-09	6.812E-12	6.389E-14	6.317E-14	6.316E-14	6.316E-14	6.315E-14	6.302E-14	6.172E-14	5.962E-14
TOTAL	2.252E+15	4.420E+14	3.094E+14	1.689E+14	7.297E+13	4.178E+12	4.493E+10	3.042E+10	2.582E+10	1.901E+10	2.842E+09	1.948E+09
MEV/SEC	1.634E+15	2.929E+14	2.258E+14	1.441E+14	7.117E+13	4.871E+12	1.920E+10	1.837E+10	1.788E+10	1.314E+10	6.377E+08	3.289E+07

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS= METRIC TON OF INITIAL HEAVY METAL AT A REPROCESSING TIME OF 160 DAYS

EMEAN	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	1.544E+06	2.844E+05	1.757E+05	8.293E+04	3.323E+04	2.094E+03	3.140E+02	1.192E+02	6.239E+01	4.751E+01	3.159E+01	2.906E+01
2.500E-02	5.962E+06	2.763E+06	1.621E+06	5.884E+05	1.659E+05	1.563E+03	3.331E+01	1.340E+01	7.453E+00	4.327E+00	2.785E-01	1.188E-01
3.750E-02	1.003E+06	6.124E+05	4.738E+05	2.265E+05	6.717E+04	8.154E+02	1.424E+01	8.066E+00	6.088E+00	3.641E+00	1.780E-01	3.929E-02
5.750E-02	5.837E+05	8.134E+04	5.175E+04	2.833E+04	1.217E+04	6.889E+02	1.190E+01	1.066E+01	9.987E+00	6.335E+00	2.748E-01	1.724E-02
8.500E-02	2.883E+05	4.575E+04	3.099E+04	1.731E+04	7.324E+03	4.013E+02	6.175E+00	5.971E+00	5.790E+00	4.015E+00	1.851E-01	6.938E-03
1.250E-01	4.445E+05	7.558E+04	5.328E+04	2.648E+04	8.952E+03	2.716E+02	4.059E+00	3.858E+00	3.762E+00	2.742E+00	1.309E-01	4.304E-03
2.250E-01	2.286E+06	1.276E+06	9.679E+05	4.561E+05	1.313E+05	1.006E+03	4.551E+00	4.230E+00	4.127E+00	3.035E+00	1.440E-01	3.775E-03
3.750E-01	1.620E+07	1.220E+07	9.492E+06	4.480E+06	1.282E+06	8.658E+03	5.967E-01	3.547E-01	3.271E-01	2.397E-01	1.110E-02	7.390E-05
5.750E-01	3.381E+07	2.407E+07	1.870E+07	8.827E+06	2.526E+06	1.696E+04	2.850E-01	2.986E-02	2.340E-03	1.348E-05	3.047E-06	2.195E-06
8.500E-01	1.321E+09	3.276E+07	2.545E+06	1.962E+05	2.361E+04	1.860E+04	1.833E+04	1.821E+04	1.779E+04	1.307E+04	6.049E+02	3.609E+00
1.250E+00	2.507E+08	2.187E+08	1.917E+08	1.292E+08	6.691E+07	4.820E+06	4.841E+02	3.446E-02	3.397E-02	3.356E-02	3.332E-02	3.294E-02
1.750E+00	2.595E+05	5.179E+03	1.759E+02	5.065E+01	3.384E+01	6.764E+00	2.767E-02	3.285E-05	1.486E-09	8.303E-12	8.245E-12	8.150E-12
2.250E+00	2.678E+04	2.448E+03	1.834E+03	1.232E+03	6.384E+02	4.598E+01	4.612E-03	4.641E-09	5.849E-16	3.147E-16	3.083E-16	2.978E-16
2.750E+00	3.072E+01	8.211E+00	6.920E+00	4.660E+00	2.414E+00	1.739E-01	1.744E-05	2.622E-16	1.931E-16	1.927E-16	1.888E-16	1.823E-16
3.500E+00	1.815E-10	2.918E-11	4.703E-12	2.307E-14	4.785E-16	3.044E-16	2.092E-16	1.812E-16	1.807E-16	1.804E-16	1.767E-16	1.706E-16
5.000E+00	7.713E-11	1.239E-11	1.989E-12	8.301E-15	7.792E-17	7.704E-17	7.704E-17	7.703E-17	7.702E-17	7.686E-17	7.528E-17	7.271E-17
7.000E+00	7.007E-12	1.125E-12	1.807E-13	7.540E-16	7.063E-18	6.984E-18	6.984E-18	6.983E-18	6.982E-18	6.968E-18	6.824E-18	6.592E-18
1.100E+01	6.963E-13	1.118E-13	1.796E-14	7.493E-17	7.027E-19	6.948E-19	6.948E-19	6.948E-19	6.947E-19	6.932E-19	6.790E-19	6.558E-19
TOTAL	1.634E+09	2.929E+08	2.258E+08	1.441E+08	7.117E+07	4.871E+06	1.920E+04	1.837E+04	1.788E+04	1.314E+04	6.377E+02	3.289E+01
GAM POW	2.620E+02	4.695E+01	3.619E+01	2.310E+01	1.141E+01	7.808E-01	3.078E-03	2.945E-03	2.855E-03	2.107E-03	1.022E-04	5.272E-06

TABLE 8.47. GRAMS OF ACTINIDE ELEMENTS IN BWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
HE	4.258E-08	4.991E-05	7.278E-05	1.237E-04	2.122E-04	6.151E-04	2.069E-03	5.267E-03	1.145E-02	3.259E-02	7.050E-02	8.041E-02
SF	9.520E-10	1.435E-09	1.789E-09	2.697E-09	3.990E-09	7.337E-09	1.055E-08	1.251E-08	1.839E-08	7.104E-08	2.542E-07	4.740E-07
TL	8.759E-16	1.419E-15	1.833E-15	2.554E-15	2.920E-15	2.601E-15	1.406E-15	4.674E-16	9.366E-18	9.220E-15	6.512E-14	8.657E-14
PB	2.658E-10	6.475E-10	1.186E-09	3.407E-09	8.009E-09	2.652E-08	7.029E-08	1.158E-07	3.299E-07	9.462E-05	1.036E-02	4.113E-02
BI	8.389E-14	1.269E-13	1.631E-13	2.456E-13	3.475E-13	8.439E-13	7.204E-12	1.403E-10	6.537E-09	9.987E-06	3.178E-03	1.691E-02
PO	1.239E-16	2.114E-16	3.323E-16	1.080E-15	4.809E-15	6.571E-14	1.410E-12	1.975E-11	2.822E-10	1.198E-08	9.546E-08	1.148E-07
AT	1.919E-23	1.978E-23	2.050E-23	2.284E-23	2.739E-23	5.354E-23	2.573E-22	2.142E-21	3.316E-20	4.458E-18	1.010E-16	2.049E-16
RN	4.682E-20	1.379E-15	1.805E-15	2.695E-15	3.694E-15	9.424E-15	7.552E-14	7.193E-13	8.238E-12	3.499E-10	2.789E-09	3.355E-09
FR	2.681E-19	3.421E-19	4.170E-19	6.421E-19	1.019E-18	2.563E-18	8.786E-18	3.815E-17	3.646E-16	4.109E-14	9.210E-13	1.866E-12
RA	1.599E-11	2.602E-11	3.733E-11	8.035E-11	1.876E-10	1.124E-09	1.157E-08	1.119E-07	1.283E-06	5.443E-05	4.339E-04	5.220E-04
AC	3.638E-12	6.296E-12	8.945E-12	1.684E-11	2.986E-11	8.048E-11	2.499E-10	7.255E-10	2.462E-09	2.348E-08	1.521E-07	1.882E-07
TH	8.206E-07	1.090E-06	1.359E-06	2.175E-06	3.556E-06	9.330E-06	3.205E-05	1.079E-04	3.945E-04	4.056E-03	2.947E-02	4.626E-02
PA	1.395E-07	1.431E-07	1.468E-07	1.577E-07	1.760E-07	2.492E-07	5.057E-07	1.238E-06	3.788E-06	3.578E-05	2.286E-04	2.796E-04
U	4.815E+02	4.815E+02	4.815E+02	4.815E+02	4.815E+02	4.815E+02	4.815E+02	4.816E+02	4.817E+02	4.828E+02	4.848E+02	4.850E+02
NP	1.724E-01	1.725E-01	1.726E-01	1.731E-01	1.746E-01	1.855E-01	2.395E-01	3.737E-01	6.130E-01	7.264E-01	7.056E-01	6.721E-01
PU	4.241E+00	4.217E+00	4.193E+00	4.127E+00	4.034E+00	3.821E+00	3.670E+00	3.612E+00	3.486E+00	2.379E+00	2.964E-01	1.228E-01
AM	6.050E-02	8.567E-02	1.096E-01	1.747E-01	2.634E-01	4.574E-01	5.248E-01	3.920E-01	1.465E-01	1.245E-02	2.672E-06	5.121E-11
CM	9.149E-03	6.793E-03	6.115E-03	5.357E-03	4.441E-03	2.115E-03	2.138E-04	6.532E-05	6.039E-05	2.401E-05	1.209E-07	1.079E-07
BK	1.585E-11	7.187E-12	3.258E-12	3.036E-13	5.813E-15	7.815E-22	2.621E-26	2.600E-26	2.528E-26	1.767E-26	4.899E-28	1.245E-30
CF	1.492E-11	2.319E-11	2.674E-11	2.878E-11	2.783E-11	2.498E-11	2.095E-11	1.416E-11	3.682E-12	2.211E-16	1.743E-23	4.429E-26
ES	4.430E-17	6.073E-18	2.424E-18	1.542E-19	1.548E-21	1.636E-29	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	4.859E+02	4.859E+02	4.859E+02	4.859E+02	4.859E+02	4.859E+02	4.859E+02	4.859E+02	4.859E+02	4.859E+02	4.859E+02	4.859E+02

TABLE 8.48. GRAMS OF PRINCIPAL ACTINIDE NUCLIDES IN BWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
U235	3.762E+00	3.762E+00	3.763E+00	3.763E+00	3.763E+00	3.764E+00	3.769E+00	3.783E+00	3.830E+00	4.360E+00	6.033E+00	6.166E+00
U236	1.657E+00	1.657E+00	1.657E+00	1.658E+00	1.658E+00	1.660E+00	1.666E+00	1.685E+00	1.761E+00	2.334E+00	2.686E+00	2.674E+00
U238	4.760E+02	4.760E+02	4.760E+02	4.760E+02	4.760E+02	4.760E+02	4.760E+02	4.760E+02	4.760E+02	4.760E+02	4.760E+02	4.760E+02
NP237	1.724E-01	1.725E-01	1.726E-01	1.731E-01	1.746E-01	1.855E-01	2.395E-01	3.737E-01	6.130E-01	7.264E-01	7.056E-01	6.721E-01
PU239	2.416E+00	2.416E+00	2.416E+00	2.416E+00	2.416E+00	2.415E+00	2.410E+00	2.397E+00	2.351E+00	1.828E+00	1.361E-01	1.836E-03
PU240	1.048E+00	1.048E+00	1.048E+00	1.049E+00	1.049E+00	1.049E+00	1.043E+00	1.021E+00	9.482E-01	3.651E-01	2.619E-05	7.186E-10
PU241	5.370E-01	5.118E-01	4.877E-01	4.221E-01	3.318E-01	1.267E-01	4.359E-03	3.519E-07	6.120E-08	2.937E-08	1.909E-11	9.284E-17
AM241	2.844E-02	5.361E-02	7.756E-02	1.426E-01	2.314E-01	4.254E-01	4.929E-01	3.609E-01	1.175E-01	9.450E-07	5.730E-10	2.936E-15
SUMTOT	4.856E+02	4.856E+02	4.856E+02	4.856E+02	4.856E+02	4.856E+02	4.856E+02	4.856E+02	4.856E+02	4.856E+02	4.855E+02	4.855E+02
TOTAL	4.859E+02	4.859E+02	4.859E+02	4.859E+02	4.859E+02	4.859E+02	4.859E+02	4.859E+02	4.859E+02	4.859E+02	4.859E+02	4.859E+02

TABLE B.49. CURIES OF ACTINIDE ELEMENTS IN BWR CLADDING WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL	2.579E-07	4.177E-07	5.395E-07	7.516E-07	8.590E-07	7.631E-07	4.043E-07	1.091E-07	1.792E-07	1.841E-06	1.428E-05	2.030E-05
PB	7.173E-07	1.162E-06	1.501E-06	2.090E-06	2.387E-06	2.115E-06	1.111E-06	4.131E-07	2.770E-06	1.165E-04	1.031E-03	1.375E-03
BI	7.173E-07	1.162E-06	1.501E-06	2.090E-06	2.387E-06	2.115E-06	1.111E-06	4.131E-07	2.770E-06	1.165E-04	1.031E-03	1.375E-03
PO	1.177E-06	1.906E-06	2.462E-06	3.428E-06	3.915E-06	3.467E-06	1.811E-06	6.245E-07	4.039E-06	1.702E-04	1.457E-03	1.885E-03
AT	3.090E-11	3.185E-11	3.301E-11	3.678E-11	4.410E-11	8.622E-11	4.143E-10	3.451E-09	5.339E-08	7.179E-06	1.626E-04	3.300E-04
RN	3.974E-11	1.162E-06	1.501E-06	2.090E-06	2.387E-06	2.115E-06	1.104E-06	3.205E-07	1.448E-06	5.553E-05	4.399E-04	5.295E-04
FR	3.454E-11	3.814E-11	4.194E-11	5.360E-11	7.392E-11	1.666E-10	6.639E-10	4.176E-09	5.585E-08	7.203E-06	1.628E-04	3.302E-04
RA	7.173E-07	1.162E-06	1.501E-06	2.090E-06	2.387E-06	2.115E-06	1.105E-06	3.244E-07	1.502E-06	6.271E-05	6.026E-04	8.595E-04
AC	2.941E-10	4.874E-10	6.802E-10	1.256E-09	2.205E-09	5.910E-09	1.850E-08	5.594E-08	2.315E-07	8.869E-06	1.734E-04	3.432E-04
TH	1.689E-04	1.694E-04	1.697E-04	1.703E-04	1.707E-04	1.705E-04	1.699E-04	1.704E-04	1.755E-04	2.475E-04	7.735E-04	1.030E-03
PA	2.818E-04	2.820E-04	2.820E-04	2.824E-04	2.834E-04	2.911E-04	3.292E-04	4.239E-04	5.927E-04	6.743E-04	6.687E-04	6.475E-04
U	8.046E-04	7.858E-04	7.878E-04	7.937E-04	8.035E-04	8.416E-04	9.463E-04	1.063E-03	1.098E-03	1.140E-03	1.180E-03	1.155E-03
NP	6.485E-03	6.483E-03	6.482E-03	6.481E-03	6.478E-03	6.473E-03	6.467E-03	6.441E-03	6.214E-03	2.995E-03	4.981E-04	4.740E-04
PU	5.659E+01	5.402E+01	5.154E+01	4.476E+01	3.542E+01	1.416E+01	1.246E+00	4.674E-01	3.634E-01	1.976E-01	9.200E-03	5.763E-04
AM	1.083E-01	1.947E-01	2.769E-01	5.002E-01	8.049E-01	1.471E+00	1.701E+00	1.247E+00	4.091E-01	2.486E-03	5.348E-07	1.024E-11
CM	9.404E+00	2.381E+00	8.775E-01	4.304E-01	3.529E-01	1.656E-01	1.273E-02	4.736E-04	3.201E-05	4.960E-06	1.991E-09	1.957E-11
BK	2.599E-08	1.178E-08	5.341E-09	4.976E-10	9.529E-12	1.383E-18	1.020E-19	1.012E-19	9.841E-20	6.876E-20	1.907E-21	4.844E-24
CF	8.507E-10	7.932E-10	7.329E-10	5.832E-10	4.332E-10	2.053E-10	8.727E-11	5.711E-11	1.451E-11	3.511E-16	1.907E-21	4.844E-24
ES	7.616E-13	1.133E-14	4.522E-15	2.877E-16	2.888E-18	3.051E-26	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	6.611E+01	5.660E+01	5.270E+01	4.570E+01	3.659E+01	1.580E+01	2.969E+00	1.722E+00	7.807E-01	2.057E-01	1.740E-02	1.093E-02

TABLE B.50. CURIES OF PRINCIPAL ACTINIDE NUCLIDES IN BWR CLADDING WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL207	2.492E-10	4.548E-10	6.464E-10	1.217E-09	2.157E-09	5.810E-09	1.804E-08	5.234E-08	1.776E-07	1.685E-06	1.077E-05	1.317E-05
PB209	3.091E-11	3.185E-11	3.301E-11	3.678E-11	4.410E-11	8.622E-11	4.143E-10	3.451E-09	5.339E-08	7.179E-06	1.626E-04	3.300E-04
PB210	7.670E-13	1.190E-12	1.852E-12	5.762E-12	2.157E-11	2.952E-10	6.336E-09	8.877E-08	1.268E-06	5.381E-05	4.290E-04	5.161E-04
PB211	2.499E-10	4.561E-10	6.483E-10	1.220E-09	2.163E-09	5.826E-09	1.809E-08	5.249E-08	1.781E-07	1.690E-06	1.080E-05	1.321E-05
PB214	1.136E-11	1.851E-11	2.759E-11	6.648E-11	1.706E-10	1.098E-09	1.144E-08	1.106E-07	1.269E-06	5.382E-05	4.291E-04	5.162E-04
BI210	7.674E-13	1.190E-12	1.853E-12	5.763E-12	2.157E-11	2.953E-10	6.336E-09	8.877E-08	1.268E-06	5.381E-05	4.290E-04	5.161E-04
BI211	2.499E-10	4.561E-10	6.483E-10	1.220E-09	2.163E-09	5.826E-09	1.809E-08	5.249E-08	1.781E-07	1.690E-06	1.080E-05	1.321E-05
BI213	3.090E-11	3.185E-11	3.301E-11	3.678E-11	4.410E-11	8.622E-11	4.143E-10	3.451E-09	5.339E-08	7.179E-06	1.626E-04	3.300E-04
BI214	1.136E-11	1.851E-11	2.759E-11	6.648E-11	1.706E-10	1.098E-09	1.144E-08	1.106E-07	1.269E-06	5.382E-05	4.291E-04	5.162E-04
PO210	5.473E-13	9.345E-13	1.473E-12	4.827E-12	2.157E-11	2.953E-10	6.336E-09	8.877E-08	1.268E-06	5.381E-05	4.290E-04	5.161E-04
PO213	3.024E-11	3.116E-11	3.229E-11	3.599E-11	4.315E-11	8.435E-11	4.053E-10	3.377E-09	5.224E-08	7.024E-06	1.591E-04	3.229E-04
PO214	1.142E-11	1.851E-11	2.759E-11	6.646E-11	1.706E-10	1.098E-09	1.144E-08	1.106E-07	1.268E-06	5.381E-05	4.290E-04	5.161E-04
PO215	2.499E-10	4.561E-10	6.483E-10	1.220E-09	2.163E-09	5.826E-09	1.809E-08	5.249E-08	1.781E-07	1.690E-06	1.080E-05	1.321E-05
PO218	1.136E-11	1.852E-11	2.760E-11	6.649E-11	1.707E-10	1.099E-09	1.144E-08	1.107E-07	1.269E-06	5.384E-05	4.291E-04	5.163E-04
AT217	3.090E-11	3.185E-11	3.301E-11	3.678E-11	4.410E-11	8.622E-11	4.143E-10	3.451E-09	5.339E-08	7.179E-06	1.626E-04	3.300E-04
RN219	1.305E-14	4.561E-10	6.483E-10	1.220E-09	2.163E-09	5.826E-09	1.809E-08	5.249E-08	1.781E-07	1.690E-06	1.080E-05	1.321E-05
RN222	5.802E-16	1.852E-11	2.760E-11	6.649E-11	1.707E-10	1.099E-09	1.144E-08	1.107E-07	1.269E-06	5.384E-05	4.291E-04	5.163E-04
FR221	3.090E-11	3.185E-11	3.301E-11	3.678E-11	4.410E-11	8.622E-11	4.143E-10	3.451E-09	5.339E-08	7.179E-06	1.626E-04	3.300E-04
RA223	2.499E-10	4.561E-10	6.483E-10	1.220E-09	2.163E-09	5.826E-09	1.809E-08	5.249E-08	1.781E-07	1.690E-06	1.080E-05	1.321E-05
RA225	3.080E-11	3.185E-11	3.301E-11	3.678E-11	4.410E-11	8.622E-11	4.143E-10	3.451E-09	5.339E-08	7.179E-06	1.626E-04	3.300E-04
RA226	1.136E-11	1.852E-11	2.760E-11	6.649E-11	1.707E-10	1.099E-09	1.144E-08	1.107E-07	1.269E-06	5.384E-05	4.291E-04	5.163E-04
AC225	3.090E-11	3.185E-11	3.301E-11	3.678E-11	4.410E-11	8.622E-11	4.143E-10	3.451E-09	5.339E-08	7.179E-06	1.626E-04	3.300E-04
AC227	2.632E-10	4.555E-10	6.472E-10	1.219E-09	2.160E-09	5.824E-09	1.809E-08	5.249E-08	1.781E-07	1.690E-06	1.080E-05	1.321E-05
TH227	2.455E-10	4.498E-10	6.393E-10	1.203E-09	2.133E-09	5.746E-09	1.784E-08	5.177E-08	1.756E-07	1.667E-06	1.065E-05	1.303E-05
TH229	3.075E-11	3.185E-11	3.301E-11	3.678E-11	4.410E-11	8.622E-11	4.143E-10	3.451E-09	5.339E-08	7.179E-06	1.626E-04	3.300E-04
TH230	1.430E-08	1.875E-08	2.322E-08	3.676E-08	5.976E-08	1.569E-07	5.471E-07	1.880E-06	6.955E-06	6.916E-05	4.270E-04	5.139E-04
TH231	8.136E-06	8.136E-06	8.136E-06	8.137E-06	8.137E-06	8.140E-06	8.151E-06	8.180E-06	8.282E-06	9.428E-06	1.305E-05	1.333E-05
TH234	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04
PA231	6.314E-09	6.487E-09	6.659E-09	7.176E-09	8.037E-09	1.148E-08	2.351E-08	5.785E-08	1.780E-07	1.690E-06	1.080E-05	1.321E-05
PA233	1.215E-04	1.217E-04	1.217E-04	1.221E-04	1.231E-04	1.308E-04	1.689E-04	2.635E-04	4.323E-04	5.123E-04	4.976E-04	4.740E-04
PA234M	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04
U233	1.134E-08	1.193E-08	1.251E-08	1.417E-08	1.685E-08	2.792E-08	7.367E-08	2.645E-07	1.375E-06	2.092E-05	1.782E-04	3.255E-04
U234	4.927E-04	4.951E-04	4.976E-04	5.051E-04	5.171E-04	5.607E-04	6.689E-04	7.853E-04	8.145E-04	7.982E-04	6.545E-04	4.832E-04
U235	8.136E-06	8.136E-06	8.136E-06	8.137E-06	8.137E-06	8.140E-06	8.151E-06	8.180E-06	8.282E-06	9.428E-06	1.305E-05	1.333E-05
U236	1.072E-04	1.073E-04	1.073E-04	1.073E-04	1.073E-04	1.075E-04	1.080E-04	1.093E-04	1.140E-04	1.511E-04	1.738E-04	1.731E-04
U238	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04	1.601E-04
NP237	1.216E-04	1.217E-04	1.217E-04	1.221E-04	1.231E-04	1.308E-04	1.689E-04	2.635E-04	4.323E-04	5.123E-04	4.976E-04	4.740E-04
NP239	6.351E-03	6.350E-03	6.350E-03	6.348E-03	6.345E-03	6.333E-03	6.292E-03	6.174E-03	5.782E-03	2.483E-03	5.328E-07	1.021E-11
PU238	8.539E-01	8.827E-01	8.833E-01	8.646E-01	8.312E-01	7.100E-01	4.089E-01	8.476E-02	3.769E-04	6.623E-23	0.0	0.0
PU239	1.503E-01	1.503E-01	1.503E-01	1.502E-01	1.502E-01	1.501E-01	1.499E-01	1.490E-01	1.462E-01	1.137E-01	8.589E-03	1.142E-04
PU240	2.389E-01	2.389E-01	2.390E-01	2.390E-01	2.391E-01	2.391E-01	2.378E-01	2.325E-01	2.161E-01	8.323E-02	5.970E-06	1.638E-10
PU241	5.535E+01	5.274E+01	5.027E+01	4.351E+01	3.420E+01	1.306E+01	4.492E-01	3.627E-05	6.307E-06	3.027E-06	1.967E-09	9.568E-15
PU242	7.230E-04	7.230E-04	7.230E-04	7.230E-04	7.230E-04	7.230E-04	7.229E-04	7.227E-04	7.218E-04	7.104E-04	6.046E-04	4.621E-04
AM241	9.764E-02	1.841E-01	2.663E-01	4.896E-01	7.945E-01	1.461E+00	1.692E+00	1.235E+00	4.033E-01	3.245E-06	1.967E-09	1.008E-14
AM243	6.351E-03	6.350E-03	6.350E-03	6.348E-03	6.345E-03	6.333E-03	6.292E-03	6.174E-03	5.782E-03	2.483E-03	5.328E-07	1.021E-11
CM242	8.890E+00	1.886E+00	4.011E-01	5.531E-03	1.689E-03	1.540E-03	1.119E-03	4.495E-04	1.847E-05	2.783E-23	0.0	0.0
CM244	5.079E-01	4.889E-01	4.705E-01	4.195E-01	3.464E-01	1.611E-01	1.105E-02	5.237E-06	1.638E-14	1.637E-14	1.636E-14	1.634E-14
SUMTOT	6.610E+01	5.659E+01	5.269E+01	4.569E+01	3.658E+01	1.580E+01	2.965E+00	1.721E+00	7.806E-01	2.057E-01	1.739E-02	1.092E-02
TOTAL	6.611E+01	5.660E+01	5.270E+01	4.570E+01	3.659E+01	1.580E+01	2.969E+00	1.722E+00	7.807E-01	2.057E-01	1.740E-02	1.093E-02

TABLE B.51. WATTS OF ACTINIDE ELEMENTS IN BWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL	6.064E-09	9.820E-09	1.268E-08	1.766E-08	2.017E-08	1.784E-08	9.142E-09	1.489E-09	5.625E-10	7.535E-09	9.001E-08	1.571E-07
PB	1.366E-09	2.212E-09	2.858E-09	3.980E-09	4.547E-09	4.034E-09	2.139E-09	8.350E-10	4.937E-09	1.974E-07	1.687E-06	2.185E-06
BI	1.220E-08	1.977E-08	2.553E-08	3.556E-08	4.064E-08	3.609E-08	1.916E-08	6.414E-09	2.653E-08	9.115E-07	7.602E-06	9.719E-06
PO	5.371E-08	8.699E-08	1.124E-07	1.565E-07	1.787E-07	1.582E-07	8.248E-08	2.633E-08	1.552E-07	6.606E-06	5.776E-05	7.614E-05
AT	1.319E-12	1.359E-12	1.408E-12	1.570E-12	1.882E-12	3.679E-12	1.768E-11	1.473E-10	2.279E-09	3.064E-07	5.940E-06	1.408E-05
RN	1.509E-12	4.411E-08	5.697E-08	7.934E-08	9.083E-08	8.030E-08	4.194E-08	1.183E-08	4.949E-08	1.854E-06	1.467E-05	1.766E-05
FR	1.202E-12	1.246E-12	1.297E-12	1.463E-12	1.780E-12	3.536E-12	1.664E-11	1.351E-10	2.087E-09	2.771E-07	6.278E-06	1.274E-05
RA	2.862E-08	3.987E-08	5.150E-08	7.172E-08	8.193E-08	7.258E-08	3.787E-08	1.068E-08	4.308E-08	1.620E-06	1.280E-05	1.561E-05
AC	1.207E-12	1.333E-12	1.466E-12	1.875E-12	2.587E-12	5.833E-12	2.322E-11	1.460E-10	1.951E-09	2.516E-07	5.687E-06	1.153E-05
TH	9.326E-08	1.079E-07	1.191E-07	1.388E-07	1.492E-07	1.431E-07	1.209E-07	1.299E-07	2.745E-07	2.308E-06	1.752E-05	2.519E-05
PA	1.070E-06	1.070E-06	1.071E-06	1.071E-06	1.074E-06	1.091E-06	1.178E-06	1.394E-06	1.781E-06	2.008E-06	2.249E-06	2.288E-06
U	2.150E-05	2.154E-05	2.161E-05	2.183E-05	2.217E-05	2.341E-05	2.650E-05	2.987E-05	3.087E-05	3.290E-05	3.314E-05	3.248E-05
NP	1.912E-05	1.912E-05	1.912E-05	1.913E-05	1.915E-05	1.935E-05	2.040E-05	2.299E-05	2.719E-05	2.166E-05	1.521E-05	1.449E-05
PU	4.211E-02	4.298E-02	4.292E-02	4.210E-02	4.070E-02	3.603E-02	2.561E-02	1.467E-02	1.127E-02	6.116E-03	2.827E-04	1.717E-05
AM	3.451E-03	6.322E-03	9.053E-03	1.647E-02	2.660E-02	4.873E-02	5.642E-02	4.137E-02	1.358E-02	7.992E-05	1.719E-08	3.287E-13
CM	2.832E-02	1.951E-02	1.714E-02	1.488E-02	1.230E-02	5.746E-03	4.083E-04	1.342E-06	4.676E-07	1.837E-07	6.726E-11	1.526E-12
BK	1.926E-11	8.730E-12	3.957E-12	3.687E-13	7.061E-15	1.660E-21	7.086E-22	7.030E-22	6.836E-22	4.777E-22	1.325E-23	3.369E-26
CF	4.180E-11	3.757E-11	3.376E-11	2.518E-11	1.770E-11	8.506E-12	4.006E-12	2.636E-12	6.677E-13	1.255E-17	7.083E-23	1.799E-25
ES	1.568E-15	4.447E-16	1.775E-16	1.129E-17	1.134E-19	1.198E-27	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	7.392E-02	6.886E-02	6.916E-02	7.349E-02	7.964E-02	9.055E-02	8.249E-02	5.609E-02	2.491E-02	8.266E-03	4.645E-04	2.514E-04

TABLE B.52. WATTS OF PRINCIPAL ACTINIDE NUCLIDES IN BWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
PB209	3.554E-14	3.663E-14	3.756E-14	4.230E-14	5.072E-14	9.914E-14	4.764E-13	3.969E-12	6.140E-11	8.256E-09	1.670E-07	3.795E-07
PB214	3.623E-14	5.904E-14	8.799E-14	2.120E-13	5.442E-13	3.503E-12	3.648E-11	3.528E-10	4.046E-09	1.717E-07	1.368E-06	1.646E-06
BI210	1.769E-15	2.744E-15	4.272E-15	1.329E-14	4.975E-14	6.808E-13	1.461E-11	2.049E-10	2.925E-09	1.241E-07	9.891E-07	1.190E-06
BI211	9.966E-12	1.819E-11	2.586E-11	4.867E-11	8.627E-11	2.324E-10	7.214E-10	2.094E-09	7.103E-09	8.740E-08	4.309E-07	5.269E-07
BI213	1.299E-13	1.339E-13	1.388E-13	1.546E-13	1.854E-13	3.624E-13	1.742E-12	1.451E-11	2.249E-10	3.018E-08	6.837E-07	1.387E-06
BI214	1.456E-13	2.372E-13	3.636E-13	8.519E-13	2.187E-12	1.408E-11	1.466E-10	1.418E-09	1.626E-08	6.898E-07	5.499E-06	6.615E-06
PO210	1.754E-14	2.996E-14	4.724E-14	1.547E-13	6.916E-13	9.465E-12	2.031E-10	2.842E-09	4.068E-06	1.725E-06	1.375E-05	1.654E-05
PO213	1.530E-12	1.677E-12	1.634E-12	1.821E-12	2.184E-12	4.269E-12	2.051E-11	1.705E-10	2.644E-09	3.583E-07	8.053E-06	1.634E-05
PO214	5.301E-13	8.594E-13	1.281E-12	3.086E-12	7.922E-12	5.099E-11	5.310E-10	5.136E-09	5.889E-08	2.499E-06	1.992E-05	2.396E-05
PO215	1.115E-11	2.036E-11	2.894E-11	5.447E-11	9.655E-11	2.601E-10	8.074E-10	2.343E-09	7.949E-09	7.544E-08	4.822E-07	5.897E-07
PO218	4.113E-13	6.709E-13	1.000E-12	2.409E-12	6.185E-12	3.981E-11	4.146E-10	4.012E-09	4.596E-08	1.951E-06	1.555E-05	1.871E-05
AT217	1.319E-12	1.359E-12	1.408E-12	1.570E-12	1.882E-12	3.679E-12	1.768E-11	1.473E-10	2.279E-09	3.064E-07	5.940E-06	1.408E-05
RN219	5.414E-16	1.893E-11	2.690E-11	5.063E-11	8.975E-11	2.418E-10	7.505E-10	2.176E-09	7.369E-09	7.012E-08	4.482E-07	5.481E-07
RN222	1.923E-17	6.135E-13	9.144E-13	2.203E-12	5.656E-12	3.640E-11	3.791E-10	3.667E-09	4.204E-08	1.784E-06	1.422E-05	1.711E-05
FR221	1.193E-12	1.229E-12	1.274E-12	1.420E-12	1.702E-12	3.327E-12	1.599E-11	1.332E-10	2.061E-09	2.771E-07	6.277E-06	1.274E-05
RA223	8.897E-12	1.624E-11	2.308E-11	4.345E-11	7.701E-11	2.075E-10	6.440E-10	1.869E-09	6.341E-09	6.017E-08	3.846E-07	4.703E-07
RA226	3.281E-13	5.346E-13	7.968E-13	1.920E-12	4.928E-12	3.172E-11	3.304E-10	3.195E-09	3.654E-08	1.534E-06	1.239E-05	1.491E-05
AC225	1.080E-12	1.113E-12	1.153E-12	1.285E-12	1.541E-12	3.012E-12	1.447E-11	1.206E-10	1.865E-09	2.508E-07	5.681E-06	1.153E-05
TH227	8.961E-12	1.642E-11	2.333E-11	4.392E-11	7.785E-11	2.097E-10	6.510E-10	1.889E-09	6.409E-09	6.082E-08	3.888E-07	4.754E-07
TH229	9.409E-13	9.745E-13	1.010E-12	1.125E-12	1.349E-12	2.838E-12	1.267E-11	1.056E-10	1.633E-09	2.196E-07	4.978E-06	1.010E-05
TH230	4.048E-10	5.306E-10	6.570E-10	1.040E-09	1.691E-09	4.439E-09	1.548E-08	5.321E-08	1.968E-07	1.957E-06	1.208E-05	1.454E-05
PA231	1.902E-10	1.954E-10	2.006E-10	2.162E-10	2.421E-10	3.458E-10	7.085E-10	1.744E-09	5.369E-09	5.091E-08	3.254E-07	3.980E-07
PA233	2.758E-07	2.761E-07	2.763E-07	2.771E-07	2.795E-07	2.969E-07	3.833E-07	5.981E-07	9.812E-07	1.163E-06	1.129E-06	1.076E-06
PA234M	7.911E-07	7.911E-07	7.911E-07	7.911E-07	7.911E-07	7.911E-07	7.911E-07	7.911E-07	7.911E-07	7.911E-07	7.911E-07	7.912E-07
U233	3.295E-10	3.467E-10	3.638E-10	4.119E-10	4.898E-10	8.116E-10	2.142E-09	7.698E-09	3.998E-08	6.080E-07	5.181E-06	9.462E-06
U234	1.419E-05	1.426E-05	1.433E-05	1.455E-05	1.489E-05	1.615E-05	1.926E-05	2.262E-05	2.346E-05	2.299E-05	1.985E-05	1.392E-05
U235	2.131E-07	2.131E-07	2.131E-07	2.131E-07	2.131E-07	2.132E-07	2.135E-07	2.142E-07	2.169E-07	2.469E-07	3.416E-07	3.492E-07
U236	2.905E-06	2.905E-06	2.906E-06	2.906E-06	2.907E-06	2.911E-06	2.924E-06	2.962E-06	3.088E-06	4.092E-06	4.709E-06	4.606E-06
U238	4.060E-06	4.060E-06	4.060E-06	4.060E-06	4.060E-06	4.060E-06	4.060E-06	4.060E-06	4.060E-06	4.060E-06	4.060E-06	4.061E-06
NP237	3.717E-06	3.718E-06	3.720E-06	3.732E-06	3.764E-06	3.998E-06	5.161E-06	8.054E-06	1.321E-05	1.566E-05	1.521E-05	1.449E-05
PU238	2.830E-02	2.925E-02	2.927E-02	2.865E-02	2.755E-02	2.353E-02	1.355E-02	2.809E-03	1.249E-05	2.195E-24	0.0	0.0
PU239	4.631E-03	4.631E-03	4.631E-03	4.630E-03	4.630E-03	4.627E-03	4.618E-03	4.593E-03	4.505E-03	3.503E-03	2.647E-04	3.519E-06
PU240	7.439E-03	7.440E-03	7.441E-03	7.443E-03	7.445E-03	7.445E-03	7.403E-03	7.249E-03	6.730E-03	2.592E-03	1.959E-07	5.101E-12
PU241	1.716E-03	1.635E-03	1.558E-03	1.349E-03	1.060E-03	4.048E-04	1.393E-05	1.124E-09	1.955E-10	9.385E-11	6.099E-14	2.966E-19
PU242	2.135E-05	2.135E-05	2.135E-05	2.135E-05	2.135E-05	2.135E-05	2.135E-05	2.134E-05	2.132E-05	2.090E-05	1.785E-05	1.365E-05
AM241	3.243E-03	6.114E-03	8.848E-03	1.626E-02	2.639E-02	4.852E-02	5.622E-02	4.117E-02	1.340E-02	1.078E-07	6.536E-11	3.349E-16
AM243	2.042E-04	2.041E-04	2.041E-04	2.041E-04	2.040E-04	2.036E-04	2.023E-04	1.985E-04	1.859E-04	7.981E-05	1.713E-08	3.283E-13
CM242	1.033E-02	2.191E-03	4.660E-04	6.426E-06	1.962E-06	1.789E-06	1.300E-06	5.222E-07	2.148E-08	3.233E-26	0.0	0.0
CM243	2.252E-04	2.198E-04	2.145E-04	1.994E-04	1.766E-04	1.086E-04	1.978E-05	1.528E-07	6.174E-15	0.0	0.0	0.0
CM244	1.777E-02	1.710E-02	1.646E-02	1.467E-02	1.212E-02	5.636E-03	3.867E-04	1.832E-07	5.731E-16	5.726E-16	5.722E-16	5.715E-16
SUMTOT	7.390E-02	6.884E-02	6.914E-02	7.347E-02	7.962E-02	9.053E-02	8.247E-02	5.608E-02	2.490E-02	8.260E-03	4.641E-04	2.508E-04
TOTAL	7.392E-02	6.886E-02	6.916E-02	7.349E-02	7.964E-02	9.055E-02	8.249E-02	5.609E-02	2.491E-02	8.266E-03	4.645E-04	2.514E-04

TABLE B.53. PHOTONS FROM ACTINIDES IN BWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS= METRIC TON OF INITIAL HEAVY METAL AT A REPROCESSING TIME OF 160 DAYS

EMEAN	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	6.595E+10	2.441E+10	1.596E+10	1.480E+10	1.639E+10	1.944E+10	1.829E+10	1.259E+10	5.095E+09	8.561E+08	1.010E+08	9.869E+07
2.500E-02	9.730E+07	1.782E+08	2.551E+08	4.641E+08	7.493E+08	1.373E+09	1.589E+09	1.169E+09	3.833E+08	5.308E+06	8.297E+06	9.570E+06
3.750E-02	1.725E+08	8.038E+07	6.549E+07	7.609E+07	9.796E+07	1.447E+08	1.553E+08	1.149E+08	4.781E+07	8.367E+06	6.424E+06	9.823E+06
5.750E-02	1.357E+09	2.546E+09	3.677E+09	6.751E+09	1.095E+10	2.011E+10	2.330E+10	1.706E+10	5.560E+09	6.382E+06	6.842E+06	8.203E+06
8.500E-02	2.253E+08	2.251E+08	2.249E+08	2.242E+08	2.228E+08	2.164E+08	2.011E+08	1.897E+08	1.733E+08	8.077E+07	2.152E+07	2.719E+07
1.250E-01	1.966E+08	1.901E+08	1.881E+08	1.851E+08	1.807E+08	1.655E+08	1.389E+08	1.251E+08	1.098E+08	4.745E+07	4.601E+06	5.608E+06
2.250E-01	1.561E+08	1.515E+08	1.492E+08	1.442E+08	1.369E+08	1.148E+08	8.541E+07	7.728E+07	7.211E+07	3.275E+07	1.100E+07	1.433E+07
3.750E-01	1.014E+07	1.017E+07	1.020E+07	1.030E+07	1.044E+07	1.081E+07	1.137E+07	1.239E+07	1.404E+07	1.198E+07	1.629E+07	1.932E+07
5.750E-01	1.106E+06	4.559E+05	3.380E+05	3.652E+05	4.470E+05	6.130E+05	6.566E+05	5.276E+05	3.327E+05	1.291E+06	9.091E+06	1.101E+07
8.500E-01	5.259E+05	3.871E+05	3.606E+05	3.606E+05	3.669E+05	3.639E+05	3.067E+05	2.088E+05	1.170E+05	3.495E+05	2.257E+06	2.718E+06
1.250E+00	2.314E+05	1.369E+05	1.759E+05	1.677E+05	1.590E+05	1.343E+05	9.974E+04	6.785E+04	6.209E+04	7.303E+05	5.525E+06	6.655E+06
1.750E+00	5.269E+04	3.565E+04	3.168E+04	2.910E+04	2.606E+04	1.710E+04	8.894E+03	8.187E+03	1.977E+04	5.611E+05	4.503E+06	5.511E+06
2.250E+00	2.644E+04	1.623E+04	1.369E+04	1.176E+04	9.789E+03	4.794E+03	7.597E+02	7.405E+02	4.344E+03	1.696E+05	1.351E+06	1.625E+06
2.750E+00	2.434E+04	2.405E+04	2.684E+04	3.315E+04	3.575E+04	2.936E+04	1.397E+04	2.221E+03	2.898E+02	3.065E+03	2.355E+04	2.832E+04
3.500E+00	1.375E+04	8.460E+03	7.136E+03	6.134E+03	5.103E+03	2.493E+03	3.705E+02	2.008E+02	1.936E+02	6.457E+02	4.448E+03	5.336E+03
5.000E+00	5.883E+03	3.618E+03	3.052E+03	2.623E+03	2.182E+03	1.065E+03	1.567E+02	8.422E+01	7.685E+01	3.940E+01	1.545E+01	1.189E+01
7.000E+00	6.770E+02	4.169E+02	3.518E+02	3.024E+02	2.514E+02	1.225E+02	1.781E+01	9.534E+00	8.776E+00	4.518E+00	1.778E+00	1.368E+00
1.100E+01	7.795E+01	4.792E+01	4.042E+01	3.473E+01	2.888E+01	1.406E+01	2.032E+00	1.086E+00	1.005E+00	5.186E-01	2.046E-01	1.575E-01
TOTAL	6.817E+10	2.779E+10	2.053E+10	2.266E+10	2.873E+10	4.158E+10	4.377E+10	3.130E+10	1.146E+10	1.052E+09	1.987E+08	2.203E+08
MEV/SEC	1.161E+09	6.019E+08	5.406E+08	7.041E+08	9.748E+08	1.558E+09	1.718E+09	1.257E+09	4.579E+08	4.164E+07	3.840E+07	4.640E+07

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS= METRIC TON OF INITIAL HEAVY METAL AT A REPROCESSING TIME OF 160 DAYS

EMEAN	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	9.893E+02	3.662E+02	2.394E+02	2.221E+02	2.459E+02	2.916E+02	2.744E+02	1.882E+02	7.643E+01	1.284E+01	1.514E+00	1.480E+00
2.500E-02	2.433E+00	4.454E+00	6.377E+00	1.160E+01	1.873E+01	3.432E+01	3.974E+01	2.913E+01	9.583E+00	1.327E-01	2.074E-01	2.393E-01
3.750E-02	6.468E+00	3.014E+00	2.456E+00	2.853E+00	3.673E+00	5.427E+00	5.825E+00	4.292E+00	1.793E+00	3.138E-01	2.409E-01	3.684E-01
5.750E-02	7.804E+01	1.464E+02	2.115E+02	3.882E+02	6.293E+02	1.156E+03	1.340E+03	9.812E+02	3.197E+02	3.670E-01	3.934E-01	4.716E-01
8.500E-02	1.915E+01	1.913E+01	1.912E+01	1.906E+01	1.894E+01	1.839E+01	1.709E+01	1.612E+01	1.473E+01	6.866E+00	1.829E+00	2.311E+00
1.250E-01	2.457E+01	2.377E+01	2.351E+01	2.314E+01	2.259E+01	2.069E+01	1.737E+01	1.562E+01	1.373E+01	5.931E+00	5.751E-01	7.011E-01
2.250E-01	3.512E+01	3.409E+01	3.358E+01	3.245E+01	3.080E+01	2.584E+01	1.922E+01	1.739E+01	1.622E+01	7.368E+00	2.475E+00	3.224E+00
3.750E-01	3.803E+00	3.813E+00	3.827E+00	3.864E+00	3.916E+00	4.053E+00	4.263E+00	4.647E+00	5.284E+00	4.491E+00	6.109E+00	7.247E+00
5.750E-01	6.361E-01	2.622E-01	1.943E-01	2.100E-01	2.570E-01	3.525E-01	3.775E-01	3.035E-01	1.913E-01	7.426E-01	5.227E+00	6.332E+00
8.500E-01	4.470E-01	3.290E-01	3.065E-01	3.065E-01	3.119E-01	3.094E-01	2.607E-01	1.775E-01	9.941E-02	2.971E-01	1.918E+00	2.311E+00
1.250E+00	2.892E-01	2.336E-01	2.199E-01	2.097E-01	1.988E-01	1.679E-01	1.247E-01	8.481E-02	7.761E-02	9.129E-01	6.906E+00	8.319E+00
1.750E+00	9.220E-02	6.238E-02	5.543E-02	5.092E-02	4.561E-02	2.992E-02	1.557E-02	1.433E-02	3.460E-02	9.819E-01	7.879E+00	9.645E+00
2.250E+00	5.948E-02	3.653E-02	3.079E-02	2.647E-02	2.203E-02	1.079E-02	1.709E-03	1.666E-03	9.774E-03	3.816E-01	3.039E+00	3.656E+00
2.750E+00	6.693E-02	6.613E-02	7.382E-02	9.117E-02	9.830E-02	8.073E-02	3.843E-02	6.108E-03	7.969E-04	8.429E-03	6.476E-02	7.788E-02
3.500E+00	4.814E-02	2.961E-02	2.498E-02	2.147E-02	1.786E-02	8.725E-03	1.297E-03	7.026E-04	6.777E-04	2.260E-03	1.557E-02	1.867E-02
5.000E+00	2.942E-02	1.809E-02	1.526E-02	1.312E-02	1.091E-02	5.323E-03	7.833E-04	4.211E-04	3.842E-04	1.970E-04	7.726E-05	5.944E-05
7.000E+00	4.739E-03	2.918E-03	2.463E-03	2.117E-03	1.760E-03	8.576E-04	1.247E-04	6.673E-05	6.143E-05	3.162E-05	1.245E-05	9.579E-06
1.100E+01	8.574E-04	5.272E-04	4.446E-04	3.820E-04	3.176E-04	1.547E-04	2.235E-05	1.194E-05	1.105E-05	5.705E-06	2.250E-06	1.732E-06
TOTAL	1.161E+03	6.019E+02	5.406E+02	7.041E+02	9.748E+02	1.558E+03	1.718E+03	1.257E+03	4.579E+02	4.164E+01	3.840E+01	4.640E+01
GAM POW	1.860E-04	9.648E-05	8.666E-05	1.129E-04	1.563E-04	2.497E-04	2.755E-04	2.015E-04	7.340E-05	6.675E-06	6.155E-06	7.438E-06

TABLE B.54. (ALPHA,N) NEUTRONS FROM ACTINIDES IN BWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
BI211	8.203E-06	1.497E-05	2.128E-05	4.006E-05	7.101E-05	1.913E-04	5.938E-04	1.723E-03	5.846E-03	5.548E-02	3.546E-01	4.337E-01
PO210	8.108E-10	1.384E-09	2.183E-09	7.152E-09	3.196E-08	4.374E-07	9.387E-06	1.315E-04	1.879E-03	7.972E-02	6.359E-01	7.646E-01
PO213	2.685E-05	2.768E-05	2.868E-05	3.196E-05	3.832E-05	7.491E-05	3.600E-04	2.999E-03	4.639E-02	6.238E+00	1.413E+02	3.867E+02
PO214	3.036E-06	4.922E-06	7.336E-06	1.768E-05	4.537E-05	2.920E-04	3.042E-03	2.942E-02	3.373E-01	1.431E+01	1.141E+02	1.372E+02
PO215	3.831E-05	6.992E-05	9.938E-05	1.871E-04	3.316E-04	8.932E-04	2.773E-03	8.047E-03	2.730E-02	2.591E-01	1.956E+00	2.025E+00
PO218	9.395E-08	1.531E-07	2.282E-07	5.498E-07	1.411E-06	9.083E-06	9.460E-05	9.150E-04	1.049E-02	4.451E-01	3.548E+00	4.269E+00
AT217	2.519E-06	2.596E-06	2.691E-06	2.999E-06	3.595E-06	7.028E-06	3.377E-05	2.813E-04	4.352E-03	5.852E-01	1.326E+01	2.690E+01
RN219	7.182E-10	2.510E-05	3.568E-05	6.716E-05	1.190E-04	3.207E-04	9.955E-04	2.889E-03	9.801E-03	9.301E-02	5.945E-01	7.270E-01
RN222	1.367E-12	4.362E-06	6.500E-08	1.566E-07	4.020E-07	2.588E-06	2.695E-05	2.607E-04	2.969E-03	1.268E-01	1.011E+00	1.216E+00
FR221	6.167E-07	6.356E-07	6.587E-07	7.341E-07	8.801E-07	1.720E-06	8.267E-06	6.887E-05	1.065E-03	1.433E-01	3.246E+00	6.585E+00
AC225	1.525E-07	1.572E-07	1.629E-07	1.815E-07	2.176E-07	4.255E-07	2.044E-06	1.703E-05	2.635E-04	3.543E-02	8.028E-01	1.628E+00
U234	1.629E-01	1.637E-01	1.645E-01	1.670E-01	1.710E-01	1.854E-01	2.212E-01	2.593E-01	2.693E-01	2.639E-01	2.164E-01	1.598E-01
NP237	9.233E-02	9.236E-02	9.242E-02	9.270E-02	9.350E-02	9.932E-02	1.282E-01	2.001E-01	3.282E-01	3.889E-01	3.778E-01	3.598E-01
PU238	9.972E+02	1.031E+03	1.031E+03	1.010E+03	9.707E+02	8.291E+02	4.776E+02	9.898E+01	4.402E-01	7.734E-20	0.0	0.0
PU239	1.087E+02	1.087E+02	1.087E+02	1.087E+02	1.087E+02	1.087E+02	1.084E+02	1.078E+02	1.058E+02	8.226E+01	6.216E+00	8.263E-02
PU240	1.782E+02	1.782E+02	1.782E+02	1.783E+02	1.783E+02	1.783E+02	1.773E+02	1.736E+02	1.612E+02	6.207E+01	4.452E-03	1.222E-07
PU242	5.107E-01	5.107E-01	5.107E-01	5.107E-01	5.107E-01	5.107E-01	5.107E-01	5.105E-01	5.099E-01	5.018E-01	4.271E-01	3.265E-01
AM241	1.138E+02	2.144E+02	3.102E+02	5.704E+02	9.258E+02	1.702E+03	1.972E+03	1.444E+03	4.699E+02	3.780E-03	2.292E-06	1.174E-11
AM243	9.781E+00	9.780E+00	9.779E+00	9.776E+00	9.772E+00	9.753E+00	9.690E+00	9.509E+00	8.904E+00	3.824E+00	8.206E-04	1.573E-08
CM242	7.175E+04	1.522E+04	3.237E+03	4.464E+01	1.363E+01	1.243E+01	9.030E+00	3.628E+00	1.491E-01	2.246E-19	0.0	0.0
CM243	6.210E+01	6.060E+01	5.915E+01	5.499E+01	4.869E+01	2.994E+01	5.455E+00	4.215E-02	1.703E-09	0.0	0.0	0.0
CM244	3.601E+03	3.466E+03	3.335E+03	2.974E+03	2.458E+03	1.142E+03	7.837E+01	3.712E-02	1.161E-10	1.160E-10	1.160E-10	1.158E-10
TOTALS												
TABLE	7.682E+04	2.029E+04	8.273E+03	4.954E+03	4.715E+03	4.016E+03	2.840E+03	1.839E+03	7.479E+02	1.718E+02	2.884E+02	4.704E+02
ACTUAL	7.682E+04	2.029E+04	8.273E+03	4.954E+03	4.715E+03	4.016E+03	2.840E+03	1.839E+03	7.479E+02	1.718E+02	2.884E+02	4.704E+02

TABLE B.55. SPONTANEOUS FISSION NEUTRONS FROM ACTINIDES IN BWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
U238	6.039E+00	6.039E+00	6.039E+00	6.039E+00	6.039E+00	6.039E+00	6.039E+00	6.039E+00	6.039E+00	6.039E+00	6.039E+00	6.039E+00
PU238	1.325E+02	1.370E+02	1.370E+02	1.341E+02	1.290E+02	1.102E+02	6.345E+01	1.315E+01	5.848E-02	1.028E-20	0.0	0.0
PU240	9.543E+02	9.544E+02	9.545E+02	9.548E+02	9.551E+02	9.551E+02	9.497E+02	9.299E+02	8.633E+02	3.329E+02	2.385E-02	6.543E-07
PU242	3.191E+02	3.191E+02	3.191E+02	3.191E+02	3.191E+02	3.191E+02	3.190E+02	3.189E+02	3.186E+02	3.135E+02	2.668E+02	2.039E+02
CM242	5.791E+04	1.228E+04	2.613E+03	3.603E+01	1.100E+01	1.003E+01	7.280E+00	2.928E+00	1.203E-01	1.813E-19	0.0	0.0
CM244	6.979E+04	6.717E+04	6.465E+04	5.763E+04	4.759E+04	2.214E+04	1.519E+03	7.195E-01	2.251E-09	2.249E-09	2.248E-09	2.245E-09
CM246	2.429E+02	2.429E+02	2.428E+02	2.427E+02	2.426E+02	2.418E+02	2.394E+02	2.325E+02	2.098E+02	5.613E+01	1.053E-04	3.047E-14
TOTALS												
TABLE	1.294E+05	8.111E+04	6.892E+04	5.933E+04	4.926E+04	2.378E+04	3.105E+03	1.505E+03	1.398E+03	7.084E+02	2.731E+02	2.101E+02
ACTUAL	1.294E+05	8.111E+04	6.892E+04	5.933E+04	4.926E+04	2.378E+04	3.105E+03	1.505E+03	1.398E+03	7.084E+02	2.731E+02	2.101E+02
OVERALL TOTALS												
TABLE	2.062E+05	1.014E+05	7.719E+04	6.428E+04	5.397E+04	2.780E+04	5.945E+03	3.344E+03	2.146E+03	8.802E+02	5.615E+02	6.805E+02
ACTUAL	2.062E+05	1.014E+05	7.719E+04	6.428E+04	5.397E+04	2.780E+04	5.945E+03	3.344E+03	2.146E+03	8.802E+02	5.615E+02	6.805E+02

TABLE B.56. GRAMS OF FISSION PRODUCT ELEMENTS IN 8%R CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	1.367E-02	1.293E-02	1.222E-02	1.033E-02	7.800E-03	2.538E-03	4.991E-05	6.645E-10	5.737E-27	0.0	0.0	0.0
LI	8.292E-08	8.292E-08	8.292E-08	8.292E-08	8.292E-08	8.292E-08	8.292E-08	8.292E-08	8.292E-08	8.292E-08	8.292E-08	8.292E-08
BE	6.190E-08	6.190E-08	6.190E-08	6.190E-08	6.190E-08	6.190E-08	6.190E-08	6.189E-08	6.188E-08	6.167E-08	5.962E-08	5.637E-08
C	1.435E-12	1.435E-12	1.435E-12	1.435E-12	1.434E-12	1.430E-12	1.418E-12	1.384E-12	1.272E-12	4.281E-13	7.993E-18	1.050E-25
CL	9.454E-39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZN	1.281E-11	1.281E-11	1.281E-11	1.281E-11	1.281E-11	1.281E-11	1.281E-11	1.281E-11	1.281E-11	1.281E-11	1.281E-11	1.281E-11
GA	3.422E-10	3.422E-10	3.422E-10	3.422E-10	3.422E-10	3.422E-10	3.422E-10	3.422E-10	3.422E-10	3.422E-10	3.422E-10	3.422E-10
GE	2.645E-04	2.645E-04	2.645E-04	2.645E-04	2.645E-04	2.645E-04	2.645E-04	2.645E-04	2.645E-04	2.645E-04	2.645E-04	2.645E-04
AS	7.978E-05	7.978E-05	7.978E-05	7.978E-05	7.978E-05	7.978E-05	7.978E-05	7.978E-05	7.978E-05	7.978E-05	7.978E-05	7.978E-05
SE	2.335E-02	2.335E-02	2.335E-02	2.335E-02	2.335E-02	2.334E-02	2.334E-02	2.334E-02	2.332E-02	2.310E-02	2.175E-02	2.109E-02
BR	1.014E-05	1.016E-05	1.019E-05	1.027E-05	1.040E-05	1.092E-05	1.273E-05	1.789E-05	3.589E-05	2.557E-04	1.602E-03	2.268E-03
KR	1.600E-05	1.594E-05	1.588E-05	1.572E-05	1.552E-05	1.513E-05	1.499E-05	1.499E-05	1.499E-05	1.499E-05	1.499E-05	1.499E-05
RB	1.418E-01	1.418E-01	1.418E-01	1.418E-01	1.418E-01	1.419E-01	1.419E-01	1.419E-01	1.419E-01	1.419E-01	1.418E-01	1.418E-01
SR	3.651E-01	3.588E-01	3.537E-01	3.394E-01	3.176E-01	2.523E-01	1.654E-01	1.453E-01	1.452E-01	1.452E-01	1.452E-01	1.452E-01
Y	1.908E-01	1.895E-01	1.895E-01	1.895E-01	1.895E-01	1.895E-01	1.895E-01	1.894E-01	1.894E-01	1.894E-01	1.894E-01	1.894E-01
ZR	1.464E+00	1.467E+00	1.472E+00	1.486E+00	1.508E+00	1.574E+00	1.660E+00	1.681E+00	1.681E+00	1.679E+00	1.667E+00	1.649E+00
NB	4.548E-03	1.130E-04	2.033E-06	1.281E-06	1.958E-06	4.668E-06	1.415E-05	4.125E-05	1.361E-04	1.353E-03	1.325E-02	2.203E-02
MO	1.378E+00	1.387E+00	1.387E+00	1.387E+00	1.387E+00	1.387E+00	1.387E+00	1.387E+00	1.387E+00	1.387E+00	1.387E+00	1.387E+00
TC	3.284E-01	3.284E-01	3.284E-01	3.284E-01	3.284E-01	3.284E-01	3.283E-01	3.281E-01	3.273E-01	3.179E-01	2.372E-01	1.456E-01
RU	9.535E-01	9.281E-01	9.159E-01	9.051E-01	9.036E-01	9.035E-01	9.036E-01	9.038E-01	9.046E-01	9.140E-01	9.947E-01	1.086E+00
RH	2.019E-01	2.029E-01	2.029E-01	2.029E-01	2.029E-01	2.029E-01	2.029E-01	2.029E-01	2.029E-01	2.029E-01	2.029E-01	2.029E-01
PD	5.201E-01	5.444E-01	5.566E-01	5.674E-01	5.690E-01	5.690E-01	5.690E-01	5.690E-01	5.690E-01	5.689E-01	5.680E-01	5.666E-01
AG	3.324E-02	3.310E-02	3.305E-02	3.303E-02	3.303E-02	3.303E-02	3.303E-02	3.303E-02	3.304E-02	3.313E-02	3.400E-02	3.545E-02
CD	4.187E-02	4.200E-02	4.205E-02	4.206E-02	4.205E-02	4.201E-02	4.199E-02	4.199E-02	4.199E-02	4.199E-02	4.199E-02	4.199E-02
IN	1.000E-03	1.006E-03	1.011E-03	1.022E-03	1.038E-03	1.075E-03	1.098E-03	1.098E-03	1.098E-03	1.098E-03	1.098E-03	1.098E-03
SN	3.483E-02	3.477E-02	3.477E-02	3.476E-02	3.476E-02	3.476E-02	3.476E-02	3.474E-02	3.469E-02	3.403E-02	2.926E-02	2.570E-02
SB	1.189E-02	1.036E-02	1.003E-02	8.461E-03	7.461E-03	7.063E-03	7.061E-03	7.061E-03	7.061E-03	7.061E-03	7.061E-03	7.061E-03
TE	1.963E-01	1.971E-01	1.980E-01	1.995E-01	2.005E-01	2.009E-01	2.009E-01	2.010E-01	2.010E-01	2.017E-01	2.064E-01	2.100E-01
I	1.138E-04	3.255E-04	3.443E-04	3.463E-04	3.463E-04	3.463E-04	3.463E-04	3.463E-04	3.463E-04	3.463E-04	3.459E-04	3.451E-04
XE	3.001E-04	3.001E-04	3.001E-04	3.001E-04	3.001E-04	3.001E-04	3.001E-04	3.001E-04	3.001E-04	3.002E-04	3.006E-04	3.013E-04
CS	1.164E+00	1.142E+00	1.123E+00	1.079E+00	1.026E+00	8.799E-01	6.826E-01	6.342E-01	6.337E-01	6.333E-01	6.291E-01	6.225E-01
BA	5.818E-01	6.038E-01	6.224E-01	6.661E-01	7.197E-01	8.656E-01	1.063E+00	1.111E+00	1.112E+00	1.112E+00	1.116E+00	1.123E+00
LA	5.073E-01	5.073E-01	5.073E-01	5.073E-01	5.073E-01	5.073E-01	5.073E-01	5.073E-01	5.073E-01	5.073E-01	5.073E-01	5.073E-01
CE	1.082E+00	1.025E+00	1.001E+00	9.862E-01	9.851E-01	9.850E-01	9.850E-01	9.850E-01	9.850E-01	9.850E-01	9.850E-01	9.850E-01
PR	4.666E-01	4.672E-01	4.672E-01	4.672E-01	4.672E-01	4.672E-01	4.672E-01	4.672E-01	4.672E-01	4.672E-01	4.672E-01	4.672E-01
ND	1.577E+00	1.634E+00	1.657E+00	1.672E+00	1.673E+00	1.673E+00	1.673E+00	1.673E+00	1.673E+00	1.673E+00	1.673E+00	1.673E+00
PM	5.740E-02	4.404E-02	3.382E-02	1.531E-02	4.086E-03	2.072E-05	1.924E-13	0.0	0.0	0.0	0.0	0.0
SM	3.094E-01	3.227E-01	3.329E-01	3.513E-01	3.623E-01	3.655E-01	3.639E-01	3.613E-01	3.607E-01	3.607E-01	3.607E-01	3.607E-01
EU	6.385E-02	6.200E-02	6.050E-02	5.661E-02	5.229E-02	4.666E-02	4.731E-02	4.954E-02	5.015E-02	5.015E-02	5.015E-02	5.015E-02
GD	3.275E-02	3.456E-02	3.620E-02	4.022E-02	4.476E-02	5.120E-02	5.258E-02	5.258E-02	5.258E-02	5.258E-02	5.258E-02	5.258E-02
TB	1.080E-03	1.073E-03	1.073E-03	1.073E-03	1.073E-03	1.073E-03	1.073E-03	1.073E-03	1.073E-03	1.073E-03	1.073E-03	1.073E-03
DY	5.570E-04	5.632E-04	5.633E-04	5.634E-04	5.634E-04	5.634E-04	5.634E-04	5.634E-04	5.634E-04	5.634E-04	5.634E-04	5.634E-04
HO	5.276E-05	5.276E-05	5.276E-05	5.276E-05	5.275E-05	5.275E-05	5.273E-05	5.266E-05	5.255E-05	5.228E-05	5.228E-05	5.228E-05
ER	2.031E-05	2.031E-05	2.031E-05	2.031E-05	2.031E-05	2.032E-05	2.033E-05	2.038E-05	2.052E-05	2.079E-05	2.079E-05	2.079E-05
TM	1.969E-08	1.878E-08	1.862E-08	1.855E-08	1.853E-08	1.852E-08	1.852E-08	1.852E-08	1.852E-08	1.852E-08	1.852E-08	1.852E-08
YB	4.339E-09	5.248E-09	5.403E-09	5.475E-09	5.498E-09	5.503E-09	5.503E-09	5.503E-09	5.503E-09	5.503E-09	5.503E-09	5.503E-09
TOTAL	1.175E+01	1.175E+01	1.175E+01	1.174E+01	1.174E+01	1.174E+01	1.173E+01	1.173E+01	1.173E+01	1.173E+01	1.173E+01	1.173E+01

TABLE 8.57. GRAMS OF PRINCIPAL FISSION PRODUCT NUCLIDES IN BWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM40.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H 3	1.367E-02	1.293E-02	1.222E-02	1.033E-02	7.800E-03	2.538E-03	4.991E-05	6.649E-10	5.737E-27	0.0	0.0	0.0
SE 82	1.393E-02	1.393E-02	1.393E-02	1.393E-02	1.393E-02	1.393E-02	1.393E-02	1.393E-02	1.393E-02	1.393E-02	1.393E-02	1.393E-02
RB 85	4.084E-02	4.084E-02	4.084E-02	4.084E-02	4.084E-02	4.084E-02	4.084E-02	4.084E-02	4.084E-02	4.084E-02	4.084E-02	4.084E-02
RB 87	1.010E-01	1.010E-01	1.010E-01	1.010E-01	1.010E-01	1.010E-01	1.010E-01	1.010E-01	1.010E-01	1.010E-01	1.010E-01	1.010E-01
SR 88	1.450E-01	1.450E-01	1.450E-01	1.450E-01	1.450E-01	1.450E-01	1.450E-01	1.450E-01	1.450E-01	1.450E-01	1.450E-01	1.450E-01
Y 89	1.883E-01	1.894E-01	1.894E-01	1.894E-01	1.894E-01	1.894E-01	1.894E-01	1.894E-01	1.894E-01	1.894E-01	1.894E-01	1.894E-01
SR 90	2.188E-01	2.136E-01	2.086E-01	1.942E-01	1.724E-01	1.071E-01	2.024E-02	1.734E-04	1.007E-11	0.0	0.0	0.0
ZR 90	1.123E-02	1.638E-02	2.141E-02	3.578E-02	5.758E-02	1.229E-01	2.098E-01	2.299E-01	2.301E-01	2.301E-01	2.301E-01	2.301E-01
ZR 91	2.424E-01	2.448E-01	2.449E-01	2.449E-01	2.449E-01	2.449E-01	2.449E-01	2.449E-01	2.449E-01	2.449E-01	2.449E-01	2.449E-01
ZR 92	2.652E-01	2.652E-01	2.652E-01	2.652E-01	2.652E-01	2.652E-01	2.652E-01	2.652E-01	2.652E-01	2.652E-01	2.652E-01	2.652E-01
ZR 93	2.991E-01	2.991E-01	2.991E-01	2.991E-01	2.991E-01	2.991E-01	2.991E-01	2.991E-01	2.990E-01	2.978E-01	2.859E-01	2.671E-01
NB 93	3.279E-08	5.491E-08	8.266E-08	1.970E-07	4.767E-07	2.311E-06	1.132E-05	3.844E-05	1.332E-04	1.350E-03	1.325E-02	2.203E-02
ZR 94	3.085E-01	3.085E-01	3.085E-01	3.085E-01	3.085E-01	3.085E-01	3.085E-01	3.085E-01	3.085E-01	3.085E-01	3.085E-01	3.085E-01
MO 95	3.067E-01	3.162E-01	3.164E-01	3.164E-01	3.164E-01	3.164E-01	3.164E-01	3.164E-01	3.164E-01	3.164E-01	3.164E-01	3.164E-01
ZR 96	3.330E-01	3.330E-01	3.330E-01	3.330E-01	3.330E-01	3.330E-01	3.330E-01	3.330E-01	3.330E-01	3.330E-01	3.330E-01	3.330E-01
MO 96	1.272E-02	1.272E-02	1.272E-02	1.272E-02	1.272E-02	1.272E-02	1.272E-02	1.272E-02	1.272E-02	1.272E-02	1.272E-02	1.272E-02
MO 97	3.297E-01	3.297E-01	3.297E-01	3.297E-01	3.297E-01	3.297E-01	3.297E-01	3.297E-01	3.297E-01	3.297E-01	3.297E-01	3.297E-01
MO 98	3.403E-01	3.403E-01	3.403E-01	3.403E-01	3.403E-01	3.403E-01	3.403E-01	3.403E-01	3.403E-01	3.403E-01	3.403E-01	3.403E-01
TC 99	3.284E-01	3.284E-01	3.284E-01	3.284E-01	3.284E-01	3.284E-01	3.283E-01	3.281E-01	3.273E-01	3.179E-01	2.372E-01	1.456E-01
RU 99	2.017E-06	3.085E-06	4.154E-06	7.360E-06	1.270E-05	3.407E-05	1.089E-04	3.224E-04	1.069E-03	1.052E-02	9.122E-02	1.828E-01
MU100	3.881E-01	3.881E-01	3.881E-01	3.881E-01	3.881E-01	3.881E-01	3.881E-01	3.881E-01	3.881E-01	3.881E-01	3.881E-01	3.881E-01
RU100	3.542E-02	3.542E-02	3.542E-02	3.542E-02	3.542E-02	3.542E-02	3.542E-02	3.542E-02	3.542E-02	3.542E-02	3.542E-02	3.542E-02
RU101	3.225E-01	3.225E-01	3.225E-01	3.225E-01	3.225E-01	3.225E-01	3.225E-01	3.225E-01	3.225E-01	3.225E-01	3.225E-01	3.225E-01
RU102	3.196E-01	3.196E-01	3.196E-01	3.196E-01	3.196E-01	3.196E-01	3.196E-01	3.196E-01	3.196E-01	3.196E-01	3.196E-01	3.196E-01
RH103	2.029E-01	2.029E-01	2.029E-01	2.029E-01	2.029E-01	2.029E-01	2.029E-01	2.029E-01	2.029E-01	2.029E-01	2.029E-01	2.029E-01
RU104	2.260E-01	2.260E-01	2.260E-01	2.260E-01	2.260E-01	2.260E-01	2.260E-01	2.260E-01	2.260E-01	2.260E-01	2.260E-01	2.260E-01
PD104	8.387E-02	8.387E-02	8.387E-02	8.387E-02	8.387E-02	8.387E-02	8.387E-02	8.387E-02	8.387E-02	8.387E-02	8.387E-02	8.387E-02
PD105	1.618E-01	1.618E-01	1.618E-01	1.618E-01	1.618E-01	1.618E-01	1.618E-01	1.618E-01	1.618E-01	1.618E-01	1.618E-01	1.618E-01
RU106	4.892E-02	2.459E-02	1.236E-02	1.571E-03	5.047E-05	5.373E-11	6.688E-32	0.0	0.0	0.0	0.0	0.0
PD106	9.850E-02	1.228E-01	1.351E-01	1.458E-01	1.474E-01	1.474E-01	1.474E-01	1.474E-01	1.474E-01	1.474E-01	1.474E-01	1.474E-01
PD107	9.212E-02	9.212E-02	9.212E-02	9.212E-02	9.212E-02	9.212E-02	9.212E-02	9.212E-02	9.211E-02	9.202E-02	9.114E-02	8.969E-02
PD108	6.341E-02	6.341E-02	6.341E-02	6.341E-02	6.341E-02	6.341E-02	6.341E-02	6.341E-02	6.341E-02	6.341E-02	6.341E-02	6.341E-02
AG109	3.303E-02	3.303E-02	3.303E-02	3.303E-02	3.303E-02	3.303E-02	3.303E-02	3.303E-02	3.303E-02	3.303E-02	3.303E-02	3.303E-02
PD110	2.041E-02	2.041E-02	2.041E-02	2.041E-02	2.041E-02	2.041E-02	2.041E-02	2.041E-02	2.041E-02	2.041E-02	2.041E-02	2.041E-02
CD110	1.247E-02	1.260E-02	1.265E-02	1.267E-02	1.268E-02	1.268E-02	1.268E-02	1.268E-02	1.268E-02	1.268E-02	1.268E-02	1.268E-02
TE128	4.551E-02	4.551E-02	4.551E-02	4.551E-02	4.551E-02	4.551E-02	4.551E-02	4.551E-02	4.551E-02	4.551E-02	4.551E-02	4.551E-02
TE130	1.473E-01	1.473E-01	1.473E-01	1.473E-01	1.473E-01	1.473E-01	1.473E-01	1.473E-01	1.473E-01	1.473E-01	1.473E-01	1.473E-01
CS133	4.778E-01	4.778E-01	4.778E-01	4.778E-01	4.778E-01	4.778E-01	4.778E-01	4.778E-01	4.778E-01	4.778E-01	4.778E-01	4.778E-01
CS134	3.772E-02	2.695E-02	1.926E-02	7.024E-03	1.308E-03	1.604E-06	9.675E-17	0.0	0.0	0.0	0.0	0.0
BA134	2.130E-02	3.207E-02	3.976E-02	5.199E-02	5.771E-02	5.901E-02	5.902E-02	5.902E-02	5.902E-02	5.902E-02	5.902E-02	5.902E-02
CS135	1.560E-01	1.560E-01	1.560E-01	1.560E-01	1.560E-01	1.560E-01	1.560E-01	1.560E-01	1.560E-01	1.555E-01	1.514E-01	1.447E-01
CS137	4.922E-01	4.810E-01	4.700E-01	4.385E-01	3.907E-01	2.461E-01	4.883E-02	4.807E-04	4.546E-11	0.0	0.0	0.0
BA137	2.190E-02	3.315E-02	4.413E-02	7.561E-02	1.235E-01	2.680E-01	4.653E-01	5.137E-01	5.141E-01	5.141E-01	5.141E-01	5.141E-01
BA138	5.309E-01	5.309E-01	5.309E-01	5.309E-01	5.309E-01	5.309E-01	5.309E-01	5.309E-01	5.309E-01	5.309E-01	5.309E-01	5.309E-01
LA139	5.073E-01	5.073E-01	5.073E-01	5.073E-01	5.073E-01	5.073E-01	5.073E-01	5.073E-01	5.073E-01	5.073E-01	5.073E-01	5.073E-01
CE140	5.163E-01	5.163E-01	5.163E-01	5.163E-01	5.163E-01	5.163E-01	5.163E-01	5.163E-01	5.163E-01	5.163E-01	5.163E-01	5.163E-01
PR141	4.666E-01	4.672E-01	4.672E-01	4.672E-01	4.672E-01	4.672E-01	4.672E-01	4.672E-01	4.672E-01	4.672E-01	4.672E-01	4.672E-01
CE142	4.688E-01	4.688E-01	4.688E-01	4.688E-01	4.688E-01	4.688E-01	4.688E-01	4.688E-01	4.688E-01	4.688E-01	4.688E-01	4.687E-01
ND143	3.391E-01	3.391E-01	3.391E-01	3.391E-01	3.391E-01	3.391E-01	3.391E-01	3.391E-01	3.391E-01	3.391E-01	3.391E-01	3.391E-01
CE144	9.618E-02	3.947E-02	1.620E-02	1.120E-03	1.303E-05	2.394E-13	0.0	0.0	0.0	0.0	0.0	0.0
ND144	4.377E-01	4.944E-01	5.176E-01	5.327E-01	5.338E-01	5.338E-01	5.336E-01	5.338E-01	5.336E-01	5.338E-01	5.338E-01	5.338E-01
ND145	2.834E-01	2.834E-01	2.834E-01	2.834E-01	2.834E-01	2.834E-01	2.834E-01	2.834E-01	2.834E-01	2.834E-01	2.834E-01	2.834E-01
ND146	2.805E-01	2.805E-01	2.805E-01	2.805E-01	2.805E-01	2.805E-01	2.805E-01	2.805E-01	2.805E-01	2.805E-01	2.805E-01	2.805E-01
PM147	5.736E-02	4.404E-02	3.382E-02	1.531E-02	4.085E-03	2.072E-05	1.924E-13	0.0	0.0	0.0	0.0	0.0
SM147	3.531E-02	4.863E-02	5.865E-02	7.736E-02	8.858E-02	9.265E-02	9.267E-02	9.267E-02	9.267E-02	9.267E-02	9.267E-02	9.267E-02
ND148	1.534E-01	1.534E-01	1.534E-01	1.534E-01	1.534E-01	1.534E-01	1.534E-01	1.534E-01	1.534E-01	1.534E-01	1.534E-01	1.534E-01
SM148	6.785E-02	6.789E-02	6.789E-02	6.789E-02	6.789E-02	6.789E-02	6.789E-02	6.789E-02	6.789E-02	6.789E-02	6.789E-02	6.789E-02
ND150	7.338E-02	7.338E-02	7.338E-02	7.338E-02	7.338E-02	7.338E-02	7.338E-02	7.338E-02	7.338E-02	7.338E-02	7.338E-02	7.338E-02
SM150	1.260E-01	1.260E-01	1.260E-01	1.260E-01	1.260E-01	1.260E-01	1.260E-01	1.260E-01	1.260E-01	1.260E-01	1.260E-01	1.260E-01
SM152	5.701E-02	5.701E-02	5.701E-02	5.701E-02	5.701E-02	5.702E-02	5.702E-02	5.702E-02	5.702E-02	5.702E-02	5.702E-02	5.702E-02
EU153	4.398E-02	4.398E-02	4.398E-02	4.398E-02	4.398E-02	4.398E-02	4.398E-02	4.396E-02	4.398E-02	4.398E-02	4.398E-02	4.398E-02
SM154	1.560E-02	1.560E-02	1.560E-02	1.560E-02	1.560E-02	1.560E-02	1.560E-02	1.560E-02	1.560E-02	1.560E-02	1.560E-02	1.560E-02
EU154	1.463E-02	1.350E-02	1.245E-02	9.778E-03	6.535E-03	1.304E-03	4.613E-06	4.607E-13	0.0	0.0	0.0	0.0
GD154	1.610E-03	2.743E-03	3.788E-03	6.463E-03	9.706E-03	1.494E-02	1.624E-02	1.624E-02	1.624E-02	1.624E-02	1.624E-02	1.624E-02
GD156	2.305E-02	2.305E-02	2.305E-02	2.305E-02	2.305E-02	2.305E-02	2.305E-02	2.305E-02	2.305E-02	2.305E-02	2.305E-02	2.305E-02
SUMTOT	1.160E+01	1.162E+01	1.162E+01	1.161E+01	1.161E+01	1.161E+01	1.160E+01	1.160E+01	1.160E+01	1.160E+01	1.160E+01	1.159E+01
TOTAL	1.175E+01	1.175E+01	1.175E+01	1.174E+01	1.174E+01	1.174E+01	1.173E+01	1.173E+01	1.173E+01	1.173E+01	1.173E+01	1.173E+01

TABLE B.58. CURIES OF FISSION PRODUCT ELEMENTS IN BWR CLADDING WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	1.320E+02	1.248E+02	1.180E+02	9.970E+01	7.530E+01	2.451E+01	4.818E-01	6.419E-06	5.539E-23	0.0	0.0	0.0
BE	1.203E-09	1.203E-09	1.203E-09	1.203E-09	1.203E-09	1.203E-09	1.203E-09	1.203E-09	1.203E-09	1.198E-09	1.152E-09	1.080E-09
C	6.401E-12	6.400E-12	6.399E-12	6.397E-12	6.393E-12	6.378E-12	6.324E-12	6.173E-12	5.671E-12	1.909E-12	3.564E-17	4.682E-25
CU	7.151E-33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	1.691E-04	1.691E-04	1.691E-04	1.691E-04	1.691E-04	1.691E-04	1.689E-04	1.686E-04	1.673E-04	1.520E-04	5.818E-05	1.174E-05
KR	3.974E-04	3.725E-04	3.492E-04	2.876E-04	2.082E-04	5.712E-05	6.178E-07	1.534E-12	3.904E-14	3.790E-14	2.815E-14	1.715E-14
RB	1.625E-03	1.092E-06	8.842E-09	8.842E-09	8.842E-09	8.842E-09	8.842E-09	8.842E-09	8.842E-09	8.842E-09	8.842E-09	8.842E-09
SR	6.325E+01	2.937E+01	2.847E+01	2.650E+01	2.353E+01	1.462E+01	2.762E+00	2.366E-02	1.374E-09	0.0	0.0	0.0
Y	8.941E+01	2.994E+01	2.849E+01	2.651E+01	2.354E+01	1.462E+01	2.763E+00	2.366E-02	1.374E-09	0.0	0.0	0.0
ZR	1.004E+02	1.920E+00	3.746E-02	7.521E-04	7.519E-04	7.519E-04	7.518E-04	7.518E-04	7.515E-04	7.485E-04	7.186E-04	6.713E-04
NB	1.942E+02	4.403E+00	8.484E-02	2.147E-04	3.267E-04	5.744E-04	7.104E-04	7.143E-04	7.140E-04	7.111E-04	6.826E-04	6.378E-04
MO	1.968E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC	5.569E-03	5.569E-03	5.569E-03	5.569E-03	5.569E-03	5.569E-03	5.568E-03	5.564E-03	5.551E-03	5.391E-03	4.022E-03	2.469E-03
RU	1.977E+02	8.237E+01	4.139E+01	5.259E+00	1.689E-01	1.798E-07	2.239E-28	0.0	0.0	0.0	0.0	0.0
RH	1.944E+02	8.237E+01	4.139E+01	5.259E+00	1.689E-01	1.798E-07	2.239E-28	0.0	0.0	0.0	0.0	0.0
PD	4.740E-05	4.740E-05	4.740E-05	4.740E-05	4.740E-05	4.740E-05	4.740E-05	4.740E-05	4.739E-05	4.735E-05	4.690E-05	4.615E-05
AG	1.014E+00	3.681E-01	1.336E-01	6.396E-03	4.045E-05	1.162E-08	7.927E-09	2.661E-09	5.833E-11	2.717E-32	0.0	0.0
CD	7.180E-02	2.015E-02	1.905E-02	1.651E-02	1.302E-02	5.035E-03	1.810E-04	1.352E-08	4.867E-23	0.0	0.0	0.0
IN	1.953E-04	1.167E-06	7.001E-09	7.708E-15	6.191E-15	6.191E-15	6.191E-15	6.191E-15	6.191E-15	6.191E-15	6.191E-15	6.191E-15
SN	5.987E-01	9.587E-02	1.784E-02	7.209E-04	3.894E-04	3.694E-04	3.339E-04	3.133E-04	3.104E-04	2.916E-04	1.563E-04	5.526E-05
SB	5.124E+00	3.940E+00	3.067E+00	1.448E+00	4.145E-01	3.134E-03	3.561E-04	3.554E-04	3.539E-04	3.325E-04	1.782E-04	6.300E-05
TE	6.197E+00	1.347E+00	7.860E-01	3.532E-01	1.011E-01	6.777E-04	1.673E-11	7.129E-16	7.129E-16	7.129E-16	7.129E-16	7.129E-16
I	4.560E-07	1.913E-08	1.913E-08	1.913E-08	1.913E-08	1.913E-08	1.913E-08	1.913E-08	1.913E-08	1.912E-08	1.905E-08	1.892E-08
XE	1.954E-07	1.180E-16	6.772E-26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	9.166E+01	7.674E+01	6.582E+01	4.725E+01	3.569E+01	2.142E+01	4.250E+00	4.201E-02	1.797E-04	1.792E-04	1.744E-04	1.667E-04
BA	4.063E+01	3.960E+01	3.869E+01	3.610E+01	3.216E+01	2.026E+01	4.020E+00	3.957E-02	3.742E-09	0.0	0.0	0.0
LA	1.187E-01	3.002E-10	4.669E-14	4.669E-14	4.669E-14	4.669E-14	4.669E-14	4.669E-14	4.669E-14	4.669E-14	4.669E-14	4.669E-14
CE	3.260E+02	1.260E+02	5.170E+01	3.573E+00	4.160E-02	1.202E-08	1.125E-08	1.125E-08	1.125E-08	1.125E-08	1.125E-08	1.125E-08
PR	3.108E+02	1.275E+02	5.232E+01	3.616E+00	4.210E-02	7.722E-10	0.0	0.0	0.0	0.0	0.0	0.0
ND	1.010E-02	1.742E-12	6.126E-13	6.304E-13	6.317E-13	6.318E-13	6.318E-13	6.318E-13	6.318E-13	6.318E-13	6.318E-13	6.318E-13
PM	5.410E+01	4.085E+01	3.136E+01	1.420E+01	3.788E+00	1.922E-02	1.785E-10	0.0	0.0	0.0	0.0	0.0
SM	1.617E-01	1.604E-01	1.592E-01	1.556E-01	1.497E-01	1.283E-01	7.484E-02	1.604E-02	7.299E-05	2.107E-09	2.107E-09	2.107E-09
EU	6.413E+00	5.750E+00	5.194E+00	3.845E+00	2.364E+00	3.892E-01	1.267E-03	8.529E-10	2.338E-25	0.0	0.0	0.0
GD	1.454E-02	5.107E-03	1.794E-03	7.779E-05	4.173E-07	5.768E-16	2.583E-16	2.589E-16	2.589E-16	2.589E-16	2.589E-16	2.589E-16
TB	7.159E-02	2.158E-03	6.508E-05	1.784E-09	4.445E-17	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	7.540E-17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	8.617E-07	8.612E-07	8.607E-07	8.592E-07	8.568E-07	8.469E-07	8.134E-07	7.248E-07	4.836E-07	2.672E-09	7.082E-32	0.0
ER	6.154E-10	1.237E-21	2.485E-33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	6.153E-06	9.600E-07	2.043E-07	3.008E-08	4.894E-09	3.580E-12	3.791E-23	0.0	0.0	0.0	0.0	0.0
TOTAL	1.814E+03	7.775E+02	5.071E+02	2.738E+02	1.975E+02	9.598E+01	1.436E+01	1.529E-01	8.149E-03	7.853E-03	6.038E-03	4.121E-03

TABLE B.59. CURIES OF PRINCIPAL FISSION PRODUCT NUCLIDES IN BWR CLADDING WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H 3	1.320E+02	1.248E+02	1.180E+02	9.970E+01	7.530E+01	2.451E+01	4.818E-01	6.415E-06	5.539E-23	0.0	0.0	0.0
SE 79	1.691E-04	1.691E-04	1.691E-04	1.691E-04	1.691E-04	1.691E-04	1.689E-04	1.686E-04	1.673E-04	1.520E-04	5.818E-05	1.174E-05
SR 90	2.985E+01	2.915E+01	2.846E+01	2.650E+01	2.353E+01	1.462E+01	2.762E+00	2.366E-02	1.374E-09	0.0	0.0	0.0
Y 90	2.986E+01	2.916E+01	2.847E+01	2.651E+01	2.354E+01	1.462E+01	2.763E+00	2.366E-02	1.374E-09	0.0	0.0	0.0
Y 91	5.955E+01	7.864E-01	1.039E-02	2.391E-08	9.596E-18	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZR 93	7.519E-04	7.519E-04	7.519E-04	7.519E-04	7.519E-04	7.519E-04	7.516E-04	7.516E-04	7.515E-04	7.485E-04	7.186E-04	6.713E-04
NB 93M	6.895E-05	1.010E-04	1.315E-04	2.141E-04	3.266E-04	5.744E-04	7.103E-04	7.142E-04	7.140E-04	7.110E-04	6.826E-04	6.378E-04
ZR 95	1.004E+02	1.920E+00	3.670E-02	2.566E-07	6.559E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 95	1.935E+02	4.388E+00	8.443E-02	5.697E-07	1.456E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC 99	5.569E-03	5.569E-03	5.569E-03	5.569E-03	5.569E-03	5.569E-03	5.568E-03	5.564E-03	5.551E-03	5.391E-03	4.022E-03	2.469E-03
RU106	1.637E+02	8.232E+01	4.139E+01	5.259E+00	1.689E-01	1.798E-07	2.239E-28	0.0	0.0	0.0	0.0	0.0
RH106	1.637E+02	8.232E+01	4.139E+01	5.259E+00	1.689E-01	1.798E-07	2.239E-28	0.0	0.0	0.0	0.0	0.0
PD107	4.740E-05	4.740E-05	4.740E-05	4.740E-05	4.740E-05	4.740E-05	4.740E-05	4.740E-05	4.739E-05	4.735E-05	4.690E-05	4.615E-05
SB125	5.058E+00	3.938E+00	3.066E+00	1.447E+00	4.142E-01	2.778E-03	6.856E-11	0.0	0.0	0.0	0.0	0.0
TE125M	1.208E+00	9.606E-01	7.482E-01	3.531E-01	1.011E-01	6.777E-04	1.673E-11	0.0	0.0	0.0	0.0	0.0
SN126	3.126E-04	3.126E-04	3.126E-04	3.126E-04	3.125E-04	3.125E-04	3.123E-04	3.119E-04	3.104E-04	2.916E-04	1.563E-04	5.526E-05
SB126	9.373E-05	4.376E-05	4.376E-05	4.376E-05	4.376E-05	4.375E-05	4.373E-05	4.367E-05	4.346E-05	4.083E-05	2.188E-05	7.737E-06
SB126M	3.126E-04	3.126E-04	3.126E-04	3.126E-04	3.125E-04	3.125E-04	3.123E-04	3.119E-04	3.104E-04	2.916E-04	1.563E-04	5.526E-05
CS134	4.882E+01	3.488E+01	2.492E+01	9.092E+00	1.693E+00	2.076E-03	1.252E-13	0.0	0.0	0.0	0.0	0.0
CS135	1.797E-04	1.797E-04	1.797E-04	1.797E-04	1.797E-04	1.797E-04	1.797E-04	1.797E-04	1.797E-04	1.792E-04	1.744E-04	1.667E-04
CS137	4.283E+01	4.186E+01	4.090E+01	3.816E+01	3.400E+01	2.142E+01	4.245E+00	4.183E-02	3.956E-09	0.0	0.0	0.0
BA137M	4.052E+01	3.960E+01	3.869E+01	3.610E+01	3.216E+01	2.026E+01	4.020E+00	3.957E-02	3.742E-09	0.0	0.0	0.0
CE144	3.069E+02	1.260E+02	5.170E+01	3.573E+00	4.160E-02	7.640E-10	0.0	0.0	0.0	0.0	0.0	0.0
PR144	3.069E+02	1.260E+02	5.170E+01	3.573E+00	4.160E-02	7.640E-10	0.0	0.0	0.0	0.0	0.0	0.0
PR144M	3.683E+00	1.512E+00	6.204E-01	4.288E-02	4.992E-04	9.168E-12	0.0	0.0	0.0	0.0	0.0	0.0
PM147	5.320E+01	4.084E+01	3.136E+01	1.420E+01	3.798E+00	1.922E-02	1.785E-10	0.0	0.0	0.0	0.0	0.0
SM151	1.617E-01	1.604E-01	1.592E-01	1.556E-01	1.497E-01	1.283E-01	7.484E-02	1.604E-02	7.298E-05	0.0	0.0	0.0
EU154	3.951E+00	3.645E+00	3.363E+00	2.640E+00	1.765E+00	3.520E-01	1.246E-03	1.244E-10	0.0	0.0	0.0	0.0
EU155	2.418E+00	2.103E+00	1.828E+00	1.202E+00	5.976E-01	3.651E-02	2.057E-06	1.489E-18	0.0	0.0	0.0	0.0
SUMTOT	1.688E+03	7.763E+02	5.069E+02	2.738E+02	1.975E+02	9.597E+01	1.436E+01	1.525E-01	8.146E-03	7.853E-03	6.038E-03	4.121E-03
TOTAL	1.814E+03	7.775E+02	5.071E+02	2.738E+02	1.975E+02	9.598E+01	1.436E+01	1.525E-01	8.149E-03	7.853E-03	6.038E-03	4.121E-03

TABLE B.60. WATTS OF FISSION PRODUCT ELEMENTS IN BWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	4.444E-03	4.202E-03	3.973E-03	3.357E-03	2.535E-03	8.251E-04	1.622E-05	2.161E-10	1.865E-27	0.0	0.0	0.0
BE	1.444E-12	1.444E-12	1.444E-12	1.444E-12	1.444E-12	1.444E-12	1.444E-12	1.444E-12	1.444E-12	1.438E-12	1.383E-12	1.296E-12
C	1.877E-15	1.877E-15	1.877E-15	1.876E-15	1.875E-15	1.870E-15	1.854E-15	1.810E-15	1.663E-15	5.598E-16	1.045E-20	1.373E-28
CU	1.148E-35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	4.210E-08	4.210E-08	4.210E-08	4.210E-08	4.210E-08	4.209E-08	4.206E-08	4.197E-08	4.166E-08	3.784E-08	1.449E-08	2.923E-09
KR	5.953E-07	5.580E-07	5.231E-07	4.309E-07	3.118E-07	8.557E-08	9.254E-10	2.272E-15	3.240E-17	3.145E-17	2.336E-17	1.423E-17
RB	7.342E-06	1.678E-11	7.391E-12	7.391E-12	7.391E-12	7.391E-12	7.391E-12	7.391E-12	7.391E-12	7.391E-12	7.390E-12	7.390E-12
SR	1.501E-01	3.460E-02	3.304E-02	3.076E-02	2.731E-02	1.697E-02	3.206E-03	2.746E-05	1.595E-12	0.0	0.0	0.0
Y	3.794E-01	1.644E-01	1.578E-01	1.469E-01	1.304E-01	8.103E-02	1.531E-02	1.311E-04	7.617E-12	0.0	0.0	0.0
ZR	5.085E-01	9.724E-03	1.860E-04	8.865E-08	8.735E-08	8.735E-08	8.735E-08	8.734E-08	8.731E-08	8.696E-08	8.348E-08	7.800E-08
NB	9.290E-01	2.107E-02	4.054E-04	4.129E-08	5.849E-08	1.024E-07	1.265E-07	1.272E-07	1.271E-07	1.264E-07	1.210E-07	1.130E-07
MO	6.319E-18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC	2.793E-06	2.793E-06	2.793E-06	2.793E-06	2.793E-06	2.793E-06	2.792E-06	2.790E-06	2.784E-06	2.704E-06	2.017E-06	1.238E-06
RU	1.234E-01	5.076E-03	2.461E-03	3.127E-04	1.004E-05	1.069E-11	1.331E-32	0.0	0.0	0.0	0.0	0.0
RH	1.577E+00	7.895E-01	3.969E-01	5.044E-02	1.620E-03	1.725E-09	2.147E-30	0.0	0.0	0.0	0.0	0.0
PD	2.810E-09	2.810E-09	2.810E-09	2.810E-09	2.810E-09	2.810E-09	2.810E-09	2.810E-09	2.809E-09	2.807E-09	2.780E-09	2.736E-09
AG	1.680E-02	6.100E-03	2.215E-03	1.060E-04	6.702E-07	1.073E-10	7.322E-11	2.458E-11	5.388E-13	2.510E-34	0.0	0.0
CD	2.249E-04	3.427E-05	3.206E-05	2.780E-05	2.192E-05	8.477E-06	3.047E-07	2.276E-11	8.194E-26	0.0	0.0	0.0
IN	5.757E-07	3.448E-09	2.072E-11	1.338E-17	8.881E-18	8.881E-18	8.881E-18	8.881E-18	8.881E-18	8.881E-18	8.881E-18	8.881E-18
SN	1.733E-03	2.504E-04	3.781E-05	7.991E-07	5.412E-07	5.038E-07	4.327E-07	3.917E-07	3.871E-07	3.637E-07	1.949E-07	6.892E-08
SB	1.669E-02	1.233E-02	9.591E-03	4.530E-03	1.300E-03	1.347E-05	4.785E-06	4.778E-06	4.755E-06	4.468E-06	2.394E-06	8.466E-07
TE	7.322E-03	1.171E-03	6.644E-04	2.969E-04	8.494E-05	5.697E-07	1.406E-14	1.067E-19	1.067E-19	1.067E-19	1.067E-19	1.067E-19
I	1.504E-09	8.848E-12	8.849E-12	8.849E-12	8.849E-12	8.849E-12	8.849E-12	8.849E-12	8.849E-12	8.845E-12	8.810E-12	8.752E-12
XE	1.880E-10	1.135E-15	6.515E-29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	5.443E-01	4.013E-01	2.989E-01	1.347E-01	5.484E-02	2.371E-02	4.700E-03	4.633E-05	5.996E-08	5.979E-08	5.819E-08	5.562E-08
BA	1.594E-01	1.555E-01	1.519E-01	1.417E-01	1.263E-01	7.955E-02	1.578E-02	1.554E-04	1.469E-11	0.0	0.0	0.0
LA	1.990E-03	5.032E-12	8.043E-17	8.042E-17	8.042E-17	8.042E-17	8.042E-17	8.042E-17	8.042E-17	8.042E-17	8.042E-17	8.042E-17
CE	2.315E-01	8.356E-02	3.429E-02	2.376E-03	2.759E-05	5.067E-13	0.0	0.0	0.0	0.0	0.0	0.0
PR	2.258E+00	9.264E-01	3.802E-01	2.628E-02	3.059E-04	5.619E-12	0.0	0.0	0.0	0.0	0.0	0.0
ND	2.437E-05	2.791E-15	3.196E-25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM	3.031E-02	1.457E-02	1.125E-02	5.092E-03	1.359E-03	6.893E-06	6.401E-14	0.0	0.0	0.0	0.0	0.0
SM	1.896E-05	1.881E-05	1.867E-05	1.824E-05	1.755E-05	1.504E-05	8.775E-06	1.880E-06	8.586E-09	2.885E-11	2.885E-11	2.885E-11
EU	3.755E-02	3.415E-02	3.143E-02	2.451E-02	1.623E-02	3.181E-03	1.129E-05	6.636E-12	1.772E-27	0.0	0.0	0.0
GD	1.253E-05	4.402E-06	1.546E-06	6.704E-08	3.596E-10	3.353E-18	3.365E-18	3.374E-18	3.374E-18	3.374E-18	3.374E-18	3.374E-18
TB	5.831E-04	1.758E-05	5.301E-07	1.453E-11	3.621E-19	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	8.805E-20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	9.547E-09	9.541E-09	9.536E-09	9.519E-09	9.492E-09	9.383E-09	9.011E-09	8.028E-09	5.358E-09	2.961E-11	7.846E-34	0.0
ER	1.240E-12	2.492E-24	5.008E-36	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	1.188E-08	1.674E-09	2.447E-10	5.243E-12	7.590E-13	5.552E-16	5.879E-27	0.0	0.0	0.0	0.0	0.0
TOTAL	6.978E+00	2.664E+00	1.515E+00	5.715E-01	3.624E-01	2.053E-01	3.905E-02	3.704E-04	8.259E-06	7.849E-06	4.886E-06	2.406E-06

TABLE B.61. WATTS OF PRINCIPAL FISSION PRODUCT NUCLIDES IN BWR CLADDING WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H 3	4.444E-03	4.202E-03	3.973E-03	3.357E-03	2.535E-03	8.251E-04	1.622E-05	2.161E-10	1.865E-27	0.0	0.0	0.0
SE 79	4.210E-08	4.210E-08	4.210E-08	4.210E-08	4.210E-08	4.209E-08	4.206E-08	4.197E-08	4.166E-08	3.784E-08	1.449E-08	2.923E-09
SR 90	3.465E-02	3.383E-02	3.304E-02	3.076E-02	2.731E-02	1.697E-02	3.206E-03	2.746E-05	1.595E-12	0.0	0.0	0.0
Y 90	1.655E-01	1.616E-01	1.578E-01	1.469E-01	1.304E-01	8.103E-02	1.531E-02	1.311E-04	7.617E-12	0.0	0.0	0.0
Y 91	2.139E-01	2.825E-03	3.730E-05	8.587E-11	3.447E-20	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZR 93	8.735E-08	8.735E-08	8.735E-08	8.735E-08	8.735E-08	8.735E-08	8.735E-08	8.734E-08	8.731E-08	8.696E-08	8.348E-08	7.800E-08
NB 93M	1.222E-08	1.790E-08	2.330E-08	3.794E-08	5.787E-08	1.018E-07	1.258E-07	1.265E-07	1.265E-07	1.260E-07	1.209E-07	1.130E-07
ZR 95	5.085E-01	9.724E-03	1.859E-04	1.300E-09	3.322E-18	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 95	9.280E-01	2.105E-02	4.050E-04	2.733E-09	6.985E-18	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC 99	2.793E-06	2.793E-06	2.793E-06	2.793E-06	2.793E-06	2.793E-06	2.792E-06	2.790E-06	2.784E-06	2.704E-06	2.017E-06	1.238E-06
RU106	9.735E-03	4.894E-03	2.461E-03	3.127E-04	1.004E-05	1.069E-11	1.331E-32	0.0	0.0	0.0	0.0	0.0
RH106	1.570E+00	7.895E-01	3.969E-01	5.044E-02	1.620E-03	1.725E-09	2.147E-30	0.0	0.0	0.0	0.0	0.0
PD107	2.810E-09	2.810E-09	2.810E-09	2.810E-09	2.810E-09	2.810E-09	2.810E-09	2.810E-09	2.809E-09	2.807E-09	2.780E-09	2.736E-09
AG110M	1.671E-02	6.065E-03	2.202E-03	1.054E-04	6.663E-07	1.056E-15	0.0	0.0	0.0	0.0	0.0	0.0
SB125	1.581E-02	1.231E-02	9.586E-03	4.525E-03	1.295E-03	6.684E-06	2.143E-13	0.0	0.0	0.0	0.0	0.0
SN126	3.898E-07	3.898E-07	3.898E-07	3.898E-07	3.898E-07	3.897E-07	3.896E-07	3.890E-07	3.871E-07	3.637E-07	1.949E-07	6.892E-08
SB126	1.732E-06	8.085E-07	8.085E-07	8.085E-07	8.085E-07	8.083E-07	8.079E-07	8.068E-07	8.029E-07	7.544E-07	4.043E-07	1.429E-07
SB126M	3.980E-06	3.980E-06	3.980E-06	3.980E-06	3.979E-06	3.979E-06	3.977E-06	3.971E-06	3.952E-06	3.713E-06	1.990E-06	7.036E-07
CS134	4.969E-01	3.550E-01	2.537E-01	9.253E-02	1.723E-02	2.113E-05	1.275E-15	0.0	0.0	0.0	0.0	0.0
CS135	5.998E-08	5.998E-08	5.998E-08	5.998E-08	5.998E-08	5.997E-08	5.997E-08	5.997E-08	5.996E-08	5.979E-08	5.819E-08	5.562E-08
CS137	4.738E-02	4.630E-02	4.524E-02	4.221E-02	3.760E-02	2.369E-02	4.700E-03	4.627E-05	4.376E-12	0.0	0.0	0.0
BA137M	1.591E-01	1.555E-01	1.519E-01	1.417E-01	1.263E-01	7.955E-02	1.578E-02	1.554E-04	1.469E-11	0.0	0.0	0.0
CE144	2.036E-01	8.355E-02	3.429E-02	2.370E-03	2.759E-05	5.067E-13	0.0	0.0	0.0	0.0	0.0	0.0
PR144	2.256E+00	9.259E-01	3.800E-01	2.626E-02	3.058E-04	5.616E-12	0.0	0.0	0.0	0.0	0.0	0.0
PM147	1.908E-02	1.465E-02	1.125E-02	5.092E-03	1.359E-03	6.893E-06	6.401E-14	0.0	0.0	0.0	0.0	0.0
SM151	1.896E-05	1.881E-05	1.867E-05	1.824E-05	1.755E-05	1.504E-05	8.775E-06	1.880E-06	8.557E-09	0.0	0.0	0.0
EU154	3.534E-02	3.260E-02	3.008E-02	2.362E-02	1.578E-02	3.149E-03	1.114E-05	1.113E-12	0.0	0.0	0.0	0.0
EU155	1.759E-03	1.529E-03	1.330E-03	8.743E-04	4.347E-04	2.655E-05	1.496E-09	1.083E-21	0.0	0.0	0.0	0.0
SUMTOT	6.687E+00	2.661E+00	1.514E+00	5.712E-01	3.623E-01	2.053E-01	3.905E-02	3.704E-04	8.253E-06	7.848E-06	4.986E-06	2.406E-06
TOTAL	6.978E+00	2.664E+00	1.515E+00	5.715E-01	3.624E-01	2.053E-01	3.905E-02	3.704E-04	8.259E-06	7.849E-06	4.886E-06	2.406E-06

TABLE 8.62. PHOTONS FROM FISSION PRODUCTS IN BWR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS= METRIC TON OF INITIAL HEAVY METAL AT A REPROCESSING TIME OF 160 DAYS

EMEAN	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	1.762E+13	3.019E+12	4.512E+12	1.819E+12	1.346E+12	8.198E+11	1.552E+11	1.383E+09	2.945E+07	2.854E+07	2.142E+07	1.413E+07
2.500E-02	3.949E+12	1.799E+12	1.026E+12	4.114E+11	2.877E+11	1.698E+11	3.215E+10	2.882E+08	8.760E+06	8.331E+06	5.133E+06	2.441E+06
3.750E-02	3.985E+12	1.798E+12	9.918E+11	3.888E+11	2.806E+11	1.624E+11	3.058E+10	2.790E+08	2.491E+06	2.397E+06	1.656E+06	9.326E+05
5.750E-02	3.615E+12	1.665E+12	9.250E+11	3.576E+11	2.615E+11	1.583E+11	2.985E+10	2.625E+08	4.026E+06	3.839E+06	2.460E+06	1.245E+06
8.500E-02	2.521E+12	1.161E+12	6.310E+11	2.290E+11	1.617E+11	9.535E+10	1.797E+10	1.619E+08	6.621E+06	6.241E+06	3.492E+06	1.371E+06
1.250E-01	3.277E+12	1.299E+12	6.607E+11	2.001E+11	1.301E+11	6.677E+10	1.162E+10	1.007E+08	5.564E+05	5.305E+05	3.353E+05	1.658E+05
2.250E-01	2.189E+12	1.014E+12	5.513E+11	1.969E+11	1.379E+11	8.212E+10	1.534E+10	1.326E+08	6.359E+05	5.819E+05	3.240E+05	1.258E+05
3.750E-01	1.148E+12	5.482E+11	3.030E+11	1.035E+11	6.352E+10	3.538E+10	6.659E+09	6.966E+07	1.259E+07	1.183E+07	6.338E+06	2.241E+06
5.750E-01	7.746E+12	4.524E+12	3.355E+12	1.942E+12	1.350E+12	7.917E+11	1.567E+11	1.565E+09	2.795E+07	2.626E+07	1.407E+07	4.976E+06
8.500E-01	1.167E+13	1.554E+12	9.463E+11	3.591E+11	9.562E+10	1.196E+10	1.098E+09	1.065E+07	1.428E+06	1.317E+06	7.045E+05	2.491E+05
1.250E+00	4.630E+11	2.717E+11	1.799E+11	8.069E+10	4.128E+10	8.757E+09	3.796E+08	3.379E+06	3.401E+05	3.190E+05	1.710E+05	6.046E+04
1.750E+00	5.231E+10	2.318E+10	1.203E+10	2.895E+09	1.299E+09	3.524E+08	2.843E+07	2.372E+05	1.449E+01	1.360E+01	7.290E+00	2.577E+00
2.250E+00	9.572E+10	3.994E+10	1.680E+10	1.292E+09	2.092E+07	1.613E+04	3.046E+03	2.608E+01	1.751E-06	2.357E-07	2.357E-07	2.357E-07
2.750E+00	1.525E+09	6.864E+08	3.422E+08	4.273E+07	1.354E+06	1.430E+00	1.181E-07	1.181E-07	1.181E-07	1.181E-07	1.181E-07	1.181E-07
3.500E+00	1.714E+08	8.556E+07	4.302E+07	5.467E+06	1.756E+05	1.869E-01	8.698E-08	8.698E-08	8.698E-08	8.698E-08	8.698E-08	8.698E-08
5.000E+00	2.337E-08	2.395E-08	2.441E-08	2.522E-08	2.572E-08	2.589E-08	2.590E-08	2.590E-08	2.590E-08	2.590E-08	2.590E-08	2.590E-08
7.000E+00	1.516E-09	1.554E-09	1.584E-09	1.636E-09	1.669E-09	1.680E-09	1.680E-09	1.680E-09	1.680E-09	1.680E-09	1.680E-09	1.680E-09
1.100E+01	9.588E-11	9.829E-11	1.001E-10	1.035E-10	1.055E-10	1.062E-10	1.063E-10	1.063E-10	1.063E-10	1.063E-10	1.062E-10	1.062E-10
TOTAL	5.833E+13	2.372E+13	1.411E+13	6.091E+12	4.157E+12	2.403E+12	4.575E+11	4.258E+09	9.485E+07	9.018E+07	5.611E+07	2.794E+07
MEV/SEC	1.753E+13	5.418E+12	3.576E+12	1.731E+12	1.049E+12	5.569E+11	1.065E+11	1.050E+09	2.420E+07	2.273E+07	1.235E+07	4.534E+06

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS= METRIC TON OF INITIAL HEAVY METAL AT A REPROCESSING TIME OF 160 DAYS

EMEAN	SM+0.05% F	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	2.643E+05	1.203E+05	6.768E+04	2.728E+04	2.018E+04	1.230E+04	2.328E+03	2.075E+01	4.417E-01	4.281E-01	3.213E-01	2.120E-01
2.500E-02	9.872E+04	4.496E+04	2.565E+04	1.029E+04	7.192E+03	4.244E+03	8.037E+02	7.206E+00	2.190E-01	2.083E-01	1.283E-01	6.104E-02
3.750E-02	1.495E+05	6.744E+04	3.719E+04	1.456E+04	1.052E+04	6.090E+03	1.147E+03	1.046E+01	9.341E-02	8.990E-02	6.210E-02	3.497E-02
5.750E-02	2.079E+05	9.574E+04	5.318E+04	2.056E+04	1.504E+04	9.103E+03	1.716E+03	1.510E+01	2.315E-01	2.208E-01	1.415E-01	7.161E-02
8.500E-02	2.143E+05	9.866E+04	5.364E+04	1.947E+04	1.375E+04	8.104E+03	1.527E+03	1.376E+01	5.627E-01	5.305E-01	2.968E-01	1.166E-01
1.250E-01	4.096E+05	1.624E+05	8.259E+04	2.502E+04	1.626E+04	8.346E+03	1.452E+03	1.258E+01	6.955E-02	6.632E-02	4.191E-02	2.072E-02
2.250E-01	4.925E+05	2.281E+05	1.241E+05	4.410E+04	3.103E+04	1.848E+04	3.451E+03	2.983E+01	1.431E-01	1.309E-01	7.290E-02	2.831E-02
3.750E-01	4.304E+05	2.056E+05	1.136E+05	3.882E+04	2.382E+04	1.327E+04	2.497E+03	2.612E+01	4.722E+00	4.435E+00	2.377E+00	8.404E-01
5.750E-01	4.454E+06	2.602E+06	1.929E+06	1.115E+06	7.762E+05	4.552E+05	9.008E+04	9.001E+02	1.607E+01	1.510E+01	8.092E+00	2.861E+00
8.500E-01	9.922E+06	1.321E+06	8.043E+05	3.053E+05	8.128E+04	1.017E+04	9.330E+02	9.050E+00	1.214E+00	1.120E+00	5.988E-01	2.117E-01
1.250E+00	5.788E+05	3.396E+05	2.248E+05	1.009E+05	5.160E+04	1.095E+04	4.745E+02	4.224E+00	4.252E-01	3.988E-01	2.137E-01	7.557E-02
1.750E+00	9.154E+04	4.057E+04	2.105E+04	5.066E+03	2.273E+03	6.166E+02	4.975E+01	4.151E-01	2.536E-05	2.390E-05	1.276E-05	4.511E-06
2.250E+00	2.154E+05	8.986E+04	3.781E+04	2.907E+03	4.707E+01	3.628E-02	6.853E-03	5.869E-05	3.939E-12	5.304E-13	5.304E-13	5.304E-13
2.750E+00	4.195E+03	1.888E+03	9.410E+02	1.175E+02	3.724E+00	3.934E-06	3.248E-13	3.248E-13	3.248E-13	3.248E-13	3.248E-13	3.248E-13
3.500E+00	5.998E+02	2.995E+02	1.506E+02	1.913E+01	6.146E-01	6.542E-07	3.044E-13	3.044E-13	3.044E-13	3.044E-13	3.044E-13	3.044E-13
5.000E+00	1.168E-13	1.198E-13	1.220E-13	1.261E-13	1.286E-13	1.295E-13	1.295E-13	1.295E-13	1.295E-13	1.295E-13	1.295E-13	1.295E-13
7.000E+00	1.061E-14	1.088E-14	1.108E-14	1.146E-14	1.168E-14	1.176E-14	1.176E-14	1.176E-14	1.176E-14	1.176E-14	1.176E-14	1.176E-14
1.100E+01	1.055E-15	1.081E-15	1.101E-15	1.138E-15	1.161E-15	1.169E-15	1.169E-15	1.169E-15	1.169E-15	1.169E-15	1.169E-15	1.169E-15
TOTAL	1.753E+07	5.418E+06	3.576E+06	1.731E+06	1.049E+06	5.569E+05	1.065E+05	1.050E+03	2.420E+01	2.273E+01	1.235E+01	4.534E+00
GAM POW	2.811E+00	8.684E-01	5.732E-01	2.775E-01	1.682E-01	8.926E-02	1.707E-02	1.683E-04	3.879E-06	3.643E-06	1.979E-06	7.268E-07

APPENDIX C: CHARACTERISTICS OF LMFBR SPENT FUELS, HIGH-LEVEL WASTE, AND STRUCTURAL MATERIAL WASTE

Appendix C.1: Characteristics of LMFBR Core and Core plus Axial Blanket Spent Fuel

TABLE C.1. GRAMS OF ACTIVATION PRODUCT ELEMENTS IN LMFBR CORE AND CORE+AXIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	CO+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
H	4.112E+00	4.112E+00	4.112E+00	4.112E+00	4.111E+00	4.111E+00	5.799E+00	5.799E+00	5.799E+00	5.799E+00	5.799E+00	5.798E+00
HE	9.485E+00	9.485E+00	9.485E+00	9.485E+00	9.485E+00	9.486E+00	1.426E+01	1.426E+01	1.426E+01	1.426E+01	1.426E+01	1.426E+01
LI	1.169E+00	1.169E+00	1.169E+00	1.169E+00	1.169E+00	1.169E+00	1.204E+00	1.204E+00	1.204E+00	1.204E+00	1.204E+00	1.204E+00
BE	1.076E-02	1.076E-02	1.076E-02	1.076E-02	1.076E-02	1.076E-02	1.639E-02	1.639E-02	1.639E-02	1.639E-02	1.639E-02	1.639E-02
B	6.217E+00	6.217E+00	6.217E+00	6.217E+00	6.217E+00	6.217E+00	2.904E+00	2.904E+00	2.904E+00	2.904E+00	2.904E+00	2.904E+00
C	7.481E+02	7.481E+02	7.481E+02	7.481E+02	7.481E+02	7.481E+02	3.463E+02	3.463E+02	3.463E+02	3.463E+02	3.463E+02	3.463E+02
N	3.547E+02	3.547E+02	3.547E+02	3.547E+02	3.547E+02	3.547E+02	1.358E+02	1.358E+02	1.358E+02	1.358E+02	1.358E+02	1.358E+02
O	1.336E+05	1.336E+05	1.336E+05	1.336E+05	1.336E+05	1.336E+05	1.331E+05	1.331E+05	1.331E+05	1.331E+05	1.331E+05	1.331E+05
F	1.069E+01	1.069E+01	1.069E+01	1.069E+01	1.069E+01	1.069E+01	1.069E+01	1.069E+01	1.069E+01	1.069E+01	1.069E+01	1.069E+01
NE	5.609E-04	5.610E-04	5.610E-04	5.610E-04	5.610E-04	5.610E-04	8.373E-04	8.373E-04	8.373E-04	8.373E-04	8.374E-04	8.374E-04
NA	1.499E+01	1.499E+01	1.499E+01	1.499E+01	1.499E+01	1.499E+01	1.499E+01	1.499E+01	1.499E+01	1.499E+01	1.499E+01	1.499E+01
MG	2.068E+00	2.068E+00	2.068E+00	2.068E+00	2.068E+00	2.068E+00	2.101E+00	2.101E+00	2.101E+00	2.101E+00	2.101E+00	2.101E+00
AL	1.871E+02	1.871E+02	1.871E+02	1.871E+02	1.871E+02	1.871E+02	7.446E+01	7.446E+01	7.446E+01	7.446E+01	7.446E+01	7.446E+01
SI	5.899E+03	5.899E+03	5.899E+03	5.899E+03	5.899E+03	5.899E+03	2.008E+03	2.008E+03	2.008E+03	2.008E+03	2.008E+03	2.008E+03
P	2.457E+02	2.457E+02	2.457E+02	2.457E+02	2.457E+02	2.457E+02	1.064E+02	1.064E+02	1.064E+02	1.064E+02	1.064E+02	1.064E+02
S	4.587E-03	4.481E-03	4.375E-03	4.296E-03	4.273E-03	4.272E-03	6.410E-03	6.243E-03	6.087E-03	5.970E-03	5.936E-03	5.934E-03
CL	5.300E+00	5.300E+00	5.300E+00	5.300E+00	5.300E+00	5.300E+00	5.299E+00	5.300E+00	5.300E+00	5.300E+00	5.300E+00	5.300E+00
AR	2.076E-04	1.862E-04	1.827E-04	1.820E-04	1.820E-04	1.821E-04	2.886E-04	2.564E-04	2.509E-04	2.499E-04	2.499E-04	2.501E-04
K	3.003E-03	3.003E-03	3.003E-03	3.003E-03	3.003E-03	3.003E-03	4.528E-03	4.528E-03	4.528E-03	4.528E-03	4.528E-03	4.528E-03
CA	1.997E+00	1.997E+00	1.997E+00	1.997E+00	1.997E+00	1.997E+00	1.996E+00	1.996E+00	1.996E+00	1.996E+00	1.996E+00	1.996E+00
SC	3.119E-04	1.504E-04	8.308E-05	3.604E-05	2.440E-05	2.405E-05	4.705E-04	2.261E-04	1.242E-04	5.297E-05	3.529E-05	3.475E-05
TI	1.566E+02	1.566E+02	1.566E+02	1.566E+02	1.566E+02	1.566E+02	5.457E+01	5.457E+01	5.457E+01	5.457E+01	5.457E+01	5.457E+01
V	1.334E+01	1.374E+01	1.378E+01	1.378E+01	1.378E+01	1.378E+01	1.752E+01	1.807E+01	1.813E+01	1.813E+01	1.813E+01	1.813E+01
CR	1.761E+05	1.761E+05	1.761E+05	1.761E+05	1.761E+05	1.761E+05	5.971E+04	5.971E+04	5.971E+04	5.972E+04	5.972E+04	5.973E+04
MN	1.901E+04	1.900E+04	1.900E+04	1.900E+04	1.900E+04	1.900E+04	6.368E+03	6.365E+03	6.363E+03	6.360E+03	6.356E+03	6.356E+03
FE	6.651E+05	6.651E+05	6.651E+05	6.651E+05	6.651E+05	6.651E+05	2.256E+05	2.256E+05	2.256E+05	2.256E+05	2.256E+05	2.256E+05
CO	2.075E+02	2.000E+02	1.968E+02	1.948E+02	1.941E+02	1.935E+02	1.299E+02	1.197E+02	1.155E+02	1.128E+02	1.119E+02	1.110E+02
NI	1.398E+05	1.398E+05	1.398E+05	1.398E+05	1.398E+05	1.398E+05	4.726E+04	4.726E+04	4.726E+04	4.726E+04	4.726E+04	4.726E+04
CU	9.302E+02	9.302E+02	9.302E+02	9.302E+02	9.303E+02	9.304E+02	3.156E+02	3.156E+02	3.156E+02	3.157E+02	3.157E+02	3.159E+02
ZN	4.054E+01	4.054E+01	4.054E+01	4.054E+01	4.054E+01	4.054E+01	4.063E+01	4.063E+01	4.062E+01	4.062E+01	4.062E+01	4.062E+01
GA	1.044E-02	1.044E-02	1.044E-02	1.044E-02	1.044E-02	1.044E-02	1.422E-02	1.422E-02	1.422E-02	1.422E-02	1.422E-02	1.422E-02
GE	3.989E-05	3.989E-05	3.989E-05	3.989E-05	3.989E-05	3.989E-05	6.107E-05	6.107E-05	6.107E-05	6.107E-05	6.107E-05	6.107E-05
AS	1.266E-14	1.267E-14	1.267E-14	1.267E-14	1.267E-14	1.267E-14	2.047E-14	2.047E-14	2.047E-14	2.047E-14	2.047E-14	2.047E-14
SE	2.701E-16	2.734E-16	2.734E-16	2.734E-16	2.734E-16	2.734E-16	4.369E-16	4.422E-16	4.422E-16	4.422E-16	4.422E-16	4.422E-16
SR	6.564E-07	5.795E-07	5.570E-07	5.484E-07	5.472E-07	5.461E-07	1.053E-06	9.290E-07	8.935E-07	8.797E-07	8.779E-07	8.760E-07
Y	2.710E-06	2.480E-06	2.497E-06	2.504E-06	2.504E-06	2.504E-06	4.141E-06	3.792E-06	3.826E-06	3.836E-06	3.837E-06	3.837E-06
ZR	4.451E-01	4.493E-01	4.492E-01	4.491E-01	4.491E-01	4.491E-01	6.706E-01	6.769E-01	6.767E-01	6.766E-01	6.766E-01	6.766E-01
NB	1.033E+02	1.032E+02	1.032E+02	1.032E+02	1.032E+02	1.032E+02	3.497E+01	3.495E+01	3.495E+01	3.495E+01	3.495E+01	3.495E+01
MO	2.411E+04	2.411E+04	2.411E+04	2.411E+04	2.411E+04	2.411E+04	8.109E+03	8.108E+03	8.108E+03	8.108E+03	8.108E+03	8.108E+03
TC	6.252E+00	6.286E+00	6.286E+00	6.286E+00	6.286E+00	6.286E+00	8.493E+00	8.540E+00	8.540E+00	8.540E+00	8.540E+00	8.540E+00
RU	1.681E+01	1.681E+01	1.681E+01	1.681E+01	1.681E+01	1.681E+01	2.308E+01	2.308E+01	2.308E+01	2.307E+01	2.308E+01	2.308E+01
RH	2.069E-03	2.469E-03	2.551E-03	2.571E-03	2.572E-03	2.572E-03	3.294E-03	3.931E-03	4.062E-03	4.094E-03	4.095E-03	4.095E-03
PD	3.504E-04	3.506E-04	3.508E-04	3.511E-04	3.518E-04	3.539E-04	5.104E-04	5.107E-04	5.109E-04	5.114E-04	5.123E-04	5.151E-04
AG	8.574E-02	8.563E-02	8.555E-02	8.543E-02	8.532E-02	8.526E-02	8.074E-02	8.065E-02	8.049E-02	8.033E-02	8.018E-02	8.010E-02
CD	2.442E+01	2.441E+01	2.441E+01	2.441E+01	2.441E+01	2.441E+01	2.420E+01	2.419E+01	2.419E+01	2.419E+01	2.419E+01	2.419E+01
IN	7.839E-01	7.839E-01	7.839E-01	7.839E-01	7.839E-01	7.839E-01	4.762E-01	4.762E-01	4.762E-01	4.762E-01	4.762E-01	4.762E-01
SN	4.652E+01	4.652E+01	4.652E+01	4.652E+01	4.652E+01	4.652E+01	1.952E+01	1.952E+01	1.952E+01	1.952E+01	1.952E+01	1.952E+01
SB	7.185E-02	7.202E-02	7.185E-02	7.132E-02	7.014E-02	6.772E-02	9.828E-02	9.851E-02	9.829E-02	9.756E-02	9.595E-02	9.264E-02
TE	7.229E-03	7.781E-03	8.197E-03	9.004E-03	1.032E-02	1.276E-02	1.072E-02	1.147E-02	1.206E-02	1.317E-02	1.497E-02	1.832E-02
I	4.762E-06	4.791E-06	4.801E-06	4.810E-06	4.813E-06	4.814E-06	7.586E-06	7.631E-06	7.647E-06	7.662E-06	7.667E-06	7.668E-06
XE	2.057E-07	2.058E-07	2.058E-07	2.058E-07	2.058E-07	2.058E-07	3.314E-07	3.314E-07	3.314E-07	3.314E-07	3.314E-07	3.314E-07
CS	7.662E-18	8.348E-18	8.338E-18	8.320E-18	8.293E-18	8.250E-18	1.240E-17	1.351E-17	1.349E-17	1.346E-17	1.342E-17	1.335E-17
BA	8.703E-21	1.924E-20	2.894E-20	4.657E-20	7.364E-20	1.167E-19	1.408E-20	3.115E-20	4.686E-20	7.539E-20	1.192E-19	1.888E-19
CE	9.351E-24	1.850E-43	3.658E-63	0.0	0.0	0.0	1.513E-23	2.993E-43	5.920E-63	0.0	0.0	0.0
PR	9.355E-23	6.198E-24	4.994E-24	3.867E-28	3.033E-36	0.0	1.514E-22	1.003E-23	8.081E-24	6.257E-28	4.906E-36	0.0
ND	9.608E-15	9.600E-15	9.600E-15	9.600E-15	9.600E-15	9.600E-15	1.506E-14	1.505E-14	1.505E-14	1.505E-14	1.505E-14	1.505E-14
PM	1.572E-11	1.023E-16	9.533E-17	8.324E-17	6.390E-17	2.893E-17	2.483E-11	1.635E-16	1.527E-16	1.333E-16	1.024E-16	4.633E-17
SM	4.858E-08	4.956E-08	5.053E-08	5.247E-08	5.616E-08	6.615E-08	6.699E-08	6.851E-08	7.000E-08	7.300E-08	7.869E-08	9.412E-08
EU	2.138E-03	2.342E-03	2.499E-03	2.712E-03	2.891E-03	2.907E-03	2.704E-03	2.942E-03	3.125E-03	3.372E-03	3.572E-03	3.562E-03
GD	2.420E+00	2.420E+00	2.420E+00	2.420E+00	2.420E+00	2.420E+00	2.390E+00	2.390E+00	2.389E+00	2.389E+00	2.389E+00	2.389E+00
TB	4.646E-02	4.497E-02	4.445E-02	4.414E-02	4.408E-02	4.408E-02	6.356E-02	6.132E-02	6.053E-02	6.005E-02	5.995E-02	5.995E-02
DY	3.452E-02	3.609E-02	3.661E-02	3.693E-02	3.699E-02	3.699E-02	4.850E-02	5.085E-02	5.165E-02	5.213E-02	5.223E-02	5.223E-02
HO	1.972E-06	1.972E-06	1.972E-06	1.972E-06	1.972E-06	1.972E-06	3.185E-06	3.185E-06	3.185E-06	3.185E-06	3.185E-06	3.185E-06
ER	1.789E-07	1.812E-07	1.812E-07	1.812E-07	1.812E-07	1.812E-07	2.893E-07	2.930E-07	2.930E-07	2.930E-07	2.930E-07	2.930E-07
TM	5.525E-13	6.300E-13	6.214E-13	6.126E-13	6.080E-13	6.070E-13	8.940E-13	1.019E-12	1.006E-12	9.912E-13	9.838E-13	9.822E-13
YB	1.510E-14	2.917E-14	3.785E-14	4.668E-14	5.123E-14	5.221E-14	2.444E-14	4.720E-14	6.124E-14	7.553E-14	8.290E-14	8.448E-14
TA	1.397E-04	1.533E-04	1.615E-04	1.695E-04	1.733E-04	1.739E-04	1.868E-04	2.048E-04	2.157E-04	2.264E-04	2.314E-04	2.321E-04
W	1.896E+00	1.895E+00	1.895E+00	1.895E+00	1.895E+00	1.895E+00	1.860E+00	1.859E+00	1.859E+00	1.859E+00	1.859E+00	1.859E+00
RE	9.742E-02	9.784E-02	9.797E-02	9.804E-02	9.806E-02	9.806E-02	1.294E-01	1.299E-01	1.301E-01	1.302E-01	1.302E-01	1.302E-01
OS	8.333E-03	8.380E-03	8.387E-03	8.391E-03	8.391E-03	8.391E-03	1.268E-02	1.275E-02	1.276E-02	1.277E-02	1.277E-02	1.277E-02
IR	4.424E-08	4.777E-08	4.637E-08	4.542E-08	4.522E-08	4.522E-08	7.144E-08	7.714E-08	7.487E-08	7.334E-08	7.303E-08	7.302E-08
PT	7.406E-09	1.078E-08	1.223E-08	1.313E-08	1.332E-08	1.332E-08	1.198E-08	1.743E-08	1.977E-08	2.123E-08	2.153E-08	2.154E-08
AU	6.037E-20	6.105E-20	6.105E-20	6.105E-20	6.105E-20	6.105E-20	9.769E-20	9.879E-20	9.879E-20	9.879E-20	9.879E-20	9.879E-20
HG	1.549E-19	1.716E-19	1.881E-19	2.220E-19	2.888E-19	4.894E-19	1.576E-19	1.745E-19	1.909E-19	2.248E-19	2.917E-19	4.921E-19
TL	2.389E-13	2.922E-13	3.454E-13	4.551E-13	6.714E-13	1.320E-12	3.244E-13	3.970E-13	4.696E-13	6.190E-13	9.137E-13	1.798E-12
PB	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
BI	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01
PO	4.238E-06	2.807E-06	1.789E-06	7.073E-07	1.136E-07	4.700E-10	5.805E-06	3.848E-06	2.451E-06	9.692E-07	1.556E-07	6.433E-10
TOTAL	1.167E+06	1.167E+06	1.167E+06	1.167E+06	1.167E+06	1.167E+06	4.835E+05	4.835E+05	4.835E+05	4.835E+05	4.835E+05	4.835E+05

TABLE C.2. GRAMS OF PRINCIPAL ACTIVATION PRODUCT NUCLIDES IN LMFBR CORE AND CORE+AXIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	CO+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
O 16	1.332E+05	1.332E+05	1.332E+05	1.332E+05	1.332E+05	1.332E+05	1.327E+05	1.327E+05	1.327E+05	1.327E+05	1.327E+05	1.327E+05
SI 29	5.420E+03	5.420E+03	5.420E+03	5.420E+03	5.420E+03	5.420E+03	1.844E+03	1.844E+03	1.844E+03	1.844E+03	1.844E+03	1.844E+03
CR 50	7.348E+03	7.348E+03	7.348E+03	7.348E+03	7.348E+03	7.348E+03	2.481E+03	2.481E+03	2.481E+03	2.481E+03	2.481E+03	2.481E+03
CR 52	1.474E+05	1.474E+05	1.474E+05	1.474E+05	1.474E+05	1.474E+05	4.994E+04	4.994E+04	4.994E+04	4.994E+04	4.994E+04	4.994E+04
CR 53	1.703E+04	1.703E+04	1.703E+04	1.703E+04	1.703E+04	1.703E+04	5.776E+03	5.776E+03	5.776E+03	5.776E+03	5.776E+03	5.776E+03
CR 54	4.347E+03	4.349E+03	4.351E+03	4.354E+03	4.357E+03	4.360E+03	1.513E+03	1.516E+03	1.519E+03	1.523E+03	1.528E+03	1.532E+03
MN 55	1.899E+04	1.899E+04	1.899E+04	1.899E+04	1.900E+04	1.900E+04	6.349E+03	6.349E+03	6.350E+03	6.351E+03	6.353E+03	6.356E+03
FE 54	3.727E+04	3.727E+04	3.727E+04	3.727E+04	3.727E+04	3.727E+04	1.260E+04	1.260E+04	1.260E+04	1.260E+04	1.260E+04	1.260E+04
FE 56	6.106E+05	6.106E+05	6.106E+05	6.106E+05	6.106E+05	6.106E+05	2.065E+05	2.065E+05	2.065E+05	2.065E+05	2.065E+05	2.065E+05
FE 57	1.512E+04	1.512E+04	1.512E+04	1.512E+04	1.512E+04	1.512E+04	5.707E+03	5.707E+03	5.707E+03	5.707E+03	5.707E+03	5.707E+03
FE 58	2.093E+03	2.101E+03	2.104E+03	2.106E+03	2.106E+03	2.106E+03	8.035E+02	8.136E+02	8.178E+02	8.202E+02	8.207E+02	8.207E+02
NI 58	9.413E+04	9.413E+04	9.413E+04	9.413E+04	9.413E+04	9.413E+04	3.170E+04	3.170E+04	3.170E+04	3.170E+04	3.170E+04	3.170E+04
NI 60	3.730E+04	3.730E+04	3.730E+04	3.730E+04	3.730E+04	3.730E+04	1.264E+04	1.264E+04	1.264E+04	1.264E+04	1.264E+04	1.264E+04
NI 61	1.649E+03	1.649E+03	1.649E+03	1.649E+03	1.649E+03	1.649E+03	5.667E+02	5.667E+02	5.667E+02	5.667E+02	5.667E+02	5.667E+02
NI 62	5.298E+03	5.298E+03	5.298E+03	5.298E+03	5.298E+03	5.298E+03	1.792E+03	1.792E+03	1.792E+03	1.792E+03	1.792E+03	1.792E+03
NI 64	1.388E+03	1.388E+03	1.388E+03	1.388E+03	1.388E+03	1.388E+03	4.706E+02	4.706E+02	4.706E+02	4.706E+02	4.706E+02	4.706E+02
MO 92	3.428E+03	3.428E+03	3.428E+03	3.428E+03	3.428E+03	3.428E+03	1.162E+03	1.162E+03	1.162E+03	1.162E+03	1.162E+03	1.162E+03
MO 94	2.192E+03	2.192E+03	2.192E+03	2.192E+03	2.192E+03	2.192E+03	7.338E+02	7.338E+02	7.338E+02	7.338E+02	7.338E+02	7.338E+02
MO 95	3.721E+03	3.721E+03	3.721E+03	3.721E+03	3.721E+03	3.721E+03	1.178E+03	1.178E+03	1.178E+03	1.178E+03	1.178E+03	1.178E+03
MO 96	4.110E+03	4.110E+03	4.110E+03	4.110E+03	4.110E+03	4.110E+03	1.469E+03	1.469E+03	1.469E+03	1.469E+03	1.469E+03	1.469E+03
MO 97	2.310E+03	2.310E+03	2.310E+03	2.310E+03	2.310E+03	2.310E+03	7.479E+02	7.479E+02	7.479E+02	7.479E+02	7.479E+02	7.479E+02
MO 98	5.948E+03	5.948E+03	5.948E+03	5.948E+03	5.948E+03	5.948E+03	2.019E+03	2.019E+03	2.019E+03	2.019E+03	2.019E+03	2.019E+03
MO100	2.401E+03	2.401E+03	2.401E+03	2.401E+03	2.401E+03	2.401E+03	7.979E+02	7.979E+02	7.979E+02	7.979E+02	7.979E+02	7.979E+02
SUMTOT	1.163E+06	1.163E+06	1.163E+06	1.163E+06	1.163E+06	1.163E+06	4.815E+05	4.815E+05	4.815E+05	4.815E+05	4.815E+05	4.815E+05
TOTAL	1.167E+06	1.167E+06	1.167E+06	1.167E+06	1.167E+06	1.167E+06	4.835E+05	4.835E+05	4.835E+05	4.835E+05	4.835E+05	4.835E+05

TABLE C.3. CURIES OF ACTIVATION PRODUCT ELEMENTS IN LMFBR CORE AND CORE+AXIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	CO+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
H	6.868E+01	3.453E+01	3.405E+01	3.310E+01	3.129E+01	2.694E+01	9.926E+01	4.736E+01	4.671E+01	4.539E+01	4.292E+01	3.627E+01
HE	1.742E+00	0.0	0.0	0.0	0.0	0.0	2.765E+00	0.0	0.0	0.0	0.0	0.0
LI	2.014E-01	0.0	0.0	0.0	0.0	0.0	2.934E-01	0.0	0.0	0.0	0.0	0.0
BE	9.175E-04	3.706E-05	3.706E-05	3.706E-05	3.706E-05	3.706E-05	1.408E-03	5.865E-05	5.865E-05	5.865E-05	5.865E-05	5.865E-05
B	7.320E-01	0.0	0.0	0.0	0.0	0.0	1.018E+00	0.0	0.0	0.0	0.0	0.0
C	2.069E+02	3.381E+00	3.381E+00	3.380E+00	3.380E+00	3.379E+00	3.120E+02	4.943E+00	4.943E+00	4.942E+00	4.942E+00	4.940E+00
N	2.119E+03	0.0	0.0	0.0	0.0	0.0	3.216E+03	0.0	0.0	0.0	0.0	0.0
O	8.383E+00	0.0	0.0	0.0	0.0	0.0	1.250E+01	0.0	0.0	0.0	0.0	0.0
F	4.546E+00	0.0	0.0	0.0	0.0	0.0	6.767E+00	0.0	0.0	0.0	0.0	0.0
NE	7.450E+00	0.0	0.0	0.0	0.0	0.0	1.131E+01	0.0	0.0	0.0	0.0	0.0
NA	1.090E+02	2.592E-04	2.428E-04	2.121E-04	1.625E-04	7.307E-05	1.476E+02	3.418E-04	3.201E-04	2.796E-04	2.142E-04	9.635E-05
MG	7.017E+01	0.0	0.0	0.0	0.0	0.0	1.062E+02	0.0	0.0	0.0	0.0	0.0
AL	2.260E+03	0.0	0.0	0.0	0.0	0.0	3.413E+03	0.0	0.0	0.0	0.0	0.0
SI	8.735E+02	4.250E-08	4.249E-08	4.247E-08	4.242E-08	4.229E-08	1.319E+03	6.723E-08	6.721E-08	6.718E-08	6.711E-08	6.689E-08
P	3.214E+01	4.052E-01	5.165E-03	6.932E-07	4.243E-08	4.229E-08	4.500E+01	5.668E-01	7.225E-03	9.774E-07	6.711E-08	6.690E-08
S	1.817E+01	8.907E+00	4.384E+00	1.019E+00	5.738E-02	1.024E-05	2.691E+01	1.319E+01	6.494E+00	1.509E+00	8.499E-02	1.517E-05
CL	1.087E+00	9.042E-04	9.042E-04	9.042E-04	9.042E-04	9.042E-04	1.494E+00	1.231E-03	1.231E-03	1.231E-03	1.231E-03	1.231E-03
AR	2.588E+00	4.362E-01	7.373E-02	2.194E-03	3.169E-04	3.131E-04	3.915E+00	6.597E-01	1.115E-01	3.315E-03	4.761E-04	4.704E-04
K	5.664E-02	2.091E-08	2.091E-08	2.091E-08	2.091E-08	2.091E-08	8.571E-02	3.151E-08	3.151E-08	3.151E-08	3.151E-08	3.151E-08
CA	1.275E-01	8.364E-02	5.704E-02	2.595E-02	5.500E-03	6.713E-05	1.845E-01	1.213E-01	8.272E-02	3.763E-02	7.975E-03	9.599E-05
SC	2.685E+01	4.440E+00	2.109E+00	4.556E-01	2.220E-02	2.571E-06	4.066E+01	6.714E+00	3.189E+00	6.889E-01	3.358E-02	3.887E-06
TI	1.132E+01	0.0	0.0	0.0	0.0	0.0	1.709E+01	0.0	0.0	0.0	0.0	0.0
V	1.922E+05	3.684E-13	3.684E-13	3.684E-13	3.684E-13	3.684E-13	2.700E+05	5.543E-13	5.543E-13	5.543E-13	5.543E-13	5.543E-13
CR	4.192E+04	4.303E+03	4.529E+02	4.400E+00	4.735E-04	5.900E-16	5.829E+04	5.977E+03	6.291E+02	6.112E+00	6.576E-04	8.194E-16
MN	6.695E+05	8.207E+04	6.722E+04	4.457E+04	1.983E+04	1.745E+03	8.159E+05	1.239E+05	1.015E+05	6.728E+04	2.992E+04	2.633E+03
FE	1.854E+04	1.629E+04	1.498E+04	1.301E+04	9.960E+03	4.476E+03	2.550E+04	2.238E+04	2.058E+04	1.787E+04	1.368E+04	6.148E+03
CO	4.155E+05	1.710E+05	7.247E+04	1.405E+04	2.694E+03	1.602E+03	5.608E+05	2.304E+05	9.763E+04	1.891E+04	3.608E+03	2.144E+03
NI	1.087E+03	3.091E+02	3.086E+02	3.074E+02	3.051E+02	2.984E+02	1.491E+03	4.218E+02	4.210E+02	4.195E+02	4.164E+02	4.072E+02
CU	1.966E+03	3.095E-15	6.578E-26	1.495E-47	0.0	0.0	2.703E+03	4.765E-15	1.013E-25	2.302E-47	0.0	0.0
ZN	7.436E+01	2.742E+01	2.123E+01	1.254E+01	4.440E+00	1.972E-01	1.020E+02	3.753E+01	2.906E+01	1.716E+01	6.078E+00	2.699E-01
GA	2.751E-01	0.0	0.0	0.0	0.0	0.0	4.224E-01	0.0	0.0	0.0	0.0	0.0
GE	1.867E-04	8.722E-07	4.411E-09	8.291E-14	3.988E-23	0.0	2.973E-04	1.392E-06	7.059E-09	1.327E-13	6.382E-23	0.0
AS	5.159E-12	0.0	0.0	0.0	0.0	0.0	8.345E-12	0.0	0.0	0.0	0.0	0.0
SE	5.994E-24	5.994E-24	5.994E-24	5.994E-24	5.994E-24	5.994E-24	9.699E-24	9.699E-24	9.699E-24	9.699E-24	9.699E-24	9.699E-24
SR	3.207E-03	9.181E-04	2.686E-04	2.333E-05	2.475E-06	2.174E-06	5.146E-03	1.473E-03	4.310E-04	3.743E-05	3.973E-06	3.491E-06
Y	1.782E-01	1.867E-04	6.585E-05	9.458E-06	2.429E-06	2.175E-06	2.704E-01	2.993E-04	1.056E-04	1.517E-05	3.900E-06	2.492E-06
ZR	1.466E+01	4.250E+00	1.603E+00	2.155E-01	4.161E-03	4.179E-05	2.221E+01	6.442E+00	2.430E+00	3.266E-01	6.307E-03	6.357E-05
NB	1.013E+03	6.566E+01	1.317E+01	1.082E+00	3.727E-01	3.630E-01	1.529E+03	9.853E+01	1.972E+01	1.547E+00	4.756E-01	4.609E-01
MO	1.702E+05	2.686E-01	2.686E-01	2.685E-01	2.683E-01	2.683E-01	2.351E+05	3.660E-01	3.660E-01	3.660E-01	3.659E-01	3.657E-01
TC	4.066E+04	1.066E-01	1.066E-01	1.066E-01	1.066E-01	1.066E-01	5.638E+04	1.448E-01	1.448E-01	1.448E-01	1.448E-01	1.448E-01
RU	1.633E+02	3.337E+01	6.818E+00	2.594E-01	4.165E-04	9.363E-09	2.604E+02	5.319E+01	1.087E+01	4.135E-01	6.578E-04	1.514E-08
RH	1.608E+00	2.460E+07	2.077E-07	1.465E-07	7.366E-08	9.361E-09	2.591E+00	3.976E-07	3.359E-07	2.370E-07	1.192E-07	1.514E-08
PD	2.395E-02	5.692E-11	5.692E-11	5.692E-11	5.692E-11	5.692E-11	3.651E-02	8.503E-11	8.503E-11	8.503E-11	8.503E-11	8.503E-11
AG	2.966E+01	1.803E+00	1.405E+00	8.422E-01	3.083E-01	1.842E-02	3.989E+01	2.425E+00	1.890E+00	1.133E+00	4.146E-01	2.478E-02
CD	1.209E+03	1.661E+01	1.260E+01	9.027E+00	5.207E+00	1.013E+00	1.668E+03	2.280E+01	1.732E+01	1.241E+01	7.156E+00	1.393E+00
IN	1.457E+03	5.772E+00	1.637E+00	1.224E-01	7.359E-04	1.646E-10	1.618E+03	7.682E+00	2.179E+00	1.629E-01	9.812E-04	2.163E-10
SN	2.186E+02	2.430E+01	1.730E+01	9.214E+00	2.925E+00	1.238E-01	3.039E+02	3.334E+01	2.371E+01	1.261E+01	3.999E+00	1.691E-01
SB	2.740E+01	7.596E+00	7.030E+00	6.144E+00	4.778E+00	2.255E+00	4.089E+01	1.043E+01	9.636E+00	8.414E+00	6.542E+00	3.088E+00
TE	1.765E+00	1.766E+00	1.700E+00	1.505E+00	1.167E+00	5.503E-01	2.443E+00	2.430E+00	2.334E+00	2.063E+00	1.598E+00	7.534E-01
I	1.647E-03	1.888E-14	1.705E-14	1.705E-14	1.705E-14	1.705E-14	2.653E-03	3.051E-14	2.755E-14	2.755E-14	2.755E-14	2.755E-14
XE	1.912E-07	4.258E-09	7.553E-10	2.221E-11	2.123E-14	1.854E-23	3.089E-07	6.887E-09	1.221E-09	3.592E-11	3.433E-14	2.997E-23
CS	3.799E-16	1.581E-16	1.456E-16	1.227E-16	8.771E-17	3.199E-17	6.148E-16	2.559E-16	2.355E-16	1.986E-16	1.419E-16	5.175E-17
CE	6.212E-18	1.229E-37	2.431E-57	0.0	0.0	0.0	1.005E-17	1.989E-37	3.933E-57	0.0	0.0	0.0
PR	6.300E-18	4.174E-19	3.363E-19	2.605E-23	2.042E-31	0.0	1.019E-17	6.753E-19	5.442E-19	4.214E-23	3.304E-31	0.0
ND	2.031E-12	2.264E-15	7.245E-18	6.577E-23	8.384E-33	8.532E-34	3.242E-12	3.631E-15	1.325E-17	1.203E-22	1.516E-32	1.381E-33
PM	3.590E-05	1.112E-13	9.201E-14	7.735E-14	5.926E-14	2.683E-14	5.553E-05	1.783E-13	1.474E-13	1.239E-13	9.492E-14	4.297E-14
SM	6.356E-06	5.121E-08	5.111E-08	5.091E-08	5.052E-08	4.936E-08	9.775E-06	8.152E-08	8.137E-08	8.105E-08	8.043E-08	7.859E-08
EU	2.627E-01	1.484E-01	1.431E-01	1.362E-01	1.237E-01	9.297E-02	4.052E-01	2.222E-01	2.140E-01	2.036E-01	1.847E-01	1.385E-01
GD	1.337E+02	2.601E+00	2.010E+00	1.183E+00	4.154E-01	1.801E-02	1.864E+02	3.090E+00	2.388E+00	1.405E+00	4.934E-01	2.139E-02
TB	6.406E+01	1.014E+01	4.278E+00	7.244E-01	2.184E-02	5.987E-07	9.202E+01	1.555E+01	6.560E+00	1.111E+00	3.349E-02	9.180E-07
DY	2.393E-02	3.374E-13	3.548E-21	1.343E-37	0.0	0.0	3.865E-02	5.458E-13	5.739E-21	2.172E-37	0.0	0.0
HO	1.500E-03	1.232E-08	1.231E-08	1.231E-08	1.230E-08	1.228E-08	2.425E-03	1.992E-08	1.991E-08	1.991E-08	1.990E-08	1.986E-08
ER	5.919E-06	9.712E-12	1.266E-14	1.479E-20	2.972E-32	0.0	9.575E-06	1.706E-11	2.258E-14	2.638E-20	5.301E-32	0.0
TM	2.189E-10	1.350E-10	8.334E-11	3.106E-11	4.690E-12	1.615E-13	3.542E-10	2.184E-10	1.348E-10	5.025E-11	7.588E-12	2.611E-13
TA	4.724E-02	2.467E-02	1.434E-02	4.695E-03	5.195E-04	7.004E-07	7.205E-02	3.745E-02	2.177E-02	7.127E-03	7.886E-04	1.112E-06
W	1.220E+02	2.327E+00	1.034E+00	2.004E-01	9.529E-03	7.388E-06	1.629E+02	3.232E+00	1.436E+00	2.776E-01	1.312E-02	9.989E-06
RE	3.724E+01	1.173E-01	4.773E-02	7.503E-03	1.954E-04	7.098E-09	5.670E+01	1.788E-01	7.279E-02	1.144E-02	2.980E-04	1.011E-08
OS	5.540E-04	5.566E-06	9.701E-08	2.331E-11	3.288E-14	2.325E-14	8.948E-04	8.992E-06	1.567E-07	3.766E-11	5.319E-14	3.761E-14
IR	5.735E-05	2.459E-05	1.058E-05	1.868E-06	6.115E-08	9.114E-11	9.274E-05	3.976E-05	1.712E-05	3.020E-06	9.889E-08	1.474E-10
PT	6.555E-08	1.782E-10	1.781E-10	1.780E-10	1.777E-10	1.770E-10	1.060E-07	2.883E-10	2.881E-10	2.879E-10	2.875E-10	2.863E-10
AU	6.067E-17	5.510E-27	5.005E-37	1.072E-57	0.0	0.0	9.817E-17	8.917E-27	8.099E-37	1.734E-57	0.0	0.0
TL	7.285E-09	7.285E-09	7.285E-09	7.285E-09	7.285E-09	7.285E-09	9.929E-09	9.929E-09	9.929E-09	9.929E-09	9.929E-09	9.929E-09
PB	1.402E-04	5.443E-10	5.443E-10	5.443E-10	5.443E-10	5.443E-10	2.048E-04	7.417E-10	7.417E-10	7.417E-10	7.417E-10	7.417E-10
BI	2.001E-02	2.026E-07	1.240E-07	1.240E-07	1.240E-07	1.240E-07	2.751E-02	2.939E-07	1.859E-07	1.859E-07	1.859E-07	1.859E-07
PO	1.904E-02	1.261E-02	8.037E-03	3.179E-03	5.104E-04	2.112E-06	2.609E-02	1.728E-02	1.101E-02	4.355E-03	6.994E-04	2.891E-06
TOTAL	1.562E+06	2.742E+05	1.556E+05	7.202E+04	3.284E+04	8.156E+03	2.041E+06	3.834E+05	2.209E+05	1.046E+05	4.770E+04	1.138E+04

TABLE C.4. CURIES OF PRINCIPAL ACTIVATION PRODUCT NUCLIDES IN LMFBR CORE AND CORE+AXIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	CO+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
CR 51	4.089E+04	4.303E+03	4.529E+02	4.400E+00	4.735E-04	5.900E-16	5.679E+04	5.977E+03	6.291E+02	6.112E+00	6.576E-04	8.194E-16
MN 54	1.002E+05	8.207E+04	6.722E+04	4.457E+04	1.983E+04	1.745E+03	1.513E+05	1.239E+05	1.015E+05	6.728E+04	2.992E+04	2.633E+03
FE 55	1.698E+04	1.590E+04	1.489E+04	1.300E+04	9.960E+03	4.476E+03	2.332E+04	2.183E+04	2.044E+04	1.786E+04	1.368E+04	6.148E+03
FE 59	1.560E+03	3.901E+02	9.753E+01	5.622E+00	2.029E-02	9.487E-10	2.160E+03	5.451E+02	1.363E+02	7.855E+00	2.838E-02	1.327E-09
CO 58	4.055E+05	1.680E+05	6.957E+04	1.134E+04	3.170E+02	6.926E-03	5.465E+05	2.263E+05	9.375E+04	1.528E+04	4.271E+02	9.331E-03
CO 60	3.093E+03	2.994E+03	2.899E+03	2.712E+03	2.377E+03	1.602E+03	4.139E+03	4.007E+03	3.879E+03	3.629E+03	3.181E+03	2.144E+03
NI 63	3.053E+02	3.047E+02	3.041E+02	3.030E+02	3.007E+02	2.940E+02	4.164E+02	4.156E+02	4.149E+02	4.133E+02	4.102E+02	4.010E+02
SUMTOT	5.686E+05	2.739E+05	1.554E+05	7.194E+04	3.276E+04	8.117E+03	7.846E+05	3.830E+05	2.207E+05	1.045E+05	4.762E+04	1.133E+04
TOTAL	1.562E+06	2.742E+05	1.556E+05	7.202E+04	3.284E+04	8.156E+03	2.041E+06	3.834E+05	2.209E+05	1.046E+05	4.770E+04	1.138E+04

TABLE C.5. WATTS OF ACTIVATION PRODUCT ELEMENTS IN LMFBR CORE AND CORE+AXIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	CO+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
H	1.179E-03	1.162E-03	1.147E-03	1.114E-03	1.054E-03	8.902E-04	1.617E-03	1.594E-03	1.573E-03	1.528E-03	1.445E-03	1.221E-03
HE	1.619E-02	0.0	0.0	0.0	0.0	0.0	2.570E-02	0.0	0.0	0.0	0.0	0.0
LI	7.508E-03	0.0	0.0	0.0	0.0	0.0	1.094E-02	0.0	0.0	0.0	0.0	0.0
BE	6.011E-05	4.449E-08	4.449E-08	4.449E-08	4.449E-08	4.449E-08	9.214E-05	7.040E-08	7.040E-08	7.040E-08	7.040E-08	7.040E-08
B	5.801E-02	0.0	0.0	0.0	0.0	0.0	8.070E-02	0.0	0.0	0.0	0.0	0.0
C	3.465E+00	9.913E-04	9.913E-04	9.912E-04	9.911E-04	9.908E-04	5.240E+00	1.449E-03	1.449E-03	1.449E-03	1.449E-03	1.449E-03
N	9.182E+01	0.0	0.0	0.0	0.0	0.0	1.393E+02	0.0	0.0	0.0	0.0	0.0
O	2.395E-01	0.0	0.0	0.0	0.0	0.0	3.571E-01	0.0	0.0	0.0	0.0	0.0
F	1.895E-01	0.0	0.0	0.0	0.0	0.0	2.820E-01	0.0	0.0	0.0	0.0	0.0
NE	9.132E-02	0.0	0.0	0.0	0.0	0.0	1.386E-01	0.0	0.0	0.0	0.0	0.0
NA	2.654E+00	3.668E-06	3.435E-06	3.001E-06	2.299E-06	1.034E-06	3.586E+00	4.837E-06	4.529E-06	3.957E-06	3.031E-06	1.363E-06
MG	6.626E-01	0.0	0.0	0.0	0.0	0.0	1.003E+00	0.0	0.0	0.0	0.0	0.0
AL	4.024E+01	0.0	0.0	0.0	0.0	0.0	6.079E+01	0.0	0.0	0.0	0.0	0.0
SI	3.089E+00	5.291E-11	5.289E-11	5.286E-11	5.281E-11	5.264E-11	4.663E+00	8.369E-11	8.367E-11	8.362E-11	8.353E-11	8.327E-11
P	3.328E-01	4.107E-03	5.236E-05	7.026E-09	4.300E-10	4.287E-10	4.667E-01	5.745E-03	7.324E-05	9.907E-09	6.802E-10	6.781E-10
S	1.994E-02	8.839E-03	4.350E-03	1.011E-03	5.693E-05	1.016E-08	2.960E-02	1.309E-02	6.444E-03	1.498E-03	8.433E-05	1.505E-08
CL	1.923E-02	1.322E-06	1.322E-06	1.322E-06	1.322E-06	1.322E-06	2.643E-02	1.801E-06	1.801E-06	1.801E-06	1.801E-06	1.801E-06
AR	3.744E-05	6.663E-06	2.004E-06	1.084E-06	1.057E-06	1.049E-06	5.663E-05	1.007E-05	3.021E-06	1.628E-06	1.588E-06	1.576E-06
K	5.822E-04	8.447E-11	8.447E-11	8.447E-11	8.447E-11	8.447E-11	8.811E-04	1.273E-10	1.273E-10	1.273E-10	1.273E-10	1.273E-10
CA	1.988E-04	3.830E-05	2.613E-05	1.191E-05	2.549E-06	6.236E-08	2.780E-04	5.559E-05	3.790E-05	1.726E-05	3.693E-06	8.704E-08
SC	1.859E-01	5.585E-02	2.653E-02	5.730E-03	2.793E-04	3.234E-08	2.814E-01	8.445E-02	4.011E-02	8.666E-03	4.223E-04	4.890E-08
TI	8.286E-02	0.0	0.0	0.0	0.0	0.0	1.251E-01	0.0	0.0	0.0	0.0	0.0
V	2.865E+03	4.062E-15	4.062E-15	4.062E-15	4.062E-15	4.062E-15	4.023E+03	6.111E-15	6.111E-15	6.111E-15	6.111E-15	6.111E-15
CR	1.547E+01	9.208E-01	9.692E-02	9.416E-04	1.013E-07	1.262E-19	2.192E+01	1.279E+00	1.346E-01	1.308E-03	1.407E-07	1.753E-19
MN	9.004E+03	4.087E+02	3.347E+02	2.219E+02	9.871E+01	8.687E+00	1.068E+04	6.166E+02	5.052E+02	3.350E+02	1.490E+02	1.311E+01
FE	3.739E+01	2.550E+01	2.138E+01	1.793E+01	1.370E+01	6.156E+00	5.239E+01	3.511E+01	2.939E+01	2.463E+01	1.881E+01	8.455E+00
CO	2.479E+03	1.052E+03	4.612E+02	1.097E+02	3.855E+01	2.470E+01	3.341E+03	1.417E+03	6.211E+02	1.474E+02	5.161E+01	3.306E+01
NI	5.591E+00	1.493E-01	1.491E-01	1.486E-01	1.477E-01	1.451E-01	7.687E+00	2.044E-01	2.041E-01	2.034E-01	2.022E-01	1.986E-01
CU	5.403E+00	1.022E-17	1.121E-28	2.400E-50	0.0	0.0	7.427E+00	1.573E-17	1.727E-28	3.696E-50	0.0	0.0
ZN	2.001E-01	9.607E-02	7.439E-02	4.394E-02	1.556E-02	6.908E-04	2.743E-01	1.315E-01	1.018E-01	6.014E-02	2.130E-02	9.455E-04
GA	1.069E-03	0.0	0.0	0.0	0.0	0.0	1.641E-03	0.0	0.0	0.0	0.0	0.0
GE	2.569E-07	1.215E-09	6.145E-12	1.155E-16	5.555E-26	0.0	4.090E-07	1.940E-09	9.834E-12	1.848E-16	8.890E-26	0.0
AS	4.569E-14	0.0	0.0	0.0	0.0	0.0	7.390E-14	0.0	0.0	0.0	0.0	0.0
SE	1.492E-27	1.492E-27	1.492E-27	1.492E-27	1.492E-27	1.492E-27	2.415E-27	2.415E-27	2.415E-27	2.415E-27	2.415E-27	2.415E-27
SR	1.133E-05	3.168E-06	9.231E-07	7.515E-08	3.192E-09	2.524E-09	1.818E-05	5.084E-06	1.481E-06	1.206E-07	5.125E-09	4.052E-09
Y	1.020E-03	6.752E-07	2.412E-07	3.863E-08	1.328E-08	1.205E-08	1.551E-03	1.083E-06	3.868E-07	6.198E-08	2.132E-08	1.935E-08
ZR	8.181E-02	2.153E-02	8.119E-03	1.091E-03	2.087E-05	4.997E-09	1.239E-01	3.263E-02	1.231E-02	1.654E-03	3.163E-05	7.602E-09
NB	9.679E+00	3.265E-01	6.511E-02	7.143E-03	3.745E-03	3.699E-03	1.463E+01	4.894E-01	9.706E-02	9.898E-03	4.767E-03	4.696E-03
MO	8.622E+02	2.517E-05	2.511E-05	2.510E-05	2.510E-05	2.508E-05	1.190E+03	3.430E-05	3.421E-05	3.421E-05	3.420E-05	3.418E-05
TC	2.041E+02	5.347E-05	5.347E-05	5.347E-05	5.347E-05	5.347E-05	2.844E+02	7.263E-05	7.263E-05	7.263E-05	7.263E-05	7.263E-05
RU	5.466E-01	1.116E-01	2.281E-02	8.680E-04	1.393E-06	5.622E-13	8.712E-01	1.780E-01	3.636E-02	1.384E-03	2.200E-06	9.091E-13
RH	8.290E-03	2.359E-09	1.992E-09	1.405E-09	7.065E-10	8.978E-11	1.335E-02	3.817E-09	3.222E-09	2.273E-09	1.143E-09	1.452E-10
PD	6.666E-05	3.374E-15	3.374E-15	3.374E-15	3.374E-15	3.374E-15	1.016E-04	5.040E-15	5.040E-15	5.040E-15	5.040E-15	5.040E-15
AG	1.775E-01	2.985E-02	2.326E-02	1.393E-02	5.080E-03	2.771E-04	2.386E-01	4.015E-02	3.129E-02	1.873E-02	6.833E-03	3.726E-04
CD	4.249E+00	2.003E-02	1.036E-02	5.878E-03	3.315E-03	6.450E-04	5.862E+00	2.743E-02	1.421E-02	8.078E-03	4.557E-03	8.865E-04
IN	2.048E+01	1.712E-02	4.856E-03	3.631E-04	2.184E-06	4.814E-13	2.210E+01	2.278E-02	6.462E-03	4.832E-04	2.910E-06	6.376E-13
SN	4.008E-01	2.775E-02	1.792E-02	8.096E-03	1.986E-03	6.737E-05	5.574E-01	3.835E-02	2.472E-02	1.115E-02	2.726E-03	9.200E-05
SB	1.609E-01	2.567E-02	2.262E-02	1.928E-02	1.494E-02	7.051E-03	2.438E-01	3.558E-02	3.111E-02	2.642E-02	2.045E-02	9.654E-03
TE	1.555E-03	1.519E-03	1.449E-03	1.272E-03	9.819E-04	4.625E-04	2.167E-03	2.097E-03	1.994E-03	1.745E-03	1.345E-03	6.333E-04
I	8.124E-06	1.410E-17	7.888E-18	7.885E-18	7.885E-18	7.885E-18	1.309E-05	2.281E-17	1.275E-17	1.274E-17	1.274E-17	1.274E-17
XE	2.777E-10	7.820E-12	1.392E-12	4.095E-14	3.914E-17	3.417E-26	4.488E-10	1.265E-11	2.252E-12	6.621E-14	6.329E-17	5.526E-26
CS	1.919E-18	1.609E-18	1.482E-18	1.249E-18	8.926E-19	3.256E-19	3.106E-18	2.604E-18	2.397E-18	2.021E-18	1.444E-18	5.267E-19
CE	2.616E-20	5.175E-40	1.024E-59	0.0	0.0	0.0	4.234E-20	8.374E-40	1.656E-59	0.0	0.0	0.0
PR	1.174E-20	7.776E-22	6.266E-22	4.852E-26	3.805E-34	0.0	1.899E-20	1.258E-21	1.014E-21	7.851E-26	6.156E-34	0.0
ND	8.892E-15	5.461E-18	1.748E-20	1.587E-25	1.817E-35	0.0	1.418E-14	8.759E-18	3.198E-20	2.903E-25	3.324E-35	0.0
PM	3.974E-07	2.449E-16	7.826E-17	2.977E-17	2.126E-17	9.622E-18	6.106E-07	3.947E-16	1.259E-16	4.770E-17	3.406E-17	1.541E-17
SM	2.297E-08	6.004E-12	5.992E-12	5.969E-12	5.923E-12	5.788E-12	3.516E-08	9.558E-12	9.540E-12	9.503E-12	9.430E-12	9.215E-12
EU	2.151E-03	9.883E-04	9.500E-04	9.108E-04	8.388E-04	6.557E-04	3.317E-03	1.455E-03	1.396E-03	1.338E-03	1.232E-03	9.628E-04
GD	5.872E-01	2.242E-03	1.733E-03	1.019E-03	3.581E-04	1.552E-05	8.175E-01	2.663E-03	2.058E-03	1.211E-03	4.253E-04	1.844E-05
TB	2.759E-01	8.259E-02	3.485E-02	5.900E-03	1.779E-04	4.876E-09	4.106E-01	1.268E-01	5.343E-02	9.047E-03	2.728E-04	7.477E-09
DY	7.548E-05	3.941E-16	4.143E-24	1.569E-40	0.0	0.0	1.219E-04	6.373E-16	6.701E-24	2.537E-40	0.0	0.0
HO	6.428E-06	1.364E-10	1.364E-10	1.364E-10	1.363E-10	1.361E-10	1.040E-05	2.207E-10	2.206E-10	2.206E-10	2.204E-10	2.200E-10
ER	7.303E-09	1.957E-14	2.552E-17	2.980E-23	5.989E-35	0.0	1.182E-08	3.435E-14	4.552E-17	5.317E-23	1.068E-34	0.0
TM	4.334E-13	2.663E-13	1.640E-13	6.047E-14	8.497E-15	4.637E-17	7.013E-13	4.305E-13	2.654E-13	9.785E-14	1.375E-14	7.476E-17
TA	4.082E-04	2.196E-04	1.277E-04	4.180E-05	4.625E-06	6.236E-09	6.218E-04	3.334E-04	1.938E-04	6.346E-05	7.021E-06	9.898E-09
W	5.417E-01	5.404E-03	2.360E-03	4.303E-04	1.550E-05	2.601E-09	7.224E-01	7.486E-03	3.268E-03	5.957E-04	2.144E-05	3.534E-09
RE	1.201E-01	5.819E-04	2.368E-04	3.723E-05	9.696E-07	7.312E-11	1.828E-01	8.874E-04	3.612E-04	5.678E-05	1.479E-06	1.005E-10
OS	5.667E-07	8.083E-09	1.409E-10	3.382E-14	1.890E-17	1.337E-17	9.153E-07	1.305E-08	2.276E-10	5.464E-14	3.059E-17	2.163E-17
IR	3.384E-07	1.451E-07	6.249E-08	1.102E-08	3.608E-10	3.179E-13	5.472E-07	2.347E-07	1.010E-07	1.783E-08	5.834E-10	5.141E-13
PT	5.741E-11	5.283E-14	5.278E-14	5.275E-14	5.267E-14	5.246E-14	9.287E-11	8.547E-14	8.540E-14	8.534E-14	8.522E-14	8.486E-14
AU	4.941E-19	4.488E-29	4.076E-39	8.729E-60	0.0	0.0	7.995E-19	7.263E-29	6.596E-39	1.413E-59	0.0	0.0
TL	6.581E-11	6.581E-11	6.581E-11	6.581E-11	6.581E-11	6.581E-11	8.970E-11	8.969E-11	8.969E-11	8.969E-11	8.969E-11	8.969E-11
PB	1.612E-07	1.129E-13	1.129E-13	1.129E-13	1.129E-13	1.129E-13	2.355E-07	1.539E-13	1.539E-13	1.539E-13	1.539E-13	1.539E-13
BI	4.615E-05	2.395E-09	2.214E-09	2.214E-09	2.214E-09	2.214E-09	6.343E-05	3.554E-09	3.305E-09	3.305E-09	3.305E-09	3.305E-09
PO	6.104E-04	4.043E-04	2.576E-04	1.019E-04	1.636E-05	6.770E-08	8.363E-04	5.540E-04	3.530E-04	1.396E-04	2.242E-05	9.267E-08
TOTAL	1.566E+04	1.488E+03	8.179E+02	3.498E+02	1.512E+02	3.971E+01	1.987E+04	2.072E+03	1.156E+03	5.074E+02	2.197E+02	5.484E+01

TABLE C.6. WATTS OF PRINCIPAL ACTIVATION PRODUCT NUCLIDES IN LMFBR CORE AND CORE+AXIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	CO+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
MN 54	4.990E+02	4.087E+02	3.347E+02	2.219E+02	9.871E+01	8.687E+00	7.531E+02	6.168E+02	5.052E+02	3.350E+02	1.490E+02	1.311E+01
FE 55	2.334E+01	2.186E+01	2.047E+01	1.788E+01	1.370E+01	6.156E+00	3.206E+01	3.002E+01	2.812E+01	2.456E+01	1.881E+01	8.459E+00
FE 59	1.455E+01	3.637E+00	9.093E-01	5.242E-02	1.892E-04	8.846E-12	2.033E+01	5.082E+00	1.271E+00	7.324E-02	2.647E-04	1.238E-11
CO 58	2.428E+03	1.096E+03	4.165E+02	6.787E+01	1.898E+00	4.146E-05	3.272E+03	1.355E+03	5.613E+02	9.146E+01	2.557E+00	5.587E-05
CO 60	4.769E+01	4.616E+01	4.469E+01	4.181E+01	3.666E+01	2.470E+01	6.381E+01	6.177E+01	5.980E+01	5.594E+01	4.905E+01	3.306E+01
SUMTOT	3.012E+03	1.486E+03	8.173E+02	3.496E+02	1.510E+02	3.955E+01	4.141E+03	2.069E+03	1.156E+03	5.070E+02	2.194E+02	5.462E+01
TOTAL	1.566E+04	1.488E+03	8.179E+02	3.498E+02	1.512E+03	3.971E+01	1.987E+04	2.072E+03	1.156E+03	5.074E+02	2.197E+02	5.484E+01

TABLE C.7. PHOTONS FROM ACTIVATION PRODUCTS IN LMFBR CORE AND CORE+AXIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS=ONE TONNE INITIAL HEAVY METAL: ADV OX LMFBR: LWR-PU/U/U/U

EMEAN	CO+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
1.500E-02	2.370E+16	1.849E+15	9.330E+14	3.279E+14	1.087E+14	1.213E+13	3.061E+16	2.560E+15	1.313E+15	4.787E+14	1.628E+14	1.776E+13
2.500E-02	3.883E+15	7.496E+13	3.198E+13	6.429E+12	1.290E+12	6.402E+11	4.914E+15	1.010E+14	4.312E+13	8.670E+12	1.738E+12	8.599E+11
3.750E-02	2.611E+15	4.834E+13	2.039E+13	3.822E+12	5.995E+11	3.272E+11	3.308E+15	6.513E+13	2.746E+13	5.139E+12	8.017E+11	4.383E+11
5.750E-02	3.729E+15	6.927E+13	2.904E+13	5.229E+12	6.541E+11	3.510E+11	4.717E+15	9.335E+13	3.913E+13	7.041E+12	8.760E+11	4.697E+11
8.500E-02	2.359E+15	4.163E+13	1.740E+13	3.049E+12	2.959E+11	1.398E+11	2.986E+15	5.611E+13	2.345E+13	4.106E+12	3.963E+11	1.871E+11
1.250E-01	1.858E+15	2.681E+13	1.116E+13	1.901E+12	1.341E+11	5.460E+10	2.385E+15	3.613E+13	1.504E+13	2.560E+12	1.798E+11	7.323E+10
2.250E-01	2.703E+15	3.476E+13	1.442E+13	2.396E+12	1.026E+11	2.269E+10	3.476E+15	4.683E+13	1.944E+13	3.218E+12	1.384E+11	3.055E+10
3.750E-01	2.309E+15	2.667E+13	6.994E+12	1.000E+12	9.683E+10	3.519E+10	3.062E+15	3.650E+13	9.486E+12	1.350E+12	1.318E+11	4.803E+10
5.750E-01	5.348E+15	1.660E+15	6.875E+14	1.121E+14	3.232E+12	4.033E+10	7.186E+15	2.237E+15	9.265E+14	1.511E+14	4.357E+12	5.522E+10
8.500E-01	3.989E+16	8.918E+15	4.900E+15	2.020E+15	7.314E+14	6.340E+13	5.062E+16	1.250E+16	6.999E+15	2.984E+15	1.102E+15	9.569E+13
1.250E+00	9.161E+15	2.223E+14	2.150E+14	2.009E+14	1.760E+14	1.185E+14	1.280E+16	2.975E+14	2.877E+14	2.688E+14	2.355E+14	1.586E+14
1.750E+00	6.294E+15	3.077E+13	1.275E+13	2.080E+12	5.947E+10	1.090E+08	7.431E+15	4.146E+13	1.718E+13	2.803E+12	8.013E+10	1.517E+08
2.250E+00	2.974E+15	1.563E+09	1.265E+09	1.079E+09	9.325E+08	6.282E+08	3.498E+15	2.165E+09	1.719E+09	1.446E+09	1.248E+09	8.407E+08
2.750E+00	4.024E+14	3.897E+06	3.611E+06	3.302E+06	2.865E+06	1.944E+06	4.707E+14	5.268E+06	4.851E+06	4.420E+06	3.860E+06	2.601E+06
3.500E+00	3.494E+13	3.378E-01	2.682E-01	1.730E-01	7.989E-02	9.744E-03	4.108E+13	5.261E-01	4.208E-01	2.747E-01	1.284E-01	1.576E-02
5.000E+00	3.074E+11	2.445E-02	1.558E-02	6.161E-03	9.894E-04	4.107E-06	4.663E+11	3.350E-02	2.134E-02	8.442E-03	1.356E-03	5.622E-06
7.000E+00	5.141E+13	1.586E-03	1.011E-03	3.998E-04	6.420E-05	2.665E-07	7.803E+13	2.173E-03	1.385E-03	5.477E-04	8.796E-05	3.648E-07
1.100E+01	5.270E+10	1.003E-04	6.392E-05	2.528E-05	4.059E-06	1.685E-08	7.998E+10	1.374E-04	8.758E-05	3.464E-05	5.562E-06	2.307E-08
TOTAL	1.073E+17	1.300E+16	6.880E+15	2.686E+15	1.022E+15	1.957E+14	1.376E+17	1.807E+16	9.720E+15	3.917E+15	1.509E+15	2.742E+14
MEV/SEC	7.040E+16	8.926E+15	4.877E+15	2.043E+15	8.454E+14	2.024E+14	8.948E+16	1.244E+16	6.907E+15	2.974E+15	1.236E+15	2.800E+14

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS=ONE TONNE INITIAL HEAVY METAL: ADV OX LMFBR: LWR-PU/U/U/U

EMEAN	CO+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
1.500E-02	4.677E+06	3.648E+05	1.841E+05	6.471E+04	2.144E+04	2.394E+03	6.041E+06	5.051E+05	2.591E+05	9.445E+04	3.212E+04	3.505E+03
2.500E-02	1.277E+06	2.465E+04	1.052E+04	2.115E+03	4.241E+02	2.106E+02	1.616E+06	3.323E+04	1.418E+04	2.851E+03	5.718E+02	2.828E+02
3.750E-02	1.288E+06	2.385E+04	1.005E+04	1.886E+03	2.957E+02	1.614E+02	1.632E+06	3.213E+04	1.355E+04	2.535E+03	3.955E+02	2.162E+02
5.750E-02	2.821E+06	5.240E+04	2.197E+04	3.955E+03	4.948E+02	2.655E+02	3.568E+06	7.062E+04	2.960E+04	5.326E+03	6.627E+02	3.553E+02
8.500E-02	2.637E+06	4.656E+04	1.946E+04	3.409E+03	3.309E+02	1.563E+02	3.339E+06	6.275E+04	2.622E+04	4.591E+03	4.432E+02	2.093E+02
1.250E-01	3.056E+06	4.409E+04	1.836E+04	3.126E+03	2.205E+02	8.979E+01	3.921E+06	5.942E+04	2.474E+04	4.210E+03	2.956E+02	1.204E+02
2.250E-01	7.999E+06	1.029E+05	4.268E+04	7.062E+03	3.038E+02	6.717E+01	1.029E+07	1.388E+05	5.755E+04	9.524E+03	4.097E+02	9.042E+01
3.750E-01	1.139E+07	1.316E+05	3.450E+04	4.933E+03	4.777E+02	1.736E+02	1.511E+07	1.801E+05	4.680E+04	6.660E+03	6.502E+02	2.369E+02
5.750E-01	4.045E+07	1.256E+07	5.201E+06	8.482E+05	2.445E+04	3.051E+02	5.436E+07	1.693E+07	7.009E+06	1.143E+06	3.296E+04	4.177E+02
8.500E-01	4.460E+08	9.972E+07	5.479E+07	2.258E+07	8.178E+06	7.090E+05	5.660E+08	1.398E+08	7.826E+07	3.336E+07	1.232E+07	1.070E+06
1.250E+00	1.506E+08	3.656E+06	3.535E+06	3.303E+06	2.894E+06	1.949E+06	2.105E+08	4.893E+06	4.731E+06	4.420E+06	3.872E+06	2.608E+06
1.750E+00	1.449E+08	7.083E+05	2.934E+05	4.788E+04	1.369E+03	2.510E+00	1.711E+08	9.545E+05	3.954E+05	6.452E+04	1.845E+03	3.492E+00
2.250E+00	8.804E+07	4.628E+01	3.745E+01	3.193E+01	2.760E+01	1.860E+01	1.036E+08	6.419E+01	5.088E+01	4.282E+01	3.694E+01	2.488E+01
2.750E+00	1.456E+07	1.410E-01	1.306E-01	1.194E-01	1.044E-01	7.033E-02	1.703E+07	1.908E-01	1.755E-01	1.599E-01	1.397E-01	9.411E-02
3.500E+00	1.609E+06	1.555E-08	1.235E-08	7.965E-09	3.678E-09	4.487E-10	1.891E+06	2.423E-08	1.938E-08	1.265E-08	5.912E-09	7.256E-10
5.000E+00	2.022E+04	1.608E-09	1.025E-09	4.053E-10	6.508E-11	2.702E-13	3.067E+04	2.203E-09	1.404E-09	5.553E-10	8.917E-11	3.698E-13
7.000E+00	4.735E+05	1.461E-10	9.308E-11	3.681E-11	5.912E-12	2.454E-14	7.185E+06	2.002E-10	1.275E-10	5.044E-11	8.100E-12	3.359E-14
1.100E+01	7.626E+03	1.452E-11	9.249E-12	3.658E-12	5.874E-13	2.439E-15	1.157E+04	1.989E-11	1.267E-11	5.012E-12	8.049E-13	3.338E-15
TOTAL	9.261E+08	1.174E+08	6.416E+07	2.687E+07	1.112E+07	2.662E+06	1.177E+09	1.636E+08	9.086E+07	3.912E+07	1.627E+07	3.684E+06
GAM POW	1.128E+04	1.431E+03	7.818E+02	3.275E+02	1.355E+02	3.244E+01	1.434E+04	1.994E+03	1.107E+03	4.767E+02	1.982E+02	4.489E+01

TABLE C.9. GRAMS OF ACTINIDE ELEMENTS IN LMFBR CORE AND CORE+AXIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	CO+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
HE	2.640E+00	3.343E+00	3.714E+00	4.228E+00	4.609E+00	5.981E+00	4.582E+00	5.393E+00	5.992E+00	6.817E+00	7.746E+00	9.607E+00
SF	1.624E-05	2.009E-05	2.337E-05	2.897E-05	3.793E-05	6.056E-05	2.627E-05	3.251E-05	3.780E-05	4.687E-05	6.137E-05	9.797E-05
TL	5.894E-12	7.747E-12	9.934E-12	1.521E-11	2.741E-11	6.381E-11	9.530E-12	1.252E-11	1.606E-11	2.458E-11	4.430E-11	1.031E-10
PB	1.340E-06	1.889E-06	2.602E-06	4.685E-06	1.166E-05	5.749E-05	2.168E-06	3.055E-06	4.207E-06	7.574E-06	1.885E-05	9.294E-05
BI	3.946E-10	5.200E-10	6.613E-10	9.950E-10	1.754E-09	4.024E-09	6.380E-10	8.407E-10	1.069E-09	1.609E-09	2.836E-09	6.505E-09
PO	6.584E-12	8.698E-12	1.014E-11	1.160E-11	1.217E-11	1.151E-11	1.065E-11	1.407E-11	1.641E-11	1.876E-11	1.969E-11	1.862E-11
AT	1.629E-19	1.189E-19	1.172E-19	1.176E-19	1.181E-19	1.204E-19	2.635E-19	1.922E-19	1.895E-19	1.901E-19	1.910E-19	1.945E-19
RN	5.240E-12	6.887E-12	8.832E-12	1.352E-11	2.437E-11	5.678E-11	8.472E-12	1.113E-11	1.428E-11	2.185E-11	3.939E-11	9.178E-11
FR	1.481E-15	1.082E-15	1.067E-15	1.071E-15	1.079E-15	1.109E-15	2.394E-15	1.748E-15	1.724E-15	1.730E-15	1.740E-15	1.780E-15
PA	3.078E-08	4.047E-08	5.190E-08	7.951E-08	1.438E-07	3.413E-07	4.976E-08	6.542E-08	8.391E-08	1.285E-07	2.324E-07	5.517E-07
AC	7.438E-11	8.943E-11	1.068E-10	1.459E-10	2.360E-10	6.051E-10	7.287E-11	8.755E-11	1.049E-10	1.429E-10	2.265E-10	5.429E-10
TH	8.958E-05	1.059E-04	1.239E-04	1.660E-04	2.677E-04	7.083E-04	1.332E-04	1.590E-04	1.874E-04	2.541E-04	4.160E-04	1.120E-03
PA	1.306E-05	1.389E-05	1.419E-05	1.472E-05	1.575E-05	1.896E-05	1.760E-05	1.872E-05	1.899E-05	1.938E-05	2.019E-05	2.274E-05
U	8.132E+05	8.132E+05	8.132E+05	8.133E+05	8.133E+05	8.133E+05	7.213E+05	7.213E+05	7.213E+05	7.213E+05	7.213E+05	7.214E+05
NP	5.631E+02	3.103E+02	3.107E+02	3.116E+02	3.137E+02	3.233E+02	7.747E+02	4.924E+02	4.532E+02	4.546E+02	4.580E+02	4.736E+02
PU	1.183E+05	1.185E+05	1.184E+05	1.182E+05	1.179E+05	1.169E+05	1.716E+05	1.718E+05	1.717E+05	1.714E+05	1.708E+05	1.692E+05
AM	1.777E+03	1.871E+03	1.963E+03	2.149E+03	2.502E+03	3.462E+03	2.875E+03	3.026E+03	3.175E+03	3.475E+03	4.046E+03	5.597E+03
CM	2.511E+02	2.248E+02	2.061E+02	1.830E+02	1.640E+02	1.446E+02	4.064E+02	3.638E+02	3.335E+02	2.961E+02	2.653E+02	2.340E+02
BK	1.085E-06	8.937E-07	7.354E-07	4.923E-07	2.232E-07	2.080E-08	1.756E-06	1.446E-06	1.190E-06	7.967E-07	3.612E-07	3.365E-08
CF	2.626E-07	4.543E-07	6.118E-07	8.530E-07	1.118E-06	1.308E-06	4.245E-07	7.351E-07	9.899E-07	1.380E-06	1.809E-06	2.116E-06
ES	1.456E-14	3.054E-15	2.413E-16	1.789E-17	5.926E-18	4.406E-19	2.356E-14	4.942E-15	3.904E-16	2.896E-17	1.121E-17	7.129E-19
TOTAL	9.341E+05	9.341E+05	9.341E+05	9.341E+05	9.341E+05	9.341E+05	8.969E+05	8.969E+05	8.969E+05	8.969E+05	8.969E+05	8.969E+05

TABLE C.9. GRAMS OF PRINCIPAL ACTINIDE NUCLIDES IN LMFBR CORE AND CORE+AXIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	CO+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
U235	9.820E+02	9.825E+02	9.830E+02	9.840E+02	9.861E+02	9.923E+02	6.871E+02	6.878E+02	6.885E+02	6.899E+02	6.927E+02	7.011E+02
U238	8.121E+05	8.121E+05	8.121E+05	8.121E+05	8.121E+05	8.121E+05	7.203E+05	7.203E+05	7.203E+05	7.203E+05	7.203E+05	7.203E+05
PU238	9.830E+02	1.007E+03	1.022E+03	1.037E+03	1.042E+03	1.022E+03	1.585E+03	1.622E+03	1.647E+03	1.673E+03	1.681E+03	1.648E+03
PU239	7.255E+04	7.280E+04	7.280E+04	7.280E+04	7.280E+04	7.280E+04	9.842E+04	9.876E+04	9.876E+04	9.875E+04	9.875E+04	9.874E+04
PU240	3.105E+04	3.105E+04	3.105E+04	3.105E+04	3.105E+04	3.106E+04	4.941E+04	4.941E+04	4.942E+04	4.942E+04	4.942E+04	4.943E+04
PU241	7.945E+03	7.851E+03	7.759E+03	7.571E+03	7.216E+03	6.245E+03	1.283E+04	1.268E+04	1.253E+04	1.223E+04	1.166E+04	1.009E+04
PU242	5.769E+03	5.769E+03	5.769E+03	5.769E+03	5.769E+03	5.769E+03	9.334E+03	9.335E+03	9.335E+03	9.335E+03	9.335E+03	9.335E+03
AM243	9.380E+02	9.384E+02	9.384E+02	9.383E+02	9.383E+02	9.380E+02	1.518E+03	1.518E+03	1.518E+03	1.518E+03	1.518E+03	1.518E+03
SUMTOT	9.323E+05	9.325E+05	9.324E+05	9.322E+05	9.319E+05	9.309E+05	8.941E+05	8.943E+05	8.942E+05	8.939E+05	8.934E+05	8.918E+05
TOTAL	9.341E+05	9.341E+05	9.341E+05	9.341E+05	9.341E+05	9.341E+05	8.969E+05	8.969E+05	8.969E+05	8.969E+05	8.969E+05	8.969E+05

TABLE C.10. CURIES OF ACTINIDE ELEMENTS IN LMFBR CORE AND CORE+AXIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	CO+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
TL	1.735E-03	2.282E-03	2.926E-03	4.479E-03	8.073E-03	1.880E-02	2.807E-03	3.689E-03	4.731E-03	7.241E-03	1.305E-02	3.038E-02
PB	4.833E-03	6.352E-03	8.145E-03	1.247E-02	2.247E-02	5.231E-02	7.813E-03	1.027E-02	1.317E-02	2.015E-02	3.632E-02	8.456E-02
BI	4.833E-03	6.352E-03	8.145E-03	1.247E-02	2.247E-02	5.231E-02	7.813E-03	1.027E-02	1.317E-02	2.015E-02	3.632E-02	8.456E-02
PO	7.930E-03	1.042E-02	1.336E-02	2.045E-02	3.687E-02	8.583E-02	1.282E-02	1.685E-02	2.160E-02	3.306E-02	5.959E-02	1.387E-01
AT	2.623E-07	1.914E-07	1.887E-07	1.893E-07	1.902E-07	1.939E-07	4.243E-07	3.097E-07	3.052E-07	3.061E-07	3.076E-07	3.131E-07
RN	4.834E-03	6.351E-03	8.145E-03	1.247E-02	2.247E-02	5.231E-02	7.816E-03	1.027E-02	1.317E-02	2.015E-02	3.632E-02	8.456E-02
FR	2.624E-07	1.915E-07	1.888E-07	1.895E-07	1.905E-07	1.945E-07	4.244E-07	3.097E-07	3.053E-07	3.063E-07	3.078E-07	3.137E-07
RA	4.834E-03	6.352E-03	8.145E-03	1.247E-02	2.247E-02	5.231E-02	7.816E-03	1.027E-02	1.317E-02	2.015E-02	3.632E-02	8.456E-02
AC	2.739E-07	1.977E-07	1.962E-07	1.996E-07	2.071E-07	2.374E-07	4.378E-07	3.156E-07	3.124E-07	3.161E-07	3.236E-07	3.520E-07
TH	2.859E-01	2.816E-01	2.834E-01	2.877E-01	2.977E-01	3.276E-01	2.608E-01	2.541E-01	2.569E-01	2.639E-01	2.800E-01	3.283E-01
PA	4.859E-01	4.910E-01	4.923E-01	4.930E-01	4.947E-01	5.015E-01	5.521E-01	5.597E-01	5.618E-01	5.629E-01	5.656E-01	5.765E-01
U	6.025E+07	4.027E+01	6.547E-01	6.800E-01	7.354E-01	8.865E-01	7.710E+07	5.954E+01	8.507E-01	8.920E-01	9.813E-01	1.225E+00
NP	5.998E+07	1.888E+02	1.888E+02	1.888E+02	1.887E+02	1.886E+02	7.672E+07	3.055E+02	3.055E+02	3.054E+02	3.053E+02	3.052E+02
PU	2.001E+06	8.381E+05	8.288E+05	8.097E+05	7.731E+05	6.728E+05	3.235E+06	1.352E+06	1.337E+06	1.307E+06	1.247E+06	1.085E+06
AM	7.521E+05	3.839E+02	4.155E+03	4.793E+03	6.005E+03	9.295E+03	1.217E+06	6.208E+03	6.719E+03	7.750E+03	9.707E+03	1.502E+04
CM	2.747E+05	1.924E+05	1.353E+05	6.829E+04	2.387E+04	1.088E+04	4.445E+05	3.113E+05	2.188E+05	1.105E+05	3.863E+04	1.761E+04
BK	2.093E-03	1.465E-03	1.206E-03	8.071E-04	3.659E-04	3.409E-05	3.386E-03	2.371E-03	1.951E-03	1.306E-03	5.921E-04	5.516E-05
CF	5.639E-06	6.373E-06	6.939E-06	7.830E-06	8.692E-06	8.863E-06	9.124E-06	1.031E-05	1.126E-05	1.267E-05	1.406E-05	1.434E-05
ES	3.667E-10	7.623E-11	5.439E-12	4.607E-14	1.292E-14	8.220E-16	5.933E-10	1.233E-10	8.801E-12	7.474E-14	2.091E-14	1.330E-15
TOTAL	1.233E+08	1.035E+06	9.684E+05	8.830E+05	8.032E+05	6.932E+05	1.587E+08	1.670E+06	1.563E+06	1.425E+06	1.296E+06	1.118E+06

TABLE C.11. CURIES OF PRINCIPAL ACTINIDE NUCLIDES IN LMFBR CORE AND CORE+AXIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	CO+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
PU238	1.684E+04	1.724E+04	1.750E+04	1.777E+04	1.785E+04	1.750E+04	2.715E+04	2.780E+04	2.822E+04	2.865E+04	2.879E+04	2.822E+04
PU239	4.511E+03	4.527E+03	4.527E+03	4.527E+03	4.527E+03	4.527E+03	6.121E+03	6.141E+03	6.141E+03	6.141E+03	6.141E+03	6.140E+03
PU240	7.078E+03	7.078E+03	7.078E+03	7.079E+03	7.079E+03	7.080E+03	1.126E+04	1.126E+04	1.126E+04	1.127E+04	1.127E+04	1.127E+04
PU241	8.180E+05	8.092E+05	7.996E+05	7.803E+05	7.437E+05	6.437E+05	1.323E+06	1.307E+06	1.292E+06	1.261E+06	1.201E+06	1.040E+06
AM241	2.783E+03	3.103E+03	3.420E+03	4.059E+03	5.274E+03	8.572E+03	4.501E+03	5.019E+03	5.530E+03	6.563E+03	8.524E+03	1.385E+04
CM242	2.620E+05	1.798E+05	1.227E+05	5.600E+04	1.205E+04	3.343E+02	4.235E+05	2.909E+05	1.986E+05	9.061E+04	1.949E+04	5.408E+02
CM244	1.260E+04	1.248E+04	1.237E+04	1.213E+04	1.167E+04	1.041E+04	2.039E+04	2.020E+04	2.001E+04	1.962E+04	1.889E+04	1.684E+04
SUMTOT	1.125E+06	1.033E+06	9.672E+05	8.819E+05	8.021E+05	6.921E+05	1.816E+06	1.666E+06	1.561E+06	1.423E+06	1.294E+06	1.117E+06
TOTAL	1.233E+08	1.035E+06	9.684E+05	8.830E+05	8.032E+05	6.932E+05	1.587E+08	1.670E+06	1.563E+06	1.425E+06	1.296E+06	1.118E+06

TABLE C.12. WATTS OF ACTINIDE ELEMENTS IN LMFBR CORE AND CORE+AXIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	CO+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
TL	4.086E-05	5.370E-05	6.886E-05	1.054E-04	1.900E-04	4.423E-04	6.606E-05	8.682E-05	1.113E-04	1.704E-04	3.071E-04	7.150E-04
PB	9.201E-06	1.209E-05	1.551E-05	2.374E-05	4.278E-05	9.961E-05	1.488E-05	1.955E-05	2.507E-05	3.837E-05	6.916E-05	1.610E-04
BI	8.218E-05	1.080E-04	1.385E-04	2.120E-04	3.821E-04	8.897E-04	1.329E-04	1.746E-04	2.239E-04	3.427E-04	6.177E-04	1.438E-03
PO	3.620E-04	4.757E-04	6.099E-04	9.336E-04	1.683E-03	3.918E-03	5.853E-04	7.690E-04	9.861E-04	1.509E-03	2.720E-03	6.333E-03
AT	1.119E-08	8.169E-09	8.052E-09	8.078E-09	8.118E-09	8.273E-09	1.811E-08	1.321E-08	1.302E-08	1.306E-08	1.312E-08	1.336E-08
RN	1.836E-04	2.411E-04	3.092E-04	4.733E-04	8.531E-04	1.986E-03	2.968E-04	3.895E-04	4.999E-04	7.651E-04	1.379E-03	3.210E-03
FR	1.012E-08	7.389E-09	7.283E-09	7.307E-09	7.343E-09	7.484E-09	1.638E-08	1.195E-08	1.178E-08	1.182E-08	1.187E-08	1.209E-08
RA	1.659E-04	2.180E-04	2.795E-04	4.279E-04	7.712E-04	1.795E-03	2.683E-04	3.524E-04	4.519E-04	6.917E-04	1.247E-03	2.902E-03
AC	9.222E-09	6.690E-09	6.595E-09	6.618E-09	6.653E-09	6.793E-09	1.490E-08	1.082E-08	1.066E-08	1.070E-08	1.075E-08	1.096E-08
TH	2.740E-04	3.190E-04	3.773E-04	5.185E-04	8.454E-04	1.822E-03	3.605E-04	4.336E-04	5.281E-04	7.563E-04	1.285E-03	2.863E-03
PA	1.877E-03	1.849E-03	1.852E-03	1.853E-03	1.857E-03	1.872E-03	1.963E-03	1.922E-03	1.926E-03	1.929E-03	1.935E-03	1.960E-03
U	1.618E+05	8.711E-02	1.251E-02	1.359E-02	1.546E-02	2.057E-02	2.070E+05	1.254E-01	1.512E-02	1.671E-02	1.975E-02	2.796E-02
NP	1.458E+05	4.657E-01	4.656E-01	4.656E-01	4.656E-01	4.656E-01	1.866E+05	7.524E-01	7.524E-01	7.524E-01	7.523E-01	7.523E-01
PU	2.275E+03	9.571E+02	9.653E+02	9.736E+02	9.753E+02	9.604E+02	3.636E+03	1.503E+03	1.516E+03	1.530E+03	1.533E+03	1.509E+03
AM	1.595E+03	1.095E+02	1.200E+02	1.413E+02	1.816E+02	2.912E+02	2.580E+03	1.771E+02	1.941E+02	2.284E+02	2.936E+02	4.705E+02
CM	7.510E+02	6.514E+02	5.810E+02	4.951E+02	4.279E+02	3.696E+02	1.215E+03	1.054E+03	9.401E+02	8.011E+02	6.924E+02	5.981E+02
BK	3.497E-06	1.086E-06	8.933E-07	5.980E-07	2.711E-07	2.526E-08	5.658E-06	1.757E-06	1.445E-06	9.677E-07	4.387E-07	4.087E-08
CF	2.177E-07	2.522E-07	2.799E-07	3.213E-07	3.633E-07	3.769E-07	3.523E-07	4.081E-07	4.529E-07	5.199E-07	5.878E-07	6.099E-07
ES	2.361E-13	4.692E-14	5.192E-15	1.280E-15	5.072E-16	3.227E-17	3.820E-13	7.592E-14	8.401E-15	2.072E-15	8.208E-16	5.221E-17
TOTAL	3.122E+05	1.719E+03	1.667E+03	1.610E+03	1.585E+03	1.622E+03	4.011E+05	2.735E+03	2.651E+03	2.560E+03	2.519E+03	2.578E+03

TABLE C.13. WATTS OF PRINCIPAL ACTINIDE NUCLIDES IN LMFBR CORE AND CORE+AXIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	CO+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
PU238	5.580E+02	5.713E+02	5.798E+02	5.888E+02	5.916E+02	5.799E+02	8.997E+02	9.213E+02	9.351E+02	9.496E+02	9.542E+02	9.352E+02
PU239	1.390E+02	1.395E+02	1.395E+02	1.395E+02	1.395E+02	1.395E+02	1.886E+02	1.892E+02	1.893E+02	1.893E+02	1.893E+02	1.892E+02
PU240	2.204E+02	2.204E+02	2.204E+02	2.204E+02	2.204E+02	2.205E+02	3.507E+02	3.507E+02	3.508E+02	3.508E+02	3.508E+02	3.509E+02
PU241	2.538E+01	2.509E+01	2.479E+01	2.419E+01	2.305E+01	1.995E+01	4.100E+01	4.052E+01	4.004E+01	3.908E+01	3.724E+01	3.223E+01
AM241	9.244E+01	1.031E+02	1.136E+02	1.348E+02	1.752E+02	2.847E+02	1.495E+02	1.667E+02	1.837E+02	2.180E+02	2.832E+02	4.601E+02
AM243	6.013E+00	6.016E+00	6.016E+00	6.015E+00	6.015E+00	6.013E+00	9.730E+00	9.734E+00	9.734E+00	9.734E+00	9.733E+00	9.730E+00
CM242	3.044E+02	2.089E+02	1.426E+02	6.506E+01	1.400E+01	3.884E-01	4.925E+02	3.379E+02	2.307E+02	1.053E+02	2.265E+01	6.284E-01
CM243	5.845E+00	5.810E+00	5.775E+00	5.705E+00	5.568E+00	5.176E+00	9.458E+00	9.401E+00	9.345E+00	9.231E+00	9.009E+00	8.375E+00
CM244	4.407E+02	4.366E+02	4.325E+02	4.242E+02	4.083E+02	3.640E+02	7.131E+02	7.065E+02	6.999E+02	6.864E+02	6.607E+02	5.890E+02
SUMTOT	1.792E+03	1.717E+03	1.665E+03	1.609E+03	1.584E+03	1.620E+03	2.854E+03	2.732E+03	2.649E+03	2.557E+03	2.517E+03	2.575E+03
TOTAL	3.122E+05	1.719E+03	1.667E+03	1.610E+03	1.585E+03	1.622E+03	4.011E+05	2.735E+03	2.651E+03	2.560E+03	2.519E+03	2.578E+03

TABLE C.14. PHOTONS FROM ACTINIDES IN LMFBR CORE AND CORE+AXIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS=ONE TONNE INITIAL HEAVY METAL: ADV OX LMFBR: LWR-PU/U/U/U

EMEAN	CO+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
1.500E-02	3.095E+18	1.376E+15	1.034E+15	6.364E+14	3.780E+14	3.220E+14	3.971E+18	2.222E+15	1.669E+15	1.025E+15	6.075E+14	5.167E+14
2.500E-02	1.378E+17	3.187E+12	3.438E+12	4.036E+12	5.172E+12	8.256E+12	1.772E+17	5.146E+12	5.557E+12	6.523E+12	8.358E+12	1.334E+13
3.750E-02	2.040E+17	3.837E+12	3.052E+12	2.159E+12	1.627E+12	1.692E+12	2.616E+17	6.202E+12	4.932E+12	3.488E+12	2.627E+12	2.731E+12
5.750E-02	1.537E+17	4.373E+13	4.751E+13	5.631E+13	7.302E+13	1.184E+14	1.985E+17	7.062E+13	7.681E+13	9.103E+13	1.180E+14	1.913E+14
8.500E-02	1.409E+18	7.037E+12	6.767E+12	6.761E+12	6.746E+12	6.700E+12	1.805E+18	1.135E+13	1.095E+13	1.094E+13	1.091E+13	1.084E+13
1.250E-01	1.097E+18	6.554E+12	6.038E+12	5.970E+12	5.903E+12	5.794E+12	1.404E+18	1.054E+13	9.765E+12	9.655E+12	9.546E+12	9.370E+12
2.250E-01	7.755E+17	4.640E+12	4.257E+12	4.208E+12	4.147E+12	4.016E+12	9.924E+17	7.459E+12	6.887E+12	6.808E+12	6.709E+12	6.497E+12
3.750E-01	8.537E+16	2.638E+11	2.432E+11	2.435E+11	2.440E+11	2.453E+11	1.094E+17	4.203E+11	3.899E+11	3.903E+11	3.911E+11	3.933E+11
5.750E-01	1.459E+16	2.038E+10	1.496E+10	8.717E+09	4.911E+09	5.048E+09	1.394E+16	3.267E+10	2.390E+10	1.380E+10	7.645E+09	7.863E+09
8.500E-01	2.264E+16	2.402E+10	2.284E+10	2.146E+10	2.054E+10	2.026E+10	2.976E+16	3.876E+10	3.685E+10	3.462E+10	3.313E+10	3.267E+10
1.250E+00	1.567E+15	1.303E+10	1.266E+10	1.221E+10	1.186E+10	1.154E+10	2.358E+15	2.103E+10	2.043E+10	1.971E+10	1.913E+10	1.861E+10
1.750E+00	7.527E+11	1.049E+09	9.097E+08	7.448E+08	6.313E+08	5.817E+08	1.133E+12	1.689E+09	1.464E+09	1.197E+09	1.013E+09	9.331E+08
2.250E+00	7.145E+08	5.972E+08	5.151E+08	4.164E+08	3.433E+08	2.930E+08	1.156E+09	9.660E+08	8.332E+08	6.735E+08	5.553E+08	4.738E+08
2.750E+00	4.743E+08	4.256E+08	4.008E+08	3.983E+08	4.823E+08	8.295E+08	7.672E+08	6.885E+08	6.483E+08	6.442E+08	7.798E+08	1.341E+09
3.500E+00	3.717E+08	3.108E+08	2.682E+08	2.170E+08	1.790E+08	1.528E+08	6.013E+08	5.027E+08	4.338E+08	3.510E+08	2.896E+08	2.471E+08
5.000E+00	1.590E+08	1.329E+08	1.147E+08	9.280E+07	7.657E+07	6.534E+07	2.572E+08	2.151E+08	1.856E+08	1.501E+08	1.238E+08	1.057E+08
7.000E+00	1.829E+07	1.530E+07	1.321E+07	1.069E+07	8.825E+06	7.532E+06	2.959E+07	2.473E+07	2.137E+07	1.729E+07	1.427E+07	1.218E+07
1.100E+01	2.106E+06	1.761E+06	1.520E+06	1.229E+06	1.014E+06	8.652E+05	3.408E+06	2.849E+06	2.458E+06	1.988E+06	1.640E+06	1.399E+06
TOTAL	6.996E+18	1.445E+15	1.105E+15	7.161E+14	4.749E+14	4.671E+14	8.970E+18	2.334E+15	1.784E+15	1.154E+15	7.641E+14	7.513E+14
MEV/SEC	5.593E+17	2.599E+13	2.087E+13	1.537E+13	1.243E+13	1.424E+13	7.176E+17	4.195E+13	3.370E+13	2.479E+13	2.005E+13	2.295E+13

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS=ONE TONNE INITIAL HEAVY METAL: ADV OX LMFBR: LWR-PU/U/U/U

EMEAN	CO+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
1.500E-02	6.107E+08	2.715E+05	2.040E+05	1.256E+05	7.460E+04	6.354E+04	7.836E+08	4.384E+05	3.293E+05	2.023E+05	1.199E+05	1.020E+05
2.500E-02	4.531E+07	1.048E+03	1.131E+03	1.327E+03	1.701E+03	2.715E+03	5.827E+07	1.693E+03	1.828E+03	2.145E+03	2.749E+03	4.387E+03
3.750E-02	1.006E+08	1.893E+03	1.505E+03	1.065E+03	8.026E+02	8.348E+02	1.290E+08	3.060E+03	2.433E+03	1.721E+03	1.296E+03	1.347E+03
5.750E-02	1.163E+08	3.308E+04	3.594E+04	4.260E+04	5.523E+04	8.956E+04	1.502E+08	5.343E+04	5.810E+04	6.886E+04	8.927E+04	1.447E+05
8.500E-02	1.575E+09	7.869E+03	7.567E+03	7.560E+03	7.543E+03	7.493E+03	2.019E+09	1.269E+04	1.224E+04	1.223E+04	1.220E+04	1.212E+04
1.250E-01	1.804E+09	1.078E+04	9.929E+03	9.817E+03	9.706E+03	9.527E+03	2.309E+09	1.733E+04	1.606E+04	1.588E+04	1.570E+04	1.541E+04
2.250E-01	2.296E+09	1.374E+04	1.260E+04	1.246E+04	1.228E+04	1.189E+04	2.937E+09	2.208E+04	2.038E+04	2.015E+04	1.986E+04	1.923E+04
3.750E-01	4.211E+08	1.301E+03	1.200E+03	1.201E+03	1.204E+03	1.210E+03	5.398E+08	2.074E+03	1.924E+03	1.926E+03	1.929E+03	1.940E+03
5.750E-01	1.104E+08	1.542E+02	1.132E+02	6.594E+01	3.715E+01	3.818E+01	1.433E+08	2.472E+02	1.308E+02	1.044E+02	5.783E+01	5.948E+01
8.500E-01	2.531E+08	2.686E+02	2.554E+02	2.400E+02	2.297E+02	2.265E+02	3.328E+08	4.334E+02	4.121E+02	3.871E+02	3.705E+02	3.653E+02
1.250E+00	2.577E+07	2.143E+02	2.082E+02	2.008E+02	1.950E+02	1.897E+02	3.877E+07	3.455E+02	3.360E+02	3.241E+02	3.146E+02	3.060E+02
1.750E+00	1.733E+04	2.415E+01	2.093E+01	1.715E+01	1.453E+01	1.339E+01	2.608E+04	3.889E+01	3.370E+01	2.756E+01	2.333E+01	2.148E+01
2.250E+00	2.115E+01	1.768E+01	1.525E+01	1.232E+01	1.016E+01	8.671E+00	3.421E+01	2.859E+01	2.465E+01	1.994E+01	1.644E+01	1.402E+01
2.750E+00	1.716E+01	1.540E+01	1.450E+01	1.441E+01	1.745E+01	3.001E+01	2.779E+01	2.491E+01	2.345E+01	2.330E+01	2.821E+01	4.851E+01
3.500E+00	1.711E+01	1.431E+01	1.235E+01	9.990E+00	8.243E+00	7.035E+00	2.768E+01	2.315E+01	1.998E+01	1.616E+01	1.333E+01	1.138E+01
5.000E+00	1.046E+01	8.744E+00	7.546E+00	6.104E+00	5.036E+00	4.298E+00	1.692E+01	1.415E+01	1.221E+01	9.874E+00	8.146E+00	6.951E+00
7.000E+00	1.685E+00	1.409E+00	1.216E+00	9.845E-01	8.127E-01	6.936E-01	2.725E+00	2.279E+00	1.968E+00	1.593E+00	1.315E+00	1.122E+00
1.100E+01	3.048E-01	2.549E-01	2.199E-01	1.779E-01	1.467E-01	1.252E-01	4.931E-01	4.123E-01	3.557E-01	2.877E-01	2.374E-01	2.025E-01
TOTAL	7.358E+09	3.419E+05	2.745E+05	2.022E+05	1.636E+05	1.873E+05	9.441E+09	5.519E+05	4.433E+05	3.262E+05	2.637E+05	3.019E+05
GAM POW	8.966E+04	4.166E+00	3.345E+00	2.463E+00	1.993E+00	2.282E+00	1.150E+05	6.725E+00	5.401E+00	3.974E+00	3.213E+00	3.679E+00

TABLE C.15. (ALPHA,N) NEUTRONS FROM ACTINIDES IN LMFBR CORE AND CORE+AXIAL BLANKET SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	CO+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
PU238	1.966E+07	2.013E+07	2.043E+07	2.075E+07	2.085E+07	2.043E+07	3.170E+07	3.246E+07	3.295E+07	3.346E+07	3.362E+07	3.295E+07
PU239	3.265E+06	3.276E+06	3.276E+06	3.276E+06	3.276E+06	3.276E+06	4.429E+06	4.444E+06	4.444E+06	4.444E+06	4.444E+06	4.443E+06
PU240	5.278E+06	5.279E+06	5.279E+06	5.279E+06	5.279E+06	5.280E+06	8.400E+06	8.400E+06	8.401E+06	8.401E+06	8.402E+06	8.403E+06
AM241	3.242E+06	3.815E+06	3.984E+06	4.729E+06	6.144E+06	9.986E+06	5.244E+06	5.847E+06	6.442E+06	7.646E+06	9.931E+06	1.614E+07
AM243	2.881E+05	2.882E+05	2.882E+05	2.882E+05	2.882E+05	2.881E+05	4.662E+05	4.664E+05	4.664E+05	4.663E+05	4.663E+05	4.662E+05
CM242	2.114E+09	1.451E+09	9.905E+08	4.519E+08	9.722E+07	2.698E+06	3.421E+09	2.347E+09	1.603E+09	7.312E+08	1.573E+08	4.365E+06
CM243	1.612E+06	1.602E+06	1.593E+06	1.573E+06	1.535E+06	1.427E+06	2.608E+06	2.592E+06	2.577E+06	2.545E+06	2.484E+06	2.309E+06
CM244	8.931E+07	8.849E+07	8.766E+07	8.597E+07	8.275E+07	7.377E+07	1.445E+08	1.432E+08	1.418E+08	1.391E+08	1.339E+08	1.194E+08
TOTALS												
TABLE	2.237E+09	1.573E+09	1.113E+09	5.738E+08	2.174E+08	1.172E+08	3.618E+09	2.545E+09	1.800E+09	9.274E+08	3.506E+08	1.886E+08
ACTUAL	2.237E+09	1.573E+09	1.113E+09	5.738E+06	2.174E+08	1.172E+08	3.618E+09	2.545E+09	1.800E+09	9.274E+08	3.506E+08	1.886E+08

TABLE C.16. SPONTANEOUS FISSION NEUTRONS FROM ACTINIDES IN LMFBR CORE AND CORE+AXIAL BLANKET SPENT FUEL
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	CO+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
PU238	2.612E+06	2.675E+06	2.715E+06	2.756E+06	2.770E+06	2.715E+06	4.212E+06	4.313E+06	4.378E+06	4.446E+06	4.467E+06	4.378E+06
PU240	2.827E+07	2.827E+07	2.827E+07	2.827E+07	2.828E+07	2.828E+07	4.499E+07	4.499E+07	4.499E+07	4.500E+07	4.500E+07	4.501E+07
PU242	9.725E+06	9.725E+06	9.725E+06	9.725E+06	9.725E+06	9.725E+06	1.573E+07	1.574E+07	1.574E+07	1.574E+07	1.574E+07	1.574E+07
CM242	1.706E+09	1.171E+09	7.994E+08	3.648E+08	7.847E+07	2.177E+06	2.761E+09	1.895E+09	1.293E+09	5.902E+08	1.270E+08	3.523E+06
CM244	1.731E+09	1.715E+09	1.699E+09	1.666E+09	1.604E+09	1.430E+09	2.801E+09	2.775E+09	2.749E+09	2.696E+09	2.595E+09	2.314E+09
CM246	3.402E+06	3.401E+06	3.401E+06	3.401E+06	3.401E+06	3.399E+06	5.504E+06	5.504E+06	5.504E+06	5.503E+06	5.503E+06	5.500E+06
TOTALS												
TABLE	3.482E+09	2.930E+09	2.543E+09	2.075E+09	1.726E+09	1.476E+09	5.633E+09	4.740E+09	4.113E+09	3.357E+09	2.793E+09	2.388E+09
ACTUAL	3.482E+09	2.930E+09	2.543E+09	2.075E+09	1.726E+09	1.476E+09	5.633E+09	4.740E+09	4.113E+09	3.357E+09	2.793E+09	2.388E+09
OVERALL TOTALS												
TABLE	5.719E+09	4.504E+09	3.656E+09	2.649E+09	1.944E+09	1.593E+09	9.251E+09	7.285E+09	5.913E+09	4.285E+09	3.143E+09	2.576E+09
ACTUAL	5.719E+09	4.504E+09	3.656E+09	2.649E+09	1.944E+09	1.593E+09	9.251E+09	7.289E+09	5.913E+09	4.285E+09	3.143E+09	2.576E+09

TABLE C.17. GRAMS OF FISSION PRODUCT ELEMENTS IN LMFBR CORE AND CORE+AXIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	CD+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
H	1.409E-01	1.390E-01	1.371E-01	1.332E-01	1.260E-01	1.065E-01	2.196E-01	2.166E-01	2.136E-01	2.076E-01	1.963E-01	1.658E-01
LI	7.724E-04	7.724E-04	7.724E-04	7.724E-04	7.724E-04	7.724E-04	1.204E-03	1.204E-03	1.204E-03	1.204E-03	1.204E-03	1.204E-03
BE	2.829E-04	2.829E-04	2.829E-04	2.829E-04	2.829E-04	2.829E-04	4.420E-04	4.420E-04	4.420E-04	4.420E-04	4.420E-04	4.420E-04
C	4.979E-05	4.978E-05	4.978E-05	4.978E-05	4.977E-05	4.976E-05	7.781E-05	7.781E-05	7.780E-05	7.780E-05	7.779E-05	7.776E-05
CD	1.346E-11	0.0	0.0	0.0	0.0	0.0	2.082E-11	0.0	0.0	0.0	0.0	0.0
NI	6.453E-09	0.0	0.0	0.0	0.0	0.0	1.009E-08	0.0	0.0	0.0	0.0	0.0
CU	5.858E-08	9.244E-27	2.850E-37	6.601E-59	0.0	0.0	9.166E-08	1.464E-26	4.512E-37	1.045E-58	0.0	0.0
ZN	1.004E-03	4.046E-07	4.046E-07	4.046E-07	4.046E-07	4.046E-07	1.573E-03	6.126E-07	6.126E-07	6.126E-07	6.126E-07	6.126E-07
GA	4.970E-04	1.474E-05	1.474E-05	1.474E-05	1.474E-05	1.474E-05	7.779E-04	2.293E-05	2.293E-05	2.293E-05	2.293E-05	2.293E-05
GE	3.323E+00	3.323E+00	3.323E+00	3.323E+00	3.323E+00	3.323E+00	5.208E+00	5.208E+00	5.208E+00	5.208E+00	5.208E+00	5.208E+00
AS	9.556E-01	9.462E-01	9.462E-01	9.462E-01	9.462E-01	9.462E-01	1.488E+00	1.474E+00	1.474E+00	1.474E+00	1.474E+00	1.474E+00
SE	7.497E+01	7.498E+01	7.498E+01	7.498E+01	7.498E+01	7.498E+01	1.162E+02	1.162E+02	1.162E+02	1.162E+02	1.162E+02	1.162E+02
BR	2.244E+01	2.241E+01	2.241E+01	2.241E+01	2.241E+01	2.241E+01	3.452E+01	3.447E+01	3.447E+01	3.447E+01	3.447E+01	3.447E+01
KR	4.581E+02	4.575E+02	4.570E+02	4.561E+02	4.543E+02	4.496E+02	7.106E+02	7.097E+02	7.089E+02	7.075E+02	7.047E+02	6.975E+02
RB	3.844E+02	3.847E+02	3.851E+02	3.861E+02	3.878E+02	3.925E+02	5.960E+02	5.964E+02	5.971E+02	5.986E+02	6.013E+02	6.086E+02
SR	9.287E+02	8.961E+02	8.846E+02	8.751E+02	8.626E+02	8.278E+02	1.438E+03	1.388E+03	1.371E+03	1.356E+03	1.337E+03	1.283E+03
Y	4.829E+02	4.677E+02	4.611E+02	4.572E+02	4.566E+02	4.566E+02	7.474E+02	7.235E+02	7.137E+02	7.078E+02	7.069E+02	7.069E+02
ZR	4.776E+03	4.737E+03	4.723E+03	4.719E+03	4.730E+03	4.765E+03	7.434E+03	7.374E+03	7.352E+03	7.346E+03	7.363E+03	7.416E+03
NB	7.516E+01	4.753E+01	2.120E+01	3.143E+00	6.904E-02	6.927E-03	1.158E+02	7.313E+01	3.260E+01	4.833E+00	1.064E-01	1.086E-02
MO	5.488E+03	5.595E+03	5.653E+03	5.688E+03	5.694E+03	5.694E+03	8.571E+03	8.736E+03	8.826E+03	8.880E+03	8.889E+03	8.889E+03
TC	1.463E+03	1.471E+03	1.471E+03	1.471E+03	1.471E+03	1.471E+03	2.283E+03	2.295E+03	2.295E+03	2.295E+03	2.295E+03	2.295E+03
RU	6.172E+03	5.966E+03	5.859E+03	5.719E+03	5.558E+03	5.416E+03	9.661E+03	9.340E+03	9.174E+03	8.954E+03	8.702E+03	8.479E+03
RH	1.513E+03	1.615E+03	1.637E+03	1.642E+03	1.643E+03	1.643E+03	2.367E+03	2.525E+03	2.588E+03	2.566E+03	2.567E+03	2.567E+03
PD	4.108E+03	4.213E+03	4.297E+03	4.432E+03	4.593E+03	4.735E+03	6.479E+03	6.642E+03	6.774E+03	6.986E+03	7.238E+03	7.460E+03
AG	4.831E+02	4.803E+02	4.795E+02	4.782E+02	4.771E+02	4.765E+02	7.613E+02	7.570E+02	7.556E+02	7.537E+02	7.518E+02	7.508E+02
CD	5.180E+02	5.207E+02	5.215E+02	5.226E+02	5.237E+02	5.241E+02	8.125E+02	8.169E+02	8.181E+02	8.200E+02	8.217E+02	8.224E+02
IN	3.762E+01	3.824E+01	3.835E+01	3.841E+01	3.849E+01	3.868E+01	5.747E+01	5.843E+01	5.860E+01	5.870E+01	5.882E+01	5.913E+01
SN	5.556E+02	5.539E+02	5.532E+02	5.526E+02	5.522E+02	5.522E+02	8.666E+02	8.640E+02	8.630E+02	8.620E+02	8.614E+02	8.613E+02
SB	1.906E+02	1.857E+02	1.822E+02	1.753E+02	1.634E+02	1.407E+02	2.954E+02	2.878E+02	2.825E+02	2.718E+02	2.534E+02	2.183E+02
TE	1.238E+03	1.226E+03	1.228E+03	1.234E+03	1.246E+03	1.268E+03	1.933E+03	1.914E+03	1.917E+03	1.926E+03	1.945E+03	1.980E+03
I	7.259E+02	7.086E+02	7.106E+02	7.120E+02	7.126E+02	7.126E+02	1.131E+03	1.104E+03	1.108E+03	1.110E+03	1.110E+03	1.111E+03
XE	8.438E+03	8.445E+03	8.445E+03	8.445E+03	8.445E+03	8.445E+03	1.320E+04	1.321E+04	1.321E+04	1.321E+04	1.321E+04	1.321E+04
CS	7.156E+03	7.158E+03	7.134E+03	7.088E+03	7.006E+03	6.813E+03	1.119E+04	1.115E+04	1.116E+04	1.108E+04	1.095E+04	1.065E+04
BA	2.526E+03	2.509E+03	2.533E+03	2.579E+03	2.660E+03	2.853E+03	3.954E+03	3.926E+03	3.965E+03	4.039E+03	4.168E+03	4.471E+03
LA	2.159E+03	2.153E+03	2.153E+03	2.153E+03	2.153E+03	2.153E+03	3.374E+03	3.364E+03	3.364E+03	3.364E+03	3.364E+03	3.364E+03
CE	4.548E+03	4.371E+03	4.258E+03	4.109E+03	3.959E+03	3.861E+03	7.097E+03	6.823E+03	6.648E+03	6.417E+03	6.183E+03	6.032E+03
PR	1.920E+03	1.981E+03	1.996E+03	1.998E+03	1.998E+03	1.998E+03	3.001E+03	3.096E+03	3.118E+03	3.122E+03	3.122E+03	3.122E+03
ND	5.880E+03	6.029E+03	6.128E+03	6.274E+03	6.425E+03	6.523E+03	9.182E+03	9.412E+03	9.566E+03	9.793E+03	1.003E+04	1.018E+04
PM	4.569E+02	4.283E+02	3.988E+02	3.481E+02	2.673E+02	1.210E+02	7.046E+02	6.598E+02	6.142E+02	5.361E+02	4.116E+02	1.863E+02
SM	1.709E+03	1.755E+03	1.784E+03	1.834E+03	1.913E+03	2.054E+03	2.682E+03	2.754E+03	2.799E+03	2.876E+03	2.997E+03	3.214E+03
EU	2.524E+02	2.474E+02	2.449E+02	2.401E+02	2.316E+02	2.126E+02	3.954E+02	3.876E+02	3.836E+02	3.760E+02	3.625E+02	3.325E+02
GD	1.882E+02	1.944E+02	1.974E+02	2.032E+02	2.136E+02	2.383E+02	2.974E+02	3.071E+02	3.118E+02	3.210E+02	3.374E+02	3.763E+02
TB	1.756E+01	1.699E+01	1.677E+01	1.664E+01	1.662E+01	1.661E+01	2.773E+01	2.683E+01	2.647E+01	2.626E+01	2.622E+01	2.622E+01
DY	1.404E+01	1.463E+01	1.485E+01	1.498E+01	1.501E+01	1.501E+01	2.229E+01	2.323E+01	2.359E+01	2.380E+01	2.384E+01	2.385E+01
HO	4.537E-01	4.527E-01	4.527E-01	4.527E-01	4.527E-01	4.527E-01	7.156E-01	7.140E-01	7.140E-01	7.140E-01	7.140E-01	7.140E-01
ER	6.358E-01	6.383E-01	6.383E-01	6.383E-01	6.383E-01	6.383E-01	1.012E+00	1.017E+00	1.017E+00	1.017E+00	1.017E+00	1.017E+00
TM	2.654E-04	2.690E-04	2.619E-04	2.547E-04	2.508E-04	2.498E-04	4.290E-04	4.348E-04	4.234E-04	4.116E-04	4.054E-04	4.037E-04
YB	2.957E-05	4.103E-05	4.812E-05	5.538E-05	5.923E-05	6.028E-05	4.784E-05	6.637E-05	7.783E-05	8.958E-05	9.582E-05	9.752E-05
TOTAL	6.497E+04	6.497E+04	6.497E+04	6.497E+04	6.497E+04	6.497E+04	1.015E+05	1.015E+05	1.015E+05	1.015E+05	1.015E+05	1.015E+05

TABLE C.18. GRAMS OF PRINCIPAL FISSION PRODUCT NUCLIDES IN LMFBR CORE AND CORE+AXIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	CO+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
KR 83	7.648E+01	7.651E+01	7.651E+01	7.651E+01	7.651E+01	7.651E+01	1.185E+02	1.185E+02	1.185E+02	1.185E+02	1.185E+02	1.185E+02
KR 84	1.380E+02	1.380E+02	1.380E+02	1.380E+02	1.380E+02	1.380E+02	2.143E+02	2.143E+02	2.143E+02	2.143E+02	2.143E+02	2.143E+02
RB 85	1.129E+02	1.134E+02	1.139E+02	1.149E+02	1.166E+02	1.213E+02	1.750E+02	1.756E+02	1.768E+02	1.780E+02	1.807E+02	1.880E+02
KR 86	2.114E+02	2.114E+02	2.114E+02	2.114E+02	2.114E+02	2.114E+02	3.278E+02	3.278E+02	3.278E+02	3.278E+02	3.278E+02	3.278E+02
RB 87	2.712E+02	2.712E+02	2.712E+02	2.712E+02	2.712E+02	2.712E+02	4.206E+02	4.206E+02	4.206E+02	4.206E+02	4.206E+02	4.206E+02
SR 88	3.529E+02	3.530E+02	3.530E+02	3.530E+02	3.530E+02	3.530E+02	5.463E+02	5.464E+02	5.464E+02	5.464E+02	5.464E+02	5.464E+02
Y 89	4.153E+02	4.446E+02	4.530E+02	4.562E+02	4.565E+02	4.565E+02	6.437E+02	6.884E+02	7.014E+02	7.063E+02	7.067E+02	7.067E+02
SR 90	5.298E+02	5.267E+02	5.236E+02	5.173E+02	5.051E+02	4.703E+02	8.212E+02	8.164E+02	8.116E+02	8.018E+02	7.830E+02	7.290E+02
ZR 91	5.660E+02	6.099E+02	6.250E+02	6.321E+02	6.330E+02	6.330E+02	8.785E+02	9.458E+02	9.689E+02	9.797E+02	9.811E+02	9.811E+02
ZR 92	7.744E+02	7.747E+02	7.747E+02	7.747E+02	7.747E+02	7.747E+02	1.203E+03	1.203E+03	1.203E+03	1.203E+03	1.203E+03	1.203E+03
ZR 93	9.623E+02	9.631E+02	9.631E+02	9.631E+02	9.631E+02	9.631E+02	1.497E+03	1.498E+03	1.498E+03	1.498E+03	1.498E+03	1.498E+03
ZR 94	1.049E+03	1.049E+03	1.049E+03	1.049E+03	1.049E+03	1.049E+03	1.637E+03	1.637E+03	1.637E+03	1.637E+03	1.637E+03	1.637E+03
MO 95	9.437E+02	1.057E+03	1.115E+03	1.150E+03	1.156E+03	1.156E+03	1.473E+03	1.647E+03	1.737E+03	1.791E+03	1.800E+03	1.800E+03
ZR 96	1.269E+03	1.269E+03	1.269E+03	1.269E+03	1.269E+03	1.269E+03	1.980E+03	1.980E+03	1.980E+03	1.980E+03	1.980E+03	1.980E+03
MO 97	1.292E+03	1.294E+03	1.294E+03	1.294E+03	1.294E+03	1.294E+03	2.014E+03	2.017E+03	2.017E+03	2.017E+03	2.017E+03	2.017E+03
MO 98	1.502E+03	1.502E+03	1.502E+03	1.502E+03	1.502E+03	1.502E+03	2.348E+03	2.348E+03	2.348E+03	2.348E+03	2.348E+03	2.348E+03
TC 99	1.463E+03	1.471E+03	1.471E+03	1.471E+03	1.471E+03	1.471E+03	2.282E+03	2.295E+03	2.295E+03	2.295E+03	2.295E+03	2.295E+03
MO100	1.692E+03	1.692E+03	1.692E+03	1.692E+03	1.692E+03	1.692E+03	2.644E+03	2.644E+03	2.644E+03	2.644E+03	2.644E+03	2.644E+03
RU100	1.223E+02	1.223E+02	1.223E+02	1.223E+02	1.223E+02	1.223E+02	1.962E+02	1.962E+02	1.962E+02	1.962E+02	1.962E+02	1.962E+02
RU101	1.621E+03	1.621E+03	1.621E+03	1.621E+03	1.621E+03	1.621E+03	2.529E+03	2.529E+03	2.529E+03	2.529E+03	2.529E+03	2.529E+03
RU102	1.892E+03	1.892E+03	1.892E+03	1.892E+03	1.892E+03	1.892E+03	2.963E+03	2.963E+03	2.963E+03	2.963E+03	2.963E+03	2.963E+03
RH103	1.509E+03	1.615E+03	1.637E+03	1.642E+03	1.643E+03	1.643E+03	2.361E+03	2.525E+03	2.558E+03	2.566E+03	2.567E+03	2.567E+03
RU104	1.759E+03	1.760E+03	1.760E+03	1.760E+03	1.760E+03	1.760E+03	2.759E+03	2.759E+03	2.759E+03	2.759E+03	2.759E+03	2.759E+03
PD104	2.019E+02	2.019E+02	2.019E+02	2.019E+02	2.019E+02	2.019E+02	3.241E+02	3.241E+02	3.241E+02	3.241E+02	3.241E+02	3.241E+02
PD105	1.256E+03	1.260E+03	1.260E+03	1.260E+03	1.260E+03	1.260E+03	1.965E+03	1.972E+03	1.972E+03	1.972E+03	1.972E+03	1.972E+03
RU106	6.440E+02	5.436E+02	4.589E+02	3.238E+02	1.628E+02	2.069E+01	1.008E+03	8.512E+02	7.185E+02	5.070E+02	2.549E+02	3.239E+01
PD106	8.047E+02	9.051E+02	9.898E+02	1.125E+03	1.286E+03	1.428E+03	1.277E+03	1.434E+03	1.567E+03	1.778E+03	2.030E+03	2.253E+03
PD107	8.627E+02	8.627E+02	8.627E+02	8.627E+02	8.627E+02	8.627E+02	1.359E+03	1.359E+03	1.359E+03	1.359E+03	1.359E+03	1.359E+03
PD108	7.489E+02	7.489E+02	7.489E+02	7.489E+02	7.489E+02	7.489E+02	1.184E+03	1.184E+03	1.184E+03	1.184E+03	1.184E+03	1.184E+03
AG109	4.759E+02	4.764E+02	4.764E+02	4.764E+02	4.764E+02	4.764E+02	7.499E+02	7.508E+02	7.508E+02	7.508E+02	7.508E+02	7.508E+02
PD110	2.337E+02	2.337E+02	2.337E+02	2.337E+02	2.337E+02	2.337E+02	3.677E+02	3.677E+02	3.677E+02	3.677E+02	3.677E+02	3.677E+02
CD111	1.543E+02	1.564E+02	1.564E+02	1.564E+02	1.564E+02	1.564E+02	2.424E+02	2.457E+02	2.457E+02	2.457E+02	2.457E+02	2.457E+02
CD112	1.166E+02	1.168E+02	1.168E+02	1.168E+02	1.168E+02	1.168E+02	1.831E+02	1.833E+02	1.833E+02	1.833E+02	1.833E+02	1.833E+02
CD113	7.858E+01	7.860E+01	7.860E+01	7.860E+01	7.861E+01	7.861E+01	1.224E+02	1.225E+02	1.225E+02	1.225E+02	1.225E+02	1.225E+02
CD114	6.644E+01	6.644E+01	6.644E+01	6.644E+01	6.644E+01	6.644E+01	1.036E+02	1.036E+02	1.036E+02	1.036E+02	1.036E+02	1.036E+02
SN118	6.559E+01	6.560E+01	6.560E+01	6.560E+01	6.560E+01	6.560E+01	1.026E+02	1.026E+02	1.026E+02	1.026E+02	1.026E+02	1.026E+02
SN119	6.839E+01	6.849E+01	6.857E+01	6.867E+01	6.877E+01	6.882E+01	1.072E+02	1.073E+02	1.075E+02	1.076E+02	1.078E+02	1.079E+02
SN120	6.592E+01	6.592E+01	6.592E+01	6.592E+01	6.592E+01	6.592E+01	1.031E+02	1.031E+02	1.031E+02	1.031E+02	1.031E+02	1.031E+02
SN124	7.338E+01	7.338E+01	7.338E+01	7.338E+01	7.338E+01	7.338E+01	1.137E+02	1.137E+02	1.137E+02	1.137E+02	1.137E+02	1.137E+02
SB125	7.069E+01	6.694E+01	6.294E+01	5.543E+01	4.316E+01	2.037E+01	1.093E+02	1.035E+02	9.727E+01	8.568E+01	6.671E+01	3.149E+01
SN126	1.241E+02	1.241E+02	1.241E+02	1.241E+02	1.241E+02	1.240E+02	1.926E+02	1.926E+02	1.926E+02	1.926E+02	1.926E+02	1.926E+02
I127	1.951E+02	1.991E+02	2.005E+02	2.018E+02	2.023E+02	2.024E+02	3.031E+02	3.092E+02	3.114E+02	3.134E+02	3.142E+02	3.143E+02
TE128	3.250E+02	3.251E+02	3.251E+02	3.251E+02	3.251E+02	3.251E+02	5.062E+02	5.063E+02	5.063E+02	5.063E+02	5.063E+02	5.063E+02
I129	5.056E+02	5.095E+02	5.101E+02	5.102E+02	5.103E+02	5.103E+02	7.891E+02	7.952E+02	7.961E+02	7.963E+02	7.963E+02	7.963E+02
TE130	8.560E+02	8.560E+02	8.560E+02	8.560E+02	8.560E+02	8.560E+02	1.338E+03	1.338E+03	1.338E+03	1.338E+03	1.338E+03	1.338E+03
XE131	1.336E+03	1.357E+03	1.357E+03	1.357E+03	1.357E+03	1.357E+03	2.087E+03	2.120E+03	2.120E+03	2.120E+03	2.120E+03	2.120E+03
XE132	1.899E+03	1.910E+03	1.910E+03	1.910E+03	1.910E+03	1.910E+03	2.971E+03	2.987E+03	2.987E+03	2.987E+03	2.987E+03	2.987E+03
CS133	2.181E+03	2.208E+03	2.208E+03	2.208E+03	2.208E+03	2.208E+03	3.403E+03	3.444E+03	3.444E+03	3.444E+03	3.444E+03	3.444E+03
XE134	2.618E+03	2.619E+03	2.619E+03	2.619E+03	2.619E+03	2.619E+03	4.094E+03	4.094E+03	4.094E+03	4.094E+03	4.094E+03	4.094E+03
CS134	1.556E+02	1.432E+02	1.318E+02	1.112E+02	7.943E+01	2.897E+01	2.494E+02	2.296E+02	2.113E+02	1.782E+02	1.273E+02	4.645E+01
CS135	2.587E+03	2.589E+03	2.589E+03	2.589E+03	2.589E+03	2.589E+03	4.048E+03	4.052E+03	4.052E+03	4.052E+03	4.052E+03	4.052E+03
XE136	2.505E+03	2.505E+03	2.505E+03	2.505E+03	2.505E+03	2.505E+03	3.920E+03	3.920E+03	3.920E+03	3.920E+03	3.920E+03	3.920E+03
BA136	6.601E+01	7.033E+01	7.035E+01	7.035E+01	7.035E+01	7.035E+01	1.078E+02	1.114E+02	1.115E+02	1.115E+02	1.115E+02	1.115E+02
CS137	2.230E+03	2.217E+03	2.205E+03	2.179E+03	2.129E+03	1.987E+03	3.488E+03	3.469E+03	3.449E+03	3.409E+03	3.331E+03	3.108E+03
BA137	5.910E+01	7.176E+01	8.435E+01	1.100E+02	1.598E+02	3.024E+02	9.303E+01	1.128E+02	1.325E+02	1.727E+02	2.506E+02	4.736E+02
BA138	2.312E+03	2.312E+03	2.312E+03	2.312E+03	2.312E+03	2.312E+03	3.616E+03	3.617E+03	3.617E+03	3.617E+03	3.617E+03	3.617E+03
LA139	2.152E+03	2.153E+03	2.153E+03	2.153E+03	2.153E+03	2.153E+03	3.364E+03	3.364E+03	3.364E+03	3.364E+03	3.364E+03	3.364E+03
CE140	1.974E+03	2.025E+03	2.025E+03	2.025E+03	2.025E+03	2.025E+03	3.086E+03	3.164E+03	3.165E+03	3.165E+03	3.165E+03	3.165E+03
PR141	1.879E+03	1.981E+03	1.996E+03	1.998E+03	1.998E+03	1.998E+03	2.938E+03	3.095E+03	3.118E+03	3.122E+03	3.122E+03	3.122E+03
CE142	1.828E+03	1.829E+03	1.829E+03	1.829E+03	1.829E+03	1.829E+03	2.855E+03	2.856E+03	2.856E+03	2.856E+03	2.856E+03	2.856E+03
ND143	1.565E+03	1.609E+03	1.610E+03	1.610E+03	1.610E+03	1.610E+03	2.441E+03	2.509E+03	2.510E+03	2.510E+03	2.510E+03	2.510E+03
CE144	6.232E+02	5.004E+02	4.018E+02	2.588E+02	1.050E+02	7.255E+00	9.667E+02	7.762E+02	6.233E+02	3.967E+02	1.628E+02	1.125E+01
ND144	8.896E+02	1.012E+03	1.111E+03	1.257E+03	1.408E+03	1.506E+03	1.396E+03	1.587E+03	1.740E+03	1.966E+03	2.200E+03	2.352E+03
ND145	1.169E+03	1.170E+03	1.170E+03	1.170E+03	1.170E+03	1.170E+03	1.821E+03	1.822E+03	1.822E+03	1.822E+03	1.822E+03	1.822E+03
ND146	1.079E+03	1.079E+03	1.079E+03	1.079E+03	1.079E+03	1.079E+03	1.684E+03	1.684E+03	1.684E+03	1.684E+03	1.684E+03	1.684E+03
PM147	4.357E+02	4.247E+02	3.980E+02	3.481E+02	2.673E+02	1.210E+02	6.710E+02	6.540E+02	6.129E+02	5.360E+02	4.116E+02	1.863E+02
SM147	1.460E+02	1.744E+02	2.011E+02	2.511E+02	3.319E+02	4.782E+02	2.271E+02	2.708E+02	3.120E+02	3.889E+02	5.134E+02	7.386E+02
ND148	6.947E+02	6.947E+02	6.947E+02	6.947E+02	6.947E+02	6.947E+02	1.084E+03	1.084E+03	1.084E+03	1.084E+03	1.084E+03	1.084E+03
SM148	2.409E+02	2.554E+02	2.582E+02	2.589E+02	2.590E+02	2.590E+02	3.854E+02	4.084E+02	4.129E+02	4.141E+02	4.142E+02	4.142E+02
SM149	4.747E+02	4.772E+02	4.772E+02	4.772E+02	4.772E+02	4.772E+02	7.384E+02	7.422E+02	7.422E+02	7.422E+02	7.422E+02	7.422E+02
ND150	4.151E+02	4.151E+02	4.151E+02	4.151E+02	4.151E+02	4.151E+02	6.477E+02	6.477E+02	6.477E+02	6.477E+02	6.477E+02	6.477E+02
SM150	1.170E+02	1.170E+02	1.170E+02	1.170E+02	1.170E+02	1.170E+02	1.874E+02	1.874E+02	1.874E+02	1.874E+02	1.874E+02	1.874E+02
SM151	2.550E+02	2.553E+02	2.548E+02	2.538E+02	2.518E+02	2.461E+02	3.958E+02	3.963E+02	3.955E+02	3.940E+02	3.909E+02	3.820E+02
SM152	3.503E+02	3.503E+02	3.503E+02	3.503E+02	3.503E+02	3.504E+02	5.517E+02	5.518E+02	5.518E+02	5.518E+02	5.518E+02	5.519E+02
EU153	1.399E+02	1.407E+02	1.407E+02	1.407E+02	1.407E+02	1.407E+02	2.178E+02	2.190E+02	2.191E+02	2.191E+02	2.191E+02	2.191E+02
SM154	1.244E+02	1.258E+02	1.258E+02	1.258E+02	1.258E+02	1.258E+02	1.952E+02	1.973E+02	1.973E+02	1.973E+02	1.973E+02	1.973E+02
GD156	8.628E+01	8.941E+01	8.946E+01	8.946E+01	8.946E+01	8.946E+01	1.366E+02	1.415E+02	1.416E+02	1.416E+02	1.416E+02	1.416E+02
SUMTOT	6.311E+04	6.371E+04	6.382E+04	6.384E+04	6.379E+04	6.368E+04	9.865E+04	9.956E+04	9.974E+04	9.977E+04	9.969E+04	9.952E+04
TOTAL	6.497E+04	6.497E+04	6.497E+04	6.497E+04	6.497E+04	6.497E+04	1.015E+05	1.015E+05	1.015E+05	1.015E+05	1.015E+05	1.015E+05

TABLE C.19. CURIES OF FISSION PRODUCT ELEMENTS IN LMFBR CORE AND CORE+AXIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	CC+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CCRE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
H	1.361E+03	1.342E+03	1.324E+03	1.286E+03	1.216E+03	1.028E+03	2.120E+03	2.091E+03	2.062E+03	2.004E+03	1.895E+03	1.601E+03
BE	5.504E-06	5.504E-06	5.504E-06	5.504E-06	5.504E-06	5.504E-06	8.602E-06	8.602E-06	8.602E-06	8.602E-06	8.602E-06	8.602E-06
C	2.220E-04	2.220E-04	2.220E-04	2.220E-04	2.219E-04	2.219E-04	3.469E-04	3.469E-04	3.469E-04	3.469E-04	3.469E-04	3.467E-04
CE	1.743E+01	0.0	0.0	0.0	0.0	0.0	2.695E+01	0.0	0.0	0.0	0.0	0.0
NI	7.150E+02	0.0	0.0	0.0	0.0	0.0	1.113E+03	0.0	0.0	0.0	0.0	0.0
CL	3.266E+03	6.992E-21	2.156E-31	4.993E-53	0.0	0.0	5.058E+03	1.107E-20	3.413E-31	7.906E-53	0.0	0.0
ZN	1.595E+04	9.754E-12	1.014E-25	0.0	0.0	0.0	2.441E+04	1.528E-11	1.587E-25	0.0	0.0	0.0
GA	5.061E+04	1.400E-11	1.455E-25	0.0	0.0	0.0	7.700E+04	2.192E-11	2.278E-25	0.0	0.0	0.0
GE	2.127E+05	0.0	0.0	0.0	0.0	0.0	3.220E+05	0.0	0.0	0.0	0.0	0.0
AS	5.476E+05	1.819E-13	3.191E-30	0.0	0.0	0.0	8.293E+05	2.790E-13	4.893E-30	0.0	0.0	0.0
SE	1.484E+06	7.774E-01	7.774E-01	7.774E-01	7.773E-01	7.773E-01	2.245E+06	1.209E+00	1.209E+00	1.209E+00	1.209E+00	1.209E+00
BR	2.839E+06	3.755E-15	1.437E-33	0.0	0.0	0.0	4.308E+06	5.981E-15	2.289E-33	0.0	0.0	0.0
KR	5.362E+06	1.168E+04	1.150E+04	1.113E+04	1.043E+04	8.593E+03	8.146E+06	1.813E+04	1.785E+04	1.727E+04	1.619E+04	1.334E+04
RB	8.084E+06	8.317E+02	2.937E+01	3.100E-02	2.378E-05	2.374E-05	1.231E+07	1.329E+03	4.693E+01	4.965E-02	3.688E-05	3.682E-05
SR	1.352E+07	4.201E+05	1.727E+05	7.855E+04	6.898E+04	6.418E+04	2.125E+07	6.435E+05	2.654E+05	1.216E+05	1.069E+05	9.946E+04
Y	2.065E+07	6.380E+05	2.664E+05	9.232E+04	6.923E+04	6.420E+04	3.155E+07	9.781E+05	4.092E+05	1.427E+05	1.073E+05	9.951E+04
ZR	1.533E+07	1.115E+06	4.204E+05	5.650E+04	1.083E+03	2.428E+00	2.965E+07	1.714E+06	6.465E+05	8.690E+04	1.665E+03	3.777E+00
NB	3.068E+07	1.867E+06	8.318E+05	1.231E+05	2.489E+03	6.461E-01	4.713E+07	2.872E+06	1.279E+06	1.893E+05	3.827E+03	1.006E+00
MO	2.407E+07	5.316E-04	7.476E-14	3.937E-34	0.0	0.0	3.704E+07	8.176E-04	1.150E-13	6.056E-34	0.0	0.0
TC	2.850E+07	2.495E+01	2.495E+01	2.495E+01	2.495E+01	2.495E+01	4.393E+07	3.852E+01	3.892E+01	3.892E+01	3.892E+01	3.892E+01
RU	1.492E+07	2.697E+06	1.715E+06	1.091E+06	5.449E+05	6.924E+04	2.313E+07	4.206E+06	2.682E+06	1.708E+06	8.532E+05	1.084E+05
RH	1.761E+07	2.611E+06	1.698E+06	1.090E+06	5.449E+05	6.924E+04	2.734E+07	4.072E+06	2.655E+06	1.706E+06	8.532E+05	1.084E+05
PD	2.906E+06	4.439E-01	4.439E-01	4.439E-01	4.439E-01	4.439E-01	4.501E+06	6.993E-01	6.993E-01	6.993E-01	6.993E-01	6.993E-01
AG	3.194E+06	1.869E+04	1.450E+04	8.675E+03	3.150E+03	1.507E+02	4.959E+06	3.005E+04	2.331E+04	1.395E+04	5.064E+03	2.423E+02
CD	1.024E+06	2.373E+03	1.094E+03	3.818E+02	3.241E+02	2.808E+02	1.593E+06	5.223E+03	1.700E+03	5.983E+02	5.087E+02	4.407E+02
IN	1.845E+06	7.615E+00	2.152E+00	1.600E-01	9.549E-04	4.444E-10	2.842E+06	1.220E+01	3.448E+00	2.563E-01	1.530E-03	6.941E-10
SN	4.017E+06	1.584E+04	9.958E+03	3.946E+03	7.086E+02	1.789E+01	6.151E+06	2.452E+04	1.542E+04	6.115E+03	1.101E+03	2.796E+01
SB	8.869E+06	7.259E+04	6.620E+04	5.741E+04	4.459E+04	2.105E+04	1.360E+07	1.124E+05	1.024E+05	8.874E+04	6.892E+04	3.253E+04
TE	1.768E+07	1.127E+05	5.580E+04	2.476E+04	1.193E+04	5.136E+03	2.714E+07	1.737E+05	8.604E+04	3.821E+04	1.843E+04	7.938E+03
I	2.523E+07	1.087E+03	5.543E-01	9.011E-02	9.012E-02	9.012E-02	3.875E+07	1.671E+03	8.541E-01	1.406E-01	1.406E-01	1.406E-01
XE	2.142E+07	4.674E+02	2.406E+00	4.970E-05	2.853E-14	0.0	3.291E+07	7.178E+02	3.695E+00	7.631E-05	4.381E-14	0.0
CS	1.588E+07	3.798E+05	3.625E+05	3.335E+05	2.881E+05	2.104E+05	2.440E+07	6.014E+05	5.737E+05	5.273E+05	4.547E+05	3.306E+05
BA	1.852E+07	2.078E+05	1.817E+05	1.794E+05	1.753E+05	1.636E+05	2.903E+07	3.245E+05	2.842E+05	2.806E+05	2.742E+05	2.558E+05
LA	1.861E+07	2.886E+04	2.195E+02	9.576E-03	8.521E-11	6.059E-11	2.855E+07	4.437E+04	3.379E+02	1.474E-02	1.326E-10	9.537E-11
CE	1.501E+07	2.096E+06	1.355E+06	8.176E+05	3.350E+05	2.315E+04	2.307E+07	3.245E+06	2.102E+06	1.266E+06	5.196E+05	3.591E+04
PR	1.300E+07	1.646E+06	1.298E+06	8.260E+05	3.390E+05	2.343E+04	2.000E+07	2.553E+06	2.013E+06	1.281E+06	5.258E+05	3.635E+04
ND	3.802E+06	4.993E+03	1.781E+01	1.617E-04	1.666E-09	1.782E-09	5.853E+06	7.674E+03	2.730E+01	2.479E-04	2.604E-09	2.783E-09
PM	3.722E+06	4.742E+05	3.868E+05	3.236E+05	2.479E+05	1.122E+05	5.773E+06	7.347E+05	5.967E+05	4.984E+05	3.817E+05	1.726E+05
SM	7.207E+05	6.718E+03	6.706E+03	6.679E+03	6.628E+03	6.477E+03	1.118E+06	1.043E+04	1.041E+04	1.037E+04	1.029E+04	1.005E+04
EU	3.754E+05	4.361E+04	3.955E+04	3.711E+04	3.282E+04	2.281E+04	5.871E+05	5.868E+04	6.229E+04	5.845E+04	5.171E+04	3.597E+04
GD	4.847E+04	1.544E+02	1.193E+02	7.018E+01	2.466E+01	1.069E+00	7.560E+04	2.489E+02	1.923E+02	1.132E+02	3.975E+01	1.723E+00
TB	2.613E+04	4.289E+02	1.810E+03	3.064E+02	9.239E+00	2.532E-04	4.121E+04	6.894E+03	2.908E+03	4.924E+02	1.485E+01	4.070E-04
DY	1.836E+03	4.499E-06	4.730E-14	1.791E-30	0.0	0.0	2.881E+03	7.048E-06	7.410E-14	2.806E-30	0.0	0.0
HO	7.577E+02	9.281E-03	9.273E-03	9.271E-03	9.265E-03	9.249E-03	1.200E+03	1.490E-02	1.489E-02	1.488E-02	1.486E-02	1.485E-02
ER	1.525E+01	1.656E-03	2.124E-06	2.480E-12	4.984E-24	0.0	2.457E+01	2.656E-03	3.478E-06	4.062E-12	8.163E-24	0.0
TM	1.989E-01	1.100E-01	6.819E-02	2.575E-02	4.227E-03	2.767E-04	3.217E-01	1.780E-01	1.103E-01	4.166E-02	6.838E-03	4.477E-04
TOTAL	3.646E+08	1.448E+07	8.898E+06	5.163E+06	2.729E+06	8.652E+05	5.603E+08	2.245E+07	1.383E+07	8.047E+06	4.256E+06	1.345E+06

TABLE C.20. CURIES OF PRINCIPAL FISSION PRODUCT NUCLIDES IN LMFBR CORE AND CORE+AXIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	CC+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
SR 89	1.157E+06	3.462E+05	1.012E+05	7.961E+03	5.294E+01	1.555E-05	1.830E+06	5.321E+05	1.547E+05	1.217E+04	8.060E+01	2.373E-05
SR 90	7.229E+04	7.187E+04	7.145E+04	7.059E+04	6.893E+04	6.418E+04	1.121E+05	1.114E+05	1.107E+05	1.094E+05	1.068E+05	9.948E+04
Y 90	8.163E+04	7.189E+04	7.147E+04	7.061E+04	6.895E+04	6.420E+04	1.270E+05	1.114E+05	1.108E+05	1.094E+05	1.069E+05	9.951E+04
Y 91	1.633E+06	5.661E+05	1.949E+05	2.171E+04	2.868E+02	6.602E-04	2.499E+06	8.667E+05	2.984E+05	3.324E+04	4.389E+02	1.010E-03
ZR 95	2.955E+06	1.115E+06	4.204E+05	5.650E+04	1.080E+03	7.553E-03	4.544E+06	1.714E+06	6.465E+05	8.689E+04	1.661E+02	1.162E-02
NB 95	2.929E+06	1.858E+06	8.287E+05	1.227E+05	2.480E+02	1.677E-02	4.512E+06	2.859E+06	1.275E+06	1.887E+05	3.814E+02	2.575E-02
RU103	4.296E+06	8.779E+05	1.794E+05	6.825E+03	1.080E+01	4.230E-08	6.641E+06	1.357E+06	2.772E+05	1.055E+04	1.677E+01	6.723E-08
RH103M	3.870E+06	7.914E+05	1.617E+05	6.153E+03	9.774E+00	3.904E-08	5.981E+06	1.223E+06	2.499E+05	9.511E+03	1.512E+01	6.061E-08
RU106	2.156E+06	1.820E+06	1.536E+06	1.084E+06	5.448E+05	6.924E+04	3.372E+06	2.849E+06	2.405E+06	1.697E+06	8.532E+05	1.084E+05
RH106	2.158E+06	1.820E+06	1.536E+06	1.084E+06	5.448E+05	6.924E+04	3.379E+06	2.849E+06	2.405E+06	1.697E+06	8.532E+05	1.084E+05
AG110M	2.258E+04	1.837E+04	1.431E+04	8.562E+03	3.108E+03	1.488E+02	3.791E+04	2.953E+04	2.301E+04	1.376E+04	4.997E+03	2.392E+02
SB125	7.202E+04	6.515E+04	6.501E+04	5.726E+04	4.458E+04	2.104E+04	1.129E+05	1.069E+05	1.005E+05	8.851E+04	6.891E+04	3.253E+04
TE125M	1.558E+04	1.608E+04	1.558E+04	1.394E+04	1.088E+04	5.139E+03	2.412E+04	2.483E+04	2.409E+04	2.155E+04	1.681E+04	7.936E+03
TE127	3.508E+05	3.044E+04	1.717E+04	5.288E+03	5.183E+02	4.882E-01	5.995E+05	4.688E+04	2.645E+04	8.142E+03	7.984E+02	7.515E-01
TE127M	5.205E+04	3.108E+04	1.753E+04	5.399E+03	5.292E+02	4.984E-01	8.172E+04	4.787E+04	2.701E+04	8.318E+03	8.151E+02	7.676E-01
TE129M	1.352E+05	2.122E+04	3.315E+03	7.257E+01	3.876E-02	5.904E-12	2.083E+05	3.269E+04	5.106E+03	1.118E+02	5.970E-02	5.094E-12
CS134	2.014E+05	1.854E+05	1.707E+05	1.439E+05	1.028E+05	3.751E+04	3.228E+05	2.972E+05	2.736E+05	2.307E+05	1.648E+05	6.012E+04
CS137	1.541E+05	1.530E+05	1.519E+05	1.496E+05	1.453E+05	1.729E+05	3.036E+05	3.016E+05	3.001E+05	2.966E+05	2.898E+05	2.704E+05
BA137M	1.841E+05	1.825E+05	1.815E+05	1.794E+05	1.753E+05	1.636E+05	2.875E+05	2.855E+05	2.839E+05	2.806E+05	2.742E+05	2.556E+05
BA140	3.254E+06	2.508E+04	1.908E+02	8.321E-03	2.104E-11	0.0	5.063E+06	3.655E+04	2.937E+02	1.281E-02	3.239E-11	0.0
LA140	3.350E+06	2.886E+04	2.195E+02	9.576E-03	2.421E-11	0.0	5.152E+06	4.437E+04	3.379E+02	1.474E-02	3.728E-11	0.0
CE141	3.382E+06	4.591E+05	7.326E+04	1.411E+03	5.858E-01	4.168E-11	5.205E+06	7.682E+05	1.128E+05	2.172E+03	9.016E-01	6.446E-11
PR143	2.657E+06	3.028E+04	3.047E+02	2.359E-02	1.850E-10	0.0	4.144E+06	4.651E+04	4.678E+02	3.623E-02	2.841E-10	0.0
CE144	1.989E+06	1.597E+06	1.282E+06	8.162E+05	3.350E+05	2.315E+04	3.085E+06	2.477E+06	1.989E+06	1.266E+06	5.196E+05	3.591E+04
PR144	1.997E+06	1.297E+06	1.282E+06	8.162E+05	3.350E+05	2.315E+04	3.097E+06	2.477E+06	1.989E+06	1.266E+06	5.196E+05	3.592E+04
PR144M	2.350E+04	1.916E+04	1.539E+04	9.794E+03	4.020E+03	2.778E+02	3.708E+04	2.973E+04	2.387E+04	1.519E+04	6.235E+03	4.310E+02
PM147	4.040E+05	3.939E+05	3.691E+05	3.228E+05	2.479E+05	1.122E+05	6.222E+05	6.066E+05	5.684E+05	4.971E+05	3.817E+05	1.728E+05
PM148M	3.447E+05	7.609E+04	1.880E+04	7.497E+02	1.630E+00	1.678E-08	5.496E+05	1.213E+05	2.679E+04	1.196E+03	2.627E+00	2.704E-08
EU155	3.071E+04	2.967E+04	2.867E+04	2.671E+04	2.322E+04	1.527E+04	4.807E+04	4.645E+04	4.488E+04	4.181E+04	3.635E+04	2.390E+04
SUMTOT	4.013E+07	1.438E+07	8.846E+06	5.128E+06	2.700E+06	8.412E+05	6.198E+07	2.230E+07	1.375E+07	7.992E+06	4.211E+06	1.312E+06
TOTAL	3.646E+08	1.448E+07	8.898E+06	5.163E+06	2.729E+06	8.652E+05	5.602E+08	2.245E+07	1.383E+07	8.047E+06	4.258E+06	1.349E+06

TABLE C.21. WATTS OF FISSION PRODUCT ELEMENTS IN LMFBR CORE AND CORE+AXIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	CC+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
H	4.581E-02	4.518E-02	4.456E-02	4.331E-02	4.095E-02	3.460E-02	7.137E-02	7.039E-02	6.942E-02	6.748E-02	6.379E-02	5.391E-02
BE	6.607E-09	6.607E-09	6.607E-09	6.607E-09	6.607E-09	6.607E-09	1.033E-08	1.033E-08	1.033E-08	1.033E-08	1.033E-08	1.033E-08
C	6.510E-08	6.510E-08	6.509E-08	6.509E-08	6.508E-08	6.506E-08	1.017E-07	1.017E-07	1.017E-07	1.017E-07	1.017E-07	1.017E-07
CO	8.680E-01	0.0	0.0	0.0	0.0	0.0	1.342E+00	0.0	0.0	0.0	0.0	0.0
NI	1.789E+01	0.0	0.0	0.0	0.0	0.0	2.781E+01	0.0	0.0	0.0	0.0	0.0
CU	9.194E+01	1.123E-23	3.462E-34	8.018E-56	0.0	0.0	1.420E+02	1.778E-23	5.481E-34	1.270E-55	0.0	0.0
ZN	2.604E+02	1.476E-14	1.534E-28	0.0	0.0	0.0	4.269E+02	2.312E-14	2.402E-28	0.0	0.0	0.0
GA	1.221E+03	2.661E-13	2.765E-27	0.0	0.0	0.0	1.852E+03	4.168E-13	4.331E-27	0.0	0.0	0.0
GE	3.161E+03	0.0	0.0	0.0	0.0	0.0	4.756E+03	0.0	0.0	0.0	0.0	0.0
AS	1.190E+04	2.562E-16	4.494E-33	0.0	0.0	0.0	1.797E+04	3.929E-16	6.892E-33	0.0	0.0	0.0
SE	2.208E+04	1.935E-04	1.935E-04	1.935E-04	1.935E-04	1.935E-04	3.336E+04	3.010E-04	3.010E-04	3.010E-04	3.010E-04	3.010E-04
BR	5.569E+04	6.186E-17	2.368E-35	0.0	0.0	0.0	8.431E+04	9.852E-17	3.771E-35	0.0	0.0	0.0
KR	8.089E+04	1.750E+01	1.723E+01	1.667E+01	1.563E+01	1.287E+01	1.227E+05	2.716E+01	2.673E+01	2.587E+01	2.425E+01	1.997E+01
RB	1.786E+05	3.758E+00	1.327E-01	1.400E-04	2.002E-08	1.984E-08	2.718E+05	6.006E+00	2.121E-01	2.244E-04	3.106E-08	3.077E-08
SR	1.851E+05	1.287E+03	4.329E+02	1.095E+02	8.019E+01	7.449E+01	2.824E+05	1.969E+03	6.633E+02	1.691E+02	1.243E+02	1.155E+02
Y	3.199E+05	2.432E+03	1.096E+03	4.693E+02	3.832E+02	3.558E+02	4.895E+05	3.730E+03	1.686E+03	7.260E+02	5.939E+02	5.515E+02
ZR	1.825E+05	5.645E+03	2.129E+03	2.862E+02	5.472E+00	3.195E-04	2.797E+05	8.682E+03	3.275E+03	4.401E+02	8.416E+00	4.963E-04
NB	4.473E+05	8.925E+03	3.979E+03	5.891E+02	1.191E+01	1.998E-04	6.870E+05	1.373E+04	6.121E+03	9.060E+02	1.831E+01	3.096E-04
MO	2.172E+05	1.707E-06	2.401E-16	1.265E-36	0.0	0.0	3.344E+05	2.626E-06	3.693E-16	1.945E-36	0.0	0.0
TC	3.367E+05	1.251E-02	1.251E-02	1.251E-02	1.251E-02	1.251E-02	5.194E+05	1.952E-02	1.952E-02	1.952E-02	1.952E-02	1.952E-02
RU	8.442E+04	2.045E+03	6.914E+02	8.727E+01	3.243E+01	4.117E+00	1.305E+05	4.709E+03	1.071E+03	1.362E+02	5.078E+01	6.446E+00
RH	9.735E+04	1.763E+04	1.477E+04	1.040E+04	5.226E+03	6.641E+02	1.513E+05	2.761E+04	2.313E+04	1.628E+04	8.183E+03	1.040E+03
PD	1.499E+04	2.631E-05	2.631E-05	2.631E-05	2.631E-05	2.631E-05	2.311E+04	4.145E-05	4.145E-05	4.145E-05	4.145E-05	4.145E-05
AG	2.052E+04	3.087E+02	2.404E+02	1.438E+02	5.220E+01	2.458E+00	3.172E+04	4.962E+02	3.864E+02	2.311E+02	8.392E+01	4.016E+00
CD	1.050E+04	1.186E+01	3.367E+00	7.280E-01	5.457E-01	4.726E-01	1.676E+04	1.835E+01	5.219E+00	1.139E+00	8.564E-01	7.417E-01
IN	3.458E+04	2.238E-02	6.332E-03	4.715E-04	2.822E-06	9.528E-13	5.310E+04	3.586E-02	1.015E-02	7.558E-04	4.523E-06	1.501E-12
SN	4.702E+04	4.584E+01	2.807E+01	1.052E+01	1.566E+00	1.821E-02	7.190E+04	7.087E+01	4.339E+01	1.627E+01	2.424E+00	2.840E-02
SB	1.665E+05	2.624E+02	2.190E+02	1.809E+02	1.395E+02	6.584E+01	2.550E+05	4.080E+02	3.393E+02	2.797E+02	2.156E+02	1.016E+02
TE	1.618E+05	1.580E+02	5.930E+01	2.208E+01	1.013E+01	4.317E+00	2.481E+05	2.434E+02	9.141E+01	3.407E+01	1.565E+01	6.672E+00
I	3.631E+05	3.692E+00	1.618E-03	4.169E-05	4.169E-05	4.169E-05	5.574E+05	5.675E+00	2.488E-03	6.506E-05	6.506E-05	6.506E-05
XE	1.784E+05	4.535E-01	2.315E-03	4.781E-08	2.745E-17	0.0	2.737E+05	6.965E-01	3.555E-03	7.341E-08	4.215E-17	0.0
CS	3.060E+05	2.120E+03	1.949E+03	1.674E+03	1.251E+03	5.730E+02	4.696E+05	3.390E+03	3.117E+03	2.676E+03	1.998E+03	9.111E+02
BA	1.698E+05	7.896E+02	7.132E+02	7.044E+02	6.883E+02	6.422E+02	2.604E+05	1.233E+03	1.116E+03	1.102E+03	1.077E+03	1.005E+03
LA	2.531E+05	4.838E+02	3.680E+00	1.605E-04	5.110E-13	1.051E-13	4.497E+05	7.438E+02	5.665E+00	2.471E-04	7.892E-13	1.643E-13
CE	7.534E+04	1.790E+03	9.578E+02	5.434E+02	2.222E+02	1.536E+01	1.156E+05	2.768E+03	1.484E+03	8.430E+02	3.446E+02	2.382E+01
PR	1.141E+05	1.180E+04	9.431E+03	6.003E+03	2.463E+03	1.703E+02	1.754E+05	1.831E+04	1.463E+04	9.312E+03	3.821E+03	2.641E+02
ND	2.021E+04	1.204E+01	4.297E-02	3.900E-07	4.466E-17	0.0	3.113E+04	1.851E+01	6.587E-02	5.986E-07	6.847E-17	0.0
PM	2.371E+04	1.139E+03	3.527E+02	1.256E+02	8.892E+01	4.024E+01	3.691E+04	1.809E+03	5.552E+02	1.940E+02	1.369E+02	6.197E+01
SM	2.915E+03	7.877E-01	7.862E-01	7.831E-01	7.771E-01	7.594E-01	4.517E+03	1.223E+00	1.220E+00	1.216E+00	1.206E+00	1.175E+00
EU	3.324E+03	1.501E+02	1.182E+02	1.124E+02	1.027E+02	7.849E+01	5.202E+03	2.387E+02	1.884E+02	1.792E+02	1.637E+02	1.252E+02
GD	2.059E+02	1.331E-01	1.028E-01	6.049E-02	2.125E-02	9.213E-04	3.279E+02	2.145E-01	1.658E-01	9.752E-02	3.426E-02	1.485E-03
TB	1.712E+02	3.493E+01	1.474E+01	2.496E+00	7.524E-02	2.062E-06	2.703E+02	5.614E+01	2.369E+01	4.011E+00	1.209E-01	3.315E-06
DY	5.105E+00	5.254E-09	5.524E-17	2.091E-33	0.0	0.0	8.012E+00	8.230E-09	8.654E-17	3.276E-33	0.0	0.0
HO	3.248E+00	1.028E-04	1.027E-04	1.027E-04	1.026E-04	1.025E-04	5.143E+00	1.650E-04	1.649E-04	1.649E-04	1.648E-04	1.645E-04
ER	1.578E-02	3.337E-06	4.280E-09	4.999E-15	1.005E-26	0.0	3.187E-02	5.352E-06	7.009E-09	8.187E-15	1.645E-26	0.0
TM	3.517E-04	2.157E-04	1.328E-04	4.504E-05	6.944E-06	5.594E-08	5.690E-04	3.489E-04	2.149E-04	7.932E-05	1.123E-05	5.705E-08
TOTAL	4.231E+06	5.810E+04	3.721E+04	2.148E+04	1.078E+04	2.705E+03	6.491E+06	9.027E+04	5.795E+04	3.355E+04	1.686E+04	4.236E+03

TABLE C.22. WATTS OF PRINCIPAL FISSION PRODUCT NUCLIDES IN LMFBR CORE AND CORE+AXIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	CO+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
SR 89	4.139E+03	1.204E+03	3.499E+02	2.752E+01	1.830E-01	5.376E-08	6.326E+03	1.835E+03	5.348E+02	4.206E+01	2.793E-01	8.205E-08
SR 90	8.390E+01	8.341E+01	8.293E+01	8.193E+01	8.000E+01	7.449E+01	1.301E+02	1.293E+02	1.285E+02	1.270E+02	1.240E+02	1.155E+02
Y 90	4.524E+02	3.984E+02	3.961E+02	3.913E+02	3.821E+02	3.558E+02	7.038E+02	6.176E+02	5.140E+02	6.066E+02	5.923E+02	5.515E+02
Y 91	5.864E+03	2.033E+03	7.001E+02	7.798E+01	1.030E+00	2.371E-06	8.976E+03	3.113E+03	1.072E+03	1.194E+02	1.576E+00	2.829E-06
ZR 95	1.497E+04	5.645E+03	2.129E+03	2.862E+02	5.472E+00	3.826E-05	2.302E+04	8.682E+03	3.276E+03	4.401E+02	8.415E+00	5.884E-05
NB 95	1.465E+04	6.913E+03	3.975E+03	5.885E+02	1.190E+01	8.043E-05	2.164E+04	1.371E+04	6.114E+03	9.051E+02	1.830E+01	1.237E-04
RU103	1.437E+04	2.937E+03	6.001E+02	2.283E+01	3.614E-02	1.449E-10	2.222E+04	4.540E+03	9.275E+02	3.530E+01	5.611E-02	2.249E-10
RH103M	8.907E+02	1.822E+02	3.722E+01	1.416E+00	2.250E-03	8.985E-12	1.377E+03	2.816E+02	5.753E+01	2.189E+00	3.480E-03	1.395E-11
RU106	1.282E+02	1.082E+02	9.132E+01	6.443E+01	3.239E+01	4.117E+00	2.007E+02	1.694E+02	1.430E+02	1.009E+02	5.072E+01	6.446E+00
RH106	2.069E+04	1.745E+04	1.473E+04	1.039E+04	5.226E+03	6.641E+02	3.241E+04	2.733E+04	2.307E+04	1.628E+04	8.183E+03	1.040E+03
AG110M	3.938E+02	3.068E+02	2.390E+02	1.430E+02	5.191E+01	2.484E+00	6.330E+02	4.932E+02	3.842E+02	2.298E+02	8.344E+01	3.994E+00
SB125	2.283E+02	2.162E+02	2.032E+02	1.790E+02	1.394E+02	6.579E+01	3.529E+02	3.343E+02	3.141E+02	2.767E+02	2.154E+02	1.017E+02
CS134	2.050E+03	1.887E+03	1.737E+03	1.455E+03	1.046E+03	3.817E+02	3.286E+03	3.025E+03	2.784E+03	2.348E+03	1.678E+03	6.119E+02
CS137	2.147E+02	2.134E+02	2.122E+02	2.098E+02	2.050E+02	1.912E+02	3.352E+02	3.339E+02	3.326E+02	3.281E+02	3.206E+02	2.991E+02
BA137M	7.229E+02	7.166E+02	7.127E+02	7.044E+02	6.883E+02	6.422E+02	1.131E+03	1.121E+03	1.115E+03	1.102E+03	1.077E+03	1.005E+03
BA140	9.190E+03	6.990E+01	5.323E-01	2.322E-05	5.871E-14	0.0	1.413E+04	1.076E+02	8.194E-01	3.574E-05	9.038E-14	0.0
LA140	5.615E+04	4.838E+02	3.680E+00	1.605E-04	4.059E-13	0.0	8.637E+04	7.438E+02	5.665E+00	2.471E-04	6.249E-13	0.0
CE141	4.952E+03	7.308E+02	1.073E+02	2.066E+00	8.577E-04	6.132E-14	7.621E+03	1.125E+03	1.651E+02	3.180E+00	1.320E-03	9.437E-14
CE144	1.319E+03	1.059E+03	8.505E+02	5.414E+02	2.222E+02	1.536E+01	2.046E+03	1.643E+03	1.319E+03	8.398E+02	3.446E+02	2.382E+01
PR144	1.468E+04	1.174E+04	9.425E+03	5.999E+03	2.462E+03	1.702E+02	2.277E+04	1.821E+04	1.462E+04	9.306E+03	3.819E+03	2.640E+02
PM147	1.449E+02	1.413E+02	1.324E+02	1.158E+02	8.890E+01	4.024E+01	2.232E+02	2.176E+02	2.039E+02	1.783E+02	1.369E+02	6.197E+01
PM148M	4.370E+03	9.648E+02	2.130E+02	9.506E+00	2.067E-02	2.127E-10	6.969E+03	1.536E+03	3.397E+02	1.516E+01	3.331E-02	2.429E-10
EU154	1.001E+02	9.815E+01	9.622E+01	9.236E+01	8.521E+01	6.691E+01	1.602E+02	1.571E+02	1.540E+02	1.478E+02	1.364E+02	1.071E+02
SUMTOT	1.701E+05	5.758E+04	3.703E+04	2.140E+04	1.073E+04	2.675E+03	2.630E+05	8.946E+04	5.767E+04	3.343E+04	1.679E+04	4.191E+03
TOTAL	2.044E+07	5.910E+04	3.721E+04	2.148E+04	1.078E+04	2.705E+03	3.148E+07	9.027E+04	5.795E+04	3.355E+04	1.688E+04	4.238E+03

TABLE C.23. PHOTONS FROM FISSION PRODUCTS IN LMFBR CORE AND CORE+AXIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS=ONE TONNE INITIAL HEAVY METAL: ADV OX LMFBR: LWR-PU/U/U/U

EMEAN	CO+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
1.500E-02	4.325E+18	1.301E+17	9.686E+16	6.330E+16	3.168E+16	7.168E+15	6.645E+18	2.024E+17	1.509E+17	9.870E+16	4.941E+16	1.116E+16
2.500E-02	1.170E+18	3.190E+16	2.288E+16	1.503E+16	7.857E+15	2.000E+15	1.798E+18	4.958E+16	3.561E+16	2.342E+16	1.224E+16	3.109E+15
3.750E-02	9.103E+17	2.916E+16	2.047E+16	1.335E+16	6.785E+15	1.775E+15	1.399E+18	4.531E+16	3.185E+16	2.080E+16	1.058E+16	2.770E+15
5.750E-02	9.181E+17	2.663E+16	2.025E+16	1.330E+16	6.670E+15	1.439E+15	1.410E+18	4.144E+16	3.156E+16	2.087E+16	1.041E+16	2.242E+15
8.500E-02	6.812E+17	1.829E+16	1.406E+16	9.369E+15	4.694E+15	1.046E+15	1.046E+18	2.847E+16	2.191E+16	1.461E+16	7.322E+15	1.630E+15
1.250E-01	7.412E+17	2.850E+16	1.588E+16	9.532E+15	4.532E+15	8.691E+14	1.139E+18	4.415E+16	2.469E+16	1.484E+16	7.065E+15	1.359E+15
2.250E-01	1.745E+18	1.678E+16	1.276E+16	8.460E+15	4.195E+15	8.365E+14	2.680E+18	2.615E+16	1.989E+16	1.320E+16	6.544E+15	1.303E+15
3.750E-01	1.313E+18	1.017E+16	7.412E+15	5.032E+15	2.674E+15	6.491E+14	2.020E+18	1.585E+16	1.155E+16	7.840E+15	4.165E+15	1.008E+15
5.750E-01	2.108E+18	7.774E+16	4.524E+16	3.028E+16	1.990E+16	9.371E+15	3.243E+18	1.214E+17	7.103E+16	4.764E+16	3.131E+16	1.472E+16
8.500E-01	2.271E+18	1.092E+17	4.978E+16	1.246E+16	4.387E+15	1.450E+15	3.489E+18	1.685E+17	7.705E+16	1.955E+16	7.002E+15	2.321E+15
1.250E+00	1.162E+18	3.789E+15	2.772E+15	1.916E+15	1.075E+15	3.106E+14	1.785E+18	5.972E+15	4.367E+15	3.020E+15	1.698E+15	4.943E+14
1.750E+00	4.468E+17	1.470E+15	4.182E+14	2.692E+14	1.288E+14	1.876E+13	6.852E+17	2.281E+15	6.576E+14	4.230E+14	2.023E+14	2.953E+13
2.250E+00	2.008E+17	5.820E+14	4.472E+14	2.890E+14	1.239E+14	1.028E+13	3.080E+17	9.048E+14	6.951E+14	4.491E+14	1.927E+14	1.601E+13
2.750E+00	8.784E+16	5.032E+13	1.281E+13	8.825E+12	4.418E+12	5.565E+11	1.347E+17	7.778E+13	2.005E+13	1.382E+13	6.916E+12	8.713E+11
3.500E+00	3.574E+16	2.183E+12	1.599E+12	1.126E+12	5.663E+11	7.197E+10	6.075E+16	3.410E+12	2.503E+12	1.764E+12	8.868E+11	1.127E+11
5.000E+00	1.510E+16	9.277E-05	9.395E-05	9.615E-05	9.971E-05	1.062E-04	2.294E+16	1.448E-04	1.466E-04	1.500E-04	1.555E-04	1.654E-04
7.000E+00	1.287E+14	6.019E-06	6.096E-06	6.239E-06	6.470E-06	6.888E-06	1.961E+14	9.398E-06	9.514E-06	9.734E-06	1.009E-05	1.073E-05
1.100E+01	2.809E+10	3.806E-07	3.855E-07	3.945E-07	4.091E-07	4.356E-07	4.262E+10	5.942E-07	6.016E-07	6.155E-07	6.381E-07	6.788E-07
TOTAL	1.814E+19	4.844E+17	3.092E+17	1.827E+17	9.470E+16	2.694E+16	2.787E+19	7.528E+17	4.818E+17	2.854E+17	1.481E+17	4.217E+16
MEV/SEC	7.503E+18	1.643E+17	8.636E+16	3.993E+16	2.125E+16	8.003E+15	1.152E+19	2.550E+17	1.345E+17	6.263E+16	3.347E+16	1.260E+16

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS=ONE TONNE INITIAL HEAVY METAL: ADV OX LMFBR: LWR-PU/U/U/U

EMEAN	CO+AB ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR	CORE ASSY	90.0D	180.0D	1.0YR	2.0YR	5.0YR
1.500E-02	8.535E+08	2.568E+07	1.911E+07	1.249E+07	6.251E+06	1.414E+06	1.311E+09	3.994E+07	2.977E+07	1.948E+07	9.750E+06	2.203E+06
2.500E-02	3.847E+08	1.049E+07	7.524E+06	4.944E+06	2.584E+06	6.578E+05	5.913E+08	1.631E+07	1.171E+07	7.703E+06	4.026E+06	1.022E+06
3.750E-02	4.491E+08	1.439E+07	1.010E+07	6.588E+06	3.347E+06	8.758E+05	6.901E+08	2.235E+07	1.571E+07	1.026E+07	5.218E+06	1.366E+06
5.750E-02	6.945E+08	2.014E+07	1.532E+07	1.012E+07	5.045E+06	1.088E+06	1.067E+09	3.134E+07	2.387E+07	1.579E+07	7.871E+06	1.696E+06
8.500E-02	7.617E+08	2.045E+07	1.573E+07	1.048E+07	5.249E+06	1.169E+06	1.170E+09	3.184E+07	2.450E+07	1.634E+07	8.187E+06	1.823E+06
1.250E-01	1.219E+09	4.686E+07	2.611E+07	1.567E+07	7.453E+06	1.429E+06	1.873E+09	7.261E+07	4.060E+07	2.441E+07	1.162E+07	2.234E+06
2.250E-01	5.166E+09	4.967E+07	3.777E+07	2.504E+07	1.242E+07	2.476E+06	7.933E+09	7.735E+07	5.889E+07	3.906E+07	1.937E+07	3.857E+06
3.750E-01	6.479E+09	5.018E+07	3.657E+07	2.482E+07	1.319E+07	3.202E+06	9.964E+09	7.825E+07	5.700E+07	3.868E+07	2.055E+07	4.972E+06
5.750E-01	1.594E+10	5.881E+08	3.422E+08	2.291E+08	1.505E+08	7.088E+07	2.453E+10	9.200E+08	5.373E+08	3.603E+08	2.368E+08	1.114E+08
8.500E-01	2.540E+10	1.221E+09	5.566E+08	1.394E+08	4.906E+07	1.622E+07	3.902E+10	1.885E+09	8.616E+08	2.186E+08	7.830E+07	2.595E+07
1.250E+00	1.912E+10	6.230E+07	4.559E+07	3.151E+07	1.768E+07	5.108E+06	2.935E+10	9.821E+07	7.181E+07	4.965E+07	2.792E+07	8.129E+06
1.750E+00	1.029E+10	3.385E+07	9.627E+06	6.198E+06	2.965E+06	4.318E+05	1.580E+10	5.251E+07	1.514E+07	9.739E+06	4.657E+06	6.798E+05
2.250E+00	5.942E+09	1.723E+07	1.324E+07	8.553E+06	3.668E+06	3.044E+05	9.116E+09	2.678E+07	2.057E+07	1.329E+07	5.703E+06	4.738E+05
2.750E+00	3.178E+09	1.821E+06	4.634E+05	3.193E+05	1.598E+05	2.013E+04	4.873E+09	2.814E+06	7.253E+05	4.998E+05	2.502E+05	3.152E+04
3.500E+00	1.830E+09	1.005E+05	7.361E+04	5.186E+04	2.608E+04	3.314E+03	2.797E+09	1.570E+05	1.153E+05	8.122E+04	4.083E+04	5.189E+03
5.000E+00	9.930E+08	6.102E-12	6.180E-12	6.324E-12	6.559E-12	6.983E-12	1.509E+09	9.528E-12	9.645E-12	9.868E-12	1.023E-11	1.088E-11
7.000E+00	1.185E+07	5.543E-13	5.614E-13	5.745E-13	5.958E-13	6.343E-13	1.806E+07	8.653E-13	8.762E-13	8.964E-13	9.292E-13	9.885E-13
1.100E+01	4.065E+03	5.508E-14	5.578E-14	5.709E-14	5.920E-14	6.303E-14	6.167E+03	8.595E-14	8.706E-14	8.908E-14	9.233E-14	9.823E-14
TOTAL	9.870E+10	2.162E+09	1.136E+09	5.252E+08	2.796E+08	1.053E+08	1.516E+11	3.355E+09	1.769E+09	8.239E+08	4.403E+08	1.658E+08
GAM POW	1.203E+06	2.634E+04	1.384E+04	6.400E+03	3.407E+03	1.283E+03	1.847E+06	4.088E+04	2.156E+04	1.004E+04	5.365E+03	2.020E+03

Appendix C.2: Characteristics of LMFBR Radial Blanket and Core plus Axial Blanket plus Radial Blanket Fuel

TABLE C.24. GRAMS OF ACTIVATION PRODUCT ELEMENTS IN LMFBR AXIAL BLANKET AND RADIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
H	1.382E+00	1.382E+00	1.382E+00	1.382E+00	1.382E+00	1.382E+00	8.732E-01	8.732E-01	8.731E-01	8.731E-01	8.730E-01	8.727E-01
HE	1.767E+00	1.767E+00	1.767E+00	1.767E+00	1.767E+00	1.767E+00	2.158E+00	2.158E+00	2.158E+00	2.158E+00	2.158E+00	2.158E+00
LI	1.112E+00	1.112E+00	1.112E+00	1.112E+00	1.112E+00	1.112E+00	1.082E+00	1.082E+00	1.082E+00	1.082E+00	1.082E+00	1.082E+00
BE	1.650E-03	1.650E-03	1.650E-03	1.650E-03	1.650E-03	1.650E-03	1.472E-03	1.472E-03	1.472E-03	1.472E-03	1.472E-03	1.472E-03
B	1.158E+01	1.158E+01	1.158E+01	1.158E+01	1.158E+01	1.158E+01	3.744E+00	3.744E+00	3.744E+00	3.744E+00	3.744E+00	3.744E+00
C	1.398E+03	1.398E+03	1.398E+03	1.398E+03	1.398E+03	1.398E+03	4.405E+02	4.405E+02	4.405E+02	4.405E+02	4.405E+02	4.405E+02
N	7.087E+02	7.087E+02	7.087E+02	7.087E+02	7.087E+02	7.087E+02	2.056E+02	2.056E+02	2.056E+02	2.056E+02	2.056E+02	2.056E+02
O	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
F	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01	1.070E+01
NE	1.138E-04	1.138E-04	1.138E-04	1.138E-04	1.138E-04	1.138E-04	1.566E-04	1.566E-04	1.566E-04	1.566E-04	1.566E-04	1.566E-04
NA	1.500E+01	1.500E+01	1.500E+01	1.500E+01	1.500E+01	1.500E+01	1.500E+01	1.500E+01	1.500E+01	1.500E+01	1.500E+01	1.500E+01
MG	2.015E+00	2.015E+00	2.015E+00	2.015E+00	2.015E+00	2.015E+00	2.013E+00	2.013E+00	2.013E+00	2.013E+00	2.013E+00	2.013E+00
AL	3.693E+02	3.693E+02	3.693E+02	3.693E+02	3.693E+02	3.693E+02	1.099E+02	1.099E+02	1.099E+02	1.099E+02	1.099E+02	1.099E+02
SI	1.219E+04	1.219E+04	1.219E+04	1.219E+04	1.219E+04	1.219E+04	3.231E+03	3.231E+03	3.231E+03	3.231E+03	3.231E+03	3.231E+03
P	4.710E+02	4.710E+02	4.710E+02	4.710E+02	4.710E+02	4.710E+02	1.502E+02	1.502E+02	1.502E+02	1.502E+02	1.502E+02	1.502E+02
S	1.638E-03	1.629E-03	1.606E-03	1.588E-03	1.583E-03	1.583E-03	1.805E-03	1.780E-03	1.747E-03	1.722E-03	1.715E-03	1.715E-03
CL	5.300E+00	5.300E+00	5.300E+00	5.300E+00	5.300E+00	5.300E+00	5.300E+00	5.300E+00	5.300E+00	5.300E+00	5.300E+00	5.300E+00
AR	7.645E-05	7.281E-05	7.220E-05	7.209E-05	7.211E-05	7.218E-05	1.163E-04	1.114E-04	1.105E-04	1.104E-04	1.104E-04	1.105E-04
K	5.369E-04	5.369E-04	5.369E-04	5.369E-04	5.370E-04	5.370E-04	7.180E-04	7.180E-04	7.180E-04	7.180E-04	7.180E-04	7.180E-04
CA	2.000E+00	2.000E+00	2.000E+00	2.000E+00	2.000E+00	2.000E+00	1.999E+00	1.999E+00	1.999E+00	1.999E+00	1.999E+00	1.999E+00
SC	5.529E-05	2.791E-05	1.653E-05	8.643E-06	6.764E-06	6.735E-06	4.312E-05	2.331E-05	1.516E-05	9.605E-06	8.372E-06	8.388E-06
TI	3.217E+02	3.217E+02	3.217E+02	3.217E+02	3.217E+02	3.217E+02	8.582E+01	8.582E+01	8.582E+01	8.582E+01	8.582E+01	8.582E+01
V	6.581E+00	6.728E+00	6.743E+00	6.745E+00	6.745E+00	6.745E+00	5.886E+00	6.008E+00	6.021E+00	6.023E+00	6.023E+00	6.023E+00
CR	3.644E+05	3.644E+05	3.644E+05	3.644E+05	3.644E+05	3.644E+05	9.630E+04	9.630E+04	9.630E+04	9.630E+04	9.630E+04	9.630E+04
MN	3.945E+04	3.945E+04	3.945E+04	3.945E+04	3.945E+04	3.945E+04	1.040E+04	1.040E+04	1.040E+04	1.040E+04	1.040E+04	1.040E+04
FE	1.376E+06	1.376E+06	1.376E+06	1.376E+06	1.376E+06	1.376E+06	3.637E+05	3.637E+05	3.637E+05	3.637E+05	3.637E+05	3.637E+05
CO	3.330E+02	3.297E+02	3.283E+02	3.274E+02	3.272E+02	3.268E+02	9.296E+01	9.101E+01	9.019E+01	8.967E+01	8.951E+01	8.932E+01
NI	2.896E+05	2.896E+05	2.896E+05	2.896E+05	2.896E+05	2.896E+05	7.652E+04	7.652E+04	7.652E+04	7.652E+04	7.652E+04	7.652E+04
CU	1.924E+03	1.924E+03	1.924E+03	1.924E+03	1.924E+03	1.924E+03	5.092E+02	5.092E+02	5.092E+02	5.092E+02	5.092E+02	5.093E+02
ZN	4.040E+01	4.040E+01	4.040E+01	4.040E+01	4.040E+01	4.040E+01	4.038E+01	4.038E+01	4.038E+01	4.038E+01	4.037E+01	4.037E+01
GA	4.321E-03	4.322E-03	4.322E-03	4.322E-03	4.322E-03	4.322E-03	6.631E-03	6.632E-03	6.632E-03	6.632E-03	6.632E-03	6.632E-03
GE	5.622E-06	5.622E-06	5.622E-06	5.622E-06	5.622E-06	5.622E-06	1.325E-05	1.325E-05	1.325E-05	1.325E-05	1.325E-05	1.325E-05
AS	4.502E-17	4.504E-17	4.504E-17	4.504E-17	4.504E-17	4.504E-17	3.522E-16	3.523E-16	3.523E-16	3.523E-16	3.523E-16	3.523E-16
SE	2.880E-19	2.913E-19	2.913E-19	2.913E-19	2.913E-19	2.913E-19	3.891E-18	3.937E-18	3.937E-18	3.937E-18	3.937E-18	3.937E-18
SR	1.478E-08	1.310E-08	1.261E-08	1.242E-08	1.239E-08	1.237E-08	1.421E-08	1.258E-08	1.210E-08	1.192E-08	1.190E-08	1.187E-08
Y	3.957E-07	3.477E-07	3.481E-07	3.482E-07	3.482E-07	3.482E-07	2.873E-07	2.533E-07	2.537E-07	2.538E-07	2.538E-07	2.538E-07
ZR	8.036E-02	8.106E-02	8.105E-02	8.103E-02	8.103E-02	8.103E-02	5.759E-02	5.811E-02	5.809E-02	5.809E-02	5.808E-02	5.808E-02
NB	2.137E+02	2.137E+02	2.137E+02	2.137E+02	2.137E+02	2.137E+02	5.647E+01	5.647E+01	5.647E+01	5.647E+01	5.647E+01	5.647E+01
MO	5.000E+04	5.000E+04	5.000E+04	5.000E+04	5.000E+04	5.000E+04	1.320E+04	1.320E+04	1.320E+04	1.320E+04	1.320E+04	1.320E+04
TC	2.628E+00	2.640E+00	2.640E+00	2.640E+00	2.640E+00	2.640E+00	2.368E+00	2.380E+00	2.380E+00	2.380E+00	2.380E+00	2.380E+00
RU	6.666E+00	6.666E+00	6.666E+00	6.666E+00	6.666E+00	6.666E+00	5.843E+00	5.843E+00	5.843E+00	5.843E+00	5.843E+00	5.843E+00
RH	8.810E-05	1.037E-04	1.069E-04	1.077E-04	1.077E-04	1.077E-04	1.598E-04	1.885E-04	1.948E-04	1.963E-04	1.964E-04	1.964E-04
PD	9.155E-05	9.163E-05	9.171E-05	9.187E-05	9.217E-05	9.308E-05	1.391E-04	1.393E-04	1.393E-04	1.395E-04	1.400E-04	1.414E-04
AG	9.382E-02	9.377E-02	9.374E-02	9.369E-02	9.364E-02	9.361E-02	9.043E-02	9.036E-02	9.031E-02	9.024E-02	9.017E-02	9.014E-02
CD	2.477E+01	2.477E+01	2.476E+01	2.476E+01	2.476E+01	2.476E+01	2.464E+01	2.464E+01	2.464E+01	2.464E+01	2.464E+01	2.463E+01
IN	1.282E+00	1.282E+00	1.282E+00	1.282E+00	1.282E+00	1.282E+00	1.015E+00	1.015E+00	1.015E+00	1.015E+00	1.015E+00	1.015E+00
SN	9.021E+01	9.021E+01	9.021E+01	9.021E+01	9.021E+01	9.021E+01	2.759E+01	2.759E+01	2.759E+01	2.759E+01	2.759E+01	2.759E+01
SB	2.910E-02	2.916E-02	2.909E-02	2.887E-02	2.839E-02	2.741E-02	2.823E-02	2.827E-02	2.819E-02	2.797E-02	2.750E-02	2.657E-02
TE	1.574E-03	1.767E-03	1.940E-03	2.264E-03	2.794E-03	3.778E-03	2.072E-03	2.262E-03	2.429E-03	2.740E-03	3.248E-03	4.190E-03
I	1.942E-07	1.953E-07	1.957E-07	1.961E-07	1.962E-07	1.963E-07	5.134E-07	5.163E-07	5.174E-07	5.183E-07	5.187E-07	5.187E-07
XE	2.523E-09	2.524E-09	2.524E-09	2.524E-09	2.524E-09	2.524E-09	1.129E-08	1.129E-08	1.129E-08	1.129E-08	1.129E-08	1.129E-08
CS	1.339E-22	1.475E-22	1.475E-22	1.475E-22	1.475E-22	1.475E-22	7.672E-21	8.341E-21	8.341E-21	8.341E-21	8.341E-21	8.341E-21
ND	7.862E-16	7.860E-16	7.860E-16	7.861E-16	7.861E-16	7.861E-16	1.362E-15	1.361E-15	1.361E-15	1.361E-15	1.362E-15	1.362E-15
PM	9.918E-13	2.702E-18	2.528E-18	2.210E-18	1.696E-18	7.679E-19	2.167E-12	6.265E-18	5.857E-18	5.118E-18	3.930E-18	1.779E-18
SM	1.879E-08	1.891E-08	1.903E-08	1.926E-08	1.970E-08	2.090E-08	2.633E-08	2.654E-08	2.675E-08	2.716E-08	2.794E-08	3.006E-08
EU	1.223E-03	1.371E-03	1.486E-03	1.645E-03	1.789E-03	1.847E-03	1.783E-03	1.952E-03	2.082E-03	2.260E-03	2.414E-03	2.449E-03
GD	2.470E+00	2.470E+00	2.469E+00	2.469E+00	2.469E+00	2.469E+00	2.450E+00	2.450E+00	2.450E+00	2.449E+00	2.449E+00	2.449E+00
TB	1.879E-02	1.852E-02	1.845E-02	1.841E-02	1.840E-02	1.840E-02	3.134E-02	3.068E-02	3.047E-02	3.034E-02	3.032E-02	3.032E-02
DY	1.191E-02	1.221E-02	1.228E-02	1.232E-02	1.233E-02	1.233E-02	1.965E-02	2.036E-02	2.057E-02	2.070E-02	2.073E-02	2.073E-02
HO	9.814E-09	9.819E-09	9.819E-09	9.819E-09	9.819E-09	9.819E-09	1.214E-07	1.214E-07	1.214E-07	1.214E-07	1.214E-07	1.214E-07
ER	2.636E-10	2.668E-10	2.668E-10	2.668E-10	2.668E-10	2.669E-10	5.879E-09	5.952E-09	5.952E-09	5.952E-09	5.952E-09	5.952E-09
TM	2.275E-17	2.614E-17	2.604E-17	2.592E-17	2.587E-17	2.586E-17	2.400E-15	2.745E-15	2.729E-15	2.711E-15	2.702E-15	2.701E-15
YB	1.988E-19	3.784E-19	4.891E-19	6.012E-19	6.579E-19	6.680E-19	3.012E-17	5.811E-17	7.537E-17	9.287E-17	1.018E-16	1.034E-16
TA	6.344E-05	6.993E-05	7.381E-05	7.759E-05	7.936E-05	7.961E-05	9.480E-05	1.040E-04	1.096E-04	1.149E-04	1.175E-04	1.178E-04
W	1.954E+00	1.953E+00	1.953E+00	1.953E+00	1.953E+00	1.953E+00	1.930E+00	1.930E+00	1.930E+00	1.930E+00	1.930E+00	1.930E+00
RE	4.575E-02	4.593E-02	4.597E-02	4.600E-02	4.601E-02	4.601E-02	6.773E-02	6.801E-02	6.808E-02	6.813E-02	6.814E-02	6.814E-02
OS	1.297E-03	1.304E-03	1.305E-03	1.306E-03	1.306E-03	1.306E-03	2.977E-03	2.994E-03	2.996E-03	2.998E-03	2.998E-03	2.998E-03
IR	2.274E-10	2.530E-10	2.510E-10	2.494E-10	2.491E-10	2.491E-10	1.849E-09	2.065E-09	2.039E-09	2.020E-09	2.016E-09	2.016E-09
PT	1.251E-11	1.817E-11	2.060E-11	2.212E-11	2.243E-11	2.244E-11	1.482E-10	2.172E-10	2.469E-10	2.654E-10	2.693E-10	2.694E-10
HG	1.505E-19	1.670E-19	1.835E-19	2.174E-19	2.842E-19	4.849E-19	3.196E-19	3.361E-19	3.526E-19	3.865E-19	4.533E-19	6.539E-19
TL	1.006E-13	1.226E-13	1.446E-13	1.899E-13	2.793E-13	5.474E-13	1.988E-13	2.326E-13	2.664E-13	3.360E-13	4.733E-13	8.850E-13
PB	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
BI	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01	4.000E-01
PO	1.701E-06	1.126E-06	7.174E-07	2.837E-07	4.556E-08	1.880E-10	2.531E-06	1.675E-06	1.070E-06	4.231E-07	6.794E-08	2.805E-10
TOTAL	2.272E+06	2.272E+06	2.272E+06	2.272E+06	2.272E+06	2.272E+06	6.996E+05	6.996E+05	6.996E+05	6.996E+05	6.996E+05	6.996E+05

TABLE C.25. GRAMS OF PRINCIPAL ACTIVATION PRODUCT NUCLIDES IN LMFBR AXIAL BLANKET AND RADIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
O 16	1.341E+05	1.341E+05	1.341E+05	1.341E+05	1.341E+05	1.341E+05	1.341E+05	1.341E+05	1.341E+05	1.341E+05	1.341E+05	1.341E+05
SI 28	1.120E+04	1.120E+04	1.120E+04	1.120E+04	1.120E+04	1.120E+04	2.969E+03	2.969E+03	2.969E+03	2.969E+03	2.969E+03	2.969E+03
CR 50	1.522E+04	1.522E+04	1.522E+04	1.522E+04	1.522E+04	1.522E+04	4.021E+03	4.021E+03	4.021E+03	4.021E+03	4.021E+03	4.021E+03
CR 52	3.050E+05	3.050E+05	3.050E+05	3.050E+05	3.050E+05	3.050E+05	8.060E+04	8.060E+04	8.060E+04	8.060E+04	8.060E+04	8.060E+04
CR 53	3.525E+04	3.525E+04	3.525E+04	3.525E+04	3.525E+04	3.525E+04	9.312E+03	9.312E+03	9.312E+03	9.312E+03	9.312E+03	9.312E+03
CR 54	8.933E+03	8.933E+03	8.934E+03	8.934E+03	8.935E+03	8.935E+03	2.367E+03	2.367E+03	2.367E+03	2.368E+03	2.368E+03	2.368E+03
MN 55	3.945E+04	3.945E+04	3.945E+04	3.945E+04	3.945E+04	3.945E+04	1.040E+04	1.040E+04	1.040E+04	1.040E+04	1.040E+04	1.040E+04
FE 54	7.720E+04	7.720E+04	7.720E+04	7.720E+04	7.720E+04	7.720E+04	2.040E+04	2.040E+04	2.040E+04	2.040E+04	2.040E+04	2.040E+04
FE 56	1.264E+06	1.264E+06	1.264E+06	1.264E+06	1.264E+06	1.264E+06	3.341E+05	3.341E+05	3.341E+05	3.341E+05	3.341E+05	3.341E+05
FE 57	3.036E+04	3.036E+04	3.036E+04	3.036E+04	3.036E+04	3.036E+04	8.093E+03	8.093E+03	8.093E+03	8.093E+03	8.093E+03	8.093E+03
FE 58	4.180E+03	4.183E+03	4.185E+03	4.165E+03	4.186E+03	4.186E+03	1.119E+03	1.121E+03	1.122E+03	1.123E+03	1.123E+03	1.123E+03
NI 58	1.951E+05	1.951E+05	1.951E+05	1.951E+05	1.951E+05	1.951E+05	5.155E+04	5.155E+04	5.155E+04	5.155E+04	5.155E+04	5.155E+04
NI 60	7.719E+04	7.719E+04	7.719E+04	7.719E+04	7.719E+04	7.719E+04	2.040E+04	2.040E+04	2.040E+04	2.040E+04	2.040E+04	2.040E+04
NI 61	3.401E+03	3.401E+03	3.401E+03	3.401E+03	3.401E+03	3.401E+03	9.006E+02	9.006E+02	9.006E+02	9.006E+02	9.006E+02	9.006E+02
NI 62	1.097E+04	1.097E+04	1.097E+04	1.097E+04	1.097E+04	1.097E+04	2.899E+03	2.899E+03	2.899E+03	2.899E+03	2.899E+03	2.899E+03
NI 64	2.871E+03	2.871E+03	2.871E+03	2.871E+03	2.871E+03	2.871E+03	7.588E+02	7.588E+02	7.588E+02	7.588E+02	7.588E+02	7.588E+02
MO 92	7.093E+03	7.093E+03	7.093E+03	7.093E+03	7.093E+03	7.093E+03	1.875E+03	1.875E+03	1.875E+03	1.875E+03	1.875E+03	1.875E+03
MO 94	4.551E+03	4.551E+03	4.551E+03	4.551E+03	4.551E+03	4.551E+03	1.201E+03	1.201E+03	1.201E+03	1.201E+03	1.201E+03	1.201E+03
MO 95	7.834E+03	7.834E+03	7.834E+03	7.834E+03	7.834E+03	7.834E+03	2.050E+03	2.050E+03	2.050E+03	2.050E+03	2.050E+03	2.050E+03
MO 96	8.382E+03	8.382E+03	8.382E+03	8.382E+03	8.382E+03	8.382E+03	2.234E+03	2.234E+03	2.234E+03	2.234E+03	2.234E+03	2.234E+03
MO 97	4.836E+03	4.836E+03	4.836E+03	4.836E+03	4.836E+03	4.836E+03	1.272E+03	1.272E+03	1.272E+03	1.272E+03	1.272E+03	1.272E+03
MO 98	1.230E+04	1.230E+04	1.230E+04	1.230E+04	1.230E+04	1.230E+04	3.252E+03	3.252E+03	3.252E+03	3.252E+03	3.252E+03	3.252E+03
MO100	4.994E+03	4.994E+03	4.994E+03	4.994E+03	4.994E+03	4.994E+03	1.317E+03	1.317E+03	1.317E+03	1.317E+03	1.317E+03	1.317E+03
SUMTOT	2.265E+06	2.265E+06	2.265E+06	2.265E+06	2.265E+06	2.265E+06	6.971E+05	6.971E+05	6.971E+05	6.971E+05	6.971E+05	6.971E+05
TOTAL	2.272E+06	2.272E+06	2.272E+06	2.272E+06	2.272E+06	2.272E+06	6.996E+05	6.996E+05	6.996E+05	6.996E+05	6.996E+05	6.996E+05

TABLE C.26. CURIES OF ACTIVATION PRODUCT ELEMENTS IN LMFBR AXIAL BLANKET AND RADIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
H	1.921E+01	1.377E+01	1.358E+01	1.320E+01	1.248E+01	1.055E+01	2.776E+01	2.052E+01	2.024E+01	1.967E+01	1.860E+01	1.572E+01
HE	8.709E-02	0.0	0.0	0.0	0.0	0.0	1.118E-01	0.0	0.0	0.0	0.0	0.0
LI	5.238E-02	0.0	0.0	0.0	0.0	0.0	7.212E-02	0.0	0.0	0.0	0.0	0.0
BE	1.237E-04	2.138E-06	2.138E-06	2.138E-06	2.138E-06	2.138E-06	1.142E-04	2.455E-06	2.455E-06	2.455E-06	2.455E-06	2.455E-06
B	2.688E-01	0.0	0.0	0.0	0.0	0.0	2.177E-01	0.0	0.0	0.0	0.0	0.0
C	3.570E+01	8.533E-01	8.533E-01	8.532E-01	8.531E-01	8.528E-01	4.827E+01	7.782E-01	7.782E-01	7.782E-01	7.781E-01	7.778E-01
N	3.445E+02	0.0	0.0	0.0	0.0	0.0	4.510E+02	0.0	0.0	0.0	0.0	0.0
O	1.722E+00	0.0	0.0	0.0	0.0	0.0	2.454E+00	0.0	0.0	0.0	0.0	0.0
F	9.539E-01	0.0	0.0	0.0	0.0	0.0	1.353E+00	0.0	0.0	0.0	0.0	0.0
NE	1.212E+00	0.0	0.0	0.0	0.0	0.0	1.625E+00	0.0	0.0	0.0	0.0	0.0
NA	4.653E+01	1.256E-04	1.176E-04	1.028E-04	7.874E-05	3.541E-05	5.970E+01	1.050E-04	9.832E-05	8.590E-05	6.581E-05	2.959E-05
MG	1.190E+01	0.0	0.0	0.0	0.0	0.0	1.036E+01	0.0	0.0	0.0	0.0	0.0
AL	3.933E+02	0.0	0.0	0.0	0.0	0.0	2.954E+02	0.0	0.0	0.0	0.0	0.0
SI	1.531E+02	2.497E-09	2.496E-09	2.495E-09	2.492E-09	2.484E-09	1.431E+02	2.507E-09	2.506E-09	2.505E-09	2.502E-09	2.494E-09
P	1.134E+01	1.438E-01	1.833E-03	2.334E-07	2.492E-09	2.484E-09	1.252E+01	1.586E-01	2.022E-03	2.572E-07	2.502E-09	2.494E-09
S	4.020E+00	1.973E+00	9.710E-01	2.257E-01	1.271E-02	2.269E-06	5.684E+00	2.790E+00	1.373E+00	3.191E-01	1.797E-02	3.208E-06
CL	4.286E-01	3.749E-04	3.749E-04	3.749E-04	3.749E-04	3.749E-04	6.707E-01	5.752E-04	5.752E-04	5.752E-04	5.752E-04	5.752E-04
AR	4.418E-01	7.445E-02	1.259E-02	3.796E-04	5.925E-05	5.856E-05	6.029E-01	1.016E-01	1.718E-02	5.155E-04	7.837E-05	7.745E-05
K	9.591E-03	3.747E-09	3.747E-09	3.747E-09	3.747E-09	3.747E-09	1.308E-02	5.007E-09	5.007E-09	5.007E-09	5.007E-09	5.007E-09
CA	3.514E-02	2.272E-02	1.550E-02	7.052E-03	1.496E-03	2.040E-05	4.254E-02	2.709E-02	1.847E-02	8.407E-03	1.786E-03	2.648E-05
SC	4.521E+00	7.608E-01	3.614E-01	7.807E-02	3.805E-03	4.405E-07	3.349E+00	5.571E-01	2.646E-01	5.716E-02	2.786E-03	3.226E-07
TI	1.584E+00	0.0	0.0	0.0	0.0	0.0	1.501E+00	0.0	0.0	0.0	0.0	0.0
V	6.651E+04	6.773E-14	6.773E-14	6.773E-14	6.773E-14	6.773E-14	4.217E+04	4.886E-14	4.886E-14	4.886E-14	4.886E-14	4.886E-14
CR	1.543E+04	1.595E+03	1.679E+02	1.631E+00	1.755E-04	2.187E-16	1.284E+04	1.329E+03	1.398E+02	1.359E+00	1.462E-04	1.822E-16
MN	4.326E+05	1.444E+04	1.182E+04	7.840E+03	3.487E+03	3.069E+02	2.330E+05	9.572E+03	7.840E+03	5.198E+03	2.312E+03	2.035E+02
FE	7.277E+03	6.432E+03	5.927E+03	5.149E+03	3.942E+03	1.772E+03	5.321E+03	4.655E+03	4.282E+03	3.716E+03	2.845E+03	1.279E+03
CO	1.805E+05	7.488E+04	3.177E+04	6.191E+03	1.216E+03	7.259E+02	1.070E+05	4.421E+04	1.875E+04	3.643E+03	7.064E+02	4.209E+02
NI	4.326E+02	1.263E+02	1.266E+02	1.261E+02	1.252E+02	1.224E+02	3.610E+02	1.039E+02	1.038E+02	1.034E+02	1.026E+02	1.003E+02
CU	7.743E+02	3.914E-16	8.325E-27	1.892E-48	0.0	0.0	6.520E+02	5.161E-16	1.099E-26	2.497E-48	0.0	0.0
ZN	2.964E+01	1.106E+01	8.565E+00	5.059E+00	1.791E+00	7.954E-02	4.445E+01	1.582E+01	1.225E+01	7.233E+00	2.561E+00	1.137E-01
GA	3.683E-02	0.0	0.0	0.0	0.0	0.0	8.846E-02	0.0	0.0	0.0	0.0	0.0
GE	7.852E-06	3.665E-08	1.857E-10	3.491E-15	1.679E-24	0.0	2.896E-05	1.355E-07	6.858E-10	1.289E-14	6.200E-24	0.0
AS	5.229E-15	0.0	0.0	0.0	0.0	0.0	7.182E-14	0.0	0.0	0.0	0.0	0.0
SR	6.999E-05	2.004E-05	5.860E-06	5.051E-07	4.998E-08	4.371E-08	6.799E-05	1.946E-05	5.693E-06	4.911E-07	4.898E-08	4.286E-08
Y	2.895E-02	4.400E-06	1.547E-06	2.150E-07	4.916E-08	4.372E-08	2.077E-02	4.355E-06	1.531E-06	2.123E-07	4.823E-08	4.287E-08
ZR	2.441E+00	7.035E-01	2.654E-01	3.567E-02	6.884E-04	6.543E-06	1.788E+00	5.154E-01	1.944E-01	2.613E-02	5.044E-04	4.838E-06
NB	1.786E+02	1.245E+01	2.567E+00	3.299E-01	2.062E-01	2.046E-01	1.514E+02	1.257E+01	2.438E+00	2.254E-01	1.195E-01	1.183E-01
MO	6.527E+04	1.110E-01	1.110E-01	1.110E-01	1.109E-01	1.109E-01	6.010E+04	9.163E-02	9.162E-02	9.161E-02	9.159E-02	9.154E-02
TC	1.522E+04	4.478E-02	4.478E-02	4.478E-02	4.478E-02	4.478E-02	1.365E+04	4.036E-02	4.036E-02	4.036E-02	4.036E-02	4.036E-02
RU	6.378E+00	1.303E+00	2.663E-01	1.013E-02	1.570E-05	8.868E-12	1.189E+01	2.425E+00	4.952E-01	1.888E-02	3.092E-05	5.112E-11
RH	1.910E-02	2.314E-10	1.953E-10	1.378E-10	6.929E-11	8.805E-12	5.380E-02	1.340E-09	1.131E-09	7.982E-10	4.013E-10	5.100E-11
PD	3.631E-03	1.143E-11	1.143E-11	1.143E-11	1.143E-11	1.143E-11	9.832E-03	1.377E-11	1.377E-11	1.376E-11	1.376E-11	1.376E-11
AG	1.311E+01	7.966E-01	6.210E-01	3.722E-01	1.362E-01	8.147E-03	2.011E+01	1.102E+00	8.590E-01	5.149E-01	1.886E-01	1.148E-02
CD	4.675E+02	6.592E+00	4.979E+00	3.559E+00	2.052E+00	3.993E-01	7.328E+02	8.831E+00	6.505E+00	4.597E+00	2.649E+00	5.154E-01
IN	1.197E+03	2.683E+00	7.612E-01	5.691E-02	3.424E-04	8.207E-11	1.479E+03	4.036E+00	1.145E+00	8.560E-02	5.151E-04	1.181E-10
SN	8.063E+01	9.674E+00	6.931E+00	3.715E+00	1.188E+00	5.060E-02	8.291E+01	8.767E+00	6.258E+00	3.364E+00	1.081E+00	4.622E-02
SB	5.576E+00	3.008E+00	2.814E+00	2.473E+00	1.925E+00	9.084E-01	6.672E+00	2.893E+00	2.701E+00	2.370E+00	1.845E+00	8.707E-01
TE	6.696E-01	6.923E-01	6.730E-01	6.021E-01	4.696E-01	2.216E-01	6.389E-01	6.630E-01	6.456E-01	5.776E-01	4.502E-01	2.124E-01
I	1.937E-05	5.900E-17	5.847E-17	5.847E-17	5.847E-17	5.847E-17	8.709E-05	3.743E-16	3.643E-16	3.643E-16	3.643E-16	3.643E-16
XE	6.314E-10	6.445E-12	1.118E-12	3.287E-14	3.141E-17	2.743E-26	4.401E-09	4.304E-11	7.451E-12	2.191E-13	2.094E-16	1.829E-25
ND	7.087E-14	5.397E-17	8.732E-19	7.926E-24	9.076E-34	0.0	1.436E-13	1.296E-16	5.991E-20	5.438E-25	6.227E-35	0.0
PM	4.145E-06	2.636E-15	2.373E-15	2.051E-15	1.573E-15	7.121E-16	6.498E-06	6.269E-15	5.532E-15	4.751E-15	3.645E-15	1.650E-15
SM	8.233E-07	2.157E-09	2.153E-09	2.145E-09	2.128E-09	2.080E-09	1.746E-06	7.194E-09	7.180E-09	7.152E-09	7.097E-09	6.935E-09
EU	3.217E-02	2.912E-02	2.846E-02	2.723E-02	2.497E-02	1.928E-02	1.109E-01	8.521E-02	8.292E-02	7.914E-02	7.222E-02	5.506E-02
GD	4.848E+01	1.811E+00	1.400E+00	8.235E-01	2.893E-01	1.254E-02	8.278E+01	2.114E+00	1.634E+00	9.611E-01	3.376E-01	1.464E-02
TB	1.883E+01	1.392E+00	5.867E-01	9.934E-02	2.995E-03	8.210E-08	3.393E+01	4.151E+00	1.750E+00	2.964E-01	8.936E-03	2.450E-07
DY	1.105E-04	4.452E-16	4.681E-24	1.772E-40	0.0	0.0	1.402E-03	8.828E-15	9.283E-23	3.514E-39	0.0	0.0
HO	2.163E-06	1.804E-11	1.804E-11	1.803E-11	1.802E-11	1.799E-11	4.843E-05	3.474E-10	3.473E-10	3.472E-10	3.470E-10	3.464E-10
ER	2.546E-05	3.848E-16	1.564E-18	1.827E-24	3.671E-36	0.0	8.844E-08	3.932E-14	5.296E-17	6.186E-23	1.243E-34	0.0
TM	2.796E-15	1.722E-15	1.061E-15	3.922E-16	5.601E-17	6.637E-19	4.357E-13	2.685E-13	1.655E-13	6.129E-14	8.876E-15	1.580E-16
TA	7.112E-03	3.997E-03	2.323E-03	7.607E-04	8.416E-05	1.151E-07	1.682E-02	9.290E-03	5.400E-03	1.768E-03	1.956E-04	2.698E-07
W	5.591E+01	8.622E-01	3.851E-01	7.559E-02	3.726E-03	3.020E-06	8.384E+01	1.359E+00	6.058E-01	1.182E-01	5.727E-03	4.497E-06
RE	5.772E+00	1.766E-02	7.188E-03	1.130E-03	2.943E-05	2.230E-09	1.335E+01	4.108E-02	1.672E-02	2.628E-03	6.844E-05	3.743E-09
OS	2.483E-06	2.488E-08	4.337E-10	1.041E-13	4.700E-18	3.315E-18	2.174E-05	2.278E-07	3.969E-09	9.524E-13	1.339E-16	9.466E-17
IR	9.593E-08	4.128E-08	1.777E-08	3.136E-09	1.027E-10	1.516E-13	1.171E-06	5.037E-07	2.169E-07	3.826E-08	1.253E-09	1.825E-12
PT	3.203E-11	8.837E-14	8.832E-14	8.826E-14	8.814E-14	8.777E-14	5.929E-10	1.612E-12	1.611E-12	1.610E-12	1.608E-12	1.601E-12
TL	3.009E-09	3.009E-09	3.009E-09	3.009E-09	3.009E-09	3.009E-09	4.621E-09	4.620E-09	4.620E-09	4.620E-09	4.620E-09	4.620E-09
PB	3.567E-05	2.249E-10	2.249E-10	2.249E-10	2.249E-10	2.249E-10	5.284E-05	3.454E-10	3.454E-10	3.454E-10	3.454E-10	3.454E-10
BI	7.891E-03	5.484E-08	2.385E-08	2.385E-08	2.385E-08	2.385E-08	1.235E-02	8.097E-08	3.249E-08	3.249E-08	3.249E-08	3.249E-08
PO	7.644E-03	5.060E-03	3.224E-03	1.275E-03	2.048E-04	8.450E-07	1.138E-02	7.534E-03	4.807E-03	1.901E-03	3.053E-04	1.260E-06
TOTAL	7.872E+05	9.754E+04	4.986E+04	1.934E+04	8.792E+03	2.940E+03	4.790E+05	5.996E+04	3.117E+04	1.270E+04	5.995E+03	2.022E+03

TABLE C.27. CURIES OF PRINCIPAL ACTIVATION PRODUCT NUCLIDES IN LMFBR AXIAL BLANKET AND RADIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
CR 51	1.516E+04	1.595E+03	1.679E+02	1.631E+00	1.755E-04	2.187E-16	1.262E+04	1.329E+03	1.398E+02	1.359E+00	1.462E-04	1.822E-16
MN 54	1.763E+04	1.444E+04	1.182E+04	7.840E+03	3.487E+03	3.069E+02	1.169E+04	9.572E+03	7.840E+03	5.198E+03	2.312E+03	2.035E+02
FE 55	6.719E+03	6.292E+03	5.892E+03	5.147E+03	3.942E+03	1.772E+03	4.849E+03	4.541E+03	4.252E+03	3.714E+03	2.845E+03	1.279E+03
FE 59	5.576E+02	1.394E+02	3.485E+01	2.009E+00	7.251E-03	3.391E-10	4.717E+02	1.175E+02	2.948E+01	1.699E+00	6.136E-03	2.869E-10
CO 58	1.775E+05	7.352E+04	3.045E+04	4.962E+03	1.387E+02	3.021E-03	1.048E+05	4.342E+04	1.799E+04	2.931E+03	8.193E+01	1.790E-03
CO 60	1.401E+03	1.356E+03	1.313E+03	1.228E+03	1.077E+03	7.259E+02	8.124E+02	7.865E+02	7.614E+02	7.123E+02	6.245E+02	4.209E+02
NI 63	1.254E+02	1.252E+02	1.250E+02	1.245E+02	1.235E+02	1.208E+02	1.031E+02	1.029E+02	1.027E+02	1.023E+02	1.016E+02	9.930E+01
SUMTOT	2.191E+05	9.747E+04	4.981E+04	1.931E+04	8.769E+03	2.925E+03	1.354E+05	5.987E+04	3.111E+04	1.266E+04	5.965E+03	2.002E+03
TOTAL	7.872E+05	9.754E+04	4.986E+04	1.934E+04	8.792E+03	2.940E+03	4.790E+05	5.996E+04	3.117E+04	1.270E+04	5.995E+03	2.022E+03

TABLE C.28. WATTS OF ACTIVATION PRODUCT ELEMENTS IN LMFBR AXIAL BLANKET AND RADIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
H	4.701E-04	4.636E-04	4.573E-04	4.444E-04	4.202E-04	3.551E-04	7.006E-04	6.909E-04	6.814E-04	6.623E-04	6.262E-04	5.291E-04
HE	8.095E-04	0.0	0.0	0.0	0.0	0.0	1.039E-03	0.0	0.0	0.0	0.0	0.0
LI	1.553E-03	0.0	0.0	0.0	0.0	0.0	2.689E-03	0.0	0.0	0.0	0.0	0.0
BE	8.296E-06	2.566E-09	2.566E-09	2.566E-09	2.566E-09	2.566E-09	7.626E-06	2.946E-09	2.946E-09	2.946E-09	2.946E-09	2.946E-09
B	2.131E-02	0.0	0.0	0.0	0.0	0.0	1.725E-02	0.0	0.0	0.0	0.0	0.0
C	5.934E-01	2.502E-04	2.502E-04	2.502E-04	2.502E-04	2.501E-04	8.085E-01	2.282E-04	2.282E-04	2.282E-04	2.282E-04	2.281E-04
N	1.493E+01	0.0	0.0	0.0	0.0	0.0	1.955E+01	0.0	0.0	0.0	0.0	0.0
O	4.919E-02	0.0	0.0	0.0	0.0	0.0	7.010E-02	0.0	0.0	0.0	0.0	0.0
F	3.975E-02	0.0	0.0	0.0	0.0	0.0	5.638E-02	0.0	0.0	0.0	0.0	0.0
NE	1.486E-02	0.0	0.0	0.0	0.0	0.0	1.992E-02	0.0	0.0	0.0	0.0	0.0
NA	1.145E+00	1.777E-06	1.665E-06	1.454E-06	1.114E-06	5.010E-07	1.429E+00	1.484E-06	1.391E-06	1.215E-06	9.311E-07	4.187E-07
MG	1.124E-01	0.0	0.0	0.0	0.0	0.0	9.787E-02	0.0	0.0	0.0	0.0	0.0
AL	7.006E+00	0.0	0.0	0.0	0.0	0.0	5.262E+00	0.0	0.0	0.0	0.0	0.0
SI	5.415E-01	3.108E-12	3.107E-12	3.105E-12	3.102E-12	3.092E-12	5.059E-01	3.120E-12	3.119E-12	3.118E-12	3.114E-12	3.104E-12
P	1.162E-01	1.457E-02	1.858E-05	2.365E-09	2.526E-11	2.518E-11	1.286E-01	1.608E-03	2.049E-05	2.607E-09	2.536E-11	2.528E-11
S	4.313E-03	1.958E-03	9.635E-04	2.240E-04	1.261E-05	2.251E-09	6.082E-03	2.768E-03	1.362E-03	3.167E-04	1.783E-05	3.183E-09
CL	7.580E-03	5.483E-07	5.483E-07	5.483E-07	5.483E-07	5.483E-07	1.186E-02	8.412E-07	8.412E-07	8.412E-07	8.412E-07	8.412E-07
AR	6.388E-06	1.155E-06	3.594E-07	2.023E-07	1.977E-07	1.961E-07	8.711E-06	1.567E-06	4.822E-07	2.677E-07	2.614E-07	2.594E-07
K	9.858E-05	1.514E-11	1.514E-11	1.514E-11	1.514E-11	1.514E-11	1.344E-04	2.023E-11	2.023E-11	2.023E-11	2.023E-11	2.023E-11
CA	7.082E-05	1.041E-05	7.105E-06	3.240E-06	6.978E-07	2.242E-08	1.049E-04	1.242E-05	8.474E-06	3.867E-06	8.373E-07	3.221E-08
SC	3.153E-02	9.570E-03	4.546E-03	9.820E-04	4.786E-05	5.541E-09	2.326E-02	7.007E-03	3.329E-03	7.190E-04	3.504E-05	4.057E-09
TI	1.453E-02	0.0	0.0	0.0	0.0	0.0	1.099E-02	0.0	0.0	0.0	0.0	0.0
V	9.910E+02	7.468E-16	7.468E-16	7.468E-16	7.468E-16	7.468E-16	6.284E+02	5.387E-16	5.387E-16	5.387E-16	5.387E-16	5.387E-16
CR	5.039E+00	3.414E-01	3.593E-02	3.490E-04	3.756E-09	4.680E-20	4.144E+00	2.843E-01	2.992E-02	2.908E-04	3.129E-08	3.899E-20
MN	6.289E+03	7.188E+01	5.888E+01	3.904E+01	1.736E+01	1.528E+00	3.366E+03	4.766E+01	3.904E+01	2.588E+01	1.151E+01	1.013E+00
FE	1.444E+01	9.953E+00	8.429E+00	7.097E+00	5.422E+00	2.437E+00	1.107E+01	7.344E+00	6.122E+00	5.124E+00	3.913E+00	1.758E+00
CO	1.085E+03	4.611E+02	2.026E+02	4.865E+01	1.744E+01	1.119E+01	6.408E+02	2.721E+02	1.194E+02	2.853E+01	1.012E+01	6.489E+00
NI	2.199E+00	6.027E-02	6.018E-02	5.999E-02	5.962E-02	5.852E-02	1.845E+00	4.740E-02	4.732E-02	4.717E-02	4.686E-02	4.596E-02
CU	1.128E+00	1.291E-18	1.419E-29	3.038E-51	0.0	0.0	1.792E+00	1.701E-18	1.873E-29	4.010E-51	0.0	0.0
ZN	8.002E-02	3.876E-02	3.001E-02	1.773E-02	6.277E-03	2.787E-04	1.185E-01	5.542E-02	4.291E-02	2.534E-02	8.974E-03	3.985E-04
GA	1.430E-04	0.0	0.0	0.0	0.0	0.0	3.436E-04	0.0	0.0	0.0	0.0	0.0
GE	1.080E-08	5.105E-11	2.587E-13	4.863E-18	2.339E-27	0.0	3.983E-08	1.888E-10	9.553E-13	1.796E-17	8.637E-27	0.0
AS	4.631E-17	0.0	0.0	0.0	0.0	0.0	6.360E-16	0.0	0.0	0.0	0.0	0.0
SR	2.472E-07	6.916E-08	2.015E-08	1.636E-09	6.499E-11	5.073E-11	2.402E-07	6.718E-08	1.957E-08	1.589E-09	6.363E-11	4.975E-11
Y	1.611E-04	1.590E-08	5.650E-09	8.658E-10	2.682E-10	2.423E-10	1.157E-04	1.573E-08	5.590E-09	8.546E-10	2.630E-10	2.376E-10
ZR	1.365E-02	3.563E-03	1.344E-03	1.806E-04	3.455E-06	7.837E-10	9.998E-03	2.611E-03	9.846E-04	1.323E-04	2.531E-06	5.794E-10
NB	1.670E+00	6.247E-02	1.342E-02	2.685E-03	2.092E-03	2.085E-03	1.324E+00	6.212E-02	1.233E-02	1.718E-03	1.211E-03	1.205E-03
MO	3.322E+02	1.040E-05	1.037E-05	1.037E-05	1.037E-05	1.036E-05	3.015E+02	8.582E-06	8.565E-06	8.564E-06	8.562E-06	8.557E-06
TC	7.426E+01	2.246E-05	2.246E-05	2.246E-05	2.246E-05	2.246E-05	6.727E+01	2.024E-05	2.024E-05	2.024E-05	2.024E-05	2.024E-05
RU	2.134E-02	4.360E-03	8.908E-04	3.390E-05	5.251E-08	7.340E-16	3.977E-02	8.125E-03	1.660E-03	6.317E-05	1.035E-07	3.447E-15
RH	9.934E-05	2.219E-12	1.873E-12	1.322E-12	6.645E-13	8.445E-14	2.786E-04	1.285E-11	1.085E-11	7.656E-12	3.849E-12	4.891E-13
PD	1.009E-05	6.778E-16	6.778E-16	6.778E-16	6.778E-16	6.778E-16	2.740E-05	8.159E-16	8.159E-16	8.159E-16	8.159E-16	8.159E-16
AG	7.869E-02	1.319E-02	1.028E-02	6.155E-03	2.245E-03	1.225E-04	1.203E-01	1.824E-02	1.422E-02	8.514E-03	3.107E-03	1.713E-04
CD	1.639E+00	8.063E-03	4.124E-03	2.319E-03	1.307E-03	2.542E-04	2.553E+00	1.161E-02	5.620E-03	3.010E-03	1.686E-03	2.281E-04
IN	1.784E+01	7.958E-03	2.257E-03	1.688E-04	1.016E-06	2.319E-13	2.186E+01	1.197E-02	3.395E-03	2.539E-04	1.528E-06	3.412E-13
SN	1.475E-01	1.060E-02	6.905E-03	3.155E-03	7.901E-04	2.749E-05	1.533E-01	9.330E-03	6.032E-03	2.779E-03	7.071E-04	2.513E-05
SB	2.682E-02	9.643E-03	8.877E-03	7.740E-03	6.017E-03	2.840E-03	3.499E-02	9.382E-03	8.554E-03	7.424E-03	5.767E-03	2.722E-03
TE	5.657E-04	5.832E-04	5.665E-04	5.064E-04	3.948E-04	1.863E-04	5.436E-04	5.604E-04	5.445E-04	4.861E-04	3.785E-04	1.786E-04
I	9.555E-08	2.884E-20	2.705E-20	2.705E-20	2.705E-20	2.705E-20	4.298E-07	2.035E-19	1.685E-19	1.685E-19	1.685E-19	1.685E-19
XE	8.986E-13	1.177E-14	2.061E-15	6.059E-17	5.791E-20	5.057E-29	6.259E-12	7.859E-14	1.374E-14	4.039E-16	3.861E-19	3.371E-28
ND	3.302E-16	1.302E-19	2.107E-21	1.912E-26	2.190E-36	0.0	6.528E-16	3.127E-19	-1.445E-22	-1.312E-27	-1.502E-37	0.0
PM	5.244E-08	2.588E-18	1.213E-18	7.535E-19	5.618E-19	2.554E-19	7.733E-08	8.022E-18	3.256E-18	1.759E-18	1.310E-18	5.917E-19
SM	3.253E-09	2.530E-13	2.525E-13	2.515E-13	2.496E-13	2.439E-13	7.120E-09	8.434E-13	8.419E-13	8.386E-13	8.321E-13	8.131E-13
EU	2.635E-04	2.338E-04	2.288E-04	2.196E-04	2.025E-04	1.587E-04	8.847E-04	6.269E-04	6.104E-04	5.856E-04	5.397E-04	4.226E-04
GD	2.144E-01	1.561E-03	1.206E-03	7.097E-04	2.493E-04	1.081E-05	3.594E-01	1.822E-03	1.408E-03	8.283E-04	2.910E-04	1.262E-05
TB	5.795E-02	1.133E-02	4.778E-03	8.091E-04	2.439E-05	6.687E-10	1.284E-01	3.379E-02	1.426E-02	2.414E-03	7.278E-05	1.995E-09
DY	3.472E-07	5.199E-19	5.467E-27	2.070E-43	0.0	0.0	4.400E-06	1.031E-17	1.084E-25	4.104E-42	0.0	0.0
HO	9.269E-09	1.999E-13	1.998E-13	1.998E-13	1.997E-13	1.993E-13	2.076E-07	3.849E-12	3.848E-12	3.847E-12	3.845E-12	3.838E-12
ER	3.139E-12	7.755E-19	3.152E-21	3.682E-27	7.398E-39	0.0	1.091E-10	7.924E-17	1.067E-19	1.247E-25	2.505E-37	0.0
TM	5.542E-18	3.412E-18	2.100E-18	7.740E-19	1.081E-19	2.882E-22	8.635E-16	5.314E-16	3.272E-16	1.206E-16	1.688E-17	6.656E-20
TA	6.270E-05	3.558E-05	2.069E-05	6.772E-06	7.493E-07	1.024E-09	1.476E-04	8.271E-05	4.808E-05	1.574E-05	1.742E-06	2.402E-09
W	2.494E-01	2.036E-03	8.896E-04	1.625E-04	5.899E-06	1.048E-09	3.736E-01	3.196E-03	1.396E-03	2.549E-04	9.219E-06	1.576E-09
RE	1.871E-02	8.763E-05	3.567E-05	5.607E-06	1.460E-07	2.884E-11	4.318E-02	2.036E-04	8.296E-05	1.304E-05	3.396E-07	4.491E-11
OS	2.631E-09	3.613E-11	6.299E-13	1.511E-16	2.709E-21	1.906E-21	2.318E-08	3.308E-10	5.765E-12	1.383E-15	7.707E-20	5.443E-20
IR	5.663E-10	2.437E-10	1.049E-10	1.851E-11	6.058E-13	5.289E-16	6.913E-09	2.974E-09	1.280E-09	2.259E-10	7.391E-12	6.371E-15
PT	2.805E-14	2.620E-17	2.618E-17	2.616E-17	2.612E-17	2.601E-17	5.192E-13	4.780E-16	4.776E-16	4.772E-16	4.766E-16	4.746E-16
TL	2.718E-11	2.718E-11	2.718E-11	2.718E-11	2.718E-11	2.718E-11	4.174E-11	4.174E-11	4.174E-11	4.174E-11	4.174E-11	4.174E-11
PB	4.102E-08	4.667E-14	4.667E-14	4.667E-14	4.667E-14	4.667E-14	6.077E-08	7.166E-14	7.166E-14	7.166E-14	7.166E-14	7.166E-14
BI	1.820E-05	5.207E-10	4.492E-10	4.492E-10	4.492E-10	4.492E-10	2.847E-05	7.312E-10	6.194E-10	6.194E-10	6.194E-10	6.194E-10
PO	2.450E-04	1.622E-04	1.034E-04	4.087E-05	6.564E-06	2.709E-08	3.647E-04	2.418E-04	1.541E-04	6.095E-05	9.787E-06	4.040E-08
TOTAL	8.842E+03	5.435E+02	2.701E+02	9.489E+01	4.030E+01	1.522E+01	5.078E+03	3.277E+02	1.648E+02	5.964E+01	2.561E+01	5.313E+00

TABLE C.29. WATTS OF PRINCIPAL ACTIVATION PRODUCT NUCLIDES IN LMFBR AXIAL BLANKET AND RADIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
MN 54	8.777E+01	7.188E+01	5.888E+01	3.904E+01	1.736E+01	1.528E+00	5.819E+01	4.766E+01	3.904E+01	2.588E+01	1.151E+01	1.013E+00
FE 55	9.241E+00	8.653E+00	8.103E+00	7.078E+00	5.422E+00	2.437E+00	6.669E+00	6.245E+00	5.848E+00	5.108E+00	3.913E+00	1.758E+00
FE 59	5.199E+00	1.300E+00	3.249E-01	1.873E-02	6.761E-05	3.162E-12	4.398E+00	1.099E+00	2.749E-01	1.584E-02	5.721E-05	2.676E-12
CO 58	1.063E+03	4.402E+02	1.823E+02	2.971E+01	8.306E-01	1.815E-05	6.276E+02	2.600E+02	1.077E+02	1.755E+01	4.905E-01	1.072E-05
CO 60	2.160E+01	2.091E+01	2.025E+01	1.894E+01	1.661E+01	1.119E+01	1.253E+01	1.213E+01	1.174E+01	1.098E+01	9.628E+00	6.489E+00
SUMTOT	1.187E+03	5.429E+02	2.699E+02	9.478E+01	4.022E+01	1.516E+01	7.094E+02	3.271E+02	1.646E+02	5.954E+01	2.554E+01	9.260E+00
TOTAL	8.842E+03	5.435E+02	2.700E+02	9.489E+01	4.030E+01	1.522E+01	5.078E+03	3.277E+02	1.648E+02	5.964E+01	2.561E+01	9.313E+00

TABLE C.30. PHOTONS FROM ACTIVATION PRODUCTS IN LMFBR AXIAL BLANKET AND RADIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS=ONE TONNE INITIAL HEAVY METAL: ADV OX LMFBR: LWR-PU/U/U/U

EMEAN	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
1.500E-02	1.251E+16	6.982E+14	3.185E+14	8.404E+13	2.114E+13	3.025E+12	7.614E+15	4.196E+14	1.928E+14	5.259E+13	1.378E+13	1.894E+12
2.500E-02	2.213E+15	3.276E+13	1.398E+13	2.805E+12	5.634E+11	2.848E+11	1.294E+15	1.959E+13	8.433E+12	1.779E+12	4.020E+11	1.842E+11
3.750E-02	1.482E+15	2.118E+13	8.947E+12	1.691E+12	2.723E+11	1.474E+11	8.703E+14	1.257E+13	5.326E+12	1.022E+12	1.704E+11	8.846E+10
5.750E-02	2.130E+15	3.030E+13	1.271E+13	2.298E+12	2.949E+11	1.589E+11	1.239E+15	1.795E+13	7.529E+12	1.362E+12	1.736E+11	9.242E+10
8.500E-02	1.343E+15	1.821E+13	7.617E+12	1.340E+12	1.335E+11	6.319E+10	7.842E+14	1.080E+13	4.523E+12	8.018E+11	8.232E+10	3.728E+10
1.250E-01	1.007E+15	1.174E+13	4.890E+12	8.348E+11	6.020E+10	2.447E+10	6.246E+14	6.947E+12	2.896E+12	4.970E+11	3.719E+10	1.490E+10
2.250E-01	1.452E+15	1.516E+13	6.288E+12	1.040E+12	4.476E+10	9.981E+09	9.055E+14	9.022E+12	3.743E+12	6.210E+11	2.823E+10	6.676E+09
3.750E-01	1.090E+15	1.078E+13	2.963E+12	4.338E+11	4.025E+10	1.442E+10	7.875E+14	7.580E+12	1.892E+12	2.705E+11	3.347E+10	1.304E+10
5.750E-01	2.375E+15	7.263E+14	3.008E+14	4.908E+13	1.412E+12	1.626E+10	1.493E+15	4.290E+14	1.777E+14	2.902E+13	8.527E+11	1.582E+10
8.500E-01	2.252E+16	3.122E+15	1.505E+15	4.601E+14	1.316E+14	1.116E+13	1.261E+16	1.882E+15	9.203E+14	2.924E+14	8.690E+13	7.401E+12
1.250E+00	3.277E+15	1.006E+14	9.733E+13	9.097E+13	7.971E+13	5.370E+13	2.150E+15	5.854E+13	5.658E+13	5.283E+13	4.625E+13	3.114E+13
1.750E+00	4.455E+15	1.347E+13	5.579E+12	9.103E+11	2.602E+10	3.998E+07	2.410E+15	7.956E+12	3.297E+12	5.390E+11	1.588E+10	6.783E+07
2.250E+00	2.127E+15	5.837E+08	5.311E+08	4.837E+08	4.224E+08	2.846E+08	1.155E+15	3.806E+08	3.211E+08	2.821E+08	2.450E+08	1.650E+08
2.750E+00	2.918E+14	1.679E+06	1.605E+06	1.492E+06	1.307E+06	8.807E+05	1.568E+14	1.001E+06	9.406E+05	8.664E+05	7.578E+05	5.106E+05
3.500E+00	2.500E+13	3.318E-02	2.119E-02	8.444E-03	1.405E-03	1.468E-05	1.344E+13	5.051E-02	3.247E-02	1.321E-02	2.405E-03	6.125E-05
5.000E+00	5.022E+10	9.807E-03	6.249E-03	2.471E-03	3.969E-04	1.644E-06	6.573E+10	1.462E-02	9.317E-03	3.685E-03	5.918E-04	2.452E-06
7.000E+00	8.359E+12	6.363E-04	4.055E-04	1.604E-04	2.575E-05	1.067E-07	1.094E+13	9.488E-04	6.046E-04	2.391E-04	3.840E-05	1.591E-07
1.100E+01	8.570E+09	4.024E-05	2.564E-05	1.014E-05	1.628E-06	6.744E-09	1.122E+10	5.999E-05	3.823E-05	1.512E-05	2.428E-06	1.006E-08
TOTAL	5.831E+16	4.801E+15	2.285E+15	6.956E+14	2.353E+14	6.861E+13	3.412E+16	2.882E+15	1.385E+15	4.337E+14	1.487E+14	4.089E+13
MEV/SEC	3.953E+16	3.245E+15	1.594E+15	5.368E+14	2.128E+14	7.671E+13	2.253E+16	1.949E+15	9.670E+14	3.335E+14	1.325E+14	4.528E+13

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS=ONE TONNE INITIAL HEAVY METAL: ADV OX LMFBR: LWR-PU/U/U/U

EMEAN	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
1.500E-02	2.728E+07	1.522E+06	6.944E+05	1.832E+05	4.608E+04	6.594E+03	1.660E+07	9.148E+05	4.203E+05	1.146E+05	3.005E+04	4.130E+03
2.500E-02	8.042E+06	1.191E+05	5.079E+04	1.019E+04	2.047E+03	1.035E+03	4.701E+06	7.119E+04	3.064E+04	6.463E+03	1.461E+03	6.692E+02
3.750E-02	8.079E+06	1.154E+05	4.877E+04	9.216E+03	1.484E+03	8.034E+02	4.744E+06	6.853E+04	2.903E+04	5.571E+03	9.289E+02	4.822E+02
5.750E-02	1.780E+07	2.532E+05	1.062E+05	1.921E+04	2.465E+03	1.328E+03	1.035E+07	1.500E+05	6.292E+04	1.138E+04	1.451E+03	7.724E+02
8.500E-02	1.659E+07	2.250E+05	9.410E+04	1.655E+04	1.649E+03	7.807E+02	9.688E+06	1.335E+05	5.588E+04	9.905E+03	1.017E+03	4.606E+02
1.250E-01	1.829E+07	2.133E+05	8.885E+04	1.517E+04	1.094E+03	4.446E+02	1.135E+07	1.262E+05	5.262E+04	9.030E+03	6.757E+02	2.707E+02
2.250E-01	4.747E+07	4.958E+05	2.056E+05	3.403E+04	1.464E+03	3.264E+02	2.961E+07	2.952E+05	1.224E+05	2.031E+04	9.232E+02	2.183E+02
3.750E-01	5.940E+07	5.873E+05	1.615E+05	2.365E+04	2.194E+03	7.859E+02	4.292E+07	4.132E+05	1.031E+05	1.474E+04	1.824E+03	7.106E+02
5.750E-01	1.985E+08	6.070E+07	2.514E+07	4.102E+06	1.180E+05	1.359E+03	1.247E+08	3.586E+07	1.485E+07	2.426E+06	7.126E+04	1.322E+03
8.500E-01	2.783E+09	3.857E+08	1.860E+08	5.685E+07	1.626E+07	1.379E+06	1.552E+09	2.325E+08	1.137E+08	3.613E+07	1.074E+07	9.144E+05
1.250E+00	5.953E+08	1.828E+07	1.768E+07	1.653E+07	1.448E+07	9.757E+06	3.907E+08	1.064E+07	1.028E+07	9.598E+06	8.402E+06	5.657E+06
1.750E+00	1.133E+09	3.425E+06	1.419E+06	2.315E+05	6.620E+03	1.017E+01	6.131E+08	2.024E+06	8.387E+05	1.371E+05	4.039E+03	1.725E+01
2.250E+00	6.955E+08	1.909E+02	1.737E+02	1.582E+02	1.381E+02	9.308E+01	3.778E+08	1.245E+02	1.050E+02	9.226E+01	8.011E+01	5.397E+01
2.750E+00	1.166E+08	6.711E-01	6.416E-01	5.964E-01	5.223E-01	3.520E-01	6.269E+07	4.000E-01	3.759E-01	3.463E-01	3.029E-01	2.041E-01
3.500E+00	1.272E+07	1.688E-08	1.078E-08	4.296E-09	7.148E-10	7.466E-12	6.839E+06	2.569E-08	1.652E-08	6.718E-09	1.223E-09	3.116E-11
5.000E+00	3.649E+04	7.127E-09	4.541E-09	1.796E-09	2.884E-10	1.195E-12	4.777E+04	1.062E-08	6.771E-09	2.678E-09	4.301E-10	1.782E-12
7.000E+00	8.505E+06	6.474E-10	4.125E-10	1.632E-10	2.620E-11	1.085E-13	1.114E+07	9.653E-10	6.151E-10	2.433E-10	3.907E-11	1.619E-13
1.100E+01	1.370E+04	6.433E-11	4.099E-11	1.621E-11	2.604E-12	1.078E-14	1.794E+04	9.592E-11	6.112E-11	2.417E-11	3.882E-12	1.608E-14
TOTAL	5.746E+09	4.717E+08	2.317E+08	7.802E+07	3.092E+07	1.115E+07	3.275E+09	2.832E+08	1.405E+08	4.848E+07	1.925E+07	6.581E+06
GAM POW	6.337E+03	5.202E+02	2.555E+02	8.605E+01	3.410E+01	1.230E+01	3.611E+03	3.124E+02	1.550E+02	5.346E+01	2.123E+01	7.258E+00

TABLE C.31. GRAMS OF ACTINIDE ELEMENTS IN LMFBR AXIAL BLANKET AND RADIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
HE	2.062E-02	2.528E-02	2.990E-02	3.936E-02	5.792E-02	1.136E-01	3.324E-02	3.870E-02	4.410E-02	5.510E-02	7.660E-02	1.410E-01
SF	7.043E-09	9.383E-09	1.158E-08	1.582E-08	2.371E-08	4.671E-08	1.213E-08	1.533E-08	1.829E-08	2.380E-08	3.373E-08	6.222E-08
TL	1.259E-14	1.792E-14	2.419E-14	3.932E-14	7.434E-14	1.790E-13	3.366E-14	4.417E-14	5.610E-14	8.410E-14	1.472E-13	3.305E-13
PB	2.139E-09	3.361E-09	5.054E-09	1.030E-08	2.666E-08	1.561E-07	9.293E-09	1.242E-08	1.646E-08	2.807E-08	6.594E-08	3.059E-07
BI	7.580E-13	1.077E-12	1.449E-12	2.346E-12	4.441E-12	1.106E-11	2.154E-12	2.824E-12	3.566E-12	5.296E-12	9.192E-12	2.103E-11
PO	1.158E-15	1.667E-15	2.027E-15	2.420E-15	2.687E-15	3.442E-15	4.839E-15	6.392E-15	7.480E-15	8.624E-15	9.250E-15	1.010E-14
AT	1.411E-22	1.265E-22	1.394E-22	1.774E-22	2.534E-22	5.731E-22	5.984E-22	4.625E-22	4.746E-22	5.253E-22	6.255E-22	1.045E-21
RN	1.117E-14	1.592E-14	2.149E-14	3.493E-14	6.508E-14	1.594E-13	2.982E-14	3.917E-14	4.977E-14	7.465E-14	1.307E-13	2.941E-13
FR	3.263E-18	3.535E-18	4.100E-18	5.502E-18	8.792E-18	2.342E-17	1.432E-17	1.382E-17	1.470E-17	1.687E-17	2.180E-17	3.036E-17
RA	8.664E-11	9.486E-11	1.281E-10	2.087E-10	3.981E-10	1.009E-09	1.781E-10	2.335E-10	2.965E-10	4.449E-10	7.831E-10	1.830E-09
AC	7.681E-11	9.248E-11	1.098E-10	1.508E-10	2.515E-10	7.057E-10	3.444E-10	3.727E-10	4.026E-10	4.687E-10	6.168E-10	1.196E-09
TH	1.894E-05	1.998E-05	2.105E-05	2.330E-05	2.789E-05	4.285E-05	2.221E-05	2.341E-05	2.465E-05	2.726E-05	3.262E-05	5.032E-05
PA	5.880E-06	6.071E-06	6.439E-06	7.163E-06	8.583E-06	1.284E-05	9.389E-06	9.751E-06	1.009E-05	1.078E-05	1.213E-05	1.618E-05
U	9.620E+05	9.620E+05	9.620E+05	9.620E+05	9.620E+05	9.620E+05	9.563E+05	9.563E+05	9.563E+05	9.563E+05	9.563E+05	9.563E+05
NP	2.208E+02	8.017E+01	8.017E+01	8.018E+01	8.018E+01	8.021E+01	2.532E+02	1.031E+02	1.031E+02	1.031E+02	1.032E+02	1.032E+02
PU	3.206E+04	3.221E+04	3.221E+04	3.220E+04	3.220E+04	3.219E+04	3.618E+04	3.634E+04	3.633E+04	3.633E+04	3.633E+04	3.632E+04
AM	1.002E+00	1.425E+00	1.844E+00	2.689E+00	4.293E+00	8.653E+00	1.668E+00	2.249E+00	2.823E+00	3.983E+00	6.156E+00	1.217E+01
CM	2.073E-02	1.446E-02	1.095E-02	4.885E-03	1.472E-03	5.161E-04	4.095E-02	2.860E-02	1.994E-02	9.803E-03	3.097E-03	1.204E-03
BK	1.981E-15	1.632E-15	1.343E-15	8.991E-16	8.076E-16	3.798E-17	1.128E-14	9.289E-15	7.644E-15	5.118E-15	2.320E-15	2.162E-16
CF	3.278E-16	6.785E-16	9.667E-16	1.409E-15	1.895E-15	2.248E-15	1.967E-15	3.963E-15	5.603E-15	8.118E-15	1.089E-14	1.289E-14
TOTAL	9.943E+05	9.943E+05	9.943E+05	9.943E+05	9.943E+05	9.943E+05	9.927E+05	9.927E+05	9.927E+05	9.927E+05	9.927E+05	9.927E+05

TABLE C.32. GRAMS OF PRINCIPAL ACTINIDE NUCLIDES IN LMFBR AXIAL BLANKET AND RADIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
U235	1.459E+03	1.459E+03	1.459E+03	1.460E+03	1.461E+03	1.463E+03	1.389E+03	1.390E+03	1.390E+03	1.390E+03	1.391E+03	1.394E+03
U238	9.604E+05	9.604E+05	9.604E+05	9.604E+05	9.604E+05	9.604E+05	9.548E+05	9.548E+05	9.548E+05	9.548E+05	9.548E+05	9.548E+05
PU239	3.068E+04	3.082E+04	3.082E+04	3.082E+04	3.082E+04	3.082E+04	3.447E+04	3.462E+04	3.462E+04	3.462E+04	3.462E+04	3.461E+04
PU240	1.341E+03	1.341E+03	1.341E+03	1.341E+03	1.341E+03	1.340E+03	1.655E+03	1.655E+03	1.655E+03	1.655E+03	1.654E+03	1.654E+03
SUMTOT	9.939E+05	9.941E+05	9.941E+05	9.941E+05	9.941E+05	9.941E+05	9.923E+05	9.924E+05	9.924E+05	9.924E+05	9.924E+05	9.924E+05
TOTAL	9.943E+05	9.943E+05	9.943E+05	9.943E+05	9.943E+05	9.943E+05	9.927E+05	9.927E+05	9.927E+05	9.927E+05	9.927E+05	9.927E+05

TABLE C.33. CURIES OF ACTINIDE ELEMENTS IN LMFBR AXIAL BLANKET AND RADIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
TL	3.706E-06	5.277E-06	7.123E-06	1.158E-05	2.189E-05	5.269E-05	9.901E-06	1.300E-05	1.651E-05	2.476E-05	4.333E-05	9.731E-05
PB	1.030E-05	1.468E-05	1.981E-05	3.220E-05	6.089E-05	1.466E-04	2.751E-05	3.613E-05	4.590E-05	6.884E-05	1.205E-04	2.707E-04
BI	1.030E-05	1.468E-05	1.981E-05	3.220E-05	6.089E-05	1.466E-04	2.751E-05	3.613E-05	4.590E-05	6.884E-05	1.205E-04	2.707E-04
PO	1.690E-05	2.407E-05	3.250E-05	5.283E-05	9.989E-05	2.404E-04	4.512E-05	5.926E-05	7.529E-05	1.129E-04	1.977E-04	4.441E-04
AT	2.272E-10	2.036E-10	2.244E-10	2.857E-10	4.080E-10	9.229E-10	9.637E-10	7.447E-10	7.643E-10	8.458E-10	1.007E-09	1.682E-09
RN	1.030E-05	1.468E-05	1.981E-05	3.220E-05	6.089E-05	1.466E-04	2.751E-05	3.613E-05	4.590E-05	6.884E-05	1.205E-04	2.707E-04
FR	3.039E-10	2.960E-10	3.341E-10	4.363E-10	6.592E-10	1.628E-09	1.308E-09	1.117E-09	1.166E-09	1.314E-09	1.623E-09	2.877E-09
RA	1.030E-05	1.468E-05	1.981E-05	3.220E-05	6.089E-05	1.466E-04	2.751E-05	3.613E-05	4.590E-05	6.884E-05	1.205E-04	2.707E-04
AC	8.739E-09	6.895E-09	8.172E-09	1.119E-08	1.861E-08	5.199E-08	4.662E-08	2.772E-08	2.990E-08	3.476E-08	4.564E-08	8.825E-08
TH	3.270E-01	3.262E-01	3.262E-01	3.262E-01	3.263E-01	3.263E-01	3.252E-01	3.242E-01	3.242E-01	3.242E-01	3.243E-01	3.244E-01
PA	3.789E-01	3.797E-01	3.800E-01	3.800E-01	3.800E-01	3.800E-01	3.974E-01	3.942E-01	3.943E-01	3.943E-01	3.943E-01	3.943E-01
U	3.298E+07	9.110E+00	3.377E-01	3.371E-01	3.375E-01	3.388E-01	3.527E+07	1.183E+01	3.378E-01	3.370E-01	3.376E-01	3.394E-01
NP	3.290E+07	6.228E-02	6.174E-02	6.103E-02	6.016E-02	5.934E-02	3.517E+07	8.254E-02	8.173E-02	8.060E-02	7.921E-02	7.791E-02
PU	6.131E+03	6.038E+03	5.995E+03	5.907E+03	5.740E+03	5.283E+03	7.913E+03	7.771E+03	7.711E+03	7.590E+03	7.361E+03	6.734E+03
AM	1.875E+02	4.896E+00	6.332E+00	9.233E+00	1.474E+01	2.971E+01	3.250E+02	7.767E+00	9.738E+00	1.372E+01	2.128E+01	4.183E+01
CM	6.666E+01	4.593E+01	3.136E+01	1.431E+01	3.079E+00	8.414E-02	1.310E+02	9.018E+01	6.158E+01	2.812E+01	6.075E+00	1.944E-01
BK	3.598E-12	2.676E-12	2.202E-12	1.474E-12	6.682E-13	6.226E-14	2.049E-11	1.523E-11	1.253E-11	8.389E-12	3.803E-12	3.544E-13
CF	4.854E-15	6.255E-15	7.391E-15	9.111E-15	1.093E-14	1.191E-14	2.941E-14	3.736E-14	4.381E-14	5.356E-14	6.386E-14	6.925E-14
TOTAL	6.589E+07	6.099E+03	6.034E+03	5.931E+03	5.759E+03	5.314E+03	7.045E+07	7.882E+03	7.783E+03	7.633E+03	7.389E+03	6.777E+03

TABLE C.34. CURIES OF PRINCIPAL ACTINIDE NUCLIDES IN LMFBR AXIAL BLANKET AND RADIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
U237	9.055E+04	8.774E+00	1.738E-03	8.663E-04	8.255E-04	7.145E-04	1.186E+05	1.149E+01	2.332E-03	1.189E-03	1.134E-03	9.811E-04
PU238	1.531E+02	1.541E+02	1.539E+02	1.534E+02	1.522E+02	1.487E+02	2.115E+02	2.129E+02	2.126E+02	2.119E+02	2.104E+02	2.055E+02
PU239	1.908E+03	1.917E+03	1.917E+03	1.917E+03	1.916E+03	1.916E+03	2.143E+03	2.152E+03	2.153E+03	2.153E+03	2.153E+03	2.152E+03
PU240	3.057E+02	3.057E+02	3.057E+02	3.056E+02	3.056E+02	3.055E+02	3.772E+02	3.772E+02	3.772E+02	3.772E+02	3.771E+02	3.770E+02
PU241	3.705E+03	3.662E+03	3.619E+03	3.531E+03	3.365E+03	2.913E+03	5.088E+03	5.028E+03	4.968E+03	4.849E+03	4.621E+03	3.999E+03
CM242	6.662E+01	4.589E+01	3.132E+01	1.427E+01	3.041E+00	4.963E-02	1.309E+02	9.009E+01	6.149E+01	2.803E+01	5.987E+00	1.151E-01
SUMTOT	9.669E+04	6.093E+03	6.026E+03	5.921E+03	5.743E+03	5.283E+03	1.266E+05	7.872E+03	7.772E+03	7.618E+03	7.367E+03	6.734E+03
TOTAL	6.589E+07	6.099E+03	6.033E+03	5.931E+03	5.759E+03	5.314E+03	7.045E+07	7.882E+03	7.783E+03	7.633E+03	7.389E+03	6.777E+03

TABLE C.35. WATTS OF ACTINIDE ELEMENTS IN LMFBR AXIAL BLANKET AND RADIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
TL	8.709E-08	1.240E-07	1.675E-07	2.722E-07	5.148E-07	1.239E-06	2.325E-07	3.053E-07	3.880E-07	5.819E-07	1.019E-06	2.288E-06
PB	1.962E-08	2.795E-08	3.773E-08	6.132E-08	1.160E-07	2.791E-07	5.241E-08	6.882E-08	8.742E-08	1.311E-07	2.295E-07	5.155E-07
BI	1.754E-07	2.497E-07	3.371E-07	5.479E-07	1.036E-06	2.494E-06	4.684E-07	6.150E-07	7.813E-07	1.171E-06	2.050E-06	4.605E-06
PO	7.715E-07	1.099E-06	1.483E-06	2.411E-06	4.560E-06	1.097E-05	2.060E-06	2.705E-06	3.437E-06	5.154E-06	9.023E-06	2.027E-05
AT	9.694E-12	8.690E-12	9.577E-12	1.219E-11	1.741E-11	3.938E-11	4.112E-11	3.178E-11	3.262E-11	3.609E-11	4.298E-11	7.178E-11
RN	3.912E-07	5.572E-07	7.522E-07	1.223E-06	2.312E-06	5.565E-06	1.045E-06	1.372E-06	1.743E-06	2.614E-06	4.575E-06	1.028E-05
FR	8.967E-12	8.100E-12	8.946E-12	1.142E-11	1.640E-11	3.745E-11	3.809E-11	2.971E-11	3.054E-11	3.386E-11	4.047E-11	6.803E-11
RA	3.537E-07	5.037E-07	6.800E-07	1.105E-06	2.090E-06	5.030E-06	9.443E-07	1.240E-06	1.575E-06	2.363E-06	4.136E-06	9.299E-06
AC	3.616E-11	1.035E-11	1.169E-11	1.526E-11	2.307E-11	5.697E-11	2.249E-10	3.907E-11	4.081E-11	4.597E-11	5.680E-11	1.007E-10
TH	1.340E-04	1.332E-04	1.334E-04	1.338E-04	1.347E-04	1.375E-04	1.342E-04	1.331E-04	1.334E-04	1.341E-04	1.358E-04	1.407E-04
PA	1.738E-03	1.730E-03	1.731E-03	1.731E-03	1.731E-03	1.731E-03	1.783E-03	1.758E-03	1.758E-03	1.758E-03	1.758E-03	1.758E-03
U	8.870E+04	2.514E-02	8.546E-03	8.552E-03	8.566E-03	8.606E-03	9.483E+04	3.028E-02	8.538E-03	8.547E-03	8.566E-03	8.622E-03
NP	7.966E+04	1.735E-03	1.735E-03	1.735E-03	1.735E-03	1.735E-03	8.521E+04	2.236E-03	2.236E-03	2.236E-03	2.236E-03	2.237E-03
PU	7.357E+01	7.380E+01	7.380E+01	7.377E+01	7.373E+01	7.359E+01	8.507E+01	8.530E+01	8.529E+01	8.526E+01	8.520E+01	8.501E+01
AM	3.303E-01	1.610E-01	2.087E-01	3.050E-01	4.881E-01	9.853E-01	5.652E-01	2.533E-01	3.188E-01	4.511E-01	7.023E-01	1.385E+00
CM	7.886E-02	5.475E-02	3.781E-02	1.798E-02	4.889E-03	1.281E-03	1.555E-01	1.080E-01	7.472E-02	3.579E-02	1.007E-02	2.950E-03
BK	4.838E-15	1.982E-15	1.631E-15	1.092E-15	4.951E-16	4.613E-17	2.764E-14	1.128E-14	9.285E-15	6.216E-15	2.818E-15	2.626E-16
CF	1.913E-16	2.565E-16	3.095E-16	3.899E-16	4.759E-16	5.256E-16	1.158E-15	1.525E-15	1.830E-15	2.286E-15	2.773E-15	3.049E-15
TOTAL	1.684E+05	7.405E+01	7.405E+01	7.411E+01	7.423E+01	7.459E+01	1.801E+05	8.570E+01	8.570E+01	8.576E+01	8.592E+01	8.641E+01

TABLE C.36. WATTS OF PRINCIPAL ACTINIDE NUCLIDES IN LMFBR AXIAL BLANKET AND RADIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
PU238	5.075E+00	5.108E+00	5.100E+00	5.083E+00	5.045E+00	4.927E+00	7.008E+00	7.058E+00	7.047E+00	7.024E+00	6.973E+00	6.810E+00
PU239	5.879E+01	5.907E+01	5.906E+01	5.906E+01	5.906E+01	5.906E+01	6.605E+01	6.634E+01	6.634E+01	6.634E+01	6.634E+01	6.633E+01
PU240	9.518E+00	9.518E+00	9.518E+00	9.517E+00	9.516E+00	9.513E+00	1.175E+01	1.175E+01	1.174E+01	1.174E+01	1.174E+01	1.174E+01
PU241	1.149E-01	1.135E-01	1.122E-01	1.095E-01	1.043E-01	9.030E-02	1.577E-01	1.559E-01	1.540E-01	1.503E-01	1.432E-01	1.240E-01
AM241	1.125E-01	1.608E-01	2.085E-01	3.049E-01	4.879E-01	9.852E-01	1.867E-01	2.530E-01	3.185E-01	4.508E-01	7.021E-01	1.385E+00
SUMTOT	7.361E+01	7.397E+01	7.400E+01	7.408E+01	7.422E+01	7.457E+01	8.515E+01	8.555E+01	8.561E+01	8.571E+01	8.590E+01	8.639E+01
TOTAL	1.684E+05	7.405E+01	7.405E+01	7.411E+01	7.423E+01	7.459E+01	1.801E+05	8.570E+01	8.570E+01	8.576E+01	8.592E+01	8.641E+01

TABLE C.37. PHOTONS FROM ACTINIDES IN LMFBR AXIAL BLANKET AND RADIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS=ONE TONNE INITIAL HEAVY METAL: ADV OX LMFBR: LWR-PU/U/U/U

EMEAN	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
1.500E-02	1.678E+18	7.349E+12	7.000E+12	6.915E+12	6.881E+12	6.951E+12	1.794E+18	9.002E+12	8.487E+12	8.310E+12	8.223E+12	8.309E+12
2.500E-02	7.401E+16	1.745E+10	8.738E+09	1.145E+10	1.661E+10	3.062E+10	7.916E+16	2.325E+10	1.192E+10	1.565E+10	2.273E+10	4.195E+10
3.750E-02	1.109E+17	1.116E+10	9.630E+09	9.602E+09	9.846E+09	1.089E+10	1.186E+17	1.395E+10	1.185E+10	1.167E+10	1.192E+10	1.332E+10
5.750E-02	8.117E+16	2.158E+11	1.084E+11	1.483E+11	2.241E+11	4.300E+11	8.709E+16	2.962E+11	1.567E+11	2.115E+11	3.156E+11	5.983E+11
8.500E-02	7.670E+17	6.467E+10	5.630E+09	5.648E+09	5.692E+09	5.811E+09	8.199E+17	8.393E+10	6.579E+09	6.603E+09	6.661E+09	6.818E+09
1.250E-01	6.006E+17	1.111E+11	8.221E+09	8.221E+09	8.256E+09	8.372E+09	6.421E+17	1.443E+11	9.570E+09	9.562E+09	9.601E+09	9.748E+09
2.250E-01	4.248E+17	8.016E+10	2.603E+09	2.589E+09	2.584E+09	2.581E+09	4.541E+17	1.048E+11	2.979E+09	2.954E+09	2.942E+09	2.928E+09
3.750E-01	4.644E+16	1.054E+10	5.969E+09	5.971E+09	5.973E+09	5.980E+09	4.965E+16	1.278E+10	6.768E+09	6.769E+09	6.773E+09	6.782E+09
5.750E-01	7.563E+15	4.903E+08	4.893E+08	4.885E+08	4.893E+08	4.940E+08	8.215E+15	5.148E+08	5.127E+08	5.108E+08	5.113E+08	5.182E+08
8.500E-01	1.111E+16	1.745E+08	1.744E+08	1.743E+08	1.746E+08	1.762E+08	1.210E+16	1.813E+08	1.809E+08	1.806E+08	1.811E+08	1.833E+08
1.250E+00	2.888E+14	9.112E+07	9.102E+07	9.092E+07	9.086E+07	9.085E+07	3.701E+14	9.301E+07	9.282E+07	9.262E+07	9.250E+07	9.247E+07
1.750E+00	1.380E+11	1.322E+07	1.319E+07	1.316E+07	1.317E+07	1.327E+07	2.271E+11	1.342E+07	1.336E+07	1.331E+07	1.332E+07	1.349E+07
2.250E+00	4.512E+05	4.226E+05	4.024E+05	3.788E+05	3.633E+05	3.590E+05	6.220E+05	5.654E+05	5.258E+05	4.795E+05	4.489E+05	4.406E+05
2.750E+00	3.883E+05	4.269E+05	4.800E+05	6.226E+05	9.754E+05	2.053E+06	7.036E+05	7.795E+05	8.798E+05	1.142E+06	1.776E+06	3.665E+06
3.500E+00	2.283E+05	2.134E+05	2.030E+05	1.907E+05	1.827E+05	1.804E+05	3.161E+05	2.857E+05	2.661E+05	2.421E+05	2.262E+05	2.219E+05
5.000E+00	9.598E+04	8.961E+04	8.513E+04	7.989E+04	7.642E+04	7.546E+04	1.333E+05	1.207E+05	1.119E+05	1.016E+05	9.483E+04	9.295E+04
7.000E+00	1.081E+04	1.008E+04	9.565E+03	8.963E+03	8.565E+03	8.453E+03	1.507E+04	1.362E+04	1.261E+04	1.143E+04	1.065E+04	1.043E+04
1.100E+01	1.229E+03	1.145E+03	1.085E+03	1.016E+03	9.700E+02	9.570E+02	1.717E+03	1.556E+03	1.434E+03	1.297E+03	1.207E+03	1.182E+03
TOTAL	3.802E+18	7.861E+12	7.150E+12	7.107E+12	7.154E+12	7.446E+12	4.065E+18	9.681E+12	8.694E+12	8.576E+12	8.600E+12	8.989E+12
MEV/SEC	3.032E+17	1.654E+11	1.167E+11	1.178E+11	1.218E+11	1.351E+11	3.246E+17	2.072E+11	1.426E+11	1.432E+11	1.481E+11	1.662E+11

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS=ONE TONNE INITIAL HEAVY METAL: ADV OX LMFBR: LWR-PU/U/U/U

EMEAN	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
1.500E-02	3.658E+09	1.602E+04	1.526E+04	1.508E+04	1.500E+04	1.515E+04	3.912E+09	1.963E+04	1.850E+04	1.812E+04	1.793E+04	1.811E+04
2.500E-02	2.689E+06	6.342E+01	3.175E+01	4.162E+01	6.035E+01	1.113E+02	2.876E+06	8.450E+01	4.332E+01	5.686E+01	8.258E+01	1.524E+02
3.750E-02	6.045E+08	6.082E+01	5.249E+01	5.234E+01	5.367E+01	5.936E+01	6.462E+08	7.621E+01	6.461E+01	6.363E+01	6.495E+01	7.262E+01
5.750E-02	6.784E+08	1.804E+02	9.057E+02	1.239E+03	1.873E+03	3.594E+03	7.279E+08	2.476E+03	1.310E+03	1.768E+03	2.638E+03	5.000E+03
8.500E-02	9.476E+09	7.990E+02	6.956E+01	6.978E+01	7.032E+01	7.179E+01	1.013E+10	1.037E+03	8.128E+01	8.157E+01	8.229E+01	8.423E+01
1.250E-01	1.091E+10	2.018E+03	1.494E+02	1.494E+02	1.500E+02	1.521E+02	1.167E+10	2.622E+03	1.739E+02	1.737E+02	1.744E+02	1.771E+02
2.250E-01	1.389E+10	2.622E+03	8.512E+01	8.466E+01	8.450E+01	8.441E+01	1.485E+10	3.420E+03	9.742E+01	9.661E+01	9.621E+01	9.576E+01
3.750E-01	2.531E+09	5.745E+02	3.254E+02	3.254E+02	3.256E+02	3.259E+02	2.708E+09	6.955E+02	3.689E+02	3.690E+02	3.691E+02	3.697E+02
5.750E-01	6.321E+08	4.098E+01	4.089E+01	4.083E+01	4.089E+01	4.129E+01	6.865E+08	4.303E+01	4.285E+01	4.269E+01	4.273E+01	4.331E+01
8.500E-01	1.372E+09	2.156E+01	2.154E+01	2.153E+01	2.158E+01	2.177E+01	1.494E+09	2.240E+01	2.235E+01	2.232E+01	2.237E+01	2.265E+01
1.250E+00	5.247E+07	1.655E+01	1.654E+01	1.652E+01	1.651E+01	1.651E+01	6.724E+07	1.690E+01	1.686E+01	1.683E+01	1.681E+01	1.680E+01
1.750E+00	3.511E+04	3.362E+00	3.354E+00	3.348E+00	3.350E+00	3.376E+00	5.775E+04	3.413E+00	3.398E+00	3.385E+00	3.389E+00	3.433E+00
2.250E+00	1.476E-01	1.382E-01	1.316E-01	1.239E-01	1.188E-01	1.174E-01	2.034E-01	1.849E-01	1.719E-01	1.568E-01	1.468E-01	1.441E-01
2.750E+00	1.552E-01	1.706E-01	1.919E-01	2.489E-01	3.899E-01	8.206E-01	2.812E-01	3.116E-01	3.517E-01	4.566E-01	7.100E-01	1.465E+00
3.500E+00	1.161E-01	1.086E-01	1.033E-01	9.703E-02	9.292E-02	9.178E-02	1.608E-01	1.458E-01	1.354E-01	1.232E-01	1.151E-01	1.129E-01
5.000E+00	6.975E-02	6.512E-02	6.187E-02	5.806E-02	5.554E-02	5.484E-02	9.687E-02	8.771E-02	8.132E-02	7.385E-02	6.891E-02	6.755E-02
7.000E+00	1.100E-02	1.026E-02	9.732E-03	9.120E-03	8.715E-03	8.601E-03	1.533E-02	1.386E-02	1.283E-02	1.163E-02	1.083E-02	1.061E-02
1.100E+01	1.966E-03	1.830E-03	1.736E-03	1.624E-03	1.551E-03	1.530E-03	2.746E-03	2.479E-03	2.292E-03	2.074E-03	1.930E-03	1.890E-03
TOTAL	4.408E+10	2.405E+04	1.696E+04	1.712E+04	1.770E+04	1.964E+04	4.718E+10	3.012E+04	2.073E+04	2.081E+04	2.152E+04	2.416E+04
GAM POW	4.861E+04	2.652E-02	1.871E-02	1.888E-02	1.952E-02	2.166E-02	5.203E+04	3.322E-02	2.286E-02	2.295E-02	2.374E-02	2.664E-02

TABLE C.38. (ALPHA,N) NEUTRONS FROM ACTINIDES IN LMFBR AXIAL BLANKET AND RADIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
PU238	1.788E+05	1.800E+05	1.797E+05	1.791E+05	1.778E+05	1.736E+05	2.469E+05	2.486E+05	2.483E+05	2.476E+05	2.457E+05	2.400E+05
PU239	1.381E+06	1.387E+06	1.387E+06	1.387E+06	1.387E+06	1.387E+06	1.551E+06	1.558E+06	1.558E+06	1.558E+06	1.558E+06	1.558E+06
PU240	2.280E+05	2.280E+05	2.279E+05	2.279E+05	2.279E+05	2.278E+05	2.813E+05	2.813E+05	2.813E+05	2.813E+05	2.812E+05	2.812E+05
AM241	3.947E+03	5.641E+03	7.314E+03	1.069E+04	1.711E+04	3.465E+04	6.549E+03	8.875E+03	1.117E+04	1.581E+04	2.462E+04	4.856E+04
CM242	5.377E+05	3.703E+05	2.527E+05	1.152E+05	2.454E+04	4.005E+02	1.057E+06	7.270E+05	4.962E+05	2.262E+05	4.832E+04	9.286E+02
TOTALS												
TABLE	2.329E+06	2.171E+06	2.055E+06	1.920E+06	1.835E+06	1.824E+06	3.143E+06	2.825E+06	2.596E+06	2.330E+06	2.159E+06	2.129E+06
ACTUAL	2.329E+06	2.171E+06	2.055E+06	1.920E+06	1.835E+06	1.824E+06	3.143E+06	2.825E+06	2.596E+06	2.330E+06	2.159E+06	2.129E+06

TABLE C.39. SPONTANEOUS FISSION NEUTRONS FROM ACTINIDES IN LMFBR AXIAL BLANKET AND RADIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
U238	1.219E+04	1.219E+04	1.219E+04	1.219E+04	1.219E+04	1.219E+04	1.211E+04	1.211E+04	1.211E+04	1.211E+04	1.211E+04	1.211E+04
PU238	2.376E+04	2.391E+04	2.388E+04	2.380E+04	2.362E+04	2.307E+04	3.281E+04	3.303E+04	3.299E+04	3.288E+04	3.264E+04	3.188E+04
PU240	1.221E+06	1.221E+06	1.221E+06	1.221E+06	1.221E+06	1.220E+06	1.507E+06	1.507E+06	1.507E+06	1.507E+06	1.506E+06	1.506E+06
PU242	1.088E+03	1.088E+03	1.088E+03	1.088E+03	1.088E+03	1.088E+03	1.759E+03	1.759E+03	1.759E+03	1.759E+03	1.759E+03	1.759E+03
CM242	4.340E+05	2.989E+05	2.040E+05	9.294E+04	1.981E+04	3.233E+02	8.528E+05	5.866E+05	4.005E+05	1.826E+05	3.900E+04	7.495E+02
CM244	4.113E+03	4.076E+03	4.037E+03	3.960E+03	3.811E+03	3.398E+03	9.121E+03	9.039E+03	8.954E+03	8.782E+03	8.452E+03	7.535E+03
TOTALS												
TABLE	1.697E+06	1.562E+06	1.467E+06	1.356E+06	1.282E+06	1.261E+06	2.416E+06	2.150E+06	1.964E+06	1.745E+06	1.601E+06	1.561E+06
ACTUAL	1.697E+06	1.562E+06	1.467E+06	1.356E+06	1.282E+06	1.261E+06	2.416E+06	2.150E+06	1.964E+06	1.745E+06	1.601E+06	1.561E+06
OVERALL TOTALS												
TABLE	4.026E+06	3.733E+06	3.522E+06	3.276E+06	3.117E+06	3.085E+06	5.559E+06	4.975E+06	4.559E+06	4.075E+06	3.760E+06	3.690E+06
ACTUAL	4.026E+06	3.733E+06	3.522E+06	3.276E+06	3.117E+06	3.085E+06	5.559E+06	4.975E+06	4.559E+06	4.075E+06	3.760E+06	3.690E+06

TABLE C.40. GRAMS OF FISSION PRODUCT ELEMENTS IN LMFBR AXIAL BLANKET AND RADIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
H	1.373E-02	1.354E-02	1.336E-02	1.298E-02	1.227E-02	1.037E-02	1.729E-02	1.705E-02	1.682E-02	1.634E-02	1.545E-02	1.306E-02
LI	7.365E-05	7.365E-05	7.365E-05	7.365E-05	7.365E-05	7.365E-05	9.296E-05	9.296E-05	9.296E-05	9.296E-05	9.296E-05	9.296E-05
BE	2.531E-05	2.531E-05	2.531E-05	2.531E-05	2.531E-05	2.531E-05	3.224E-05	3.224E-05	3.224E-05	3.224E-05	3.224E-05	3.224E-05
C	4.451E-06	4.451E-06	4.451E-06	4.450E-06	4.450E-06	4.448E-06	5.669E-06	5.668E-06	5.668E-06	5.668E-06	5.667E-06	5.665E-06
CO	1.556E-12	0.0	0.0	0.0	0.0	0.0	2.295E-12	0.0	0.0	0.0	0.0	0.0
NI	5.736E-10	0.0	0.0	0.0	0.0	0.0	8.183E-10	0.0	0.0	0.0	0.0	0.0
CU	5.056E-05	5.190E-28	1.600E-38	3.706E-60	0.0	0.0	7.030E-09	8.802E-28	2.714E-38	6.285E-60	0.0	0.0
ZN	8.447E-05	6.805E-08	6.805E-08	6.805E-08	6.805E-08	6.805E-08	1.137E-04	7.789E-08	7.789E-08	7.789E-08	7.789E-08	7.789E-08
GA	4.251E-05	1.488E-06	1.488E-06	1.488E-06	1.488E-06	1.488E-06	5.713E-05	1.847E-06	1.847E-06	1.847E-06	1.847E-06	1.847E-06
GE	2.723E-01	2.722E-01	2.722E-01	2.722E-01	2.722E-01	2.722E-01	3.371E-01	3.370E-01	3.370E-01	3.370E-01	3.370E-01	3.370E-01
AS	9.357E-02	9.230E-02	9.230E-02	9.230E-02	9.230E-02	9.230E-02	1.145E-01	1.128E-01	1.128E-01	1.128E-01	1.128E-01	1.128E-01
SE	8.255E+00	8.256E+00	8.256E+00	8.256E+00	8.256E+00	8.256E+00	1.030E+01	1.030E+01	1.030E+01	1.030E+01	1.030E+01	1.030E+01
BR	2.911E+00	2.908E+00	2.908E+00	2.908E+00	2.908E+00	2.908E+00	3.581E+00	3.577E+00	3.577E+00	3.577E+00	3.577E+00	3.577E+00
KR	4.963E+01	4.956E+01	4.951E+01	4.941E+01	4.922E+01	4.872E+01	6.233E+01	6.225E+01	6.218E+01	6.206E+01	6.182E+01	6.119E+01
RB	4.207E+01	4.212E+01	4.217E+01	4.227E+01	4.246E+01	4.296E+01	5.279E+01	5.285E+01	5.291E+01	5.304E+01	5.328E+01	5.391E+01
SR	1.046E+02	9.996E+01	9.839E+01	9.723E+01	9.585E+01	9.202E+01	1.314E+02	1.252E+02	1.232E+02	1.217E+02	1.199E+02	1.151E+02
Y	5.518E+01	5.315E+01	5.225E+01	5.172E+01	5.164E+01	5.164E+01	6.938E+01	6.668E+01	6.548E+01	6.478E+01	6.466E+01	6.466E+01
ZR	4.767E+02	4.721E+02	4.703E+02	4.698E+02	4.710E+02	4.748E+02	6.033E+02	5.972E+02	5.949E+02	5.942E+02	5.956E+02	6.004E+02
NB	9.428E+00	6.113E+00	2.741E+00	4.074E-01	8.671E-03	5.725E-04	1.307E+01	8.175E+00	3.639E+00	5.385E-01	1.145E-02	7.475E-04
MO	4.988E+02	5.124E+02	5.200E+02	5.245E+02	5.252E+02	5.253E+02	6.440E+02	6.625E+02	6.726E+02	6.786E+02	6.796E+02	6.796E+02
TC	1.376E+02	1.386E+02	1.386E+02	1.386E+02	1.386E+02	1.386E+02	1.737E+02	1.751E+02	1.751E+02	1.751E+02	1.751E+02	1.751E+02
RU	5.275E+02	5.066E+02	4.969E+02	4.849E+02	4.712E+02	4.592E+02	6.766E+02	6.495E+02	6.371E+02	6.219E+02	6.047E+02	5.896E+02
RH	1.321E+02	1.441E+02	1.466E+02	1.473E+02	1.473E+02	1.473E+02	1.670E+02	1.827E+02	1.861E+02	1.869E+02	1.869E+02	1.869E+02
PD	2.740E+02	2.829E+02	2.901E+02	3.015E+02	3.151E+02	3.271E+02	3.591E+02	3.704E+02	3.794E+02	3.938E+02	4.109E+02	4.261E+02
AG	3.290E+01	3.270E+01	3.269E+01	3.267E+01	3.265E+01	3.264E+01	4.251E+01	4.223E+01	4.220E+01	4.216E+01	4.212E+01	4.210E+01
CD	4.142E+01	4.161E+01	4.161E+01	4.163E+01	4.164E+01	4.164E+01	5.211E+01	5.236E+01	5.239E+01	5.242E+01	5.246E+01	5.246E+01
IN	5.495E+00	5.567E+00	5.578E+00	5.585E+00	5.591E+00	5.606E+00	6.278E+00	6.378E+00	6.394E+00	6.403E+00	6.410E+00	6.430E+00
SN	5.242E+01	5.220E+01	5.212E+01	5.204E+01	5.200E+01	5.200E+01	6.502E+01	6.472E+01	6.462E+01	6.451E+01	6.446E+01	6.445E+01
SB	2.098E+01	2.044E+01	2.004E+01	1.924E+01	1.784E+01	1.517E+01	2.557E+01	2.490E+01	2.443E+01	2.345E+01	2.175E+01	1.850E+01
TE	1.144E+02	1.126E+02	1.129E+02	1.136E+02	1.149E+02	1.176E+02	1.452E+02	1.429E+02	1.431E+02	1.439E+02	1.456E+02	1.489E+02
I	7.060E+01	6.832E+01	6.857E+01	6.875E+01	6.881E+01	6.882E+01	8.857E+01	8.561E+01	8.595E+01	8.618E+01	8.627E+01	8.628E+01
XE	7.367E+02	7.377E+02	7.377E+02	7.377E+02	7.377E+02	7.377E+02	9.400E+02	9.413E+02	9.413E+02	9.413E+02	9.413E+02	9.413E+02
CS	6.271E+02	6.294E+02	6.280E+02	6.252E+02	6.201E+02	6.065E+02	7.990E+02	8.018E+02	7.998E+02	7.960E+02	7.890E+02	7.707E+02
BA	2.172E+02	2.129E+02	2.142E+02	2.170E+02	2.221E+02	2.357E+02	2.799E+02	2.744E+02	2.762E+02	2.801E+02	2.871E+02	3.053E+02
LA	1.938E+02	1.930E+02	1.930E+02	1.930E+02	1.930E+02	1.930E+02	2.468E+02	2.456E+02	2.456E+02	2.456E+02	2.456E+02	2.456E+02
CE	4.246E+02	4.045E+02	3.920E+02	3.758E+02	3.595E+02	3.489E+02	5.390E+02	5.130E+02	4.971E+02	4.768E+02	4.564E+02	4.431E+02
PR	1.706E+02	1.783E+02	1.801E+02	1.805E+02	1.805E+02	1.805E+02	2.191E+02	2.295E+02	2.320E+02	2.324E+02	2.324E+02	2.324E+02
ND	5.395E+02	5.562E+02	5.670E+02	5.828E+02	5.991E+02	6.097E+02	6.857E+02	7.071E+02	7.206E+02	7.404E+02	7.609E+02	7.741E+02
PM	5.607E+01	5.380E+01	5.032E+01	4.399E+01	3.377E+01	1.529E+01	6.666E+01	6.387E+01	5.968E+01	5.215E+01	4.004E+01	1.812E+01
SM	1.347E+02	1.393E+02	1.427E+02	1.490E+02	1.590E+02	1.768E+02	1.762E+02	1.820E+02	1.862E+02	1.936E+02	2.054E+02	2.266E+02
EU	2.100E+01	2.069E+01	2.053E+01	2.023E+01	1.971E+01	1.865E+01	2.682E+01	2.636E+01	2.616E+01	2.575E+01	2.505E+01	2.356E+01
GD	1.152E+01	1.196E+01	1.217E+01	1.257E+01	1.330E+01	1.497E+01	1.545E+01	1.607E+01	1.635E+01	1.688E+01	1.783E+01	2.006E+01
TB	1.101E+00	1.088E+00	1.084E+00	1.082E+00	1.081E+00	1.081E+00	1.418E+00	1.391E+00	1.382E+00	1.377E+00	1.376E+00	1.376E+00
DY	6.992E-01	7.146E-01	7.185E-01	7.208E-01	7.213E-01	7.213E-01	9.517E-01	9.811E-01	9.901E-01	9.955E-01	9.966E-01	9.966E-01
HO	2.992E-02	2.987E-02	2.987E-02	2.987E-02	2.987E-02	2.987E-02	3.801E-02	3.793E-02	3.793E-02	3.793E-02	3.793E-02	3.793E-02
ER	2.528E-02	2.550E-02	2.550E-02	2.550E-02	2.550E-02	2.550E-02	3.426E-02	3.454E-02	3.454E-02	3.454E-02	3.455E-02	3.455E-02
TM	7.391E-07	7.730E-07	7.671E-07	7.611E-07	7.580E-07	7.574E-07	2.335E-06	2.435E-06	2.412E-06	2.384E-06	2.370E-06	2.367E-06
YB	2.313E-08	3.275E-08	3.868E-08	4.470E-08	4.777E-08	4.836E-08	1.015E-07	1.460E-07	1.734E-07	2.013E-07	2.157E-07	2.187E-07
TOTAL	5.792E+03	5.792E+03	5.792E+03	5.792E+03	5.792E+03	5.792E+03	7.389E+03	7.389E+03	7.389E+03	7.389E+03	7.389E+03	7.389E+03

TABLE C.41. GRAMS OF PRINCIPAL FISSION PRODUCT NUCLIDES IN LMFBR AXIAL BLANKET AND RADIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
KR 83	8.561E+00	8.565E+00	8.565E+00	8.565E+00	8.565E+00	8.565E+00	1.068E+01	1.068E+01	1.068E+01	1.068E+01	1.068E+01	1.068E+01
KR 84	1.461E+01	1.461E+01	1.461E+01	1.461E+01	1.461E+01	1.461E+01	1.842E+01	1.842E+01	1.842E+01	1.842E+01	1.842E+01	1.842E+01
RB 85	1.249E+01	1.255E+01	1.260E+01	1.270E+01	1.289E+01	1.340E+01	1.567E+01	1.574E+01	1.580E+01	1.593E+01	1.617E+01	1.680E+01
KR 86	2.313E+01	2.313E+01	2.313E+01	2.313E+01	2.313E+01	2.313E+01	2.902E+01	2.902E+01	2.902E+01	2.902E+01	2.902E+01	2.902E+01
RB 87	2.956E+01	2.957E+01	2.957E+01	2.957E+01	2.957E+01	2.957E+01	3.710E+01	3.711E+01	3.711E+01	3.711E+01	3.711E+01	3.711E+01
SR 88	4.008E+01	4.009E+01	4.009E+01	4.009E+01	4.009E+01	4.009E+01	5.015E+01	5.017E+01	5.017E+01	5.017E+01	5.017E+01	5.017E+01
Y 89	4.563E+01	4.988E+01	5.112E+01	5.158E+01	5.162E+01	5.162E+01	5.667E+01	6.233E+01	6.397E+01	6.459E+01	6.464E+01	6.465E+01
SR 90	5.834E+01	5.800E+01	5.766E+01	5.697E+01	5.563E+01	5.180E+01	7.292E+01	7.245E+01	7.207E+01	7.120E+01	6.953E+01	6.473E+01
ZR 91	6.036E+01	6.656E+01	6.870E+01	6.970E+01	6.982E+01	6.982E+01	7.484E+01	8.310E+01	8.595E+01	8.727E+01	8.744E+01	8.744E+01
ZR 92	8.110E+01	8.115E+01	8.115E+01	8.115E+01	8.115E+01	8.115E+01	1.022E+02	1.023E+02	1.023E+02	1.023E+02	1.023E+02	1.023E+02
ZR 93	9.775E+01	9.786E+01	9.786E+01	9.786E+01	9.786E+01	9.786E+01	1.232E+02	1.233E+02	1.233E+02	1.233E+02	1.233E+02	1.233E+02
ZR 94	9.837E+01	9.837E+01	9.837E+01	9.837E+01	9.837E+01	9.837E+01	1.253E+02	1.253E+02	1.253E+02	1.253E+02	1.253E+02	1.253E+02
ZR 95	1.784E+01	6.731E+00	2.539E+00	3.412E-01	6.524E-03	4.561E-08	2.357E+01	8.890E+00	3.353E+00	4.507E-01	8.618E-03	6.025E-08
NB 95	9.391E+00	6.110E+00	2.740E+00	4.068E-01	8.229E-03	5.563E-08	1.302E+01	8.175E+00	3.637E+00	5.378E-01	1.087E-02	7.349E-08
MO 95	8.771E+01	1.021E+02	1.097E+02	1.142E+02	1.149E+02	1.150E+02	1.196E+02	1.391E+02	1.492E+02	1.552E+02	1.562E+02	1.562E+02
ZR 96	1.196E+02	1.196E+02	1.196E+02	1.196E+02	1.196E+02	1.196E+02	1.518E+02	1.518E+02	1.518E+02	1.518E+02	1.518E+02	1.518E+02
MO 97	1.238E+02	1.241E+02	1.241E+02	1.241E+02	1.241E+02	1.241E+02	1.568E+02	1.571E+02	1.571E+02	1.571E+02	1.571E+02	1.571E+02
MO 98	1.340E+02	1.340E+02	1.340E+02	1.340E+02	1.340E+02	1.340E+02	1.711E+02	1.711E+02	1.711E+02	1.711E+02	1.711E+02	1.711E+02
TC 99	1.375E+02	1.386E+02	1.386E+02	1.386E+02	1.386E+02	1.386E+02	1.736E+02	1.751E+02	1.751E+02	1.751E+02	1.751E+02	1.751E+02
MO100	1.510E+02	1.510E+02	1.510E+02	1.510E+02	1.510E+02	1.510E+02	1.925E+02	1.925E+02	1.925E+02	1.925E+02	1.925E+02	1.925E+02
RU101	1.522E+02	1.523E+02	1.523E+02	1.523E+02	1.523E+02	1.523E+02	1.930E+02	1.930E+02	1.930E+02	1.930E+02	1.930E+02	1.930E+02
RU102	1.597E+02	1.597E+02	1.597E+02	1.597E+02	1.597E+02	1.597E+02	2.055E+02	2.055E+02	2.055E+02	2.055E+02	2.055E+02	2.055E+02
RH103	1.317E+02	1.441E+02	1.466E+02	1.473E+02	1.473E+02	1.473E+02	1.664E+02	1.827E+02	1.861E+02	1.869E+02	1.869E+02	1.869E+02
RU104	1.427E+02	1.427E+02	1.427E+02	1.427E+02	1.427E+02	1.427E+02	1.834E+02	1.834E+02	1.834E+02	1.834E+02	1.834E+02	1.834E+02
PD105	1.078E+02	1.083E+02	1.083E+02	1.083E+02	1.083E+02	1.083E+02	1.373E+02	1.380E+02	1.380E+02	1.380E+02	1.380E+02	1.380E+02
RU106	5.441E+01	4.593E+01	3.877E+01	2.735E+01	1.375E+01	1.748E+00	6.859E+01	5.790E+01	4.888E+01	3.449E+01	1.734E+01	2.203E+00
PD106	4.106E+01	4.954E+01	5.670E+01	6.811E+01	8.171E+01	9.372E+01	5.693E+01	6.762E+01	7.665E+01	9.104E+01	1.082E+02	1.233E+02
PD107	5.963E+01	5.964E+01	5.964E+01	5.964E+01	5.964E+01	5.964E+01	7.705E+01	7.705E+01	7.705E+01	7.705E+01	7.705E+01	7.705E+01
PD108	4.440E+01	4.440E+01	4.440E+01	4.440E+01	4.440E+01	4.440E+01	5.820E+01	5.820E+01	5.820E+01	5.820E+01	5.820E+01	5.820E+01
AG109	3.258E+01	3.264E+01	3.264E+01	3.264E+01	3.264E+01	3.264E+01	4.203E+01	4.210E+01	4.210E+01	4.210E+01	4.210E+01	4.210E+01
PD110	1.687E+01	1.687E+01	1.687E+01	1.687E+01	1.687E+01	1.687E+01	2.151E+01	2.151E+01	2.151E+01	2.151E+01	2.151E+01	2.151E+01
CD111	1.177E+01	1.199E+01	1.199E+01	1.199E+01	1.199E+01	1.199E+01	1.478E+01	1.508E+01	1.508E+01	1.508E+01	1.508E+01	1.508E+01
CD112	9.175E+00	9.195E+00	9.195E+00	9.195E+00	9.195E+00	9.195E+00	1.151E+01	1.154E+01	1.154E+01	1.154E+01	1.154E+01	1.154E+01
CD113	7.628E+00	7.631E+00	7.631E+00	7.631E+00	7.631E+00	7.631E+00	9.382E+00	9.387E+00	9.387E+00	9.387E+00	9.387E+00	9.387E+00
CD114	6.354E+00	6.354E+00	6.354E+00	6.354E+00	6.354E+00	6.354E+00	7.871E+00	7.871E+00	7.871E+00	7.871E+00	7.871E+00	7.871E+00
SB121	5.810E+00	5.823E+00	5.823E+00	5.823E+00	5.824E+00	5.824E+00	7.058E+00	7.077E+00	7.077E+00	7.077E+00	7.077E+00	7.078E+00
SN122	6.340E+00	6.340E+00	6.340E+00	6.340E+00	6.340E+00	6.340E+00	7.757E+00	7.757E+00	7.757E+00	7.757E+00	7.757E+00	7.757E+00
SB123	6.631E+00	6.758E+00	6.836E+00	6.915E+00	6.955E+00	6.961E+00	8.062E+00	8.230E+00	8.334E+00	8.439E+00	8.493E+00	8.501E+00
SN124	8.145E+00	8.145E+00	8.145E+00	8.145E+00	8.145E+00	8.145E+00	1.001E+01	1.001E+01	1.001E+01	1.001E+01	1.001E+01	1.001E+01
SB125	8.273E+00	7.852E+00	7.382E+00	6.502E+00	5.063E+00	2.390E+00	1.009E+01	9.583E+00	9.010E+00	7.936E+00	6.179E+00	2.917E+00
SN126	1.309E+01	1.309E+01	1.309E+01	1.309E+01	1.309E+01	1.309E+01	1.631E+01	1.631E+01	1.631E+01	1.631E+01	1.631E+01	1.631E+01
I127	2.043E+01	2.095E+01	2.113E+01	2.129E+01	2.135E+01	2.136E+01	2.522E+01	2.592E+01	2.616E+01	2.637E+01	2.646E+01	2.647E+01
TE128	3.182E+01	3.182E+01	3.182E+01	3.182E+01	3.182E+01	3.182E+01	4.000E+01	4.000E+01	4.000E+01	4.000E+01	4.000E+01	4.000E+01
I129	4.587E+01	4.737E+01	4.744E+01	4.746E+01	4.746E+01	4.746E+01	5.901E+01	5.969E+01	5.979E+01	5.981E+01	5.981E+01	5.981E+01
TE130	7.692E+01	7.693E+01	7.693E+01	7.693E+01	7.693E+01	7.693E+01	9.772E+01	9.772E+01	9.772E+01	9.772E+01	9.772E+01	9.772E+01
XE131	1.197E+02	1.224E+02	1.224E+02	1.224E+02	1.224E+02	1.224E+02	1.514E+02	1.551E+02	1.551E+02	1.551E+02	1.551E+02	1.551E+02
XE132	1.655E+02	1.670E+02	1.670E+02	1.670E+02	1.670E+02	1.670E+02	2.116E+02	2.135E+02	2.135E+02	2.135E+02	2.135E+02	2.135E+02
CS133	2.058E+02	2.093E+02	2.093E+02	2.093E+02	2.093E+02	2.093E+02	2.589E+02	2.634E+02	2.634E+02	2.634E+02	2.634E+02	2.634E+02
XE134	2.315E+02	2.316E+02	2.316E+02	2.316E+02	2.316E+02	2.316E+02	2.950E+02	2.950E+02	2.950E+02	2.950E+02	2.950E+02	2.950E+02
CS135	2.228E+02	2.231E+02	2.231E+02	2.231E+02	2.231E+02	2.231E+02	2.846E+02	2.851E+02	2.851E+02	2.851E+02	2.851E+02	2.851E+02
XE136	2.153E+02	2.153E+02	2.153E+02	2.153E+02	2.153E+02	2.153E+02	2.752E+02	2.752E+02	2.752E+02	2.752E+02	2.752E+02	2.752E+02
CS137	1.946E+02	1.935E+02	1.924E+02	1.901E+02	1.858E+02	1.733E+02	2.479E+02	2.465E+02	2.451E+02	2.422E+02	2.367E+02	2.209E+02
BA138	2.025E+02	2.025E+02	2.025E+02	2.025E+02	2.025E+02	2.025E+02	2.587E+02	2.588E+02	2.588E+02	2.588E+02	2.588E+02	2.588E+02
LA139	1.929E+02	1.930E+02	1.930E+02	1.930E+02	1.930E+02	1.930E+02	2.456E+02	2.456E+02	2.456E+02	2.456E+02	2.456E+02	2.456E+02
CE140	1.748E+02	1.815E+02	1.815E+02	1.815E+02	1.815E+02	1.815E+02	2.211E+02	2.299E+02	2.300E+02	2.300E+02	2.300E+02	2.300E+02
PR141	1.652E+02	1.782E+02	1.801E+02	1.805E+02	1.805E+02	1.805E+02	2.119E+02	2.294E+02	2.320E+02	2.324E+02	2.324E+02	2.324E+02
CE142	1.666E+02	1.666E+02	1.666E+02	1.666E+02	1.666E+02	1.666E+02	2.121E+02	2.121E+02	2.121E+02	2.121E+02	2.121E+02	2.121E+02
ND143	1.478E+02	1.536E+02	1.537E+02	1.537E+02	1.537E+02	1.537E+02	1.853E+02	1.931E+02	1.932E+02	1.932E+02	1.932E+02	1.932E+02
CE144	6.744E+01	5.415E+01	4.348E+01	2.768E+01	1.136E+01	7.851E-01	8.452E+01	6.791E+01	5.453E+01	3.471E+01	1.424E+01	9.846E-01
ND144	7.008E+01	8.337E+01	9.404E+01	1.098E+02	1.262E+02	1.367E+02	9.143E+01	1.081E+02	1.219E+02	1.413E+02	1.618E+02	1.750E+02
ND145	1.141E+02	1.141E+02	1.141E+02	1.141E+02	1.141E+02	1.141E+02	1.435E+02	1.436E+02	1.436E+02	1.436E+02	1.436E+02	1.436E+02
ND146	9.980E+01	9.981E+01	9.981E+01	9.981E+01	9.981E+01	9.981E+01	1.278E+02	1.278E+02	1.278E+02	1.278E+02	1.278E+02	1.278E+02
PM147	5.500E+01	5.367E+01	5.029E+01	4.399E+01	3.377E+01	1.529E+01	6.486E+01	6.363E+01	5.962E+01	5.214E+01	4.004E+01	1.812E+01
SM147	1.478E+01	1.837E+01	2.175E+01	2.806E+01	3.827E+01	5.675E+01	1.887E+01	2.311E+01	2.712E+01	3.460E+01	4.671E+01	6.862E+01
ND148	6.538E+01	6.538E+01	6.538E+01	6.538E+01	6.538E+01	6.538E+01	8.281E+01	8.281E+01	8.281E+01	8.281E+01	8.281E+01	8.281E+01
SM148	7.217E+00	7.764E+00	7.870E+00	7.899E+00	7.900E+00	7.900E+00	1.307E+01	1.407E+01	1.426E+01	1.431E+01	1.431E+01	1.431E+01
SM149	4.805E+01	4.836E+01	4.836E+01	4.836E+01	4.836E+01	4.836E+01	5.926E+01	5.967E+01	5.967E+01	5.967E+01	5.967E+01	5.967E+01
ND150	3.888E+01	3.888E+01	3.888E+01	3.888E+01	3.888E+01	3.888E+01	4.929E+01	4.929E+01	4.929E+01	4.929E+01	4.929E+01	4.929E+01
SM151	2.712E+01	2.717E+01	2.712E+01	2.701E+01	2.680E+01	2.619E+01	3.285E+01	3.292E+01	3.285E+01	3.273E+01	3.247E+01	3.173E+01
SM152	2.438E+01	2.438E+01	2.438E+01	2.438E+01	2.438E+01	2.438E+01	3.303E+01	3.303E+01	3.303E+01	3.303E+01	3.303E+01	3.303E+01
EU153	1.377E+01	1.385E+01	1.385E+01	1.385E+01	1.385E+01	1.385E+01	1.698E+01	1.709E+01	1.709E+01	1.709E+01	1.709E+01	1.709E+01
SM154	9.988E+00	1.016E+01	1.016E+01	1.016E+01	1.016E+01	1.016E+01	1.277E+01	1.300E+01	1.300E+01	1.300E+01	1.300E+01	1.300E+01
SUMTOT	5.614E+03	5.676E+03	5.682E+03	5.681E+03	5.674E+03	5.655E+03	7.143E+03	7.226E+03	7.234E+03	7.233E+03	7.225E+03	7.201E+03
TOTAL	5.792E+03	5.792E+03	5.792E+03	5.792E+03	5.792E+03	5.792E+03	7.389E+03	7.389E+03	7.389E+03	7.389E+03	7.389E+03	7.389E+03

TABLE C.42. CURIES OF FISSION PRODUCT ELEMENTS IN LMFBR AXIAL BLANKET AND RADIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	AXIAL EKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD EKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
H	1.326E+02	1.307E+02	1.289E+02	1.253E+02	1.185E+02	1.001E+02	1.669E+02	1.646E+02	1.624E+02	1.578E+02	1.492E+02	1.261E+02
BE	4.921E-07	4.921E-07	4.921E-07	4.921E-07	4.921E-07	4.921E-07	6.267E-07	6.267E-07	6.267E-07	6.267E-07	6.267E-07	6.267E-07
C	1.985E-05	1.985E-05	1.985E-05	1.984E-05	1.984E-05	1.983E-05	2.528E-05	2.528E-05	2.527E-05	2.527E-05	2.527E-05	2.526E-05
CC	2.022E+00	0.0	0.0	0.0	0.0	0.0	2.982E+00	0.0	0.0	0.0	0.0	0.0
NI	7.136E+01	0.0	0.0	0.0	0.0	0.0	1.030E+02	0.0	0.0	0.0	0.0	0.0
CL	3.676E+02	3.926E-22	1.210E-32	2.803E-54	0.0	0.0	5.198E+02	6.656E-22	2.053E-32	4.754E-54	0.0	0.0
ZN	2.254E+03	8.195E-13	8.516E-27	0.0	0.0	0.0	3.146E+03	1.103E-12	1.146E-26	0.0	0.0	0.0
GA	7.698E+03	1.176E-13	1.222E-26	0.0	0.0	0.0	1.103E+04	1.583E-12	1.645E-26	0.0	0.0	0.0
GE	3.587E+04	0.0	0.0	0.0	0.0	0.0	5.000E+04	0.0	0.0	0.0	0.0	0.0
AS	9.191E+04	2.494E-14	4.374E-31	0.0	0.0	0.0	1.266E+05	3.270E-14	5.735E-31	0.0	0.0	0.0
SE	2.459E+05	7.915E-02	7.915E-02	7.915E-02	7.915E-02	7.915E-02	3.352E+05	9.905E-02	9.905E-02	9.905E-02	9.905E-02	9.905E-02
BR	4.634E+05	1.549E-16	5.931E-35	0.0	0.0	0.0	6.286E+05	2.947E-16	1.128E-34	0.0	0.0	0.0
KR	8.585E+05	1.251E+03	1.232E+03	1.192E+03	1.117E+03	9.203E+02	1.160E+06	1.573E+03	1.548E+03	1.498E+03	1.405E+03	1.157E+03
RB	1.251E+06	2.694E+01	9.513E-01	9.989E-04	2.589E-06	2.588E-06	1.680E+06	5.459E+01	1.927E+00	2.112E-03	3.251E-06	3.248E-06
SR	2.057E+06	5.858E+04	2.260E+04	8.932E+03	7.599E+03	7.068E+03	2.746E+06	7.731E+04	2.943E+04	1.126E+04	9.498E+03	6.834E+03
Y	2.562E+06	8.786E+04	3.539E+04	1.084E+04	7.633E+03	7.070E+03	3.936E+06	1.163E+05	4.649E+04	1.380E+04	9.544E+03	6.836E+03
ZR	2.636E+06	1.447E+05	5.456E+04	7.334E+03	1.405E+02	2.470E-01	3.503E+06	1.911E+05	7.207E+04	9.686E+03	1.855E+02	3.112E-01
NB	4.082E+06	2.401E+05	1.076E+05	1.597E+04	3.230E+02	6.427E-02	5.412E+06	3.212E+05	1.428E+05	2.111E+04	4.266E+02	8.238E-02
MO	3.074E+06	6.883E-05	5.680E-15	5.098E-35	0.0	0.0	4.041E+06	9.065E-05	1.275E-14	6.715E-35	0.0	0.0
TC	3.535E+06	2.351E+00	2.351E+00	2.351E+00	2.351E+00	2.350E+00	4.640E+06	2.969E+00	2.969E+00	2.969E+00	2.969E+00	2.969E+00
RU	1.654E+06	2.566E+05	1.508E+05	5.236E+04	4.603E+04	5.850E+03	2.161E+06	3.294E+05	1.913E+05	1.165E+05	5.804E+04	7.375E+03
RH	1.859E+06	2.465E+05	1.487E+05	9.228E+04	4.603E+04	5.850E+03	2.448E+06	3.160E+05	1.886E+05	1.164E+05	5.804E+04	7.375E+03
PD	3.266E+05	3.069E-02	3.069E-02	3.069E-02	3.069E-02	3.069E-02	4.372E+05	3.965E-02	3.965E-02	3.965E-02	3.965E-02	3.965E-02
AG	3.356E+05	3.258E+02	2.474E+02	1.480E+02	5.374E+01	2.572E+00	4.628E+05	6.382E+02	4.886E+02	2.923E+02	1.061E+02	5.079E+00
CD	1.293E+05	3.804E+02	1.144E+02	3.159E+01	2.548E+01	2.208E+01	1.823E+05	5.286E+02	1.565E+02	4.067E+01	3.228E+01	2.797E+01
IN	2.329E+05	1.996E-01	5.571E-02	4.052E-03	2.351E-05	3.955E-11	3.275E+05	4.021E-01	1.128E-01	8.274E-03	4.863E-05	5.005E-11
SN	5.642E+05	1.809E+03	1.127E+03	4.385E+02	7.423E+01	1.570E+00	7.677E+05	2.405E+03	1.498E+03	5.819E+02	9.810E+01	2.022E+00
SB	1.214E+06	8.223E+03	7.664E+03	6.722E+03	5.230E+03	2.469E+03	1.624E+06	1.011E+04	9.378E+03	8.207E+03	6.384E+03	3.013E+03
TE	2.278E+06	1.402E+04	6.881E+03	2.995E+03	1.408E+03	6.024E+02	3.150E+06	1.849E+04	8.929E+03	3.793E+03	1.732E+03	7.353E+02
I	3.345E+06	1.425E+02	6.925E-02	8.382E-03	8.382E-03	8.382E-03	4.415E+06	1.664E+02	9.015E-02	1.056E-02	1.056E-02	1.056E-02
XE	2.646E+06	6.115E+01	3.145E-01	6.495E-06	3.729E-15	0.0	3.744E+06	7.985E+01	4.110E-01	8.487E-06	4.872E-15	0.0
CS	2.094E+06	2.144E+04	2.089E+04	2.004E+04	1.867E+04	1.600E+04	2.766E+06	3.036E+04	2.938E+04	2.787E+04	2.545E+04	2.099E+04
BA	2.553E+06	1.922E+04	1.586E+04	1.565E+04	1.529E+04	1.427E+04	3.367E+06	2.467E+04	2.021E+04	1.994E+04	1.949E+04	1.818E+04
LA	2.520E+06	3.777E+03	2.876E+01	1.254E-03	8.552E-12	5.360E-12	3.322E+06	5.004E+03	3.810E+01	1.661E-03	1.093E-11	6.728E-12
CE	1.960E+06	2.366E+05	1.481E+05	8.851E+04	3.625E+04	2.506E+03	2.588E+06	3.026E+05	1.267E+05	1.110E+05	4.546E+04	3.142E+03
PR	1.679E+06	1.789E+05	1.405E+05	8.939E+04	3.669E+04	2.526E+03	2.218E+06	2.247E+05	1.762E+05	1.121E+05	4.601E+04	3.180E+03
ND	4.824E+05	6.436E+02	2.288E+00	2.077E-05	1.493E-10	1.618E-10	6.385E+05	8.510E+02	3.026E+00	2.747E-05	1.914E-10	2.071E-10
PM	4.036E+05	5.282E+04	4.732E+04	4.082E+04	3.132E+04	1.418E+04	5.417E+05	6.446E+04	5.650E+04	4.841E+04	3.713E+04	1.681E+04
SM	7.646E+04	7.150E+02	7.137E+02	7.109E+02	7.054E+02	6.893E+02	1.041E+05	8.663E+02	8.647E+02	8.613E+02	8.547E+02	8.352E+02
EU	3.278E+04	3.053E+03	2.758E+03	2.575E+03	2.255E+03	1.518E+03	4.481E+04	4.056E+03	3.637E+03	3.400E+03	2.987E+03	2.032E+03
GD	4.269E+03	1.473E+00	1.138E+00	6.695E-01	2.352E-01	1.020E-02	5.644E+03	5.399E+00	4.172E+00	2.454E+00	8.623E-01	3.736E-02
TB	1.742E+03	7.605E+01	3.205E+01	5.427E+00	1.636E-01	4.486E-06	2.455E+03	1.760E+02	7.423E+01	1.257E+01	3.790E-01	1.039E-05
DY	1.446E+02	3.752E-07	3.945E-15	1.493E-31	0.0	0.0	1.946E+02	4.858E-07	5.150E-15	1.950E-31	0.0	0.0
HO	4.221E+01	1.896E-04	1.890E-04	1.890E-04	1.888E-04	1.885E-04	6.152E+01	3.271E-04	3.263E-04	3.262E-04	3.261E-04	3.255E-04
ER	1.756E-01	4.857E-06	6.127E-09	7.156E-15	1.438E-26	0.0	3.798E-01	1.657E-05	2.188E-08	2.555E-14	5.135E-26	0.0
TM	1.679E-04	9.226E-05	5.690E-05	2.111E-05	3.094E-06	6.955E-08	7.803E-04	4.266E-04	2.633E-04	9.801E-05	1.466E-05	4.565E-07
TOTAL	4.801E+07	1.578E+06	9.133E+05	4.971E+05	2.570E+05	8.165E+04	6.359E+07	2.044E+06	1.166E+06	6.269E+05	3.230E+05	1.027E+05

TABLE C.43. CURIES OF PRINCIPAL FISSION PRODUCT NUCLIDES IN LMFBR AXIAL BLANKET AND RADIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0Y
SR 89	1.742E+05	5.067E+04	1.473E+04	1.159E+03	7.695E+00	2.260E-06	2.318E+05	6.742E+04	1.960E+04	1.541E+03	1.025E+01	3.010E-0
SR 90	7.561E+03	7.915E+03	7.868E+03	7.774E+03	7.591E+03	7.068E+03	9.950E+03	9.852E+03	9.834E+03	9.716E+03	9.488E+03	8.834E+0
Y 90	8.246E+03	7.917E+03	7.870E+03	7.778E+03	7.593E+03	7.070E+03	1.044E+04	9.855E+03	9.837E+03	9.719E+03	9.490E+03	8.836E+0
Y 91	2.304E+05	7.994E+04	2.752E+04	3.065E+03	4.048E+01	9.320E-05	3.069E+05	1.065E+05	3.665E+04	4.083E+03	5.391E+01	1.241E-0
ZR 95	2.635E+05	1.447E+05	5.456E+04	7.332E+03	1.402E+02	9.803E-04	5.083E+05	1.911E+05	7.207E+04	9.684E+03	1.852E+02	1.288E-0
NB 95	3.674E+05	2.350E+05	1.072E+05	1.591E+04	3.219E+02	2.176E-03	5.095E+05	3.198E+05	1.423E+05	2.104E+04	4.252E+02	2.875E-0
RU103	5.036E+05	1.029E+05	2.102E+04	8.000E+02	1.250E+00	5.012E-09	6.634E+05	1.356E+05	2.770E+04	1.054E+03	1.694E+00	6.792E-09
RH103M	4.536E+05	5.276E+04	1.895E+04	7.212E+02	1.146E+00	4.518E-09	5.975E+05	1.222E+05	2.497E+04	9.501E+02	1.527E+00	6.122E-09
RU106	1.821E+05	1.537E+05	1.298E+05	9.156E+04	4.603E+04	5.850E+03	2.295E+05	1.938E+05	1.636E+05	1.154E+05	5.803E+04	7.375E+03
RH106	1.822E+05	1.537E+05	1.298E+05	9.156E+04	4.603E+04	5.850E+03	2.295E+05	1.938E+05	1.636E+05	1.154E+05	5.803E+04	7.375E+03
SN122	2.713E+03	1.674E+03	1.033E+03	2.821E+02	5.382E+01	1.497E-01	3.613E+03	2.229E+03	1.375E+03	5.088E+02	7.167E+01	1.995E-01
SB125	8.546E+02	8.111E+03	7.626E+03	6.717E+03	5.230E+03	2.469E+03	1.042E+04	9.852E+03	9.307E+03	8.198E+03	6.383E+03	3.013E+03
TE125M	1.762E+03	1.861E+03	1.820E+03	1.634E+03	1.276E+03	6.023E+02	2.097E+03	2.252E+03	2.215E+03	1.994E+03	1.557E+03	7.351E+02
TE127	5.324E+04	2.833E+03	2.163E+03	6.660E+02	6.528E+01	6.148E-02	7.082E+04	5.065E+03	2.858E+03	8.800E+02	8.626E+01	6.123E-02
TE127M	6.656E+02	3.914E+03	2.208E+03	6.799E+02	6.664E+01	6.276E-02	8.792E+03	5.171E+03	2.918E+03	8.984E+02	8.806E+01	6.293E-02
TE129	1.186E+05	1.741E+02	2.719E+02	5.952E+00	3.179E-03	4.843E-12	1.565E+05	2.365E+03	3.694E+02	8.087E+00	4.319E-03	6.575E-12
TE129M	1.704E+04	2.674E+03	4.177E+02	9.144E+00	4.884E-03	7.440E-13	2.215E+04	3.633E+03	5.675E+02	1.242E+01	6.635E-03	1.011E-12
CS134	4.853E+03	4.504E+02	4.146E+03	3.495E+03	2.498E+02	9.113E+02	9.502E+03	8.747E+03	8.052E+03	6.790E+03	4.851E+03	1.770E+03
CS137	1.693E+04	1.684E+04	1.674E+04	1.654E+04	1.617E+04	1.508E+04	2.157E+04	2.145E+04	2.133E+04	2.108E+04	2.060E+04	1.922E+04
BA137M	1.608E+04	1.593E+04	1.584E+04	1.568E+04	1.529E+04	1.427E+04	2.049E+04	2.029E+04	2.018E+04	1.994E+04	1.949E+04	1.818E+04
BA140	4.310E+05	3.262E+03	2.498E+01	1.090E-03	2.756E-12	0.0	5.707E+05	4.348E+03	3.308E+01	1.443E-03	3.649E-12	0.0
LA140	4.331E+05	3.777E+03	2.876E+01	1.254E-03	3.171E-12	0.0	5.744E+05	5.004E+03	3.810E+01	1.661E-03	4.195E-12	0.0
CE141	4.322E+05	6.379E+04	9.364E+03	1.804E+02	7.486E-02	5.352E-12	5.835E+05	8.611E+04	1.264E+04	2.435E+02	1.011E-01	7.225E-12
PR143	3.556E+05	3.997E+03	4.020E+01	3.113E-03	2.441E-11	0.0	4.787E+05	5.369E+03	5.402E+01	4.183E-03	3.280E-11	0.0
CE144	2.152E+05	1.728E+05	1.388E+05	8.833E+04	3.625E+04	2.906E+03	2.695E+05	2.167E+05	1.740E+05	1.108E+05	4.548E+04	3.142E+03
PR144	2.156E+05	1.728E+05	1.388E+05	8.833E+04	3.625E+04	2.906E+03	2.707E+05	2.167E+05	1.740E+05	1.108E+05	4.548E+04	3.142E+03
PR144M	2.588E+03	2.074E+03	1.665E+03	1.060E+03	4.350E+02	3.007E+01	3.245E+03	2.601E+03	2.088E+03	1.329E+03	5.458E+02	3.771E+01
PM147	5.101E+04	4.577E+04	4.684E+04	4.079E+04	3.132E+04	1.418E+04	6.015E+04	5.602E+04	5.529E+04	4.836E+04	3.713E+04	1.681E+04
PM148M	1.307E+04	2.886E+03	6.371E+02	2.843E+01	6.144E-02	6.324E-10	2.342E+04	5.170E+03	1.141E+03	5.094E+01	1.114E-01	1.146E-09
EU155	2.619E+03	2.530E+03	2.445E+03	2.277E+03	1.980E+03	1.302E+03	3.252E+03	2.142E+03	3.036E+03	2.828E+03	2.459E+02	1.617E+03
SUMTOT	4.852E+06	1.572E+06	5.099E+05	4.944E+05	2.546E+05	7.969E+04	6.481E+06	2.035E+06	1.162E+06	6.233E+05	3.199E+05	1.001E+05
TOTAL	4.800E+07	1.578E+06	5.133E+05	4.971E+05	2.570E+05	8.165E+04	6.359E+07	2.044E+06	1.166E+06	6.269E+05	3.230E+05	1.027E+05

TABLE C.44. WATTS OF FISSION PRODUCT ELEMENTS IN LMFBR AXIAL BLANKET AND RADIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
H	4.463E-03	4.402E-03	4.341E-03	4.220E-03	3.989E-03	3.371E-03	5.626E-03	5.542E-03	5.466E-03	5.313E-03	5.023E-03	4.244E-03
BE	5.906E-10	5.906E-10	5.906E-10	5.906E-10	5.906E-10	5.906E-10	7.523E-10	7.523E-10	7.523E-10	7.523E-10	7.522E-10	7.522E-10
C	5.820E-09	5.820E-09	5.819E-09	5.819E-09	5.818E-09	5.816E-09	7.412E-09	7.412E-09	7.412E-09	7.411E-09	7.410E-09	7.407E-09
CO	1.006E-01	0.0	0.0	0.0	0.0	0.0	1.484E-01	0.0	0.0	0.0	0.0	0.0
NI	1.844E+00	0.0	0.0	0.0	0.0	0.0	2.671E+00	0.0	0.0	0.0	0.0	0.0
CU	1.087E+01	6.304E-25	1.944E-35	4.502E-57	0.0	0.0	1.540E+01	1.069E-24	3.296E-35	7.635E-57	0.0	0.0
ZN	4.359E+01	1.240E-15	1.289E-25	0.0	0.0	0.0	6.151E+01	1.670E-15	1.735E-29	0.0	0.0	0.0
GA	1.591E+02	2.236E-14	2.323E-28	0.0	0.0	0.0	2.800E+02	3.010E-14	3.128E-28	0.0	0.0	0.0
GE	5.759E+02	0.0	0.0	0.0	0.0	0.0	8.207E+02	0.0	0.0	0.0	0.0	0.0
AS	2.089E+03	3.512E-17	6.160E-34	0.0	0.0	0.0	2.907E+03	4.605E-17	8.077E-34	0.0	0.0	0.0
SE	3.622E+03	1.971E-05	1.971E-05	1.971E-05	1.970E-05	1.970E-05	5.260E+03	2.466E-05	2.466E-05	2.466E-05	2.466E-05	2.466E-05
BR	9.388E+03	2.552E-16	9.770E-37	0.0	0.0	0.0	1.284E+04	4.855E-16	1.858E-36	0.0	0.0	0.0
KR	1.322E+04	1.875E+00	1.845E+00	1.785E+00	1.674E+00	1.379E+00	1.801E+04	2.356E+00	2.319E+00	2.244E+00	2.104E+00	1.733E+00
RB	2.782E+04	1.217E-01	4.299E-03	4.504E-06	2.169E-09	2.163E-09	3.745E+04	2.467E-01	8.709E-03	9.533E-06	2.727E-09	2.715E-09
SR	2.773E+04	1.843E+02	6.006E+01	1.303E+01	8.837E+00	8.203E+00	3.726E+04	2.445E+02	7.917E+01	1.661E+01	1.105E+01	1.025E+01
Y	4.627E+04	3.310E+02	1.425E+02	5.411E+01	4.223E+01	3.918E+01	6.186E+04	4.372E+02	1.862E+02	6.853E+01	5.279E+01	4.897E+01
ZR	2.532E+04	7.327E+02	2.764E+02	3.714E+01	7.103E-01	3.354E-05	3.391E+04	9.678E+02	3.650E+02	4.906E+01	9.382E-01	4.256E-05
NB	5.565E+04	1.148E+03	5.147E+02	7.641E+01	1.545E+00	2.201E-05	7.904E+04	1.536E+03	6.832E+02	1.010E+02	2.041E+00	2.863E-05
MO	2.748E+04	2.211E-07	3.109E-17	1.637E-37	0.0	0.0	3.615E+04	2.511E-07	4.095E-17	2.156E-37	0.0	0.0
TC	4.118E+04	1.179E-03	1.179E-03	1.179E-03	1.179E-03	1.179E-03	5.400E+04	1.489E-03	1.489E-03	1.489E-03	1.489E-03	1.489E-03
RU	9.828E+03	3.534E+02	7.805E+01	8.120E+00	2.741E+00	3.478E-01	1.294E+04	4.650E+02	1.024E+02	1.039E+01	3.456E+00	4.385E-01
RH	1.010E+04	1.496E+03	1.249E+03	8.783E+02	4.415E+02	5.610E+01	1.336E+04	1.887E+03	1.575E+03	1.107E+03	5.566E+02	7.072E+01
PD	1.852E+03	1.819E-06	1.819E-06	1.819E-06	1.819E-06	1.819E-06	2.555E+03	2.350E-06	2.350E-06	2.350E-06	2.350E-06	2.350E-06
AG	2.389E+03	5.282E+00	4.101E+00	2.453E+00	8.906E-01	4.262E-02	3.367E+03	1.042E+01	8.098E+00	4.844E+00	1.759E+00	6.417E-02
CD	1.432E+03	1.362E+00	3.708E-01	6.319E-02	4.292E-02	3.717E-02	2.031E+03	1.900E+00	5.127E-01	8.247E-02	5.439E-02	4.709E-02
IN	4.611E+03	5.679E-04	1.593E-04	1.168E-05	6.857E-08	6.427E-14	6.501E+03	1.159E-03	3.262E-04	2.407E-05	1.426E-07	6.750E-14
SN	6.763E+03	5.379E+00	3.275E+00	1.223E+00	1.792E-01	1.701E-03	9.251E+03	7.161E+00	4.359E+00	1.628E+00	2.382E-01	2.200E-03
SB	2.313E+04	2.688E+01	2.434E+01	2.106E+01	1.636E+01	7.723E+00	3.110E+04	3.376E+01	3.004E+01	2.575E+01	1.996E+01	9.426E+00
TE	2.225E+04	1.975E+01	7.342E+00	2.676E+00	1.196E+00	5.064E-01	2.968E+04	2.634E+01	9.607E+00	3.399E+00	1.473E+00	6.180E-01
I	4.887E+04	4.842E-01	2.106E-04	3.877E-06	3.877E-06	3.877E-06	6.476E+04	6.331E-01	2.752E-04	4.887E-06	4.887E-06	4.887E-06
XE	2.414E+04	5.933E-02	3.026E-04	6.248E-09	3.587E-18	0.0	3.199E+04	7.748E-02	3.954E-04	8.165E-09	4.687E-18	0.0
CS	4.121E+04	6.584E+01	6.073E+01	5.389E+01	4.331E+01	2.596E+01	5.449E+04	1.149E+02	1.056E+02	9.242E+01	7.216E+01	3.927E+01
BA	2.332E+04	7.189E+01	6.225E+01	6.146E+01	6.005E+01	5.603E+01	3.082E+04	9.213E+01	7.932E+01	7.830E+01	7.651E+01	7.135E+01
LA	3.592E+04	6.331E+01	4.821E-01	2.102E-05	6.243E-14	9.268E-15	5.277E+04	8.368E+01	6.387E-01	2.784E-05	8.198E-14	1.155E-14
CE	1.023E+04	2.080E+02	1.058E+02	5.885E+01	2.405E+01	1.662E+00	1.356E+04	2.658E+02	1.339E+02	7.383E+01	3.015E+01	2.084E+00
PR	1.458E+04	1.279E+03	1.021E+03	6.496E+02	2.666E+02	1.843E+01	1.976E+04	1.604E+03	1.280E+03	8.147E+02	3.343E+02	2.311E+01
ND	2.546E+03	1.553E+00	5.520E-03	5.011E-08	5.737E-18	0.0	3.373E+03	2.053E+00	7.301E-03	6.628E-08	7.589E-18	0.0
PM	2.340E+03	5.570E+01	2.508E+01	1.500E+01	1.124E+01	5.085E+00	3.220E+03	8.896E+01	3.480E+01	1.801E+01	1.332E+01	6.028E+00
SM	3.215E+03	8.383E-02	8.368E-02	8.335E-02	8.271E-02	8.082E-02	4.227E+02	1.016E-01	1.014E-01	1.010E-01	1.002E-01	9.792E-02
EU	2.848E+02	6.792E+00	4.580E+00	4.312E+00	3.891E+00	2.873E+00	3.940E+02	1.087E+01	7.584E+00	7.168E+00	6.506E+00	4.883E+00
GD	1.887E+01	1.269E-03	9.809E-04	5.771E-04	2.027E-04	8.789E-06	2.488E+01	4.653E-03	3.596E-03	2.115E-03	7.432E-04	3.222E-05
TB	1.091E+01	6.188E-01	2.611E-01	4.420E-02	1.333E-03	3.653E-08	1.567E+01	1.433E+00	6.046E-01	1.024E-01	3.087E-03	8.461E-08
DY	4.022E-01	4.381E-10	4.606E-18	1.744E-34	0.0	0.0	5.433E-01	5.719E-10	6.014E-18	2.273E-34	0.0	0.0
HO	1.809E-01	2.097E-06	2.094E-06	2.093E-06	2.092E-06	2.089E-06	2.637E-01	3.619E-06	3.615E-06	3.614E-06	3.612E-06	3.606E-06
ER	2.193E-04	5.789E-09	1.235E-11	1.442E-17	2.898E-29	0.0	4.779E-04	3.340E-08	4.409E-11	5.150E-17	1.035E-28	0.0
TM	2.565E-07	1.825E-07	1.123E-07	4.141E-08	5.804E-09	2.522E-11	1.369E-06	8.424E-07	5.187E-07	1.913E-07	2.686E-08	1.376E-10
TOTAL	5.754E+05	6.059E+03	3.642E+03	1.940E+03	9.271E+02	2.236E+02	7.662E+05	7.888E+03	4.688E+03	2.475E+03	1.186E+03	2.892E+02

TABLE C.45. WATTS OF PRINCIPAL FISSION PRODUCT NUCLIDES IN LMFBR AXIAL BLANKET AND RADIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0Y
SR 89	6.023E+02	1.752E+02	5.092E+01	4.005E+00	2.660E-02	7.814E-09	8.014E+02	2.221E+02	6.776E+01	5.329E+00	3.543E-02	1.041E-0
SR 90	5.240E+00	9.186E+00	9.132E+00	9.023E+00	8.810E+00	8.203E+00	1.155E+01	1.148E+01	1.141E+01	1.128E+01	1.101E+01	1.025E+0
Y 90	4.870E+01	4.388E+01	4.362E+01	4.310E+01	4.208E+01	3.918E+01	5.792E+01	5.484E+01	5.452E+01	5.388E+01	5.260E+01	4.897E+0
Y 91	8.276E+02	2.871E+02	9.885E+01	1.101E+01	1.454E-01	3.347E-07	1.102E+03	3.823E+02	1.316E+02	1.466E+01	1.936E-01	4.456E-0
ZR 95	1.542E+02	7.327E+02	2.764E+02	2.714E+01	7.102E-01	4.965E-06	2.565E+03	9.678E+02	3.650E+02	4.906E+01	9.381E-01	6.559E-0
NB 95	1.762E+02	1.147E+02	8.141E+02	7.634E+01	1.944E+00	1.044E-05	2.444E+03	1.534E+03	6.824E+02	1.005E+02	2.035E+00	1.375E-0
RU103	1.689E+03	2.443E+02	7.034E+01	2.676E+00	4.182E-03	1.677E-11	2.220E+03	4.535E+02	9.266E+01	3.526E+00	5.665E-03	2.272E-1
RH103M	1.044E+02	2.135E+01	4.363E+00	1.660E-01	2.637E-04	1.040E-12	1.375E+02	2.813E+01	5.747E+00	2.187E-01	3.516E-04	1.405E-1
RU106	1.083E+01	9.140E+00	7.715E+00	5.443E+00	2.737E+00	3.478E-01	1.365E+01	1.152E+01	9.727E+00	6.863E+00	3.450E+00	4.385E-0
RH106	1.748E+03	1.474E+02	1.245E+03	8.781E+02	4.415E+02	5.610E+01	2.204E+03	1.859E+03	1.569E+03	1.107E+03	5.566E+02	7.073E+0
SB125	2.672E+01	2.536E+01	2.384E+01	2.100E+01	1.639E+01	7.717E+00	3.257E+01	3.095E+01	2.910E+01	2.563E+01	1.995E+01	9.415E+01
TE129	4.236E+02	6.219E+00	9.714E-01	2.127E-02	1.136E-05	1.730E-16	5.605E+02	8.450E+00	1.320E+00	2.889E-02	1.543E-05	2.350E-1
CS134	4.580E+01	4.584E+01	4.220E+01	3.656E+01	2.543E+01	9.275E+00	9.671E+01	8.903E+01	8.199E+01	6.911E+01	4.938E+01	1.801E+01
CS137	1.873E+01	1.862E+01	1.852E+01	1.830E+01	1.788E+01	1.668E+01	2.386E+01	2.373E+01	2.359E+01	2.332E+01	2.276E+01	2.126E+01
BA137M	6.316E+01	6.253E+01	6.218E+01	6.146E+01	6.005E+01	5.603E+01	8.046E+01	7.966E+01	7.922E+01	7.830E+01	7.651E+01	7.139E+01
BA140	1.203E+02	9.157E+00	6.971E-02	3.041E-06	7.689E-15	0.0	1.592E+03	1.212E+01	9.230E-02	4.026E-06	1.018E-14	0.0
LA140	7.260E+02	6.331E+01	4.821E-01	2.102E-05	5.316E-14	0.0	9.630E+03	8.288E+01	6.387E-01	2.784E-05	7.039E-14	0.0
CE141	6.328E+02	9.340E+01	1.371E+01	2.641E-01	1.096E-04	7.836E-15	8.542E+02	1.261E+02	1.851E+01	3.565E-01	1.480E-04	1.058E-14
PR143	6.625E+02	7.446E+00	7.449E-02	5.799E-06	4.547E-14	0.0	8.916E+02	1.000E+01	1.006E-01	7.794E-06	6.111E-14	0.0
CE144	1.428E+02	1.146E+02	9.208E+01	5.859E+01	2.405E+01	1.662E+00	1.790E+02	1.436E+02	1.154E+02	7.347E+01	3.015E+01	2.084E+00
PR144	1.584E+03	1.270E+03	1.020E+03	6.493E+02	2.665E+02	1.842E+01	1.985E+03	1.592E+03	1.279E+03	8.142E+02	3.341E+02	2.310E+01
PM147	1.630E+01	1.765E+01	1.673E+01	1.463E+01	1.123E+01	5.085E+00	2.195E+01	2.116E+01	1.983E+01	1.735E+01	1.332E+01	6.028E+00
PM148M	1.657E+02	3.659E+01	6.078E+00	3.605E-01	7.791E-04	8.018E-12	2.969E+02	6.559E+01	1.447E+01	6.455E-01	1.412E-03	1.454E-11
SUMTOT	2.099E+04	6.015E+03	3.619E+03	1.527E+03	9.190E+02	2.167E+02	2.781E+04	7.822E+03	4.653E+03	2.455E+03	1.173E+03	2.817E+02
TOTAL	5.753E+05	6.059E+03	3.642E+03	1.940E+03	9.271E+02	2.236E+02	7.662E+05	7.888E+03	4.688E+03	2.475E+03	1.186E+03	2.892E+02

TABLE C.46. PHOTONS FROM FISSION PRODUCTS IN LMFBR AXIAL BLANKET AND RADIAL BLANKET SPENT FUEL AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS=ONE TONNE INITIAL HEAVY METAL: ADV OX LMFBR: LWR-PU/U/U/U

EMEAN	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
1.500E-02	5.719E+17	1.322E+16	9.464E+15	6.020E+15	2.988E+15	7.042E+14	7.566E+17	1.688E+16	1.197E+16	7.581E+15	3.761E+15	8.857E+14
2.500E-02	1.534E+17	3.301E+15	2.273E+15	1.460E+15	7.654E+14	2.065E+14	2.029E+17	4.209E+15	2.870E+15	1.833E+15	9.584E+14	2.574E+14
3.750E-02	1.198E+17	3.043E+15	2.048E+15	1.304E+15	6.521E+14	1.668E+14	1.582E+17	3.897E+15	2.590E+15	1.642E+15	8.212E+14	2.110E+14
5.750E-02	1.216E+17	2.664E+15	1.960E+15	1.266E+15	6.259E+14	1.401E+14	1.610E+17	3.396E+15	2.478E+15	1.595E+15	7.880E+14	1.764E+14
8.500E-02	9.023E+16	1.820E+15	1.364E+15	8.923E+14	4.426E+14	1.006E+14	1.194E+17	2.312E+15	1.722E+15	1.123E+15	5.564E+14	1.263E+14
1.250E-01	9.786E+16	3.170E+15	1.630E+15	9.376E+14	4.355E+14	7.741E+13	1.298E+17	4.121E+15	2.072E+15	1.181E+15	5.498E+14	9.925E+13
2.250E-01	2.325E+17	1.625E+15	1.219E+15	7.983E+14	3.937E+14	8.157E+13	3.069E+17	2.078E+15	1.541E+15	1.005E+15	4.954E+14	1.027E+14
3.750E-01	1.703E+17	9.666E+14	7.127E+14	4.883E+14	2.632E+14	6.867E+13	2.244E+17	1.239E+15	8.986E+14	6.115E+14	3.286E+14	8.515E+13
5.750E-01	2.710E+17	6.762E+15	3.525E+15	2.213E+15	1.438E+15	7.158E+14	3.579E+17	8.995E+15	4.653E+15	2.912E+15	1.899E+15	9.376E+14
8.500E-01	3.009E+17	1.310E+16	5.650E+15	1.001E+15	1.561E+14	4.175E+13	3.979E+17	1.758E+16	7.579E+15	1.396E+15	2.585E+14	7.547E+13
1.250E+00	1.556E+17	2.567E+14	1.931E+14	1.310E+14	6.724E+13	1.342E+13	2.055E+17	3.503E+14	2.583E+14	1.753E+14	9.236E+13	2.106E+13
1.750E+00	5.940E+16	1.595E+14	3.089E+13	2.035E+13	9.911E+12	1.330E+12	7.832E+16	2.113E+14	4.030E+13	2.627E+13	1.277E+13	1.767E+12
2.250E+00	2.730E+16	5.972E+13	4.623E+13	2.985E+13	1.271E+13	1.023E+12	3.596E+16	7.544E+13	5.607E+13	3.747E+13	1.595E+13	1.286E+12
2.750E+00	1.203E+16	5.905E+12	1.102E+12	7.504E+11	3.752E+11	4.715E+10	1.585E+16	7.741E+12	1.392E+12	9.460E+11	4.730E+11	5.944E+10
3.500E+00	5.749E+15	1.979E+11	1.352E+11	9.517E+10	4.784E+10	6.080E+09	7.616E+15	2.520E+11	1.704E+11	1.200E+11	6.032E+10	7.666E+09
5.000E+00	2.398E+15	8.562E-06	8.712E-06	8.990E-06	9.440E-06	1.025E-05	3.216E+15	1.089E-05	1.107E-05	1.140E-05	1.193E-05	1.289E-05
7.000E+00	1.965E+13	5.556E-07	5.653E-07	5.833E-07	6.125E-07	6.654E-07	2.638E+13	7.065E-07	7.180E-07	7.394E-07	7.740E-07	8.367E-07
1.100E+01	4.584E+09	3.513E-08	3.574E-08	3.688E-08	3.873E-08	4.207E-08	6.323E+09	4.469E-08	4.540E-08	4.676E-08	4.895E-08	5.291E-08
TOTAL	2.392E+18	5.015E+16	3.012E+16	1.658E+16	8.251E+15	2.319E+15	3.162E+18	6.525E+16	3.873E+16	2.112E+16	1.054E+16	2.981E+15
MEV/SEC	9.968E+17	1.760E+16	8.482E+15	3.195E+15	1.494E+15	5.610E+14	1.317E+18	2.344E+16	1.123E+16	4.225E+15	1.994E+15	7.517E+14

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS=ONE TONNE INITIAL HEAVY METAL: ADV OX LMFBR: LWR-PU/U/U/U

EMEAN	AXIAL BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR	RAD BKT	90.0D	180.0D	1.0YR	2.0YR	5.0YR
1.500E-02	1.247E+09	2.882E+07	2.063E+07	1.312E+07	6.515E+06	1.535E+06	1.650E+09	3.674E+07	2.610E+07	1.653E+07	8.199E+06	1.931E+06
2.500E-02	5.575E+08	1.199E+07	8.258E+06	5.305E+06	2.781E+06	7.503E+05	7.373E+08	1.529E+07	1.043E+07	6.659E+06	3.483E+06	9.353E+05
3.750E-02	6.529E+08	1.659E+07	1.116E+07	7.110E+06	3.554E+06	9.093E+05	8.624E+08	2.124E+07	1.411E+07	8.949E+06	4.476E+06	1.150E+06
5.750E-02	1.016E+09	2.227E+07	1.638E+07	1.058E+07	5.231E+06	1.171E+06	1.345E+09	2.833E+07	2.071E+07	1.333E+07	6.586E+06	1.474E+06
8.500E-02	1.115E+09	2.248E+07	1.686E+07	1.102E+07	5.468E+06	1.243E+06	1.475E+09	2.857E+07	2.128E+07	1.387E+07	6.874E+06	1.560E+06
1.250E-01	1.778E+09	5.759E+07	2.961E+07	1.704E+07	7.912E+06	1.406E+06	2.358E+09	7.487E+07	3.764E+07	2.147E+07	9.988E+06	1.803E+06
2.250E-01	7.603E+09	5.315E+07	3.986E+07	2.611E+07	1.288E+07	2.668E+06	1.004E+10	6.779E+07	5.038E+07	3.286E+07	1.620E+07	3.358E+06
3.750E-01	9.283E+09	5.268E+07	3.884E+07	2.663E+07	1.434E+07	3.743E+06	1.223E+10	6.753E+07	4.896E+07	3.333E+07	1.791E+07	4.641E+06
5.750E-01	2.265E+10	5.652E+08	2.946E+08	1.849E+08	1.202E+08	5.982E+07	2.992E+10	7.518E+08	3.809E+08	2.434E+08	1.587E+08	7.836E+07
8.500E-01	3.717E+10	1.618E+09	6.980E+08	1.236E+08	1.928E+07	5.158E+06	4.916E+10	2.169E+09	9.364E+08	1.724E+08	3.194E+07	9.324E+06
1.250E+00	2.828E+10	4.663E+07	3.509E+07	2.379E+07	1.222E+07	2.439E+06	3.735E+10	6.364E+07	4.693E+07	3.185E+07	1.678E+07	3.827E+06
1.750E+00	1.511E+10	4.057E+07	7.858E+06	5.175E+06	2.521E+06	3.383E+05	1.992E+10	5.375E+07	1.025E+07	6.682E+06	3.247E+06	4.493E+05
2.250E+00	8.928E+09	1.953E+07	1.512E+07	9.763E+06	4.156E+06	3.347E+05	1.176E+10	2.467E+07	1.899E+07	1.226E+07	5.217E+06	4.204E+05
2.750E+00	4.809E+09	2.360E+06	4.406E+05	3.000E+05	1.500E+05	1.885E+04	6.335E+09	3.094E+06	5.564E+05	3.781E+05	1.891E+05	2.376E+04
3.500E+00	2.924E+09	1.007E+05	6.876E+04	4.841E+04	2.434E+04	3.093E+03	3.874E+09	1.282E+05	8.670E+04	6.104E+04	3.059E+04	3.900E+03
5.000E+00	1.743E+09	6.223E-12	6.331E-12	6.533E-12	6.860E-12	7.452E-12	2.337E+09	7.914E-12	8.042E-12	8.282E-12	8.669E-12	9.371E-12
7.000E+00	1.999E+07	5.653E-13	5.751E-13	5.935E-13	6.232E-13	6.770E-13	2.684E+07	7.189E-13	7.305E-13	7.523E-13	7.875E-13	8.513E-13
1.100E+01	7.329E+03	5.617E-14	5.715E-14	5.897E-14	6.192E-14	6.727E-14	1.011E+04	7.143E-14	7.259E-14	7.476E-14	7.826E-14	8.459E-14
TOTAL	1.449E+11	2.558E+09	1.233E+09	4.645E+08	2.172E+08	8.154E+07	1.914E+11	3.407E+09	1.632E+09	6.140E+08	2.898E+08	1.093E+08
GAM RDW	1.598E+05	2.821E+03	1.360E+03	5.123E+02	2.395E+02	8.993E+01	2.111E+05	3.757E+03	1.800E+03	6.772E+02	3.196E+02	1.205E+02

Appendix C.3: Characteristics of Blended LMFBR High-Level Waste

TABLE C.47. GRAMS OF ACTINIDE ELEMENTS IN BLENDED LMFBR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
HE	0.0	4.345E-01	5.930E-01	8.535E-01	1.215E+00	2.297E+00	4.295E+00	7.635E+00	1.354E+01	2.531E+01	4.417E+01	4.967E+01
SE	1.508E-05	2.185E-05	2.725E-05	4.149E-05	6.173E-05	1.132E-04	1.554E-04	1.607E-04	1.679E-04	2.187E-04	2.581E-04	2.851E-04
TL	6.275E-12	6.789E-14	1.104E-13	2.281E-13	3.351E-13	3.430E-13	1.999E-13	7.233E-14	5.592E-14	6.664E-13	1.755E-11	3.189E-11
PB	1.619E-05	1.665E-06	1.695E-06	1.865E-06	2.345E-06	4.711E-06	1.082E-05	1.905E-05	7.237E-05	3.005E-02	3.384E+00	1.304E+01
BI	4.185E-10	7.644E-11	7.910E-11	8.705E-11	9.878E-11	2.354E-10	5.388E-09	1.658E-07	8.461E-06	1.252E-02	3.978E+00	2.369E+01
PO	6.564E-12	7.977E-12	7.998E-12	7.388E-12	6.292E-12	4.464E-12	8.587E-11	2.886E-09	7.228E-08	3.988E-06	3.141E-05	3.517E-05
AT	7.822E-20	4.188E-22	4.957E-22	1.005E-21	2.758E-21	2.134E-20	2.497E-19	2.705E-18	4.295E-17	5.577E-15	1.265E-13	2.568E-13
RN	0.0	6.344E-14	1.012E-13	2.064E-13	3.065E-13	4.624E-13	5.451E-12	1.105E-10	2.112E-09	1.165E-07	9.176E-07	1.027E-06
FR	7.155E-16	1.118E-17	1.407E-17	2.487E-17	4.990E-17	2.441E-16	2.348E-15	2.470E-14	3.903E-13	5.065E-11	1.149E-09	2.333E-09
RA	3.279E-08	8.495E-10	1.077E-09	1.791E-09	3.130E-09	2.638E-08	8.215E-07	1.724E-05	3.285E-04	1.812E-02	1.428E-01	1.598E-01
AC	2.099E-10	2.860E-10	3.708E-10	6.100E-10	9.634E-10	1.951E-09	3.134E-09	4.190E-09	1.044E-08	5.397E-07	2.137E-05	3.364E-05
TH	4.387E-07	8.433E-07	1.750E-06	8.183E-06	3.136E-05	2.729E-04	2.707E-03	1.811E-02	9.925E-02	1.210E+00	8.452E+00	1.116E+01
PA	1.274E-05	1.280E-05	1.284E-05	1.296E-05	1.316E-05	1.396E-05	1.664E-05	2.332E-05	4.036E-05	6.203E-04	2.739E-02	4.064E-02
U	4.304E+03	4.304E+03	4.304E+03	4.305E+03	4.306E+03	4.311E+03	4.324E+03	4.347E+03	4.377E+03	4.612E+03	5.400E+03	5.476E+03
NP	2.410E+02	2.420E+02	2.430E+02	2.461E+02	2.512E+02	2.715E+02	3.386E+02	4.941E+02	7.715E+02	9.067E+02	8.844E+02	8.424E+02
PU	4.544E+02	4.770E+02	4.846E+02	4.924E+02	5.022E+02	5.273E+02	5.465E+02	5.435E+02	5.557E+02	6.375E+02	8.546E+01	1.537E+01
AM	1.292E+03	1.292E+03	1.292E+03	1.292E+03	1.290E+03	1.276E+03	1.206E+03	1.029E+03	7.044E+02	2.440E+02	5.348E-02	1.801E-06
CM	1.394E+02	1.184E+02	1.062E+02	9.465E+01	7.980E+01	4.204E+01	1.112E+01	8.567E+00	8.069E+00	3.828E+00	6.309E-03	3.825E-03
BK	5.104E-07	2.314E-07	1.049E-07	9.774E-09	1.872E-10	2.517E-17	8.701E-23	8.634E-23	8.395E-23	5.865E-23	1.626E-24	4.132E-27
CF	3.851E-07	6.617E-07	7.854E-07	8.719E-07	8.680E-07	8.244E-07	7.129E-07	4.800E-07	1.203E-07	1.914E-13	5.783E-20	1.470E-22
ES	2.813E-16	7.714E-16	3.079E-18	1.959E-19	1.966E-21	2.077E-29	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	6.430E+03	6.430E+03	6.430E+03	6.430E+03	6.430E+03	6.430E+03	6.430E+03	6.430E+03	6.430E+03	6.430E+03	6.430E+03	6.431E+03

TABLE C.48. GRAMS OF PRINCIPAL ACTINIDE NUCLIDES IN BLENDED LMFBR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
HE 4	0.0	4.345E-01	5.930E-01	8.535E-01	1.215E+00	2.297E+00	4.295E+00	7.635E+00	1.354E+01	2.531E+01	4.417E+01	4.967E+01
SE206	8.664E-12	2.234E-11	3.693E-11	7.877E-11	1.406E-10	3.234E-10	3.867E-09	3.835E-07	3.734E-05	2.961E-02	3.357E+00	1.291E+01
BI209	6.708E-11	7.235E-11	7.264E-11	7.403E-11	7.982E-11	2.161E-10	5.374E-09	1.657E-07	8.458E-06	1.252E-02	3.978E+00	2.369E+01
TH230	2.966E-07	6.394E-07	1.478E-06	7.710E-06	3.063E-05	2.714E-04	2.700E-03	1.805E-02	9.861E-02	1.145E+00	6.957E+00	7.790E+00
U233	3.620E-06	8.869E-05	1.741E-04	4.160E-04	8.118E-04	2.476E-03	9.287E-03	3.605E-02	1.824E-01	2.698E+00	2.305E+01	4.212E+01
U234	7.239E-02	1.995E-01	4.076E-01	1.085E+00	2.200E+00	6.363E+00	1.782E+01	3.450E+01	4.394E+01	4.320E+01	3.353E+01	2.199E+01
U235	5.593E+00	5.602E+00	5.610E+00	5.636E+00	5.678E+00	5.849E+00	6.453E+00	8.218E+00	1.480E+01	1.351E+02	8.401E+02	9.046E+02
U236	8.612E-01	8.724E-01	8.841E-01	9.211E-01	9.893E-01	1.319E+00	2.734E+00	6.944E+00	2.101E+01	1.332E+02	2.029E+02	2.020E+02
U238	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	4.298E+03	4.301E+03	4.305E+03
NP237	2.410E+02	2.420E+02	2.430E+02	2.461E+02	2.512E+02	2.715E+02	3.386E+02	4.941E+02	7.715E+02	9.067E+02	8.844E+02	8.424E+02
PU238	3.807E+00	2.412E+01	2.838E+01	2.907E+01	2.829E+01	2.533E+01	1.733E+01	6.160E+00	2.217E-01	3.290E-19	0.0	0.0
PU239	2.999E+02	3.000E+02	3.001E+02	3.004E+02	3.008E+02	3.024E+02	3.066E+02	3.163E+02	3.475E+02	5.438E+02	6.651E+01	8.848E-01
PU240	1.060E+02	1.097E+02	1.133E+02	1.233E+02	1.377E+02	1.738E+02	2.020E+02	1.995E+02	1.856E+02	7.146E+01	5.125E-03	3.363E-08
PU241	2.593E+01	2.472E+01	2.356E+01	2.039E+01	1.603E+01	6.130E+00	2.245E-01	1.388E-02	1.310E-02	6.286E-03	4.079E-06	1.983E-11
PU242	1.918E+01	1.919E+01	1.920E+01	1.925E+01	1.932E+01	1.959E+01	2.036E+01	2.156E+01	2.237E+01	2.220E+01	1.894E+01	1.448E+01
AM241	6.498E+02	6.496E+02	6.497E+02	6.497E+02	6.489E+02	6.381E+02	5.759E+02	4.181E+02	1.363E+02	1.888E-01	1.224E-04	6.273E-10
AM242M	1.877E+01	1.869E+01	1.860E+01	1.835E+01	1.794E+01	1.637E+01	1.190E+01	4.780E+00	1.964E-01	2.951E-19	0.0	0.0
AM243	6.237E+02	6.237E+02	6.236E+02	6.234E+02	6.231E+02	6.220E+02	6.179E+02	6.064E+02	5.678E+02	2.438E+02	5.336E-02	1.801E-06
CM244	1.018E+02	9.794E+01	9.426E+01	8.404E+01	6.940E+01	3.228E+01	2.215E+00	1.045E-03	1.118E-14	8.781E-15	9.012E-15	9.311E-15
CM245	8.512E+00	8.511E+00	8.510E+00	8.508E+00	8.505E+00	8.491E+00	8.442E+00	8.306E+00	7.845E+00	3.765E+00	2.443E-03	1.188E-08
SUMTOT	6.401E+03	6.422E+03	6.427E+03	6.428E+03	6.428E+03	6.429E+03	6.430E+03	6.430E+03	6.430E+03	6.430E+03	6.429E+03	6.428E+03
TOTAL	6.430E+03	6.430E+03	6.430E+03	6.430E+03	6.430E+03	6.430E+03	6.430E+03	6.430E+03	6.430E+03	6.430E+03	6.430E+03	6.431E+03

TABLE C.49. CURIES OF ACTINIDE ELEMENTS IN BLENDED LMFBR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL	1.849E-03	1.999E-05	3.251E-05	6.717E-05	9.868E-05	1.010E-04	5.876E-05	2.117E-05	1.653E-05	2.354E-04	5.697E-03	1.085E-02
PB	5.145E-03	5.563E-05	9.046E-05	1.869E-04	2.746E-04	2.808E-04	1.647E-04	9.251E-05	7.595E-04	4.489E-02	4.873E-01	7.315E-01
BI	5.145E-03	5.563E-05	9.046E-05	1.869E-04	2.746E-04	2.808E-04	1.647E-04	9.251E-05	7.595E-04	4.489E-02	4.873E-01	7.315E-01
PO	8.441E-03	9.123E-05	1.484E-04	3.066E-04	4.504E-04	4.606E-04	2.695E-04	1.465E-04	1.109E-03	6.264E-02	6.241E-01	8.807E-01
AT	1.260E-07	6.743E-10	7.982E-10	1.618E-09	4.440E-09	3.436E-08	4.021E-07	4.362E-06	6.917E-05	8.980E-03	2.037E-01	4.135E-01
RN	0.0	5.559E-05	9.043E-05	1.869E-04	2.745E-04	2.808E-04	1.639E-04	7.516E-05	3.656E-04	1.799E-02	1.425E-01	1.600E-01
FR	1.262E-07	9.599E-10	1.168E-09	2.227E-09	5.402E-09	3.631E-08	4.052E-07	4.364E-06	6.918E-05	8.981E-03	2.037E-01	4.136E-01
RA	5.145E-03	5.550E-05	9.043E-05	1.869E-04	2.745E-04	2.608E-04	1.643E-04	7.955E-05	4.348E-04	2.697E-02	3.462E-01	5.736E-01
AC	1.403E-07	2.137E-08	2.763E-08	4.576E-08	7.415E-08	1.755E-07	6.283E-07	4.666E-06	6.984E-05	9.008E-03	2.056E-01	4.155E-01
TH	1.483E-03	1.513E-03	1.548E-03	1.644E-03	1.733E-03	1.744E-03	1.677E-03	1.890E-03	3.578E-03	3.390E-02	3.487E-01	5.762E-01
PA	4.591E-01	1.721E-01	1.728E-01	1.750E-01	1.766E-01	1.929E-01	2.402E-01	3.495E-01	5.455E-01	6.409E-01	6.264E-01	5.974E-01
U	2.830E-03	3.534E-03	4.848E-03	9.061E-03	1.599E-02	4.177E-02	1.133E-01	2.180E-01	2.793E-01	3.066E-01	4.492E-01	5.619E-01
NP	1.255E+02	1.255E+02	1.255E+02	1.254E+02	1.253E+02	1.250E+02	1.240E+02	1.215E+02	1.138E+02	4.927E+01	6.343E-01	5.941E-01
PU	2.774E+03	3.004E+03	2.958E+03	2.646E+03	2.187E+03	1.124E+03	3.851E+02	1.722E+02	6.915E+01	5.084E+01	4.210E+00	1.103E-01
AM	2.718E+03	2.717E+03	2.716E+03	2.711E+03	2.700E+03	2.633E+03	2.331E+03	1.649E+03	5.852E+02	4.928E+01	1.106E-02	3.612E-07
CM	9.716E+04	2.697E+04	1.186E+04	7.081E+03	5.844E+03	2.796E+03	2.852E+02	3.996E+01	2.986E+00	6.648E-01	4.203E-04	5.391E-07
BK	8.368E-04	3.793E-04	1.720E-04	1.602E-05	3.069E-07	4.159E-14	3.386E-16	3.260E-16	3.267E-16	2.283E-16	6.330E-18	1.608E-20
CF	4.546E-06	5.526E-06	5.887E-06	5.849E-06	5.303E-06	3.983E-06	2.936E-06	1.966E-06	4.927E-07	3.095E-13	6.330E-18	1.608E-20
ES	6.642E-12	1.443E-14	5.744E-15	3.654E-16	3.668E-18	3.875E-26	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	1.028E+05	3.282E+04	1.766E+04	1.256E+04	1.086E+04	6.677E+03	3.126E+03	1.983E+03	7.719E+02	1.513E+02	8.986E+00	6.771E+00

TABLE C.50. CURIES OF PRINCIPAL ACTINIDE NUCLIDES IN BLENDED LMFBR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL209	2.721E-09	1.457E-11	1.724E-11	3.495E-11	9.591E-11	7.423E-10	8.685E-09	9.421E-08	1.494E-06	1.940E-04	4.400E-03	8.932E-03
PB209	1.260E-07	6.743E-10	7.982E-10	1.618E-09	4.440E-09	3.436E-08	4.021E-07	4.362E-06	6.917E-05	8.980E-03	2.037E-01	4.135E-01
PB210	3.828E-08	3.712E-08	3.600E-08	3.265E-08	2.825E-08	2.005E-08	3.859E-07	1.297E-05	3.248E-04	1.792E-02	1.411E-01	1.580E-01
PB214	4.912E-10	4.949E-10	5.035E-10	6.109E-10	1.391E-09	2.434E-08	8.114E-07	1.705E-05	3.249E-04	1.792E-02	1.412E-01	1.581E-01
BI210	3.830E-08	3.715E-08	3.602E-08	3.287E-08	2.827E-08	2.006E-08	3.859E-07	1.297E-05	3.248E-04	1.792E-02	1.411E-01	1.580E-01
BI213	1.260E-07	6.743E-10	7.982E-10	1.618E-09	4.440E-09	3.436E-08	4.021E-07	4.362E-06	6.917E-05	8.980E-03	2.037E-01	4.135E-01
BI214	4.912E-10	4.949E-10	5.035E-10	6.109E-10	1.391E-09	2.434E-08	8.114E-07	1.705E-05	3.249E-04	1.792E-02	1.412E-01	1.581E-01
PO210	2.943E-08	3.585E-08	3.594E-08	3.320E-08	2.827E-08	2.006E-08	3.859E-07	1.297E-05	3.248E-04	1.792E-02	1.411E-01	1.580E-01
PO213	1.232E-07	6.597E-10	7.809E-10	1.583E-09	4.344E-09	3.362E-08	3.934E-07	4.268E-06	6.767E-05	8.786E-03	1.993E-01	4.046E-01
PO214	6.928E-09	4.947E-10	5.034E-10	6.108E-10	1.390E-09	2.434E-08	8.112E-07	1.705E-05	3.248E-04	1.792E-02	1.411E-01	1.580E-01
PO218	4.913E-10	4.950E-10	5.036E-10	6.110E-10	1.391E-09	2.435E-08	8.115E-07	1.705E-05	3.250E-04	1.793E-02	1.412E-01	1.581E-01
AT217	1.260E-07	6.743E-10	7.982E-10	1.618E-09	4.440E-09	3.436E-08	4.021E-07	4.362E-06	6.917E-05	8.980E-03	2.037E-01	4.135E-01
RN222	0.0	4.950E-10	5.036E-10	6.110E-10	1.391E-09	2.435E-08	8.115E-07	1.705E-05	3.250E-04	1.793E-02	1.412E-01	1.581E-01
FR221	1.260E-07	6.743E-10	7.982E-10	1.618E-09	4.440E-09	3.436E-08	4.021E-07	4.362E-06	6.917E-05	8.980E-03	2.037E-01	4.135E-01
RA225	1.258E-07	6.743E-10	7.982E-10	1.618E-09	4.440E-09	3.436E-08	4.021E-07	4.362E-06	6.917E-05	8.980E-03	2.037E-01	4.135E-01
RA226	4.913E-10	4.949E-10	5.036E-10	6.110E-10	1.391E-09	2.435E-08	8.115E-07	1.705E-05	3.250E-04	1.793E-02	1.412E-01	1.581E-01
AC225	1.260E-07	6.743E-10	7.982E-10	1.618E-09	4.440E-09	3.436E-08	4.021E-07	4.362E-06	6.917E-05	8.980E-03	2.037E-01	4.135E-01
TH229	6.284E-10	6.743E-10	7.982E-10	1.618E-09	4.440E-09	3.436E-08	4.021E-07	4.362E-06	6.917E-05	8.980E-03	2.037E-01	4.135E-01
TH230	5.990E-09	1.291E-08	2.984E-08	1.557E-07	6.166E-07	5.460E-06	5.452E-05	3.646E-04	1.991E-03	2.312E-02	1.405E-01	1.573E-01
PA233	1.697E-01	1.707E-01	1.714E-01	1.735E-01	1.772E-01	1.915E-01	2.388E-01	3.484E-01	5.440E-01	6.394E-01	6.237E-01	5.941E-01
U233	3.506E-08	8.589E-07	1.686E-06	4.029E-06	7.861E-06	2.398E-05	8.994E-05	3.491E-04	1.767E-03	2.613E-02	2.232E-01	4.079E-01
U234	4.525E-04	1.247E-02	2.548E-03	6.783E-03	1.375E-02	3.977E-02	1.114E-01	2.157E-01	2.747E-01	2.701E-01	2.096E-01	1.375E-01
U236	5.574E-05	5.647E-05	5.722E-05	5.962E-05	6.403E-05	8.536E-05	1.769E-04	4.496E-04	1.360E-03	8.621E-03	1.313E-02	1.308E-02
NP237	1.699E-01	1.707E-01	1.714E-01	1.735E-01	1.772E-01	1.915E-01	2.388E-01	3.484E-01	5.440E-01	6.394E-01	6.237E-01	5.941E-01
NP239	1.244E+02	1.244E+02	1.244E+02	1.243E+02	1.243E+02	1.240E+02	1.232E+02	1.209E+02	1.132E+02	4.863E+01	1.064E-02	3.591E-07
PU238	5.834E+01	4.131E+02	4.861E+02	4.979E+02	4.845E+02	4.338E+02	2.968E+02	1.055E+02	3.797E+00	5.634E-18	0.0	0.0
PU239	1.865E+01	1.866E+01	1.866E+01	1.868E+01	1.871E+01	1.881E+01	1.907E+01	1.967E+01	2.161E+01	3.382E+01	4.136E+00	5.502E-02
PU240	2.415E+01	2.501E+01	2.583E+01	2.812E+01	3.138E+01	3.963E+01	4.604E+01	4.556E+01	4.230E+01	1.629E+01	1.168E-03	7.666E-09
PU241	2.673E+03	2.547E+03	2.428E+03	2.101E+03	1.652E+03	6.318E+02	2.313E+01	1.431E+00	1.350E+00	6.478E-01	4.204E-04	2.044E-09
PU242	7.324E-02	7.330E-02	7.335E-02	7.352E-02	7.379E-02	7.482E-02	7.776E-02	8.244E-02	8.544E-02	8.480E-02	7.236E-02	5.531E-02
AM241	2.230E+03	2.230E+03	2.231E+03	2.231E+03	2.228E+03	2.191E+03	1.977E+03	1.436E+03	4.681E+02	6.481E-01	4.204E-04	2.154E-09
AM242M	1.825E+02	1.817E+02	1.809E+02	1.784E+02	1.744E+02	1.592E+02	1.157E+02	4.647E+01	1.909E+00	2.869E-18	0.0	0.0
AM242	1.816E+02	1.808E+02	1.800E+02	1.775E+02	1.735E+02	1.584E+02	1.151E+02	4.624E+01	1.900E+00	2.854E-18	0.0	0.0
AM243	1.244E+02	1.244E+02	1.244E+02	1.243E+02	1.243E+02	1.240E+02	1.232E+02	1.209E+02	1.132E+02	4.863E+01	1.064E-02	3.591E-07
CM242	8.882E+04	1.894E+04	4.133E+03	1.850E+02	1.436E+02	1.310E+02	9.519E+01	3.824E+01	1.571E+00	2.367E-18	0.0	0.0
CM243	1.048E+02	1.023E+02	9.981E+01	9.279E+01	8.216E+01	5.052E+01	9.206E+00	7.109E-02	2.872E-09	0.0	0.0	0.0
CM244	8.236E+03	7.927E+03	7.629E+03	6.802E+03	5.617E+03	2.612E+03	1.793E+02	8.491E-02	9.050E-13	7.107E-13	7.294E-13	7.536E-13
CM245	1.462E+00	1.462E+00	1.462E+00	1.461E+00	1.461E+00	1.458E+00	1.450E+00	1.427E+00	1.347E+00	6.467E-01	4.196E-04	2.041E-09
SUMTOT	1.028E+05	3.282E+04	1.766E+04	1.256E+04	1.086E+04	6.677E+03	3.125E+03	1.983E+03	7.718E+02	1.512E+02	8.966E+00	6.745E+00
TOTAL	1.028E+05	3.282E+04	1.766E+04	1.256E+04	1.086E+04	6.677E+03	3.126E+03	1.983E+03	7.719E+02	1.513E+02	8.986E+00	6.771E+00

TABLE C.51. WATTS OF ACTINIDE ELEMENTS IN BLENDED LMFBR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	MLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL	4.350E-05	4.699E-07	7.644E-07	1.580E-06	2.321E-06	2.373E-06	1.378E-06	4.914E-07	3.648E-07	3.626E-06	7.707E-05	1.541E-04
PB	9.796E-06	1.059E-07	1.722E-07	3.558E-07	5.228E-07	5.348E-07	3.139E-07	1.734E-07	1.269E-06	7.179E-05	7.210E-04	1.022E-03
BI	8.749E-05	9.459E-07	1.539E-06	3.179E-06	4.671E-06	4.778E-06	2.792E-06	1.262E-06	5.910E-06	3.105E-04	3.043E-03	4.205E-03
PO	3.853E-04	4.164E-06	6.772E-06	1.399E-05	2.056E-05	2.103E-05	1.231E-05	6.385E-06	4.372E-05	2.505E-03	2.634E-02	3.869E-02
AT	5.375E-09	2.877E-11	3.406E-11	6.905E-11	1.895E-10	1.466E-09	1.716E-08	1.861E-07	2.952E-06	3.832E-04	8.692E-03	1.765E-02
RN	0.0	2.111E-06	3.433E-06	7.095E-06	1.042E-05	1.066E-05	6.221E-06	2.773E-06	1.231E-05	5.966E-04	4.733E-03	5.318E-03
FR	4.862E-09	2.677E-11	3.177E-11	6.403E-11	1.739E-10	1.331E-09	1.553E-08	1.684E-07	2.670E-06	3.466E-04	7.861E-03	1.596E-02
RA	1.766E-04	1.908E-06	3.104E-06	6.414E-06	9.422E-06	9.637E-06	5.622E-06	2.491E-06	1.083E-05	5.262E-04	4.266E-03	4.923E-03
AC	4.407E-09	3.358E-11	4.087E-11	7.790E-11	1.889E-10	1.269E-09	1.415E-08	1.525E-07	2.416E-06	3.137E-04	7.116E-03	1.445E-02
TH	1.432E-06	2.408E-06	3.544E-06	6.703E-06	9.584E-06	9.931E-06	7.484E-06	1.295E-05	6.040E-05	9.319E-04	1.026E-02	1.717E-02
PA	1.819E-03	3.945E-04	3.962E-04	4.011E-04	4.093E-04	4.418E-04	5.492E-04	7.980E-04	1.242E-03	1.459E-03	1.462E-03	1.413E-03
U	5.602E-05	8.036E-05	1.191E-04	2.434E-04	4.454E-04	1.195E-03	3.258E-03	6.273E-03	8.039E-03	8.817E-03	1.297E-02	1.626E-02
NP	3.103E-01	3.102E-01	3.102E-01	3.101E-01	3.100E-01	3.095E-01	3.079E-01	3.041E-01	2.904E-01	1.371E-01	1.909E-02	1.816E-02
PU	3.346E+00	1.513E+01	1.757E+01	1.802E+01	1.766E+01	1.621E+01	1.186E+01	5.523E+00	2.112E+00	1.552E+00	1.296E-01	3.329E-03
AM	7.835E+01	7.836E+01	7.838E+01	7.838E+01	7.827E+01	7.701E+01	6.982E+01	5.165E+01	1.919E+01	1.585E+00	3.560E-04	1.161E-08
CM	3.952E+02	3.031E+02	2.754E+02	2.416E+02	1.997E+02	9.344E+01	6.769E+00	9.975E-02	4.875E-02	2.205E-02	1.397E-05	3.444E-08
BK	6.200E-07	2.811E-07	1.274E-07	1.187E-08	2.274E-10	3.293E-17	2.353E-18	2.334E-18	2.270E-18	1.586E-18	4.398E-20	1.117E-22
CF	1.823E-07	2.291E-07	2.472E-07	2.491E-07	2.288E-07	1.785E-07	1.357E-07	9.098E-08	2.279E-08	1.116E-14	2.352E-19	5.976E-22
ES	5.287E-15	5.649E-16	2.255E-16	1.434E-17	1.440E-19	1.521E-27	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	4.772E+02	3.969E+02	3.716E+02	3.383E+02	2.960E+02	1.870E+02	8.876E+01	5.758E+01	2.165E+01	3.312E+00	2.366E-01	1.587E-01

TABLE C.52. WATTS OF PRINCIPAL ACTINIDE NUCLIDES IN BLENDED LMFBR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	MLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
PB209	1.449E-10	7.754E-13	9.179E-13	1.861E-12	5.106E-12	3.952E-11	4.624E-10	5.016E-09	7.954E-08	1.033E-05	2.342E-04	4.756E-04
PB214	1.567E-12	1.578E-12	1.606E-12	1.948E-12	4.435E-12	7.764E-11	2.588E-09	5.437E-08	1.036E-06	5.716E-05	4.502E-04	5.041E-04
BI210	8.832E-11	8.565E-11	8.307E-11	7.578E-11	6.518E-11	4.624E-11	8.898E-10	2.991E-08	7.490E-07	4.132E-05	3.254E-04	3.644E-04
BI213	5.295E-10	2.835E-12	3.355E-12	6.803E-12	1.867E-11	1.445E-10	1.690E-09	1.834E-08	2.908E-07	3.775E-05	8.563E-04	1.738E-03
BI214	6.295E-12	6.342E-12	6.452E-12	7.829E-12	1.782E-11	3.120E-10	1.040E-08	2.185E-07	4.164E-06	2.297E-04	1.809E-03	2.026E-03
PO210	9.435E-10	1.149E-09	1.152E-09	1.064E-09	9.063E-10	6.429E-10	1.237E-08	4.158E-07	1.041E-05	5.744E-04	4.524E-03	5.066E-03
PO213	6.237E-09	3.339E-11	3.952E-11	8.012E-11	2.199E-10	1.701E-09	1.991E-08	2.160E-07	3.425E-06	4.446E-04	1.008E-02	2.047E-02
PO214	3.217E-10	2.297E-11	2.337E-11	2.836E-11	6.456E-11	1.130E-09	3.767E-08	7.919E-07	1.508E-05	8.320E-04	6.553E-03	7.337E-03
PO218	1.780E-11	1.793E-11	1.825E-11	2.214E-11	5.041E-11	8.823E-10	2.941E-08	6.179E-07	1.177E-05	6.496E-04	5.116E-03	5.728E-03
AT217	5.375E-09	2.877E-11	3.406E-11	6.905E-11	1.895E-10	1.466E-09	1.716E-08	1.861E-07	2.952E-06	3.832E-04	8.692E-03	1.765E-02
RN222	0.0	1.640E-11	1.669E-11	2.025E-11	4.609E-11	8.068E-10	2.689E-08	5.651E-07	1.077E-05	5.940E-04	4.679E-03	5.238E-03
FR221	4.862E-09	2.602E-11	3.080E-11	6.245E-11	1.714E-10	1.326E-09	1.552E-08	1.683E-07	2.669E-06	3.466E-04	7.861E-03	1.596E-02
RA225	8.819E-11	4.728E-13	5.597E-13	1.135E-12	3.114E-12	2.410E-11	2.819E-10	3.059E-09	4.850E-08	6.297E-06	1.428E-04	2.900E-04
RA226	1.419E-11	1.429E-11	1.454E-11	1.764E-11	4.016E-11	7.031E-10	2.343E-08	4.924E-07	9.383E-06	5.176E-04	4.077E-03	4.565E-03
AC225	4.400E-09	2.355E-11	2.788E-11	5.653E-11	1.551E-10	1.200E-09	1.404E-08	1.524E-07	2.416E-06	3.137E-04	7.115E-03	1.445E-02
TH229	1.923E-11	2.063E-11	2.442E-11	4.950E-11	1.358E-10	1.051E-09	1.230E-08	1.334E-07	2.116E-06	2.747E-04	6.231E-03	1.265E-02
TH230	1.695E-10	3.654E-10	8.446E-10	4.406E-09	1.750E-08	1.551E-07	1.543E-06	1.032E-05	5.635E-05	6.542E-04	3.976E-03	4.452E-03
PA233	3.852E-04	3.874E-04	3.890E-04	3.939E-04	4.021E-04	4.346E-04	5.420E-04	7.908E-04	1.235E-03	1.451E-03	1.416E-03	1.348E-03
U233	1.019E-09	2.497E-08	4.902E-08	1.171E-07	2.285E-07	6.971E-07	2.614E-06	1.015E-05	5.136E-05	7.595E-04	6.489E-03	1.186E-02
U234	1.303E-05	3.591E-05	7.339E-05	1.954E-04	3.961E-04	1.146E-03	3.208E-03	6.212E-03	7.911E-03	7.779E-03	6.036E-03	3.960E-03
U236	1.510E-06	1.530E-06	1.550E-06	1.615E-06	1.735E-06	2.312E-06	4.793E-06	1.218E-05	3.683E-05	2.335E-04	3.558E-04	3.543E-04
NP237	5.194E-03	5.216E-03	5.238E-03	5.304E-03	5.414E-03	5.852E-03	7.298E-03	1.065E-02	1.653E-02	1.954E-02	1.906E-02	1.816E-02
NP239	3.007E-01	3.007E-01	3.006E-01	3.005E-01	3.004E-01	2.998E-01	2.979E-01	2.923E-01	2.737E-01	1.175E-01	2.572E-05	8.680E-10
PU238	1.934E+00	1.369E+01	1.611E+01	1.650E+01	1.606E+01	1.438E+01	9.836E+00	3.496E+00	1.258E-01	1.867E-19	0.0	0.0
PU239	5.748E-01	5.750E-01	5.752E-01	5.757E-01	5.766E-01	5.796E-01	5.876E-01	6.062E-01	6.660E-01	1.042E+00	1.275E-01	1.696E-03
PU240	7.521E-01	7.787E-01	8.043E-01	8.754E-01	9.771E-01	1.234E+00	1.434E+00	1.419E+00	1.317E+00	5.073E-01	3.638E-05	2.387E-10
PU242	2.163E-03	2.165E-03	2.166E-03	2.171E-03	2.179E-03	2.210E-03	2.296E-03	2.439E-03	2.523E-03	2.504E-03	2.137E-03	1.633E-03
AM241	7.406E+01	7.408E+01	7.410E+01	7.410E+01	7.401E+01	7.278E+01	6.568E+01	4.769E+01	1.555E+01	2.153E-02	1.395E-05	7.154E-11
AM242	2.110E-01	2.100E-01	2.091E-01	2.062E-01	2.016E-01	1.840E-01	1.337E-01	5.372E-02	2.208E-03	3.316E-21	0.0	0.0
AM243	3.999E+00	3.998E+00	3.998E+00	3.997E+00	3.995E+00	3.987E+00	3.961E+00	3.887E+00	3.640E+00	1.563E+00	3.421E-04	1.154E-08
CM242	1.032E+02	2.201E+01	4.801E+00	2.150E-01	1.668E-01	1.522E-01	1.106E-01	4.443E-02	1.826E-03	2.751E-21	0.0	0.0
CM243	3.844E+00	3.752E+00	3.662E+00	3.404E+00	3.014E+00	1.853E+00	3.377E-01	2.608E-03	1.054E-10	0.0	0.0	0.0
CM244	2.881E+02	2.773E+02	2.669E+02	2.379E+02	1.965E+02	9.138E+01	6.270E+00	2.970E-03	3.166E-14	2.486E-14	2.551E-14	2.636E-14
CM245	4.851E-02	4.851E-02	4.850E-02	4.849E-02	4.847E-02	4.839E-02	4.812E-02	4.734E-02	4.471E-02	2.146E-02	1.392E-05	6.772E-11
SUMTOT	4.770E+02	3.967E+02	3.715E+02	3.382E+02	2.958E+02	1.869E+02	8.871E+01	5.756E+01	2.165E+01	3.311E+00	2.361E-01	1.580E-01
TOTAL	4.772E+02	3.969E+02	3.716E+02	3.383E+02	2.960E+02	1.870E+02	8.876E+01	5.758E+01	2.165E+01	3.312E+00	2.366E-01	1.587E-01

TABLE C.53. PHOTONS FROM ACTINIDES IN BLENDED LMFBR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS=ONE TONNE INITIAL HEAVY METAL: ADV OX LMFBR: LWR-PU/U/U/U

EMEAN	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	6.161E+14	1.951E+14	1.045E+14	7.581E+13	6.838E+13	4.941E+13	3.005E+13	2.000E+13	9.146E+12	2.312E+12	7.009E+10	7.580E+10
2.500E-02	2.245E+12	2.243E+12	2.243E+12	2.242E+12	2.237E+12	2.194E+12	1.970E+12	1.425E+12	4.923E+11	2.547E+10	4.842E+09	5.530E+09
3.750E-02	1.927E+12	9.408E+11	7.291E+11	6.631E+11	6.468E+11	6.021E+11	5.361E+11	4.568E+11	3.435E+11	1.322E+11	4.516E+09	8.190E+09
5.750E-02	3.090E+13	3.090E+13	3.091E+13	3.091E+13	3.066E+13	3.034E+13	2.737E+13	1.988E+13	6.537E+12	5.005E+10	2.436E+09	2.199E+09
8.500E-02	4.459E+12	4.441E+12	4.424E+12	4.375E+12	4.300E+12	4.069E+12	3.709E+12	3.460E+12	3.160E+12	1.362E+12	2.017E+10	2.572E+10
1.250E-01	4.000E+12	3.916E+12	3.875E+12	3.788E+12	3.659E+12	3.265E+12	2.673E+12	2.321E+12	2.051E+12	8.792E+11	3.839E+09	4.625E+09
2.250E-01	2.828E+12	2.770E+12	2.735E+12	2.648E+12	2.520E+12	2.138E+12	1.630E+12	1.486E+12	1.386E+12	5.958E+11	5.354E+09	7.688E+09
3.750E-01	1.551E+11	1.545E+11	1.544E+11	1.542E+11	1.539E+11	1.530E+11	1.512E+11	1.487E+11	1.415E+11	6.710E+10	1.387E+10	1.625E+10
5.750E-01	1.044E+10	3.314E+09	1.879E+09	1.494E+09	1.486E+09	1.457E+09	1.343E+09	1.107E+09	7.683E+08	6.532E+08	3.062E+09	3.576E+09
9.500E-01	1.510E+10	1.338E+10	1.297E+10	1.257E+10	1.208E+10	1.052E+10	7.323E+09	2.977E+09	1.587E+08	9.299E+07	7.358E+08	8.494E+08
1.250E+00	8.463E+09	7.897E+09	7.747E+09	7.549E+09	7.280E+09	6.406E+09	4.492E+09	1.795E+09	7.906E+07	2.300E+08	1.823E+09	2.065E+09
1.750E+00	8.142E+08	4.157E+08	3.665E+08	3.186E+08	2.634E+08	1.234E+08	9.747E+06	1.239E+06	4.199E+06	1.897E+08	1.586E+09	1.908E+09
2.250E+00	3.458E+08	2.408E+08	2.122E+08	1.844E+08	1.524E+08	7.125E+07	5.490E+06	5.915E+05	1.444E+06	5.654E+07	4.444E+08	4.975E+08
2.750E+00	2.650E+08	1.402E+08	1.241E+08	1.092E+08	9.176E+07	4.482E+07	5.230E+06	1.039E+06	7.647E+05	1.532E+06	8.013E+06	8.771E+06
3.500E+00	1.801E+08	1.256E+08	1.107E+08	9.625E+07	7.953E+07	3.718E+07	2.856E+06	2.753E+05	2.204E+05	2.480E+05	1.456E+06	1.629E+06
5.000E+00	7.703E+07	5.372E+07	4.736E+07	4.110E+07	3.402E+07	1.590E+07	1.220E+06	1.164E+05	9.244E+04	2.720E+04	1.913E+03	1.458E+03
7.000E+00	8.870E+06	6.192E+06	5.463E+06	4.749E+06	3.924E+06	1.834E+06	1.404E+05	1.326E+04	1.061E+04	3.130E+03	2.196E+02	1.675E+02
1.100E+01	1.021E+06	7.118E+05	6.278E+05	5.456E+05	4.508E+05	2.107E+05	1.612E+04	1.515E+03	1.216E+03	3.595E+02	2.524E+01	1.925E+01
TOTAL	6.627E+14	2.405E+14	1.495E+14	1.206E+14	1.128E+14	9.220E+13	6.810E+13	4.915E+13	2.326E+13	5.425E+12	1.328E+11	1.559E+11
MEV/SEC	1.275E+13	6.368E+12	4.985E+12	4.517E+12	4.350E+12	3.874E+12	3.179E+12	2.476E+12	1.429E+12	4.293E+11	1.855E+10	2.220E+10

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS=ONE TONNE INITIAL HEAVY METAL: ADV OX LMFBR: LWR-PU/U/U/U

EMEAN	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	9.242E+06	2.926E+06	1.567E+06	1.137E+06	1.026E+06	7.412E+05	4.508E+05	3.000E+05	1.372E+05	3.468E+04	1.051E+03	1.137E+03
2.500E-02	5.613E+04	5.607E+04	5.607E+04	5.604E+04	5.592E+04	5.485E+04	4.924E+04	3.561E+04	1.231E+04	6.368E+02	1.211E+02	1.383E+02
3.750E-02	7.228E+04	3.528E+04	2.734E+04	2.486E+04	2.426E+04	2.258E+04	2.010E+04	1.713E+04	1.288E+04	4.958E+03	1.693E+02	3.071E+02
5.750E-02	1.776E+06	1.777E+06	1.777E+06	1.777E+06	1.775E+06	1.745E+06	1.574E+06	1.143E+06	3.759E+05	2.878E+03	1.401E+02	1.840E+02
8.500E-02	3.790E+05	3.775E+05	3.761E+05	3.719E+05	3.655E+05	3.459E+05	3.153E+05	2.941E+05	2.686E+05	1.158E+05	1.715E+03	2.186E+03
1.250E-01	4.999E+05	4.895E+05	4.844E+05	4.735E+05	4.574E+05	4.082E+05	3.341E+05	2.905E+05	2.564E+05	1.099E+05	4.799E+02	5.782E+02
2.250E-01	6.364E+05	6.232E+05	6.153E+05	5.959E+05	5.671E+05	4.810E+05	3.668E+05	3.343E+05	3.118E+05	1.341E+05	1.205E+03	1.730E+03
3.750E-01	5.816E+04	5.793E+04	5.791E+04	5.784E+04	5.773E+04	5.737E+04	5.670E+04	5.576E+04	5.307E+04	2.516E+04	5.202E+03	6.094E+03
5.750E-01	6.004E+03	1.906E+03	1.080E+03	8.593E+02	8.546E+02	8.378E+02	7.724E+02	6.363E+02	4.418E+02	3.756E+02	1.760E+03	2.056E+03
8.500E-01	1.284E+04	1.138E+04	1.102E+04	1.068E+04	1.026E+04	8.943E+03	6.224E+03	2.531E+03	1.349E+02	7.904E+01	6.254E+02	7.220E+02
1.250E+00	1.058E+04	9.871E+03	9.684E+03	9.436E+03	9.100E+03	8.007E+03	5.615E+03	2.249E+03	9.983E+01	2.876E+02	2.278E+03	2.581E+03
1.750E+00	1.075E+03	7.274E+02	6.414E+02	5.576E+02	4.610E+02	2.159E+02	1.706E+01	2.168E+00	7.348E+00	3.320E+02	2.776E+03	3.340E+03
2.250E+00	7.780E+02	5.417E+02	4.775E+02	4.150E+02	3.429E+02	1.603E+02	1.235E+01	1.332E+00	3.248E+00	1.272E+02	9.998E+02	1.119E+03
2.750E+00	7.287E+02	3.854E+02	3.413E+02	3.004E+02	2.523E+02	1.233E+02	1.438E+01	2.858E+00	2.103E+00	4.213E+00	2.203E+01	2.412E+01
3.500E+00	6.302E+02	4.395E+02	3.876E+02	3.369E+02	2.783E+02	1.301E+02	9.995E+00	9.635E-01	7.715E-01	8.680E-01	5.098E+00	5.700E+00
5.000E+00	3.652E+02	2.688E+02	2.369E+02	2.059E+02	1.701E+02	7.951E+01	6.099E+00	5.818E-01	4.622E-01	1.360E-01	9.567E-03	7.290E-03
7.000E+00	6.209E+01	4.335E+01	3.824E+01	3.324E+01	2.746E+01	1.284E+01	9.831E-01	9.280E-02	7.426E-02	2.191E-02	1.537E-03	1.172E-03
1.100E+01	1.123E+01	7.830E+00	6.905E+00	6.002E+00	4.959E+00	2.318E+00	1.774E-01	1.666E-02	1.338E-02	3.955E-03	2.776E-04	2.118E-04
TOTAL	1.275E+07	6.368E+06	4.985E+06	4.517E+06	4.350E+06	3.874E+06	3.179E+06	2.478E+06	1.429E+06	4.293E+05	1.858E+04	2.220E+04
GAM POW	2.044E+00	1.021E+00	7.991E-01	7.241E-01	6.973E-01	6.210E-01	5.097E-01	3.965E-01	2.290E-01	6.881E-02	2.974E-03	3.559E-03

TABLE C.54. (ALPHA,N) NEUTRONS FROM ACTINIDES IN BLENDED LMFBR HIGH-LEVEL WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	MLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
PO213	1.094E-01	5.859E-04	6.935E-04	1.406E-03	3.858E-03	2.986E-02	3.493E-01	3.790E+00	6.010E+01	7.803E+03	1.770E+05	3.593E+05
PO214	1.842E-03	1.316E-04	1.339E-04	1.624E-04	3.698E-04	6.473E-03	2.157E-01	4.533E+00	8.638E+01	4.765E+03	3.753E+04	4.203E+04
PO218	4.062E-06	4.092E-06	4.164E-06	5.052E-06	1.150E-05	2.013E-04	6.710E-03	1.410E-01	2.687E+00	1.482E+02	1.167E+03	1.307E+03
AT217	1.027E-02	5.497E-05	6.506E-05	1.319E-04	3.620E-04	2.801E-03	3.277E-02	3.556E-01	5.638E+00	7.320E+02	1.660E+04	3.371E+04
RN222	0.0	1.166E-06	1.186E-06	1.439E-06	3.277E-06	5.736E-05	1.912E-03	4.017E-02	7.654E-01	4.223E+01	3.326E+02	3.724E+02
FR221	2.514E-03	1.346E-05	1.593E-05	3.229E-05	8.861E-05	6.857E-04	8.023E-03	8.704E-02	1.380E+00	1.792E+02	4.065E+03	8.252E+03
AC225	6.216E-04	3.328E-06	3.939E-06	7.985E-06	2.191E-05	1.696E-04	1.984E-03	2.152E-02	3.413E-01	4.432E+01	1.005E+03	2.041E+03
NP237	1.290E+02	1.296E+02	1.301E+02	1.318E+02	1.345E+02	1.454E+02	1.813E+02	2.645E+02	4.130E+02	4.854E+02	4.735E+02	4.510E+02
PU238	6.813E+04	4.824E+05	5.677E+05	5.815E+05	5.658E+05	5.066E+05	3.466E+05	1.232E+05	4.434E+03	6.579E-15	0.0	0.0
PU239	1.350E+04	1.350E+04	1.351E+04	1.352E+04	1.354E+04	1.361E+04	1.380E+04	1.423E+04	1.564E+04	2.447E+04	2.993E+03	3.982E+01
PU240	1.801E+04	1.865E+04	1.926E+04	2.097E+04	2.340E+04	2.955E+04	3.434E+04	3.398E+04	3.155E+04	1.215E+04	8.713E-01	5.717E-06
AM241	2.598E+06	2.598E+06	2.599E+06	2.599E+06	2.596E+06	2.553E+06	2.303E+06	1.672E+06	5.454E+05	7.551E+02	4.897E-01	2.509E-06
AM243	1.916E+05	1.916E+05	1.915E+05	1.915E+05	1.914E+05	1.910E+05	1.898E+05	1.862E+05	1.744E+05	7.489E+04	1.639E+01	5.530E-04
CM242	7.168E+08	1.529E+08	3.335E+07	1.493E+06	1.159E+06	1.057E+06	7.682E+05	3.086E+05	1.268E+04	1.911E-14	0.0	0.0
CM243	1.060E+06	1.035E+06	1.010E+06	9.387E+05	8.312E+05	5.111E+05	9.313E+04	7.192E+02	2.905E-05	0.0	0.0	0.0
CM244	5.839E+07	5.619E+07	5.408E+07	4.822E+07	3.982E+07	1.852E+07	1.271E+06	6.015E+02	6.416E-09	5.038E-09	5.171E-09	5.342E-09
CM245	3.513E+03	3.513E+03	3.513E+03	3.512E+03	3.511E+03	3.505E+03	3.485E+03	3.429E+03	3.238E+03	1.554E+03	1.008E+00	4.904E-06
TOTALS												
TABLE	7.791E+08	2.134E+08	9.184E+07	5.406E+07	4.520E+07	2.339E+07	5.024E+06	2.344E+06	7.882E+05	1.283E+05	2.422E+05	4.489E+05
ACTUAL	7.791E+08	2.134E+08	9.184E+07	5.406E+07	4.520E+07	2.339E+07	5.024E+06	2.344E+06	7.082E+05	1.283E+05	2.422E+05	4.489E+05

TABLE C.55. SPONTANEOUS FISSION NEUTRONS FROM ACTINIDES IN BLENDED LMFBR HIGH-LEVEL WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	MLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
U238	5.452E+01	5.452E+01	5.452E+01	5.452E+01	5.452E+01	5.452E+01	5.452E+01	5.452E+01	5.452E+01	5.453E+01	5.457E+01	5.462E+01
PU238	9.052E+03	6.410E+04	7.542E+04	7.726E+04	7.517E+04	6.731E+04	4.605E+04	1.637E+04	5.891E+02	8.741E-16	0.0	0.0
PU240	9.648E+08	9.989E+04	1.032E+05	1.123E+05	1.253E+05	1.583E+05	1.839E+05	1.820E+05	1.690E+05	6.507E+04	4.667E+00	3.062E-05
PU242	3.232E+04	3.235E+04	3.237E+04	3.245E+04	3.257E+04	3.302E+04	3.432E+04	3.638E+04	3.771E+04	3.742E+04	3.193E+04	2.441E+04
AM243	2.087E+03	2.087E+03	2.086E+03	2.086E+03	2.085E+03	2.081E+03	2.067E+03	2.029E+03	1.900E+03	8.158E+02	1.785E-01	6.024E-06
CM242	5.785E+08	1.234E+08	2.692E+07	1.205E+06	9.352E+05	8.532E+05	6.201E+05	2.491E+05	1.024E+04	1.542E-14	0.0	0.0
CM244	1.132E+09	1.089E+09	1.048E+09	9.345E+08	7.718E+08	3.589E+08	2.463E+07	1.167E+04	1.243E-07	9.765E-08	1.002E-07	1.035E-07
CM246	2.261E+06	2.260E+06	2.260E+06	2.259E+06	2.257E+06	2.251E+06	2.226E+06	2.164E+06	1.953E+06	5.224E+05	9.803E-01	2.812E-10
CM248	3.173E+03	3.173E+03	3.173E+03	3.173E+03	3.172E+03	3.172E+03	3.172E+03	3.171E+03	3.166E+03	3.108E+03	2.586E+03	1.903E+03
TOTALS												
TABLE	1.713E+09	1.215E+09	1.078E+09	9.382E+08	7.752E+08	3.623E+08	2.775E+07	2.666E+06	2.176E+06	6.288E+05	3.458E+04	2.637E+04
ACTUAL	1.713E+09	1.215E+09	1.078E+09	9.382E+08	7.752E+08	3.623E+08	2.775E+07	2.666E+06	2.176E+06	6.288E+05	3.458E+04	2.637E+04
OVERALL TOTALS												
TABLE	2.492E+09	1.428E+09	1.169E+09	9.923E+08	8.204E+08	3.857E+08	3.277E+07	5.010E+06	2.964E+06	7.572E+05	2.768E+05	4.753E+05
ACTUAL	2.492E+09	1.428E+09	1.169E+09	9.923E+08	8.204E+08	3.857E+08	3.277E+07	5.010E+06	2.964E+06	7.572E+05	2.768E+05	4.753E+05

TABLE C.56. GRAMS OF FISSION PRODUCT ELEMENTS IN BLENDED LMFBR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
LI	5.445E-04	5.445E-04	5.445E-04	5.445E-04	5.445E-04	5.445E-04	5.445E-04	5.445E-04	5.445E-04	5.445E-04	5.445E-04	5.445E-04
BE	1.988E-04	1.988E-04	1.988E-04	1.988E-04	1.988E-04	1.988E-04	1.988E-04	1.988E-04	1.987E-04	1.980E-04	1.915E-04	1.810E-04
CU	4.301E-35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZN	2.950E-07	2.950E-07	2.950E-07	2.950E-07	2.950E-07	2.950E-07	2.950E-07	2.950E-07	2.950E-07	2.950E-07	2.950E-07	2.950E-07
GA	1.041E-05	1.041E-05	1.041E-05	1.041E-05	1.041E-05	1.041E-05	1.041E-05	1.041E-05	1.041E-05	1.041E-05	1.041E-05	1.041E-05
GE	2.321E+00	2.321E+00	2.321E+00	2.321E+00	2.321E+00	2.321E+00	2.321E+00	2.321E+00	2.321E+00	2.321E+00	2.321E+00	2.321E+00
AS	6.667E-01	6.667E-01	6.667E-01	6.667E-01	6.667E-01	6.667E-01	6.667E-01	6.667E-01	6.667E-01	6.667E-01	6.667E-01	6.667E-01
SE	5.329E+01	5.329E+01	5.328E+01	5.328E+01	5.328E+01	5.328E+01	5.328E+01	5.326E+01	5.320E+01	5.249E+01	4.811E+01	4.594E+01
BR	1.610E-02	1.618E-02	1.626E-02	1.652E-02	1.694E-02	1.862E-02	2.451E-02	4.131E-02	9.983E-02	8.146E-01	5.192E+00	7.358E+00
RB	2.736E+02	2.736E+02	2.736E+02	2.736E+02	2.736E+02	2.736E+02	2.736E+02	2.736E+02	2.736E+02	2.736E+02	2.736E+02	2.736E+02
SR	6.305E+02	6.184E+02	6.098E+02	5.853E+02	5.482E+02	4.369E+02	2.890E+02	2.548E+02	2.545E+02	2.545E+02	2.545E+02	2.545E+02
Y	3.291E+02	3.252E+02	3.251E+02	3.251E+02	3.251E+02	3.251E+02	3.251E+02	3.250E+02	3.250E+02	3.250E+02	3.250E+02	3.250E+02
ZR	3.340E+03	3.339E+03	3.347E+03	3.371E+03	3.409E+03	3.520E+03	3.668E+03	3.702E+03	3.702E+03	3.699E+03	3.672E+03	3.629E+03
NB	1.854E+01	4.251E-01	1.217E-02	4.990E-03	6.533E-03	1.270E-02	3.431E-02	9.603E-02	3.120E-01	3.083E+00	3.018E+01	7.297E+01
MO	3.976E+03	4.011E+03	4.012E+03	4.012E+03	4.012E+03	4.012E+03	4.012E+03	4.012E+03	4.012E+03	4.012E+03	4.012E+03	4.012E+03
TC	1.037E+03	1.037E+03	1.037E+03	1.037E+03	1.036E+03	1.036E+03	1.036E+03	1.036E+03	1.033E+03	1.003E+03	7.486E+02	4.599E+02
RU	4.122E+03	3.950E+03	3.867E+03	3.793E+03	3.783E+03	3.783E+03	3.783E+03	3.783E+03	3.786E+03	3.816E+03	4.070E+03	4.359E+03
RH	1.149E+03	1.154E+03	1.154E+03	1.154E+03	1.154E+03	1.154E+03	1.154E+03	1.154E+03	1.154E+03	1.154E+03	1.154E+03	1.154E+03
PD	2.971E+03	3.137E+03	3.220E+03	3.294E+03	3.304E+03	3.305E+03	3.305E+03	3.305E+03	3.305E+03	3.304E+03	3.298E+03	3.289E+03
AG	3.329E+02	3.316E+02	3.311E+02	3.308E+02	3.308E+02	3.308E+02	3.308E+02	3.308E+02	3.308E+02	3.314E+02	3.371E+02	3.465E+02
CD	3.641E+02	3.653E+02	3.658E+02	3.659E+02	3.658E+02	3.653E+02	3.651E+02	3.651E+02	3.651E+02	3.651E+02	3.651E+02	3.651E+02
IN	2.762E+01	2.770E+01	2.775E+01	2.788E+01	2.807E+01	2.850E+01	2.876E+01	2.877E+01	2.877E+01	2.877E+01	2.877E+01	2.877E+01
SN	3.894E+02	3.887E+02	3.886E+02	3.886E+02	3.886E+02	3.886E+02	3.885E+02	3.880E+02	3.880E+02	3.827E+02	3.446E+02	3.162E+02
SB	1.298E+02	1.205E+02	1.127E+02	9.819E+01	8.890E+01	8.521E+01	8.520E+01	8.520E+01	8.520E+01	8.520E+01	8.520E+01	8.520E+01
TE	8.635E+02	8.722E+02	8.799E+02	8.944E+02	9.037E+02	9.074E+02	9.075E+02	9.076E+02	9.080E+02	9.133E+02	9.514E+02	9.798E+02
I	5.609E-01	1.997E+00	2.132E+00	2.146E+00	2.146E+00	2.146E+00	2.146E+00	2.146E+00	2.146E+00	2.146E+00	2.144E+00	2.141E+00
XE	0.0	3.638E-08	5.754E-08	1.210E-07	2.268E-07	6.499E-07	2.131E-06	6.362E-06	2.117E-05	2.115E-04	2.111E-03	5.260E-03
CS	5.013E+03	4.952E+03	4.899E+03	4.770E+03	4.605E+03	4.147E+03	3.526E+03	3.374E+03	3.372E+03	3.367E+03	3.318E+03	3.241E+03
BA	1.772E+03	1.834E+03	1.887E+03	2.016E+03	2.180E+03	2.638E+03	3.259E+03	3.412E+03	3.414E+03	3.418E+03	3.467E+03	3.545E+03
LA	1.513E+03	1.513E+03	1.513E+03	1.513E+03	1.513E+03	1.513E+03	1.513E+03	1.513E+03	1.513E+03	1.513E+03	1.513E+03	1.513E+03
CE	3.012E+03	2.832E+03	2.760E+03	2.713E+03	2.709E+03	2.709E+03	2.709E+03	2.709E+03	2.709E+03	2.709E+03	2.709E+03	2.709E+03
PR	1.403E+03	1.406E+03	1.406E+03	1.406E+03	1.406E+03	1.406E+03	1.406E+03	1.406E+03	1.406E+03	1.406E+03	1.406E+03	1.406E+03
ND	4.300E+03	4.477E+03	4.549E+03	4.596E+03	4.600E+03	4.600E+03	4.600E+03	4.600E+03	4.600E+03	4.600E+03	4.600E+03	4.600E+03
PM	2.894E+02	2.216E+02	1.702E+02	7.702E+01	2.055E+01	1.042E-01	9.680E-10	0.0	0.0	0.0	0.0	0.0
SM	1.244E+03	1.311E+03	1.361E+03	1.450E+03	1.500E+03	1.496E+03	1.437E+03	1.371E+03	1.353E+03	1.353E+03	1.353E+03	1.353E+03
EU	1.719E+02	1.655E+02	1.600E+02	1.478E+02	1.373E+02	1.412E+02	1.977E+02	2.634E+02	2.812E+02	2.812E+02	2.812E+02	2.812E+02
GD	1.362E+02	1.440E+02	1.509E+02	1.671E+02	1.841E+02	2.039E+02	2.071E+02	2.071E+02	2.071E+02	2.071E+02	2.071E+02	2.071E+02
TB	1.164E+01	1.151E+01	1.150E+01	1.150E+01	1.150E+01	1.150E+01	1.150E+01	1.150E+01	1.150E+01	1.150E+01	1.150E+01	1.150E+01
DY	1.018E+01	1.031E+01	1.031E+01	1.031E+01	1.031E+01	1.031E+01	1.031E+01	1.031E+01	1.031E+01	1.031E+01	1.031E+01	1.031E+01
HO	3.136E-01	3.136E-01	3.136E-01	3.136E-01	3.136E-01	3.135E-01	3.134E-01	3.130E-01	3.121E-01	3.101E-01	3.101E-01	3.101E-01
ER	4.358E-01	4.358E-01	4.358E-01	4.358E-01	4.358E-01	4.359E-01	4.360E-01	4.364E-01	4.373E-01	4.393E-01	4.393E-01	4.393E-01
TM	1.758E-04	1.684E-04	1.672E-04	1.668E-04	1.667E-04	1.666E-04	1.666E-04	1.666E-04	1.666E-04	1.666E-04	1.666E-04	1.666E-04
YB	3.118E-05	3.856E-05	3.973E-05	4.017E-05	4.028E-05	4.031E-05	4.031E-05	4.031E-05	4.031E-05	4.031E-05	4.031E-05	4.031E-05
TOTAL	3.889E+04	3.889E+04	3.889E+04	3.889E+04	3.889E+04	3.889E+04	3.889E+04	3.889E+04	3.889E+04	3.889E+04	3.889E+04	3.889E+04

TABLE C.57. GRAMS OF PRINCIPAL FISSION PRODUCT NUCLIDES IN BLENDED LMFBR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	MLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
RB 85	8.093E+01	8.093E+01	8.093E+01	8.093E+01	8.093E+01	8.093E+01	8.093E+01	8.093E+01	8.093E+01	8.093E+01	8.093E+01	8.093E+01
RB 87	1.927E+02	1.927E+02	1.927E+02	1.927E+02	1.927E+02	1.927E+02	1.927E+02	1.927E+02	1.927E+02	1.927E+02	1.927E+02	1.927E+02
SR 88	2.514E+02	2.514E+02	2.514E+02	2.514E+02	2.514E+02	2.514E+02	2.514E+02	2.514E+02	2.514E+02	2.514E+02	2.514E+02	2.514E+02
Y 89	3.217E+02	3.250E+02	3.250E+02	3.250E+02	3.250E+02	3.250E+02	3.250E+02	3.250E+02	3.250E+02	3.250E+02	3.250E+02	3.250E+02
SR 90	3.726E+02	3.639E+02	3.553E+02	3.308E+02	2.937E+02	1.825E+02	3.448E+01	2.951E-01	1.714E-08	0.0	0.0	0.0
ZR 90	1.517E+01	2.394E+01	3.250E+01	5.699E+01	9.412E+01	2.054E+02	3.534E+02	3.876E+02	3.879E+02	3.879E+02	3.879E+02	3.879E+02
ZR 91	4.427E+02	4.499E+02	4.500E+02	4.500E+02	4.500E+02	4.500E+02	4.500E+02	4.500E+02	4.500E+02	4.500E+02	4.500E+02	4.500E+02
ZR 92	5.492E+02	5.492E+02	5.492E+02	5.492E+02	5.492E+02	5.492E+02	5.492E+02	5.492E+02	5.492E+02	5.492E+02	5.492E+02	5.492E+02
ZR 93	6.814E+02	6.814E+02	6.814E+02	6.814E+02	6.814E+02	6.814E+02	6.814E+02	6.813E+02	6.811E+02	6.783E+02	6.512E+02	6.084E+02
NB 93	9.035E-05	1.368E-04	1.963E-04	4.467E-04	1.070E-03	5.218E-03	2.572E-02	8.742E-02	3.035E-01	3.075E+00	3.018E+01	7.296E+01
ZR 94	7.393E+02	7.393E+02	7.393E+02	7.393E+02	7.393E+02	7.393E+02	7.393E+02	7.393E+02	7.393E+02	7.393E+02	7.393E+02	7.393E+02
MO 95	7.847E+02	8.200E+02	8.208E+02	8.208E+02	8.208E+02	8.208E+02	8.208E+02	8.208E+02	8.208E+02	8.208E+02	8.208E+02	8.208E+02
ZR 96	8.946E+02	8.946E+02	8.946E+02	8.946E+02	8.946E+02	8.946E+02	8.946E+02	8.946E+02	8.946E+02	8.946E+02	8.946E+02	8.946E+02
MO 97	9.125E+02	9.125E+02	9.125E+02	9.125E+02	9.125E+02	9.125E+02	9.125E+02	9.125E+02	9.125E+02	9.125E+02	9.125E+02	9.125E+02
MO 98	1.056E+03	1.056E+03	1.056E+03	1.056E+03	1.056E+03	1.056E+03	1.056E+03	1.056E+03	1.056E+03	1.056E+03	1.056E+03	1.056E+03
TC 99	1.037E+03	1.037E+03	1.037E+03	1.037E+03	1.036E+03	1.036E+03	1.036E+03	1.036E+03	1.033E+03	1.003E+03	7.486E+02	4.595E+02
RU 99	5.096E-03	8.469E-03	1.184E-02	2.196E-02	3.883E-02	1.063E-01	3.423E-01	1.018E+00	3.373E+00	3.319E+01	2.879E+02	5.770E+02
MO100	1.189E+03	1.189E+03	1.189E+03	1.189E+03	1.189E+03	1.189E+03	1.189E+03	1.189E+03	1.189E+03	1.189E+03	1.189E+03	1.189E+03
RU100	8.312E+01	8.312E+01	8.312E+01	8.312E+01	8.312E+01	8.312E+01	8.312E+01	8.312E+01	8.312E+01	8.312E+01	8.312E+01	8.312E+01
RU101	1.142E+03	1.142E+03	1.142E+03	1.142E+03	1.142E+03	1.142E+03	1.142E+03	1.142E+03	1.142E+03	1.142E+03	1.142E+03	1.142E+03
RU102	1.326E+03	1.326E+03	1.326E+03	1.326E+03	1.326E+03	1.326E+03	1.326E+03	1.326E+03	1.326E+03	1.326E+03	1.326E+03	1.326E+03
RH103	1.149E+03	1.154E+03	1.154E+03	1.154E+03	1.154E+03	1.154E+03	1.154E+03	1.154E+03	1.154E+03	1.154E+03	1.154E+03	1.154E+03
RU104	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
PD104	1.369E+02	1.369E+02	1.369E+02	1.369E+02	1.369E+02	1.369E+02	1.369E+02	1.369E+02	1.369E+02	1.369E+02	1.369E+02	1.369E+02
PD105	8.838E+02	8.838E+02	8.838E+02	8.838E+02	8.838E+02	8.838E+02	8.838E+02	8.838E+02	8.838E+02	8.838E+02	8.838E+02	8.838E+02
RU106	3.337E+02	1.678E+02	8.435E+01	1.072E+01	3.443E-01	3.665E-07	4.563E-28	0.0	0.0	0.0	0.0	0.0
PD106	6.712E+02	8.372E+02	9.206E+02	9.942E+02	1.005E+03	1.005E+03	1.005E+03	1.005E+03	1.005E+03	1.005E+03	1.005E+03	1.005E+03
PD107	5.992E+02	5.992E+02	5.992E+02	5.992E+02	5.992E+02	5.992E+02	5.992E+02	5.992E+02	5.992E+02	5.986E+02	5.929E+02	5.835E+02
PD108	5.172E+02	5.172E+02	5.172E+02	5.172E+02	5.172E+02	5.172E+02	5.172E+02	5.172E+02	5.172E+02	5.172E+02	5.172E+02	5.172E+02
AG109	3.308E+02	3.308E+02	3.308E+02	3.308E+02	3.308E+02	3.308E+02	3.308E+02	3.308E+02	3.308E+02	3.308E+02	3.308E+02	3.308E+02
PD110	1.625E+02	1.625E+02	1.625E+02	1.625E+02	1.625E+02	1.625E+02	1.625E+02	1.625E+02	1.625E+02	1.625E+02	1.625E+02	1.625E+02
CD111	1.090E+02	1.090E+02	1.090E+02	1.090E+02	1.090E+02	1.090E+02	1.090E+02	1.090E+02	1.090E+02	1.090E+02	1.090E+02	1.090E+02
CD112	8.150E+01	8.150E+01	8.150E+01	8.150E+01	8.150E+01	8.150E+01	8.150E+01	8.150E+01	8.150E+01	8.150E+01	8.150E+01	8.150E+01
CD113	5.539E+01	5.539E+01	5.539E+01	5.539E+01	5.539E+01	5.539E+01	5.539E+01	5.539E+01	5.539E+01	5.539E+01	5.539E+01	5.539E+01
CD114	4.680E+01	4.680E+01	4.680E+01	4.680E+01	4.680E+01	4.680E+01	4.680E+01	4.680E+01	4.680E+01	4.680E+01	4.680E+01	4.680E+01
CD116	3.941E+01	3.941E+01	3.941E+01	3.941E+01	3.941E+01	3.941E+01	3.941E+01	3.941E+01	3.941E+01	3.941E+01	3.941E+01	3.941E+01
SN117	3.970E+01	3.970E+01	3.970E+01	3.970E+01	3.970E+01	3.970E+01	3.970E+01	3.970E+01	3.970E+01	3.970E+01	3.970E+01	3.970E+01
SN118	4.593E+01	4.593E+01	4.593E+01	4.593E+01	4.593E+01	4.593E+01	4.593E+01	4.593E+01	4.593E+01	4.593E+01	4.593E+01	4.593E+01
SN119	4.788E+01	4.801E+01	4.805E+01	4.807E+01	4.807E+01	4.807E+01	4.807E+01	4.807E+01	4.807E+01	4.807E+01	4.807E+01	4.807E+01
SN120	4.618E+01	4.618E+01	4.618E+01	4.618E+01	4.618E+01	4.618E+01	4.618E+01	4.618E+01	4.618E+01	4.618E+01	4.618E+01	4.618E+01
SB121	4.008E+01	4.009E+01	4.009E+01	4.009E+01	4.009E+01	4.009E+01	4.010E+01	4.011E+01	4.011E+01	4.011E+01	4.011E+01	4.011E+01
SN122	4.175E+01	4.175E+01	4.175E+01	4.175E+01	4.175E+01	4.175E+01	4.175E+01	4.175E+01	4.175E+01	4.175E+01	4.175E+01	4.175E+01
SB123	4.424E+01	4.497E+01	4.507E+01	4.509E+01	4.509E+01	4.509E+01	4.509E+01	4.509E+01	4.509E+01	4.509E+01	4.509E+01	4.509E+01
SN124	5.213E+01	5.213E+01	5.213E+01	5.213E+01	5.213E+01	5.213E+01	5.213E+01	5.213E+01	5.213E+01	5.213E+01	5.213E+01	5.213E+01
TE125	1.991E+01	3.010E+01	3.805E+01	5.281E+01	6.223E+01	6.598E+01	6.600E+01	6.600E+01	6.600E+01	6.600E+01	6.600E+01	6.600E+01
SN126	8.791E+01	8.791E+01	8.791E+01	8.791E+01	8.791E+01	8.790E+01	8.785E+01	8.773E+01	8.731E+01	8.203E+01	4.396E+01	1.554E+01
TE126	5.070E+00	5.071E+00	5.071E+00	5.073E+00	5.076E+00	5.088E+00	5.131E+00	5.253E+00	5.677E+00	1.096E+01	4.903E+01	7.744E+01
TE128	2.294E+02	2.294E+02	2.294E+02	2.294E+02	2.294E+02	2.294E+02	2.294E+02	2.294E+02	2.294E+02	2.294E+02	2.294E+02	2.294E+02
TE130	6.017E+02	6.017E+02	6.017E+02	6.017E+02	6.017E+02	6.017E+02	6.017E+02	6.017E+02	6.017E+02	6.017E+02	6.017E+02	6.017E+02
CS133	1.556E+03	1.556E+03	1.556E+03	1.556E+03	1.556E+03	1.556E+03	1.556E+03	1.556E+03	1.556E+03	1.556E+03	1.556E+03	1.556E+03
CS134	9.138E+01	6.529E+01	4.665E+01	1.702E+01	3.169E+00	3.891E-03	2.347E-13	0.0	0.0	0.0	0.0	0.0
BA134	4.247E+01	6.856E+01	8.720E+01	1.168E+02	1.307E+02	1.338E+02	1.338E+02	1.338E+02	1.338E+02	1.338E+02	1.338E+02	1.338E+02
CS135	1.817E+03	1.817E+03	1.817E+03	1.817E+03	1.817E+03	1.817E+03	1.817E+03	1.816E+03	1.816E+03	1.811E+03	1.763E+03	1.685E+03
BA135	2.754E-01	2.759E-01	2.764E-01	2.781E-01	2.808E-01	2.918E-01	3.301E-01	4.396E-01	8.228E-01	5.742E+00	5.421E+01	1.321E+02
BA136	4.869E+01	4.869E+01	4.869E+01	4.869E+01	4.869E+01	4.869E+01	4.869E+01	4.869E+01	4.869E+01	4.869E+01	4.869E+01	4.869E+01
CS137	1.550E+03	1.514E+03	1.480E+03	1.380E+03	1.230E+03	7.747E+02	1.537E+02	1.512E+00	1.430E-07	0.0	0.0	0.0
BA137	5.707E+01	9.246E+01	1.270E+02	2.261E+02	3.767E+02	8.318E+02	1.453E+03	1.605E+03	1.607E+03	1.607E+03	1.607E+03	1.607E+03
BA138	1.624E+03	1.624E+03	1.624E+03	1.624E+03	1.624E+03	1.624E+03	1.624E+03	1.624E+03	1.624E+03	1.624E+03	1.624E+03	1.624E+03
LA139	1.513E+03	1.513E+03	1.513E+03	1.513E+03	1.513E+03	1.513E+03	1.513E+03	1.513E+03	1.513E+03	1.513E+03	1.513E+03	1.513E+03
CE140	1.423E+03	1.423E+03	1.423E+03	1.423E+03	1.423E+03	1.423E+03	1.423E+03	1.423E+03	1.423E+03	1.423E+03	1.423E+03	1.423E+03
PR141	1.403E+03	1.406E+03	1.406E+03	1.406E+03	1.406E+03	1.406E+03	1.406E+03	1.406E+03	1.406E+03	1.406E+03	1.406E+03	1.406E+03
CE142	1.286E+03	1.286E+03	1.286E+03	1.286E+03	1.286E+03	1.286E+03	1.286E+03	1.286E+03	1.286E+03	1.286E+03	1.286E+03	1.286E+03
ND143	1.134E+03	1.134E+03	1.134E+03	1.134E+03	1.134E+03	1.134E+03	1.134E+03	1.134E+03	1.134E+03	1.134E+03	1.134E+03	1.134E+03
CE144	2.996E+02	1.229E+02	5.046E+01	3.487E+00	4.060E-02	7.457E-10	0.0	0.0	0.0	0.0	0.0	0.0
ND144	7.649E+02	9.415E+02	1.018E+03	1.061E+03	1.064E+03	1.064E+03	1.064E+03	1.064E+03	1.064E+03	1.064E+03	1.064E+03	1.064E+03
ND145	8.255E+02	8.255E+02	8.255E+02	8.255E+02	8.255E+02	8.255E+02	8.255E+02	8.255E+02	8.255E+02	8.255E+02	8.255E+02	8.255E+02
ND146	7.600E+02	7.600E+02	7.600E+02	7.600E+02	7.600E+02	7.600E+02	7.600E+02	7.600E+02	7.600E+02	7.600E+02	7.600E+02	7.600E+02
PM147	2.886E+02	2.216E+02	1.702E+02	7.702E+01	2.055E+01	1.042E-01	9.680E-10	0.0	0.0	0.0	0.0	0.0
SM147	1.388E+02	2.058E+02	2.573E+02	3.504E+02	4.069E+02	4.273E+02	4.274E+02	4.274E+02	4.274E+02	4.274E+02	4.274E+02	4.274E+02
ND148	4.894E+02	4.894E+02	4.894E+02	4.894E+02	4.894E+02	4.894E+02	4.894E+02	4.894E+02	4.894E+02	4.894E+02	4.894E+02	4.894E+02
SM148	1.762E+02	1.769E+02	1.769E+02	1.769E+02	1.769E+02	1.769E+02	1.769E+02	1.769E+02	1.769E+02	1.769E+02	1.769E+02	1.769E+02
SM149	3.371E+02	3.371E+02	3.371E+02	3.371E+02	3.371E+02	3.371E+02	3.371E+02	3.371E+02	3.371E+02	3.371E+02	3.371E+02	3.371E+02
ND150	2.924E+02	2.924E+02	2.924E+02	2.924E+02	2.924E+02	2.924E+02	2.924E+02	2.924E+02	2.924E+02	2.924E+02	2.924E+02	2.924E+02
SM150	7.985E+01	7.985E+01	7.985E+01	7.985E+01	7.985E+01	7.985E+01	7.985E+01	7.985E+01	7.985E+01	7.985E+01	7.985E+01	7.985E+01
SM151	1.804E+02	1.790E+02	1.777E+02	1.736E+02	1.670E+02	1.432E+02	8.352E+01	1.790E+01	8.150E-02	0.0	0.0	0.0
EU151	1.590E+00	2.974E+00	4.348E+00	8.406E+00	1.496E+01	3.881E+01	9.849E+01	1.641E+02	1.819E+02	1.820E+02	1.820E+02	1.820E+02
SM152	2.439E+02	2.439E+02	2.439E+02	2.439E+02	2.440E+02	2.441E+02	2.441E+02	2.441E+02	2.441E+02	2.441E+02	2.441E+02	2.441E+02
EU153	9.922E+01	9.923E+01	9.924E+01	9.924E+01	9.924E+01	9.924E+01	9.924E+01	9.924E+01	9.924E+01	9.924E+01	9.924E+01	9.924E+01
SM154	8.798E+01	8.798E+01	8.798E+01	8.798E+01	8.798E+01	8.798E+01	8.798E+01	8.798E+01	8.798E+01	8.798E+01	8.798E+01	8.798E+01
GD155	9.022E+00	1.469E+01	1.952E+01	3.088E+01	4.175E+01	5.183E+01	5.249E+01	5.249E+01	5.249E+01	5.249E+01	5.249E+01	5.249E+01
GD156	6.182E+01	6.183E+01	6.183E+01	6.183E+01	6.183E+01	6.183E+01	6.183E+01	6.183E+01	6.183E+01	6.183E+01	6.183E+01	6.183E+01
SUMTOT	3.840E+04	3.847E+04	3.849E+04	3.851E+04	3.853E+04	3.855E+04	3.855E+04	3.855E+04	3.855E+04	3.855E+04	3.854E+04	3.853E+04
TOTAL	3.869E+04	3.889E+04	3.889E+04	3.889E+04	3.889E+04	3.889E+04	3.889E+04	3.889E+04	3.889E+04	3.889E+04	3.889E+04	3.889E+04

TABLE C.58. CURIES OF FISSION PRODUCT ELEMENTS IN BLENDED LMFBR HIGH-LEVEL WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
BE	3.868E-06	3.868E-06	3.868E-06	3.868E-06	3.868E-06	3.868E-06	3.868E-06	3.868E-06	3.867E-06	3.852E-06	3.704E-06	3.471E-06
CU	3.253E-29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	5.499E-01	5.498E-01	5.498E-01	5.498E-01	5.498E-01	5.497E-01	5.493E-01	5.481E-01	5.440E-01	4.942E-01	1.892E-01	3.817E-02
RB	4.238E+01	7.107E-05	1.687E-05	1.687E-05	1.687E-05	1.687E-05	1.687E-05	1.687E-05	1.687E-05	1.687E-05	1.687E-05	1.687E-05
SR	1.460E+05	5.030E+04	4.849E+04	4.514E+04	4.008E+04	2.490E+04	4.705E+03	4.027E+01	2.339E-06	0.0	0.0	0.0
Y	2.306E+05	5.204E+04	4.853E+04	4.515E+04	4.009E+04	2.490E+04	4.706E+03	4.031E+01	2.340E-06	0.0	0.0	0.0
ZR	3.770E+05	7.210E+03	1.395E+02	1.714E+00	1.713E+00	1.713E+00	1.713E+00	1.713E+00	1.712E+00	1.705E+00	1.637E+00	1.529E+00
NB	7.278E+05	1.653E+04	3.183E+02	4.732E-01	7.312E-01	1.304E+00	1.619E+00	1.628E+00	1.627E+00	1.620E+00	1.555E+00	1.453E+00
MO	8.344E-12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC	1.758E+01	1.758E+01	1.758E+01	1.758E+01	1.758E+01	1.758E+01	1.757E+01	1.756E+01	1.752E+01	1.702E+01	1.270E+01	7.793E+00
RU	1.300E+06	5.619E+05	2.823E+05	3.588E+04	1.152E+03	1.227E-03	1.527E-24	0.0	0.0	0.0	0.0	0.0
RH	1.282E+06	5.618E+05	2.823E+05	3.588E+04	1.152E+03	1.227E-03	1.527E-24	0.0	0.0	0.0	0.0	0.0
PD	3.083E-01	3.083E-01	3.083E-01	3.083E-01	3.083E-01	3.083E-01	3.083E-01	3.083E-01	3.083E-01	3.080E-01	3.051E-01	3.002E-01
AG	1.036E+04	3.762E+03	1.366E+03	6.538E+01	4.130E-01	1.211E-04	8.265E-05	2.775E-05	6.082E-07	2.833E-28	0.0	0.0
CD	9.758E+02	2.348E+02	2.215E+02	1.919E+02	1.513E+02	5.851E+01	2.103E+00	1.571E-04	5.656E-19	0.0	0.0	0.0
IN	1.944E+00	1.157E-03	6.924E-05	1.866E-10	1.716E-10	1.716E-10	1.716E-10	1.716E-10	1.716E-10	1.716E-10	1.716E-10	1.716E-10
SN	7.882E+03	1.299E+03	2.521E+02	9.218E+00	3.856E+00	3.504E+00	2.876E+00	2.514E+00	2.478E+00	2.328E+00	1.248E+00	4.412E-01
SB	4.799E+04	3.659E+04	2.848E+04	1.344E+04	3.849E+03	2.859E+01	2.843E+00	2.834E+00	2.825E+00	2.654E+00	1.422E+00	5.029E-01
TE	4.560E+04	1.171E+04	7.220E+03	3.279E+03	9.383E+02	6.291E+00	1.551E-07	4.015E-11	4.015E-11	4.015E-11	4.015E-11	4.015E-11
I	1.943E-03	8.461E-05	8.462E-05	8.462E-05	8.462E-05	8.462E-05	8.462E-05	8.462E-05	8.462E-05	8.458E-05	8.425E-05	8.369E-05
XE	0.0	2.496E-14	1.433E-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	2.531E+05	2.163E+05	1.891E+05	1.422E+05	1.111E+05	6.743E+04	1.338E+04	1.337E+02	2.092E+00	2.086E+00	2.030E+00	1.941E+00
BA	1.280E+05	1.246E+05	1.218E+05	1.136E+05	1.012E+05	6.378E+04	1.265E+04	1.245E+02	1.177E-05	0.0	0.0	0.0
LA	4.695E+02	1.187E-06	4.279E-11	4.279E-11	4.279E-11	4.279E-11	4.279E-11	4.279E-11	4.279E-11	4.279E-11	4.279E-11	4.279E-11
CE	1.037E+06	3.924E+05	1.610E+05	1.113E+04	1.296E+02	3.326E-05	3.088E-05	3.088E-05	3.088E-05	3.088E-05	3.088E-05	3.088E-05
PR	9.681E+05	3.971E+05	1.630E+05	1.126E+04	1.311E+02	2.409E-06	0.0	0.0	0.0	0.0	0.0	0.0
ND	4.478E+01	6.242E-05	1.200E-09	1.256E-09	1.260E-09	1.260E-09	1.260E-09	1.260E-09	1.260E-09	1.260E-09	1.260E-09	1.260E-09
PM	2.847E+05	2.056E+05	1.578E+05	7.143E+04	1.906E+04	9.668E+01	8.977E-07	0.0	0.0	0.0	0.0	0.0
SM	4.748E+03	4.712E+03	4.676E+03	4.569E+03	4.396E+03	3.769E+03	2.198E+03	4.710E+02	2.145E+00	9.718E-06	9.718E-06	9.718E-06
EU	2.774E+04	2.445E+04	2.162E+04	1.503E+04	8.328E+03	9.747E+02	2.671E+00	1.267E-05	3.991E-21	0.0	0.0	0.0
GD	8.545E+01	3.002E+01	1.055E+01	4.572E-01	2.444E-03	6.181E-12	4.579E-12	4.591E-12	4.591E-12	4.591E-12	4.591E-12	4.591E-12
TB	1.487E+03	4.484E+01	1.352E+00	3.706E-05	9.234E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	1.966E-12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	6.273E-03	6.269E-03	6.266E-03	6.255E-03	6.237E-03	6.165E-03	5.921E-03	5.275E-03	3.521E-03	1.945E-05	5.156E-28	0.0
ER	6.236E-06	1.253E-17	2.518E-29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	5.050E-02	7.965E-03	1.415E-03	1.544E-04	2.497E-05	1.827E-08	1.934E-19	0.0	0.0	0.0	0.0	0.0
TOTAL	6.884E+06	2.669E+06	1.519E+06	5.483E+05	3.319E+05	1.860E+05	3.768E+04	8.364E+02	3.126E+01	2.821E+01	2.108E+01	1.400E+01

TABLE C.59. CURIES OF PRINCIPAL FISSION PRODUCT NUCLIDES IN BLENDED LMFBR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
SE 79	5.499E-01	5.498E-01	5.498E-01	5.498E-01	5.498E-01	5.497E-01	5.493E-01	5.481E-01	5.440E-01	4.942E-01	1.892E-01	3.817E-02
SR 90	5.085E+04	4.965E+04	4.848E+04	4.514E+04	4.008E+04	2.490E+04	4.705E+03	4.027E+01	2.339E-06	0.0	0.0	0.0
Y 90	5.086E+04	4.966E+04	4.850E+04	4.515E+04	4.009E+04	2.490E+04	4.706E+03	4.030E+01	2.340E-06	0.0	0.0	0.0
ZR 93	1.713E+00	1.713E+00	1.713E+00	1.713E+00	1.713E+00	1.713E+00	1.713E+00	1.713E+00	1.712E+00	1.705E+00	1.637E+00	1.529E+00
NB 93M	1.348E-01	2.089E-01	2.794E-01	4.705E-01	7.307E-01	1.304E+00	1.618E+00	1.627E+00	1.626E+00	1.620E+00	1.555E+00	1.453E+00
ZR 95	3.770E+05	7.209E+03	1.378E+02	9.636E-04	2.463E-12	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 95	7.250E+05	1.648E+04	3.170E+02	2.139E-03	5.468E-12	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC 99	1.758E+01	1.758E+01	1.758E+01	1.758E+01	1.758E+01	1.758E+01	1.757E+01	1.756E+01	1.752E+01	1.702E+01	1.270E+01	7.793E+00
RU106	1.117E+06	5.616E+05	2.823E+05	3.588E+04	1.152E+03	1.227E-03	1.527E-24	0.0	0.0	0.0	0.0	0.0
RH106	1.117E+06	5.616E+05	2.823E+05	3.588E+04	1.152E+03	1.227E-03	1.527E-24	0.0	0.0	0.0	0.0	0.0
PD107	3.083E-01	3.083E-01	3.083E-01	3.083E-01	3.083E-01	3.083E-01	3.083E-01	3.083E-01	3.083E-01	3.080E-01	3.051E-01	3.002E-01
AG110M	1.023E+04	3.713E+03	1.348E+03	6.452E+01	4.074E-01	6.455E-10	0.0	0.0	0.0	0.0	0.0	0.0
SB125	4.697E+04	3.657E+04	2.847E+04	1.344E+04	3.846E+03	2.574E+01	6.353E-07	0.0	0.0	0.0	0.0	0.0
TE125M	1.120E+04	8.919E+03	6.947E+03	3.279E+03	9.383E+02	6.291E+00	1.550E-07	0.0	0.0	0.0	0.0	0.0
SN126	2.495E+00	2.495E+00	2.495E+00	2.495E+00	2.495E+00	2.495E+00	2.494E+00	2.490E+00	2.478E+00	2.328E+00	1.248E+00	4.412E-01
SB126	1.803E+00	3.493E-01	3.493E-01	3.493E-01	3.493E-01	3.493E-01	3.491E-01	3.486E-01	3.469E-01	3.259E-01	1.747E-01	6.176E-02
SB126M	2.495E+00	2.495E+00	2.495E+00	2.495E+00	2.495E+00	2.495E+00	2.494E+00	2.490E+00	2.478E+00	2.328E+00	1.248E+00	4.412E-01
CS134	1.183E+05	8.451E+04	6.038E+04	2.203E+04	4.102E+03	5.037E+00	3.038E-10	0.0	0.0	0.0	0.0	0.0
CS135	2.093E+00	2.093E+00	2.093E+00	2.092E+00	2.092E+00	2.092E+00	2.092E+00	2.092E+00	2.092E+00	2.086E+00	2.030E+00	1.941E+00
CS137	1.348E+05	1.318E+05	1.288E+05	1.201E+05	1.070E+05	6.742E+04	1.338E+04	1.316E+02	1.244E-05	0.0	0.0	0.0
BA137M	1.276E+05	1.246E+05	1.218E+05	1.136E+05	1.012E+05	6.378E+04	1.265E+04	1.245E+02	1.177E-05	0.0	0.0	0.0
CE144	9.560E+05	3.923E+05	1.610E+05	1.113E+04	1.296E+02	2.380E-06	0.0	0.0	0.0	0.0	0.0	0.0
PR144	9.561E+05	3.924E+05	1.610E+05	1.113E+04	1.296E+02	2.380E-06	0.0	0.0	0.0	0.0	0.0	0.0
PR144M	1.147E+04	4.708E+03	1.932E+03	1.336E+02	1.555E+00	2.856E-08	0.0	0.0	0.0	0.0	0.0	0.0
PM147	2.677E+05	2.055E+05	1.578E+05	7.143E+04	1.906E+04	9.668E+01	8.977E-07	0.0	0.0	0.0	0.0	0.0
SM151	4.748E+03	4.712E+03	4.676E+03	4.569E+03	4.396E+03	3.769E+03	2.198E+03	4.710E+02	2.145E+00	0.0	0.0	0.0
EU154	7.380E+03	6.808E+03	6.281E+03	4.932E+03	3.296E+03	6.576E+02	2.321E+00	2.318E-07	0.0	0.0	0.0	0.0
EU155	2.023E+04	1.759E+04	1.529E+04	1.005E+04	4.999E+03	3.054E+02	1.721E-02	1.246E-14	0.0	0.0	0.0	0.0
SUMTOT	6.110E+06	2.660E+06	1.518E+06	5.480E+05	3.317E+05	1.859E+05	3.767E+04	8.369E+02	3.125E+01	2.821E+01	2.108E+01	1.400E+01
TOTAL	6.884E+06	2.669E+06	1.519E+06	5.483E+05	3.319E+05	1.860E+05	3.768E+04	8.369E+02	3.126E+01	2.821E+01	2.108E+01	1.400E+01

TABLE C.60. WATTS OF FISSION PRODUCT ELEMENTS IN BLENDED LMFBR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
BE	4.643E-09	4.643E-09	4.643E-09	4.643E-09	4.643E-09	4.643E-09	4.643E-09	4.643E-09	4.641E-09	4.623E-09	4.446E-09	4.167E-09
CU	5.224E-32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	1.369E-04	1.369E-04	1.369E-04	1.369E-04	1.369E-04	1.368E-04	1.367E-04	1.365E-04	1.354E-04	1.230E-04	4.709E-05	9.503E-06
RB	1.915E-01	2.590E-07	1.410E-08	1.410E-08	1.410E-08	1.410E-08	1.410E-08	1.410E-08	1.410E-08	1.410E-08	1.410E-08	1.410E-08
SR	3.949E+02	5.986E+01	5.629E+01	5.239E+01	4.652E+01	2.890E+01	5.461E+00	4.674E-02	2.715E-09	0.0	0.0	0.0
Y	9.275E+02	2.838E+02	2.689E+02	2.503E+02	2.222E+02	1.380E+02	2.608E+01	2.233E-01	1.297E-08	0.0	0.0	0.0
ZR	1.910E+03	3.651E+01	6.983E-01	2.039E-04	1.990E-04	1.990E-04	1.990E-04	1.990E-04	1.989E-04	1.981E-04	1.902E-04	1.777E-04
NB	3.482E+03	7.912E+01	1.522E+00	9.913E-05	1.350E-04	2.365E-04	2.921E-04	2.937E-04	2.935E-04	2.909E-04	2.757E-04	2.574E-04
MO	2.680E-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC	8.816E-03	8.816E-03	8.816E-03	8.816E-03	8.815E-03	8.815E-03	8.813E-03	8.807E-03	8.787E-03	8.533E-03	6.367E-03	3.908E-03
RU	6.782E+02	3.438E+01	1.679E+01	2.133E+00	6.852E-02	7.294E-08	9.080E-29	0.0	0.0	0.0	0.0	0.0
RH	1.075E+04	5.386E+02	2.708E+03	3.441E+02	1.105E+01	1.177E-05	1.465E-26	0.0	0.0	0.0	0.0	0.0
PD	1.828E-05	1.828E-05	1.828E-05	1.828E-05	1.828E-05	1.828E-05	1.828E-05	1.828E-05	1.827E-05	1.826E-05	1.808E-05	1.780E-05
AG	1.717E+02	6.235E+01	2.264E+01	1.083E+00	6.843E-03	1.119E-06	7.634E-07	2.563E-07	5.618E-09	2.617E-30	0.0	0.0
CD	3.140E+00	4.002E-01	3.727E-01	3.231E-01	2.548E-01	9.850E-02	3.541E-03	2.644E-07	9.521E-22	0.0	0.0	0.0
IN	5.716E-03	3.414E-05	2.047E-07	2.905E-13	2.461E-13	2.461E-13	2.461E-13	2.461E-13	2.461E-13	2.461E-13	2.461E-13	2.461E-13
SN	2.237E+01	3.252E+00	4.972E-01	9.721E-03	5.796E-03	5.134E-03	3.876E-03	3.153E-03	3.091E-03	2.904E-03	1.556E-03	5.502E-04
SB	1.604E+02	1.146E+02	8.905E+01	4.205E+01	1.206E+01	1.187E-01	3.820E-02	3.815E-02	3.796E-02	3.567E-02	1.911E-02	6.758E-03
TE	5.089E+01	1.013E+01	6.096E+00	2.756E+00	7.887E-01	5.288E-03	1.303E-10	6.007E-15	6.007E-15	6.007E-15	6.007E-15	6.007E-15
I	6.413E-06	3.914E-08	3.914E-08	3.914E-08	3.914E-08	3.914E-08	3.914E-08	3.914E-08	3.914E-08	3.913E-08	3.897E-08	3.871E-08
XE	0.0	2.402E-17	1.379E-26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	1.353E+03	1.006E+03	7.570E+02	3.571E+02	1.601E+02	7.462E+01	1.480E+01	1.462E-01	6.981E-04	6.962E-04	6.776E-04	6.476E-04
BA	5.020E+02	4.894E+02	4.782E+02	4.462E+02	3.975E+02	2.504E+02	4.969E+01	4.890E-01	4.622E-08	0.0	0.0	0.0
LA	7.871E+00	1.990E-08	7.376E-14	7.371E-14	7.371E-14	7.371E-14	7.371E-14	7.371E-14	7.371E-14	7.371E-14	7.371E-14	7.371E-14
CE	7.528E+02	2.603E+02	1.068E+02	7.382E+00	8.595E-02	1.579E-09	0.0	0.0	0.0	0.0	0.0	0.0
PR	7.032E+03	2.886E+03	1.184E+03	8.185E+01	9.530E-01	1.750E-08	0.0	0.0	0.0	0.0	0.0	0.0
ND	1.080E-01	1.237E-11	1.417E-21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM	3.076E+02	7.418E+01	5.660E+01	2.562E+01	6.837E+00	3.468E-02	3.220E-10	0.0	0.0	0.0	0.0	0.0
SM	5.567E-01	5.525E-01	5.482E-01	5.357E-01	5.155E-01	4.419E-01	2.577E-01	5.523E-02	2.516E-04	1.331E-07	1.331E-07	1.331E-07
EU	8.199E+01	7.408E+01	6.768E+01	5.175E+01	3.337E+01	6.193E+00	2.330E-02	9.636E-08	3.026E-23	0.0	0.0	0.0
GD	7.365E-02	2.587E-02	9.099E-03	3.941E-04	2.107E-06	5.616E-14	5.966E-14	5.982E-14	5.982E-14	5.982E-14	5.982E-14	5.982E-14
TB	1.211E+01	3.652E-01	1.101E-02	3.018E-07	7.521E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	2.296E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	6.950E-05	6.946E-05	6.942E-05	6.930E-05	6.910E-05	6.830E-05	6.560E-05	5.844E-05	3.901E-05	2.155E-07	5.712E-30	0.0
ER	1.257E-08	2.525E-20	5.074E-32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	9.853E-05	1.384E-05	1.987E-06	2.870E-08	3.872E-09	2.833E-12	2.999E-23	0.0	0.0	0.0	0.0	0.0
TOTAL	2.860E+04	1.086E+04	5.822E+03	1.666E+03	8.924E+02	4.989E+02	9.637E+01	1.011E+00	5.147E-02	4.843E-02	2.825E-02	1.233E-02

TABLE C.61. WATTS OF PRINCIPAL FISSION PRODUCT NUCLIDES IN BLENDED LMFBR HIGH-LEVEL WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
SE 79	1.369E-04	1.369E-04	1.369E-04	1.369E-04	1.369E-04	1.368E-04	1.367E-04	1.365E-04	1.354E-04	1.230E-04	4.709E-05	9.503E-06
SR 90	5.902E+01	5.763E+01	5.627E+01	5.239E+01	4.652E+01	2.890E+01	5.461E+00	4.674E-02	2.715E-09	0.0	0.0	0.0
Y 90	2.819E+02	2.753E+02	2.688E+02	2.503E+02	2.222E+02	1.380E+02	2.608E+01	2.233E-01	1.297E-08	0.0	0.0	0.0
ZR 93	1.990E-04	1.990E-04	1.990E-04	1.990E-04	1.990E-04	1.990E-04	1.990E-04	1.990E-04	1.989E-04	1.981E-04	1.902E-04	1.777E-04
NB 93M	2.388E-05	3.702E-05	4.950E-05	8.336E-05	1.295E-04	2.310E-04	2.867E-04	2.883E-04	2.882E-04	2.870E-04	2.755E-04	2.574E-04
ZR 95	1.910E+03	3.651E+01	6.981E-01	4.881E-06	1.248E-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 95	3.478E+03	7.904E+01	1.521E+00	1.026E-05	2.623E-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC 99	8.816E-03	8.816E-03	8.816E-03	8.816E-03	8.815E-03	8.815E-03	8.813E-03	8.807E-03	8.787E-03	8.533E-03	6.367E-03	3.908E-03
RU106	6.641E+01	3.339E+01	1.679E+01	2.133E+00	6.852E-02	7.294E-08	9.080E-29	0.0	0.0	0.0	0.0	0.0
RH106	1.071E+04	5.386E+03	2.708E+03	3.441E+02	1.105E+01	1.177E-05	1.465E-26	0.0	0.0	0.0	0.0	0.0
PD107	1.828E-05	1.828E-05	1.828E-05	1.828E-05	1.828E-05	1.828E-05	1.828E-05	1.828E-05	1.827E-05	1.826E-05	1.808E-05	1.780E-05
AG110M	1.708E+02	6.200E+01	2.251E+01	1.077E+00	6.803E-03	1.078E-11	0.0	0.0	0.0	0.0	0.0	0.0
SB125	1.468E+02	1.143E+02	8.901E+01	4.202E+01	1.202E+01	8.048E-02	1.986E-09	0.0	0.0	0.0	0.0	0.0
TE125M	9.417E+00	7.497E+00	5.839E+00	2.756E+00	7.887E-01	5.288E-03	1.303E-10	0.0	0.0	0.0	0.0	0.0
SN126	3.112E-03	3.112E-03	3.112E-03	3.112E-03	3.112E-03	3.111E-03	3.110E-03	3.106E-03	3.091E-03	2.904E-03	1.556E-03	5.502E-04
SB126	3.332E-02	6.454E-02	6.454E-03	6.454E-03	6.454E-03	6.453E-03	6.450E-03	6.441E-03	6.410E-03	6.022E-03	3.227E-03	1.141E-03
SB126M	3.177E-02	3.177E-02	3.177E-02	3.177E-02	3.177E-02	3.176E-02	3.175E-02	3.170E-02	3.155E-02	2.964E-02	1.589E-02	5.617E-03
CS134	1.204E+03	8.601E+02	6.146E+02	2.242E+02	4.175E+01	5.126E-02	3.092E-12	0.0	0.0	0.0	0.0	0.0
CS135	6.983E-04	6.983E-04	6.983E-04	6.983E-04	6.983E-04	6.983E-04	6.983E-04	6.983E-04	6.981E-04	6.962E-04	6.776E-04	6.476E-04
CS137	1.491E+02	1.457E+02	1.424E+02	1.329E+02	1.184E+02	7.457E+01	1.480E+01	1.459E-01	1.376E-08	0.0	0.0	0.0
BA137M	5.009E+02	4.894E+02	4.782E+02	4.462E+02	3.975E+02	2.504E+02	4.965E+01	4.890E-01	4.622E-08	0.0	0.0	0.0
CE144	6.341E+02	2.602E+02	1.068E+02	7.382E+00	8.595E-02	1.579E-09	0.0	0.0	0.0	0.0	0.0	0.0
PR144	7.027E+03	2.884E+03	1.184E+03	8.181E+01	9.525E-01	1.749E-08	0.0	0.0	0.0	0.0	0.0	0.0
PM147	9.601E+01	7.372E+01	5.660E+01	2.562E+01	6.837E+00	3.468E-02	3.220E-10	0.0	0.0	0.0	0.0	0.0
SM151	5.567E-01	5.525E-01	5.482E-01	5.357E-01	5.155E-01	4.419E-01	2.577E-01	5.523E-02	2.515E-04	0.0	0.0	0.0
EU154	6.601E+01	6.090E+01	5.618E+01	4.412E+01	2.948E+01	5.882E+00	2.076E-02	2.074E-09	0.0	0.0	0.0	0.0
EU155	1.471E+01	1.279E+01	1.112E+01	7.313E+00	3.636E+00	2.221E-01	1.252E-05	9.061E-18	0.0	0.0	0.0	0.0
SUMTOT	2.653E+04	1.084E+04	5.819E+03	1.665E+03	8.919E+02	4.987E+02	9.636E+01	1.011E+00	5.143E-02	4.843E-02	2.825E-02	1.233E-02
TOTAL	2.860E+04	1.086E+04	5.822E+03	1.666E+03	8.924E+02	4.989E+02	9.637E+01	1.011E+00	5.147E-02	4.843E-02	2.825E-02	1.233E-02

TABLE C.62. PHOTONS FROM FISSION PRODUCTS IN BLENDED LMFBR HIGH-LEVEL WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS=ONE TONNE INITIAL HEAVY METAL: ADV OX LMFBR: LWR-PU/U/U/U

EMEAN	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	7.233E+16	3.251E+16	1.688E+16	4.425E+15	2.550E+15	1.517E+15	2.885E+14	2.778E+12	1.142E+11	1.094E+11	7.675E+10	4.627E+10
2.500E-02	1.716E+16	7.868E+15	4.290E+15	1.242E+15	6.132E+14	3.114E+14	5.911E+13	5.850E+11	5.444E+10	5.142E+10	2.977E+10	1.264E+10
3.750E-02	1.530E+16	6.998E+15	3.868E+15	1.121E+15	6.715E+14	3.630E+14	6.868E+13	6.474E+11	1.123E+10	1.073E+10	6.978E+09	2.636E+09
5.750E-02	1.507E+16	6.872E+15	3.539E+15	8.823E+14	4.907E+14	2.871E+14	5.416E+13	4.958E+11	2.272E+10	2.151E+10	1.285E+10	5.796E+09
8.500E-02	1.044E+16	4.824E+15	2.500E+15	6.433E+14	3.403E+14	1.736E+14	3.228E+13	3.302E+11	4.941E+10	4.648E+10	2.538E+10	9.424E+09
1.250E-01	1.234E+16	4.807E+15	2.361E+15	5.256E+14	2.626E+14	1.206E+14	2.066E+13	1.823E+11	3.244E+09	3.072E+09	1.810E+09	7.924E+08
2.250E-01	9.483E+15	4.342E+15	2.216E+15	5.059E+14	2.527E+14	1.436E+14	2.681E+13	2.362E+11	4.776E+09	4.367E+09	2.378E+09	8.766E+08
3.750E-01	5.513E+12	2.664E+15	1.466E+15	3.979E+14	1.537E+14	6.129E+13	1.153E+13	1.991E+11	1.005E+11	9.442E+10	5.060E+10	1.789E+10
5.750E-01	3.446E+16	1.728E+16	1.190E+16	6.138E+15	4.193E+15	2.464E+15	4.883E+14	5.020E+12	2.232E+11	2.096E+11	1.123E+11	3.972E+10
8.500E-01	4.245E+16	4.470E+15	2.468E+15	8.584E+14	2.088E+14	2.159E+13	1.887E+12	2.721E+10	1.139E+10	1.052E+10	5.624E+09	1.988E+09
1.250E+00	2.034E+15	1.022E+15	5.933E+14	1.884E+14	7.999E+13	1.625E+13	6.562E+11	7.903E+09	2.715E+09	2.547E+09	1.365E+09	4.826E+08
1.750E+00	3.168E+14	1.350E+14	6.598E+13	1.037E+13	2.541E+12	6.351E+11	4.656E+10	4.040E+08	1.156E+05	1.086E+05	5.819E+04	2.058E+04
2.250E+00	3.326E+14	1.410E+14	6.068E+13	5.084E+12	9.919E+10	2.752E+07	5.188E+06	4.442E+04	3.295E-03	7.163E-04	7.163E-04	7.163E-04
2.750E+00	9.702E+12	4.565E+12	2.286E+12	2.681E+11	9.198E+09	9.758E+03	3.589E-04	3.589E-04	3.589E-04	3.589E-04	3.589E-04	3.589E-04
3.500E+00	1.166E+12	5.837E+11	2.935E+11	3.729E+10	1.198E+09	1.275E+03	2.643E-04	2.643E-04	2.643E-04	2.643E-04	2.643E-04	2.643E-04
5.000E+00	6.597E-05	6.893E-05	7.119E-05	7.530E-05	7.779E-05	7.869E-05	7.869E-05	7.869E-05	7.869E-05	7.869E-05	7.869E-05	7.869E-05
7.000E+00	4.281E-06	4.472E-06	4.619E-06	4.886E-06	5.047E-06	5.106E-06	5.106E-06	5.106E-06	5.106E-06	5.106E-06	5.106E-06	5.106E-06
1.100E+01	2.707E-07	2.828E-07	2.921E-07	3.090E-07	3.192E-07	3.229E-07	3.229E-07	3.229E-07	3.229E-07	3.229E-07	3.229E-07	3.229E-07
TOTAL	2.373E+17	9.385E+16	5.201E+16	1.694E+16	9.819E+15	5.480E+15	1.052E+15	1.051E+13	5.978E+11	5.641E+11	3.258E+11	1.395E+11
MEV/SEC	6.937E+16	1.991E+16	1.220E+16	5.098E+15	2.976E+15	1.603E+15	3.105E+14	3.208E+12	1.896E+11	1.779E+11	9.587E+10	3.442E+10

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS=ONE TONNE INITIAL HEAVY METAL: ADV OX LMFBR: LWR-PU/U/U/U

EMEAN	HLW	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	1.085E+09	4.876E+08	2.532E+08	6.638E+07	3.824E+07	2.275E+07	4.327E+06	4.162E+04	1.713E+03	1.641E+03	1.151E+03	6.941E+02
2.500E-02	4.290E+08	1.967E+08	1.072E+08	3.105E+07	1.533E+07	7.785E+06	1.478E+06	1.462E+04	1.361E+03	1.286E+03	7.443E+02	3.161E+02
3.750E-02	5.769E+08	2.591E+08	1.375E+08	4.202E+07	2.518E+07	1.361E+07	2.576E+06	2.428E+04	4.212E+02	4.024E+02	2.617E+02	1.363E+02
5.750E-02	8.664E+08	3.951E+08	2.035E+08	5.073E+07	2.822E+07	1.651E+07	3.114E+06	2.851E+04	1.307E+03	1.237E+03	7.389E+02	3.333E+02
8.500E-02	8.877E+08	4.100E+08	2.125E+08	5.468E+07	2.893E+07	1.476E+07	2.744E+06	2.806E+04	4.199E+03	3.951E+03	2.158E+03	8.011E+02
1.250E-01	1.542E+09	6.009E+08	2.951E+08	6.571E+07	3.282E+07	1.508E+07	2.582E+06	2.277E+04	4.055E+02	3.840E+02	2.262E+02	9.905E+01
2.250E-01	2.134E+09	9.770E+08	4.985E+08	1.138E+08	5.686E+07	3.231E+07	6.033E+06	5.315E+04	1.075E+03	9.825E+02	5.351E+02	1.972E+02
3.750E-01	2.067E+09	9.991E+08	5.498E+08	1.492E+08	5.764E+07	2.299E+07	4.323E+06	7.466E+04	3.769E+04	3.541E+04	1.897E+04	6.709E+03
5.750E-01	1.982E+10	9.938E+09	6.843E+09	3.529E+09	2.411E+09	1.417E+09	2.808E+08	2.887E+06	1.283E+05	1.205E+05	6.460E+04	2.284E+04
8.500E-01	3.609E+10	3.799E+09	2.097E+09	7.296E+08	1.775E+08	1.835E+07	1.604E+06	2.313E+04	9.679E+03	8.942E+03	4.781E+03	1.690E+03
1.250E+00	2.543E+09	1.277E+09	7.417E+08	2.355E+08	9.996E+07	2.031E+07	8.227E+05	9.876E+03	3.394E+03	3.184E+03	1.706E+03	6.033E+02
1.750E+00	5.545E+08	2.363E+08	1.155E+08	1.814E+07	4.447E+06	1.111E+06	8.499E+04	7.071E+02	2.023E-01	1.900E-01	1.018E-01	3.601E-02
2.250E+00	7.483E+08	3.173E+08	1.365E+08	1.144E+07	2.232E+05	6.192E+01	1.167E+01	9.994E-02	7.415E-09	1.612E-09	1.612E-09	1.612E-09
2.750E+00	2.668E+07	1.255E+07	6.286E+06	7.924E+05	2.529E+04	2.683E-02	9.870E-10	9.870E-10	9.870E-10	9.870E-10	9.870E-10	9.870E-10
3.500E+00	4.080E+06	2.043E+06	1.027E+06	1.305E+05	4.193E+03	4.463E-03	9.251E-10	9.251E-10	9.251E-10	9.251E-10	9.251E-10	9.251E-10
5.000E+00	3.299E-10	3.446E-10	3.560E-10	3.765E-10	3.889E-10	3.934E-10	3.935E-10	3.935E-10	3.935E-10	3.935E-10	3.935E-10	3.935E-10
7.000E+00	2.996E-11	3.131E-11	3.234E-11	3.420E-11	3.533E-11	3.574E-11	3.574E-11	3.574E-11	3.574E-11	3.574E-11	3.574E-11	3.574E-11
1.100E+01	2.978E-12	3.111E-12	3.213E-12	3.399E-12	3.511E-12	3.552E-12	3.552E-12	3.552E-12	3.552E-12	3.552E-12	3.552E-12	3.552E-12
TOTAL	6.937E+10	1.991E+10	1.220E+10	5.098E+09	2.976E+09	1.603E+09	3.105E+08	3.208E+06	1.896E+05	1.779E+05	9.587E+04	3.442E+04
GAM POW	1.112E+04	3.191E+03	1.956E+03	8.173E+02	4.771E+02	2.569E+02	4.977E+01	5.142E-01	3.039E-02	2.853E-02	1.537E-02	5.517E-03

Appendix C.4: Characteristics of Blended LMFBR Structural Material Wastes

TABLE C.63. GRAMS OF ACTIVATION PRODUCT ELEMENTS IN BLENDED LMFBR CLADDING WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	2.990E+00	2.990E+00	2.990E+00	2.990E+00	2.990E+00	2.990E+00	2.990E+00	2.990E+00	2.990E+00	2.990E+00	2.990E+00	2.990E+00
HE	5.182E-01	5.182E-01	5.182E-01	5.182E-01	5.182E-01	5.182E-01	5.182E-01	5.182E-01	5.182E-01	5.182E-01	5.182E-01	5.182E-01
LI	8.895E-02	8.895E-02	8.895E-02	8.895E-02	8.895E-02	8.895E-02	8.895E-02	8.895E-02	8.895E-02	8.895E-02	8.895E-02	8.895E-02
BE	4.660E-03	4.660E-03	4.660E-03	4.660E-03	4.660E-03	4.660E-03	4.660E-03	4.660E-03	4.660E-03	4.660E-03	4.659E-03	4.653E-03
P	4.400E+00	4.400E+00	4.400E+00	4.400E+00	4.400E+00	4.400E+00	4.400E+00	4.400E+00	4.400E+00	4.400E+00	4.400E+00	4.400E+00
C	5.309E+02	5.309E+02	5.309E+02	5.309E+02	5.309E+02	5.309E+02	5.309E+02	5.309E+02	5.309E+02	5.308E+02	5.307E+02	5.307E+02
N	2.779E+02	2.779E+02	2.779E+02	2.779E+02	2.779E+02	2.779E+02	2.779E+02	2.779E+02	2.779E+02	2.781E+02	2.782E+02	2.782E+02
O	6.694E+01	6.694E+01	6.694E+01	6.694E+01	6.694E+01	6.694E+01	6.694E+01	6.694E+01	6.694E+01	6.694E+01	6.694E+01	6.694E+01
F	5.348E-06	5.348E-06	5.348E-06	5.348E-06	5.348E-06	5.348E-06	5.348E-06	5.348E-06	5.348E-06	5.348E-06	5.348E-06	5.348E-06
NE	9.412E-06	9.412E-06	9.412E-06	9.412E-06	9.412E-06	9.412E-06	9.412E-06	9.412E-06	9.412E-06	9.412E-06	9.412E-06	9.412E-06
NA	7.497E-03	7.497E-03	7.497E-03	7.497E-03	7.497E-03	7.497E-03	7.497E-03	7.497E-03	7.497E-03	7.497E-03	7.497E-03	7.497E-03
MG	4.279E-02	4.279E-02	4.279E-02	4.279E-02	4.279E-02	4.279E-02	4.279E-02	4.279E-02	4.279E-02	4.279E-02	4.279E-02	4.279E-02
AL	1.435E+02	1.435E+02	1.435E+02	1.435E+02	1.435E+02	1.435E+02	1.435E+02	1.435E+02	1.435E+02	1.435E+02	1.435E+02	1.435E+02
SI	4.959E+03	4.959E+03	4.959E+03	4.959E+03	4.959E+03	4.959E+03	4.959E+03	4.959E+03	4.959E+03	4.959E+03	4.959E+03	4.959E+03
P	1.775E+02	1.775E+02	1.775E+02	1.775E+02	1.775E+02	1.775E+02	1.775E+02	1.775E+02	1.775E+02	1.775E+02	1.775E+02	1.775E+02
S	1.816E-03	1.816E-03	1.816E-03	1.816E-03	1.816E-03	1.816E-03	1.816E-03	1.816E-03	1.816E-03	1.816E-03	1.816E-03	1.816E-03
CL	2.650E-06	2.694E-06	2.697E-06	2.697E-06	2.697E-06	2.697E-06	2.697E-06	2.697E-06	2.697E-06	2.696E-06	2.694E-06	2.691E-06
AR	1.041E-08	1.041E-08	1.041E-08	1.041E-08	1.041E-08	1.041E-08	1.042E-08	1.042E-08	1.044E-08	1.068E-08	1.285E-08	1.559E-08
K	1.119E-06	1.119E-06	1.119E-06	1.119E-06	1.119E-06	1.119E-06	1.119E-06	1.119E-06	1.120E-06	1.124E-06	1.155E-06	1.174E-06
CA	1.577E-03	1.576E-03	1.576E-03	1.576E-03	1.576E-03	1.576E-03	1.576E-03	1.576E-03	1.576E-03	1.576E-03	1.576E-03	1.575E-03
SC	5.858E-05	1.158E-05	9.460E-06	9.400E-06	9.401E-06	9.401E-06	9.401E-06	9.401E-06	9.401E-06	9.401E-06	9.401E-06	9.401E-06
TI	1.310E+02	1.310E+02	1.310E+02	1.310E+02	1.310E+02	1.310E+02	1.310E+02	1.310E+02	1.310E+02	1.310E+02	1.310E+02	1.310E+02
V	8.124E+00	8.131E+00	8.131E+00	8.131E+00	8.131E+00	8.131E+00	8.131E+00	8.131E+00	8.131E+00	8.131E+00	8.131E+00	8.131E+00
CR	1.483E+05	1.483E+05	1.483E+05	1.483E+05	1.483E+05	1.483E+05	1.483E+05	1.483E+05	1.483E+05	1.483E+05	1.483E+05	1.483E+05
MN	1.601E+04	1.601E+04	1.601E+04	1.601E+04	1.601E+04	1.601E+04	1.601E+04	1.601E+04	1.601E+04	1.601E+04	1.601E+04	1.601E+04
FE	5.602E+05	5.602E+05	5.602E+05	5.602E+05	5.602E+05	5.602E+05	5.602E+05	5.602E+05	5.602E+05	5.602E+05	5.602E+05	5.602E+05
CO	1.593E+02	1.572E+02	1.569E+02	1.564E+02	1.560E+02	1.555E+02	1.555E+02	1.555E+02	1.558E+02	1.590E+02	1.805E+02	1.937E+02
NI	1.178E+05	1.178E+05	1.178E+05	1.178E+05	1.178E+05	1.178E+05	1.178E+05	1.178E+05	1.178E+05	1.178E+05	1.177E+05	1.177E+05
CU	7.827E+02	7.828E+02	7.828E+02	7.829E+02	7.830E+02	7.835E+02	7.847E+02	7.861E+02	7.865E+02	7.865E+02	7.865E+02	7.865E+02
ZN	2.180E-01	2.180E-01	2.180E-01	2.180E-01	2.180E-01	2.180E-01	2.180E-01	2.180E-01	2.180E-01	2.180E-01	2.180E-01	2.180E-01
GA	4.582E-06	4.582E-06	4.582E-06	4.582E-06	4.582E-06	4.582E-06	4.582E-06	4.582E-06	4.582E-06	4.582E-06	4.582E-06	4.582E-06
GE	1.548E-08	1.548E-08	1.548E-08	1.548E-08	1.548E-08	1.548E-08	1.548E-08	1.548E-08	1.548E-08	1.548E-08	1.548E-08	1.548E-08
AS	4.271E-18	4.271E-18	4.271E-18	4.271E-18	4.271E-18	4.271E-18	4.271E-18	4.271E-18	4.271E-18	4.271E-18	4.271E-18	4.271E-18
SE	9.156E-20	9.156E-20	9.156E-20	9.156E-20	9.156E-20	9.156E-20	9.156E-20	9.156E-20	9.156E-20	9.156E-20	9.156E-20	9.156E-20
SR	3.734E-07	3.651E-07	3.648E-07	3.640E-07	3.628E-07	3.593E-07	3.546E-07	3.535E-07	3.535E-07	3.535E-07	3.535E-07	3.535E-07
Y	1.730E-06	1.736E-06	1.736E-06	1.736E-06	1.736E-06	1.736E-06	1.736E-06	1.736E-06	1.736E-06	1.736E-06	1.736E-06	1.736E-06
ZR	3.156E-01	3.155E-01	3.155E-01	3.155E-01	3.155E-01	3.155E-01	3.155E-01	3.155E-01	3.155E-01	3.155E-01	3.150E-01	3.143E-01
NB	8.697E+01	8.697E+01	8.697E+01	8.697E+01	8.697E+01	8.697E+01	8.697E+01	8.697E+01	8.695E+01	8.670E+01	8.572E+01	8.567E+01
MO	2.030E+04	2.030E+04	2.030E+04	2.030E+04	2.030E+04	2.030E+04	2.030E+04	2.030E+04	2.030E+04	2.030E+04	2.031E+04	2.031E+04
TC	4.936E+00	4.936E+00	4.936E+00	4.936E+00	4.936E+00	4.936E+00	4.935E+00	4.932E+00	4.920E+00	4.778E+00	3.565E+00	2.188E+00
RU	1.303E+01	1.303E+01	1.303E+01	1.303E+01	1.303E+01	1.303E+01	1.303E+01	1.303E+01	1.304E+01	1.318E+01	1.440E+01	1.577E+01
RH	1.741E-03	1.762E-03	1.762E-03	1.762E-03	1.762E-03	1.762E-03	1.762E-03	1.762E-03	1.762E-03	1.762E-03	1.762E-03	1.762E-03
PD	9.707E-05	9.707E-05	9.707E-05	9.707E-05	9.707E-05	9.708E-05	9.709E-05	9.711E-05	9.712E-05	9.712E-05	9.712E-05	9.712E-05
AG	4.358E-05	4.349E-05	4.346E-05	4.345E-05	4.344E-05	4.344E-05	4.342E-05	4.340E-05	4.338E-05	4.338E-05	4.338E-05	4.338E-05
CD	1.225E-02	1.225E-02	1.225E-02	1.225E-02	1.225E-02	1.225E-02	1.225E-02	1.225E-02	1.225E-02	1.225E-02	1.225E-02	1.225E-02
IN	7.269E-04	7.267E-04	7.267E-04	7.267E-04	7.267E-04	7.267E-04	7.267E-04	7.267E-04	7.267E-04	7.267E-04	7.267E-04	7.267E-04
SN	3.475E+01	3.475E+01	3.475E+01	3.475E+01	3.475E+01	3.475E+01	3.475E+01	3.475E+01	3.475E+01	3.475E+01	3.475E+01	3.475E+01
SB	4.307E-02	4.240E-02	4.173E-02	4.043E-02	3.959E-02	3.927E-02	3.927E-02	3.927E-02	3.927E-02	3.927E-02	3.927E-02	3.927E-02
TE	4.684E-03	5.591E-03	6.295E-03	7.603E-03	8.438E-03	8.770E-03	8.773E-03	8.773E-03	8.773E-03	8.773E-03	8.773E-03	8.773E-03
I	2.578E-06	2.585E-06	2.585E-06	2.585E-06	2.585E-06	2.585E-06	2.585E-06	2.585E-06	2.585E-06	2.585E-06	2.585E-06	2.585E-06
XE	1.081E-07	1.081E-07	1.081E-07	1.081E-07	1.081E-07	1.081E-07	1.081E-07	1.081E-07	1.081E-07	1.081E-07	1.082E-07	1.082E-07
CS	4.287E-18	4.270E-18	4.258E-18	4.239E-18	4.230E-18	4.228E-18	4.228E-18	4.228E-18	4.228E-18	4.228E-18	4.228E-18	4.228E-18
BA	1.331E-20	3.061E-20	4.261E-20	6.169E-20	7.061E-20	7.265E-20	7.266E-20	7.266E-20	7.266E-20	7.266E-20	7.268E-20	7.273E-20
PR	9.726E-30	7.626E-36	5.980E-46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ND	3.420E-18	3.420E-18	3.420E-18	3.420E-18	3.420E-18	3.421E-18	3.423E-18	3.429E-18	3.451E-18	3.733E-18	6.554E-18	1.125E-17
PM	3.318E-20	2.541E-20	1.951E-20	8.822E-21	2.365E-21	2.202E-23	2.045E-31	0.0	0.0	0.0	0.0	0.0
SM	2.120E-11	2.260E-11	2.392E-11	2.752E-11	3.241E-11	4.315E-11	4.887E-11	4.879E-11	4.872E-11	4.872E-11	4.872E-11	4.872E-11
EU	1.165E-06	1.331E-06	1.379E-06	1.373E-06	1.323E-06	1.260E-06	1.244E-06	1.244E-06	1.244E-06	1.244E-06	1.244E-06	1.244E-06
GD	1.215E-03	1.215E-03	1.215E-03	1.215E-03	1.215E-03	1.215E-03	1.215E-03	1.215E-03	1.215E-03	1.215E-03	1.215E-03	1.215E-03
TB	1.992E-05	1.974E-05	1.973E-05	1.973E-05	1.973E-05	1.973E-05	1.973E-05	1.973E-05	1.973E-05	1.973E-05	1.973E-05	1.973E-05
DY	1.559E-05	1.577E-05	1.577E-05	1.577E-05	1.577E-05	1.577E-05	1.577E-05	1.577E-05	1.577E-05	1.577E-05	1.577E-05	1.577E-05
HO	5.760E-10	5.760E-10	6.760E-10	6.760E-10	6.760E-10	6.760E-10	6.759E-10	6.758E-10	6.750E-10	6.737E-10	6.737E-10	6.737E-10
ER	6.123E-11	6.123E-11	6.124E-11	6.124E-11	6.125E-11	6.127E-11	6.136E-11	6.160E-11	6.225E-11	6.354E-11	6.355E-11	6.355E-11
TM	2.076E-16	2.031E-16	2.025E-16	2.023E-16	2.023E-16	2.022E-16	2.022E-16	2.022E-16	2.022E-16	2.022E-16	2.022E-16	2.022E-16
YB	1.207E-17	1.654E-17	1.721E-17	1.738E-17	1.742E-17	1.742E-17	1.742E-17	1.742E-17	1.742E-17	1.742E-17	1.742E-17	1.742E-17
TA	7.139E-08	7.677E-08	7.745E-08	7.755E-08	7.755E-08	7.755E-08	7.755E-08	7.755E-08	7.755E-08	7.755E-08	7.755E-08	7.755E-08
W	9.533E-04	9.533E-04	9.533E-04	9.533E-04	9.533E-04	9.533E-04	9.533E-04	9.533E-04	9.533E-04	9.533E-04	9.533E-04	9.533E-04
RE	4.397E-05	4.402E-05	4.402E-05	4.402E-05	4.402E-05	4.402E-05	4.402E-05	4.402E-05	4.402E-05	4.402E-05	4.402E-05	4.402E-05
OS	3.290E-06	3.292E-06	3.292E-06	3.292E-06	3.292E-06	3.292E-06	3.292E-06	3.292E-06	3.292E-06	3.292E-06	3.292E-06	3.292E-06
IR	1.583E-11	1.539E-11	1.537E-11	1.537E-11	1.537E-11	1.537E-11	1.537E-11	1.537E-11	1.538E-11	1.538E-11	1.538E-11	1.538E-11
PT	4.031E-12	4.460E-12	4.474E-12	4.475E-12	4.475E-12	4.474E-12	4.473E-12	4.471E-12	4.465E-12	4.461E-12	4.461E-12	4.461E-12
AU	2.030E-23	2.030E-23	2.030E-23	2.030E-23	2.030E-23	2.030E-23	2.030E-23	2.030E-23	2.030E-23	2.030E-23	2.030E-23	2.030E-23
HG	1.198E-22	1.532E-22	1.866E-22	2.869E-22	4.540E-22	1.123E-21	3.462E-21	1.015E-20	3.355E-20	3.344E-19	3.343E-18	8.357E-18
TL	1.543E-16	2.492E-16	3.441E-16	6.287E-16	1.103E-15	3.001E-15	9.643E-15	2.862E-14	9.504E-14	9.490E-13	9.478E-12	2.365E-11
PB	5.000E-04	5.000E-04	5.000E-04	5.000E-04	5.000E-04	5.000E-04	5.000E-04	5.000E-04	5.000E-04	5.000E-04	5.000E-04	5.000E-04
BI	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04	2.000E-04
PO	8.554E-10	1.374E-10	2.206E-11	9.135E-14	1.261E-17	2.857E-18	2.856E-18	2.856E-18	2.856E-18	2.850E-18	2.791E-18	2.596E-18
TOTAL	8.700E+05	8.700E+05	8.700E+05	8.700E+05	8.700E+05	8.700E+05	8.700E+05	8.700E+05	8.700E+05	8.700E+05	8.700E+05	8.700E+05

TABLE C.64. GRAMS OF PRINCIPAL ACTIVATION PRODUCT NUCLIDES IN BLENDED LMFBR CLADDING WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
SI 28	4.556E+03	4.556E+03	4.556E+03	4.556E+03	4.556E+03	4.556E+03	4.556E+03	4.556E+03	4.556E+03	4.556E+03	4.556E+03	4.556E+03
CR 50	6.190E+03	6.190E+03	6.190E+03	6.190E+03	6.190E+03	6.190E+03	6.190E+03	6.190E+03	6.190E+03	6.190E+03	6.190E+03	6.190E+03
CR 52	1.241E+05	1.241E+05	1.241E+05	1.241E+05	1.241E+05	1.241E+05	1.241E+05	1.241E+05	1.241E+05	1.241E+05	1.241E+05	1.241E+05
CR 53	1.435E+04	1.435E+04	1.435E+04	1.435E+04	1.435E+04	1.435E+04	1.435E+04	1.435E+04	1.435E+04	1.435E+04	1.435E+04	1.435E+04
CR 54	3.661E+03	3.664E+03	3.666E+03	3.667E+03	3.667E+03	3.667E+03	3.667E+03	3.667E+03	3.667E+03	3.667E+03	3.667E+03	3.667E+03
MN 55	1.600E+04	1.600E+04	1.600E+04	1.601E+04	1.601E+04	1.601E+04	1.601E+04	1.601E+04	1.601E+04	1.601E+04	1.601E+04	1.601E+04
FE 54	3.140E+04	3.140E+04	3.140E+04	3.140E+04	3.140E+04	3.140E+04	3.140E+04	3.140E+04	3.140E+04	3.140E+04	3.140E+04	3.140E+04
FE 56	5.143E+05	5.143E+05	5.143E+05	5.143E+05	5.143E+05	5.143E+05	5.143E+05	5.143E+05	5.143E+05	5.143E+05	5.143E+05	5.143E+05
FE 57	1.268E+04	1.268E+04	1.268E+04	1.268E+04	1.268E+04	1.268E+04	1.268E+04	1.268E+04	1.268E+04	1.268E+04	1.268E+04	1.268E+04
FE 58	1.762E+03	1.764E+03	1.764E+03	1.764E+03	1.764E+03	1.764E+03	1.764E+03	1.764E+03	1.764E+03	1.764E+03	1.764E+03	1.764E+03
NI 58	7.930E+04	7.930E+04	7.930E+04	7.930E+04	7.930E+04	7.930E+04	7.930E+04	7.930E+04	7.930E+04	7.930E+04	7.930E+04	7.930E+04
NI 60	3.141E+04	3.141E+04	3.141E+04	3.141E+04	3.142E+04	3.142E+04	3.142E+04	3.142E+04	3.142E+04	3.142E+04	3.142E+04	3.142E+04
NI 61	1.389E+03	1.389E+03	1.389E+03	1.389E+03	1.389E+03	1.389E+03	1.389E+03	1.389E+03	1.389E+03	1.389E+03	1.389E+03	1.389E+03
NI 62	4.462E+03	4.462E+03	4.462E+03	4.462E+03	4.462E+03	4.462E+03	4.462E+03	4.462E+03	4.462E+03	4.462E+03	4.462E+03	4.462E+03
NI 64	1.169E+03	1.169E+03	1.169E+03	1.169E+03	1.169E+03	1.169E+03	1.169E+03	1.169E+03	1.169E+03	1.169E+03	1.169E+03	1.169E+03
MO 92	2.886E+03	2.886E+03	2.886E+03	2.886E+03	2.886E+03	2.886E+03	2.886E+03	2.886E+03	2.886E+03	2.886E+03	2.886E+03	2.886E+03
MO 94	1.846E+03	1.846E+03	1.846E+03	1.846E+03	1.846E+03	1.846E+03	1.846E+03	1.846E+03	1.846E+03	1.847E+03	1.848E+03	1.848E+03
MO 95	3.138E+03	3.138E+03	3.138E+03	3.138E+03	3.138E+03	3.138E+03	3.138E+03	3.138E+03	3.138E+03	3.138E+03	3.138E+03	3.138E+03
MO 96	3.456E+03	3.456E+03	3.456E+03	3.456E+03	3.456E+03	3.456E+03	3.456E+03	3.456E+03	3.456E+03	3.456E+03	3.456E+03	3.456E+03
MO 97	1.947E+03	1.947E+03	1.947E+03	1.947E+03	1.947E+03	1.947E+03	1.947E+03	1.947E+03	1.947E+03	1.947E+03	1.947E+03	1.947E+03
MO 98	5.008E+03	5.008E+03	5.008E+03	5.008E+03	5.008E+03	5.008E+03	5.008E+03	5.008E+03	5.008E+03	5.008E+03	5.008E+03	5.008E+03
MO100	2.023E+03	2.023E+03	2.023E+03	2.023E+03	2.023E+03	2.023E+03	2.023E+03	2.023E+03	2.023E+03	2.023E+03	2.023E+03	2.023E+03
SUMT01	8.671E+05	8.671E+05	8.671E+05	8.671E+05	8.671E+05	8.671E+05	8.671E+05	8.671E+05	8.671E+05	8.671E+05	8.671E+05	8.671E+05
TOTAL	8.700E+05	8.700E+05	8.700E+05	8.700E+05	8.700E+05	8.700E+05	8.700E+05	8.700E+05	8.700E+05	8.700E+05	8.700E+05	8.700E+05

TABLE C.65. CURIES OF ACTIVATION PRODUCT ELEMENTS IN BLENDED LMFBR CLADDING WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	2.132E-03	2.015E-03	1.905E-03	1.610E-03	1.216E-03	3.957E-04	7.780E-06	1.036E-10	8.944E-28	0.0	0.0	0.0
BE	3.712E-06	3.712E-06	3.712E-06	3.712E-06	3.711E-06	3.711E-06	3.711E-06	3.711E-06	3.710E-06	3.695E-06	3.554E-06	3.331E-06
C	1.143E+00	1.143E+00	1.143E+00	1.143E+00	1.142E+00	1.129E+00	1.129E+00	1.102E+00	1.013E+00	3.410E-01	6.365E-06	8.363E-14
NA	9.863E-08	7.557E-08	5.789E-08	2.603E-08	6.872E-09	3.333E-11	2.655E-19	0.0	0.0	0.0	0.0	0.0
SI	1.951E-08	1.949E-08	1.947E-08	1.941E-08	1.931E-08	1.890E-08	1.754E-08	1.417E-08	6.718E-09	4.562E-13	0.0	0.0
P	5.831E-03	1.961E-08	1.947E-08	1.941E-08	1.931E-08	1.890E-08	1.754E-08	1.417E-08	6.718E-09	4.562E-13	0.0	0.0
S	1.976E-03	1.112E-04	6.263E-06	1.118E-09	6.328E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CL	3.970E-10	3.970E-10	3.970E-10	3.970E-10	3.970E-10	3.970E-10	3.969E-10	3.967E-10	3.961E-10	3.880E-10	3.154E-10	2.232E-10
AR	4.580E-14	4.566E-14	4.551E-14	4.509E-14	4.440E-14	4.183E-14	3.447E-14	2.048E-14	3.373E-15	2.865E-25	0.0	0.0
K	7.791E-12	7.791E-12	7.791E-12	7.791E-12	7.791E-12	7.791E-12	7.790E-12	7.790E-12	7.790E-12	7.790E-12	7.789E-12	7.789E-12
CA	2.423E-02	5.124E-03	1.084E-03	1.026E-05	1.103E-08	6.696E-09	6.692E-09	6.680E-09	6.641E-09	6.148E-09	2.846E-09	7.885E-10
SC	1.713E+00	8.348E-02	4.069E-03	4.711E-07	1.296E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	2.583E-13	2.583E-13	2.583E-13	2.583E-13	2.583E-13	2.583E-13	2.583E-13	2.583E-13	2.583E-13	2.583E-13	2.583E-13	2.583E-13
CR	5.700E+02	6.134E-02	6.601E-06	8.224E-18	1.187E-37	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MN	4.913E+04	2.185E+04	9.720E+03	8.553E+02	1.489E+01	1.368E-06	0.0	0.0	0.0	0.0	0.0	0.0
FE	1.151E+04	8.739E+03	6.693E+03	3.008E+03	7.932E+02	3.843E+00	3.020E-08	0.0	0.0	0.0	0.0	0.0
CO	6.529E+04	3.656E+03	1.707E+03	1.117E+03	5.788E+02	4.169E+01	4.182E-03	1.572E-14	0.0	0.0	0.0	0.0
NI	2.383E+02	2.365E+02	2.347E+02	2.296E+02	2.212E+02	1.907E+02	1.139E+02	2.778E+01	3.374E+00	3.005E+00	1.378E+00	3.756E-01
CU	1.037E-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZN	1.196E-01	4.235E-02	1.500E-02	6.658E-04	3.714E-06	3.568E-15	0.0	0.0	0.0	0.0	0.0	0.0
GE	5.127E-12	2.466E-21	1.186E-30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	1.993E-27	1.993E-27	1.993E-27	1.993E-27	1.993E-27	1.993E-27	1.993E-27	1.993E-27	1.993E-27	1.993E-27	1.993E-27	1.993E-27
SR	2.351E-04	3.129E-06	1.550E-06	1.433E-06	1.273E-06	7.906E-07	1.494E-07	1.275E-09	7.429E-17	0.0	0.0	0.0
Y	5.527E-05	2.285E-06	1.549E-06	1.434E-06	1.273E-06	7.908E-07	1.494E-07	1.280E-09	7.431E-17	0.0	0.0	0.0
ZR	1.393E+00	2.667E-02	5.386E-04	2.915E-05	2.915E-05	2.915E-05	2.915E-05	2.915E-05	2.914E-05	2.902E-05	2.786E-05	2.603E-05
NB	1.337E+01	3.479E-01	2.803E-01	2.791E-01	2.790E-01	2.788E-01	2.782E-01	2.763E-01	2.698E-01	1.984E-01	9.206E-03	7.944E-05
MO	2.076E-01	2.075E-01	2.075E-01	2.074E-01	2.072E-01	2.063E-01	2.035E-01	1.956E-01	1.703E-01	2.862E-02	5.155E-10	6.381E-23
TC	8.372E-02	8.372E-02	8.372E-02	8.372E-02	8.372E-02	8.371E-02	8.370E-02	8.364E-02	8.345E-02	8.104E-02	6.047E-02	3.711E-02
RU	6.635E+00	1.057E-02	1.665E-05	4.581E-09	1.472E-10	1.567E-16	1.950E-37	0.0	0.0	0.0	0.0	0.0
RH	1.426E-07	7.171E-08	3.605E-08	4.581E-09	1.472E-10	1.567E-16	1.950E-37	0.0	0.0	0.0	0.0	0.0
PD	7.873E-13	7.873E-13	7.873E-13	7.873E-13	7.873E-13	7.873E-13	7.873E-13	7.873E-13	7.873E-13	7.865E-13	7.790E-13	7.666E-13
AG	6.459E-04	2.356E-04	8.665E-05	5.774E-06	1.690E-06	1.492E-06	1.018E-06	3.415E-07	7.494E-09	3.490E-30	0.0	0.0
CD	5.552E-03	2.957E-03	1.712E-03	3.332E-04	2.177E-05	3.969E-10	1.027E-26	0.0	0.0	0.0	0.0	0.0
IN	1.085E-02	6.528E-05	3.932E-07	8.813E-14	2.462E-15	2.462E-15	2.462E-15	2.462E-15	2.462E-15	2.462E-15	2.462E-15	2.462E-15
SN	1.099E+01	3.258E+00	1.077E+00	4.706E-02	1.023E-03	5.759E-04	2.181E-04	1.361E-05	8.262E-10	0.0	0.0	0.0
SB	4.265E+00	3.287E+00	2.559E+00	1.208E+00	3.457E-01	2.319E-03	5.722E-11	0.0	0.0	0.0	0.0	0.0
TE	1.025E+00	8.040E-01	6.247E-01	2.947E-01	8.433E-02	5.657E-04	1.399E-11	2.803E-14	2.803E-14	2.803E-14	2.803E-14	2.803E-14
I	8.837E-15	8.835E-15	8.835E-15	8.835E-15	8.835E-15	8.835E-15	8.835E-15	8.835E-15	8.835E-15	8.831E-15	8.796E-15	8.738E-15
XE	5.702E-10	5.449E-13	5.208E-16	4.547E-25	3.627E-40	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	7.617E-17	5.443E-17	3.889E-17	1.419E-17	2.647E-18	1.280E-20	1.294E-24	1.294E-24	1.294E-24	1.294E-24	1.267E-24	1.209E-24
PR	6.550E-25	5.136E-33	4.027E-41	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ND	9.618E-21	1.101E-30	2.838E-37	2.837E-37	2.837E-37	2.837E-37	2.837E-37	2.837E-37	2.837E-37	2.837E-37	2.837E-37	2.837E-37
PM	3.247E-17	2.365E-17	1.827E-17	8.181E-18	2.193E-18	2.042E-20	1.896E-28	0.0	0.0	0.0	0.0	0.0
SM	1.820E-11	1.806E-11	1.793E-11	1.752E-11	1.685E-11	1.445E-11	8.427E-12	1.806E-12	8.210E-15	1.139E-19	1.138E-19	1.136E-19
EU	6.182E-05	5.615E-05	5.106E-05	3.853E-05	2.438E-05	4.311E-06	1.443E-08	2.984E-15	4.972E-31	0.0	0.0	0.0
GD	9.976E-04	3.505E-04	1.231E-04	5.338E-06	2.857E-08	4.411E-17	2.069E-17	2.069E-17	2.069E-17	2.069E-17	2.069E-17	2.069E-17
TB	2.078E-03	6.266E-05	1.889E-06	5.178E-11	1.290E-18	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	7.086E-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	4.152E-12	4.150E-12	4.148E-12	4.141E-12	4.129E-12	4.081E-12	3.919E-12	3.492E-12	2.331E-12	1.288E-14	3.413E-37	0.0
ER	1.889E-17	3.795E-25	7.626E-41	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	3.087E-14	4.454E-15	7.224E-16	4.413E-17	6.993E-18	5.116E-21	5.417E-32	0.0	0.0	0.0	0.0	0.0
TA	6.400E-06	7.081E-07	7.834E-08	1.060E-10	1.757E-15	1.327E-34	0.0	0.0	0.0	0.0	0.0	0.0
W	5.329E-04	2.194E-05	1.222E-06	1.255E-09	3.582E-14	2.556E-32	0.0	0.0	0.0	0.0	0.0	0.0
RE	2.280E-05	5.937E-07	1.546E-08	1.911E-12	1.638E-12	1.638E-12	1.638E-12	1.638E-12	1.638E-12	1.638E-12	1.638E-12	1.638E-12
OS	8.097E-11	1.759E-17	1.042E-17	7.367E-18	4.138E-18	4.065E-19	1.250E-22	1.155E-32	0.0	0.0	0.0	0.0
IR	4.288E-09	1.402E-10	4.614E-12	3.001E-14	2.942E-14	2.778E-14	2.271E-14	1.278E-14	1.706E-15	9.768E-27	0.0	0.0
PT	5.949E-14	5.941E-14	5.933E-14	5.900E-14	5.867E-14	5.707E-14	5.179E-14	3.925E-14	1.487E-14	5.674E-20	0.0	0.0
AU	2.836E-38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TL	3.196E-12	3.196E-12	3.196E-12	3.196E-12	3.196E-12	3.196E-12	3.196E-12	3.196E-12	3.196E-12	3.189E-12	3.123E-12	3.017E-12
PB	2.388E-13	2.388E-13	2.388E-13	2.388E-13	2.388E-13	2.388E-13	2.388E-13	2.388E-13	2.388E-13	2.388E-13	2.383E-13	2.375E-13
BI	4.666E-11	4.666E-11	4.666E-11	4.666E-11	4.666E-11	4.666E-11	4.665E-11	4.664E-11	4.658E-11	4.584E-11	3.913E-11	3.016E-11
PO	3.844E-06	6.173E-07	9.912E-08	4.105E-10	5.667E-14	1.284E-14	1.284E-14	1.284E-14	1.283E-14	1.281E-14	1.254E-14	1.212E-14
TOTAL	1.268E+05	3.449E+04	1.836E+04	5.214E+03	1.610E+03	2.380E+02	1.156E+02	2.944E+01	4.911E+00	3.654E+00	1.447E+00	4.128E-01

TABLE C.66. CURIES OF PRINCIPAL ACTIVATION PRODUCT NUCLIDES IN BLENDED LMFBR CLADDING WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
C 14	1.143E+00	1.143E+00	1.143E+00	1.143E+00	1.142E+00	1.139E+00	1.129E+00	1.102E+00	1.013E+00	3.410E-01	6.365E-06	8.363E-14
MN 54	4.913E+04	2.185E+04	9.720E+03	8.553E+02	1.489E+01	1.368E-06	0.0	0.0	0.0	0.0	0.0	0.0
FE 55	1.141E+04	8.738E+03	6.693E+03	3.008E+03	7.932E+02	3.843E+00	3.020E-08	0.0	0.0	0.0	0.0	0.0
CO 58	6.313E+04	1.765E+03	4.934E+01	1.078E-03	1.841E-11	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CO 60	2.157E+03	1.891E+03	1.658E+03	1.117E+03	5.788E+02	4.169E+01	4.182E-03	1.572E-14	0.0	0.0	0.0	0.0
NI 59	3.277E+00	3.277E+00	3.277E+00	3.277E+00	3.277E+00	3.276E+00	3.274E+00	3.268E+00	3.249E+00	3.005E+00	1.378E+00	3.756E-01
NI 63	2.390E+02	2.332E+02	2.315E+02	2.263E+02	2.179E+02	1.874E+02	1.106E+02	2.451E+01	1.258E-01	0.0	0.0	0.0
NB 94	2.791E-01	2.791E-01	2.791E-01	2.791E-01	2.790E-01	2.788E-01	2.782E-01	2.763E-01	2.697E-01	1.984E-01	9.180E-03	5.471E-05
MO 93	2.076E-01	2.075E-01	2.075E-01	2.074E-01	2.072E-01	2.063E-01	2.038E-01	1.956E-01	1.703E-01	2.862E-02	5.155E-10	6.381E-23
TC 99	8.372E-02	8.372E-02	8.372E-02	8.372E-02	8.372E-02	8.371E-02	8.370E-02	8.364E-02	8.345E-02	8.104E-02	6.047E-02	3.711E-02
SUMTOT	1.261E+05	3.449E+04	1.836E+04	5.212E+03	1.610E+03	2.380E+02	1.156E+02	2.944E+01	4.911E+00	3.654E+00	1.447E+00	4.128E-01
TOTAL	1.268E+05	3.449E+04	1.836E+04	5.214E+03	1.610E+03	2.380E+02	1.156E+02	2.944E+01	4.911E+00	3.654E+00	1.447E+00	4.128E-01

TABLE C.67. WATTS OF ACTIVATION PRODUCT ELEMENTS IN BLENDED LMFBR CLADDING WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
H	7.177E-08	6.785E-08	6.415E-08	5.421E-08	4.094E-08	1.332E-08	2.615E-10	3.485E-15	3.011E-32	0.0	0.0	0.0
BE	4.455E-09	4.455E-09	4.455E-09	4.455E-09	4.455E-09	4.455E-09	4.455E-09	4.455E-09	4.453E-09	4.436E-09	4.266E-09	3.998E-09
C	3.352E-04	3.352E-04	3.352E-04	3.350E-04	3.348E-04	3.340E-04	3.312E-04	3.233E-04	2.970E-04	9.993E-05	1.867E-09	2.452E-17
NA	1.396E-05	1.069E-05	8.192E-10	3.684E-10	9.723E-11	4.716E-13	3.757E-21	0.0	0.0	0.0	0.0	0.0
SI	2.429E-11	2.426E-11	2.424E-11	2.416E-11	2.403E-11	2.353E-11	2.183E-11	1.764E-11	8.362E-12	5.678E-16	0.0	0.0
P	5.910E-05	1.980E-10	1.974E-10	1.968E-10	1.957E-10	1.916E-10	1.778E-10	1.437E-10	6.810E-11	4.624E-15	0.0	0.0
S	1.960E-06	1.104E-07	6.215E-09	1.109E-12	6.279E-19	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CL	5.806E-13	5.805E-13	5.806E-13	5.806E-13	5.806E-13	5.805E-13	5.804E-13	5.802E-13	5.792E-13	5.674E-13	4.612E-13	3.265E-13
AR	1.537E-16	1.532E-16	1.527E-16	1.513E-16	1.489E-16	1.403E-16	1.155E-16	6.860E-17	1.130E-17	9.595E-28	0.0	0.0
K	3.149E-14	3.149E-14	3.149E-14	3.149E-14	3.148E-14	3.148E-14	3.147E-14	3.147E-14	3.147E-14	3.147E-14	3.147E-14	3.147E-14
CA	1.109E-05	2.345E-06	4.959E-07	4.703E-09	1.894E-11	1.695E-11	1.694E-11	1.691E-11	1.681E-11	1.556E-11	7.204E-12	1.996E-12
SC	2.155E-02	1.050E-02	5.118E-05	5.926E-09	1.630E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	2.847E-15	2.847E-15	2.847E-15	2.847E-15	2.847E-15	2.847E-15	2.847E-15	2.847E-15	2.847E-15	2.847E-15	2.847E-15	2.847E-15
CR	1.220E-01	1.313E-05	1.412E-09	1.760E-21	2.539E-41	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MN	2.446E+02	1.088E+02	4.840E+01	4.259E+00	7.416E-02	6.813E-09	0.0	0.0	0.0	0.0	0.0	0.0
FE	1.663E+01	1.202E+01	9.205E+00	4.137E+00	1.091E+00	5.285E-03	4.153E-11	0.0	0.0	0.0	0.0	0.0
CO	4.112E+02	3.972E+01	2.586E+01	1.723E+01	8.924E+00	6.428E-01	6.447E-05	2.424E-16	0.0	0.0	0.0	0.0
NI	1.142E-01	1.135E-01	1.128E-01	1.107E-01	1.074E-01	9.530E-02	6.478E-02	3.054E-02	2.073E-02	1.913E-02	8.771E-03	2.391E-03
CU	1.871E-26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZN	4.190E-04	1.484E-04	5.254E-05	2.333E-06	1.301E-08	1.250E-17	0.0	0.0	0.0	0.0	0.0	0.0
GE	7.143E-15	3.435E-24	1.652E-33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	4.962E-31	4.962E-31	4.962E-31	4.962E-31	4.962E-31	4.962E-31	4.962E-31	4.962E-31	4.962E-31	4.962E-31	4.962E-31	4.962E-31
SR	8.092E-07	7.195E-09	1.823E-09	1.66AE-09	1.477E-09	9.176E-10	1.734E-10	1.488E-12	8.623E-20	0.0	0.0	0.0
Y	2.016E-07	1.128E-08	8.569E-09	7.947E-09	7.055E-09	4.383E-09	8.283E-10	7.092E-12	4.119E-19	0.0	0.0	0.0
ZR	7.057E-03	1.349E-04	2.584E-06	3.405E-09	3.387E-09	3.387E-09	3.387E-09	3.388E-09	3.385E-09	3.371E-09	3.237E-09	3.024E-09
NB	6.565E-02	3.173E-03	2.849E-03	2.844E-03	2.843E-03	2.841E-03	2.834E-03	2.815E-03	2.749E-03	2.021E-03	9.354E-05	5.619E-07
MO	1.940E-05	1.940E-05	1.940E-05	1.938E-05	1.936E-05	1.929E-05	1.902E-05	1.828E-05	1.592E-05	2.675E-06	4.819E-14	5.965E-27
TC	4.199E-05	4.198E-05	4.198E-05	4.198E-05	4.198E-05	4.198E-05	4.197E-05	4.194E-05	4.185E-05	4.064E-05	3.032E-05	1.861E-05
RU	2.220E-02	3.535E-05	5.559E-08	2.726E-13	8.749E-15	9.314E-21	1.159E-41	0.0	0.0	0.0	0.0	0.0
RH	1.368E-09	6.877E-10	3.458E-10	4.394E-11	1.411E-12	1.502E-18	1.870E-39	0.0	0.0	0.0	0.0	0.0
PD	4.667E-17	4.667E-17	4.667E-17	4.667E-17	4.667E-17	4.667E-17	4.667E-17	4.667E-17	4.667E-17	4.662E-17	4.618E-17	4.544E-17
AG	1.069E-05	3.892E-06	1.423E-06	8.315E-08	1.580E-08	1.378E-08	9.406E-09	3.158E-09	6.922E-11	3.224E-32	0.0	0.0
CD	4.933E-06	1.887E-06	1.090E-06	2.121E-07	1.386E-08	2.527E-13	6.535E-30	0.0	0.0	0.0	0.0	0.0
IN	3.217E-05	1.936E-07	1.166E-09	2.576E-16	3.532E-18	3.532E-18	3.532E-18	3.532E-18	3.532E-18	3.532E-18	3.532E-18	3.532E-18
SN	1.149E-02	2.514E-03	6.747E-04	2.586E-05	1.659E-06	1.154E-06	4.370E-07	2.727E-08	1.655E-12	0.0	0.0	0.0
SB	1.378E-02	1.028E-02	8.000E-03	3.776E-03	1.081E-03	7.249E-06	1.789E-13	0.0	0.0	0.0	0.0	0.0
TE	8.734E-04	6.772E-04	5.252E-04	2.477E-04	7.089E-05	4.755E-07	1.174E-14	4.193E-18	4.193E-18	4.193E-18	4.193E-18	4.193E-18
I	4.095E-18	4.087E-18	4.087E-18	4.087E-18	4.087E-18	4.087E-18	4.087E-18	4.087E-18	4.087E-18	4.085E-18	4.069E-18	4.042E-18
XE	1.051E-12	1.004E-15	9.600E-19	8.383E-28	6.687E-43	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	7.752E-19	5.539E-19	3.958E-19	1.445E-19	2.694E-20	1.302E-22	4.319E-28	4.318E-28	4.318E-28	4.313E-28	4.227E-28	4.036E-28
PR	1.220E-27	9.569E-36	7.503E-44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ND	2.321E-23	2.657E-33	3.043E-43	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM	3.300E-20	9.616E-21	8.723E-21	2.934E-21	7.866E-22	7.325E-24	6.802E-32	0.0	0.0	0.0	0.0	0.0
SM	2.134E-15	2.118E-15	2.102E-15	2.054E-15	1.976E-15	1.694E-15	9.880E-16	2.117E-16	9.643E-19	1.715E-21	1.713E-21	1.711E-21
EU	4.202E-07	3.858E-07	3.563E-07	2.786E-07	1.852E-07	3.655E-08	1.289E-10	2.456E-17	3.769E-33	0.0	0.0	0.0
GD	8.598E-07	3.021E-07	1.061E-07	4.601E-09	2.463E-11	2.897E-19	2.695E-19	2.695E-19	2.695E-19	2.695E-19	2.695E-19	2.695E-19
TB	1.693E-05	5.104E-07	1.539E-08	4.217E-13	1.051E-20	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	8.275E-26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	4.600E-14	4.598E-14	4.595E-14	4.587E-14	4.574E-14	4.521E-14	4.342E-14	3.869E-14	2.582E-14	1.427E-16	3.781E-39	0.0
ER	3.807E-20	7.649E-32	1.537E-43	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	6.079E-17	8.510E-18	1.204E-18	9.734E-21	1.085E-21	7.933E-25	8.400E-36	0.0	0.0	0.0	0.0	0.0
TA	5.698E-08	6.304E-09	6.975E-10	9.434E-13	1.554E-17	1.181E-36	0.0	0.0	0.0	0.0	0.0	0.0
W	1.224E-06	4.302E-08	1.608E-09	4.050E-13	1.010E-17	7.206E-36	0.0	0.0	0.0	0.0	0.0	0.0
RE	1.131E-07	2.946E-09	7.674E-11	2.649E-14	2.514E-14	2.514E-14	2.514E-14	2.514E-14	2.514E-14	2.514E-14	2.514E-14	2.514E-14
OS	1.176E-13	1.529E-20	5.990E-21	4.236E-21	2.379E-21	2.337E-22	7.190E-26	6.643E-36	0.0	0.0	0.0	0.0
IR	2.531E-11	8.278E-13	2.716E-14	1.034E-16	1.009E-16	9.527E-17	7.789E-17	4.382E-17	5.852E-18	3.350E-29	0.0	0.0
PT	1.763E-17	1.761E-17	1.758E-17	1.751E-17	1.739E-17	1.691E-17	1.535E-17	1.163E-17	4.408E-18	1.682E-23	0.0	0.0
AU	2.310E-40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TL	2.887E-14	2.887E-14	2.887E-14	2.887E-14	2.887E-14	2.887E-14	2.887E-14	2.887E-14	2.887E-14	2.881E-14	2.822E-14	2.725E-14
PB	4.955E-17	4.955E-17	4.955E-17	4.955E-17	4.955E-17	4.955E-17	4.955E-17	4.955E-17	4.955E-17	4.954E-17	4.944E-17	4.927E-17
BI	8.400E-13	8.400E-13	8.400E-13	8.400E-13	8.400E-13	8.399E-13	8.398E-13	8.396E-13	8.386E-13	8.260E-13	7.108E-13	5.567E-13
PO	1.232E-07	1.979E-08	3.178E-09	1.316E-11	1.817E-15	4.115E-16	4.115E-16	4.115E-16	4.114E-16	4.105E-16	4.021E-16	3.884E-16
TOTAL	6.728E+02	1.607E+02	8.358E+01	2.574E+01	1.020E+01	7.466E-01	6.807E-02	3.374E-02	2.383E-02	2.129E-02	8.895E-03	2.410E-03

TABLE C.68. WATTS OF PRINCIPAL ACTIVATION PRODUCT NUCLIDES IN BLENDED LMFBR CLADDING WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
C 14	3.352E-04	3.352E-04	3.352E-04	3.350E-04	3.348E-04	3.340E-04	3.312E-04	3.233E-04	2.970E-04	9.998E-05	1.867E-09	2.452E-17
MN 54	2.446E+02	1.088E+02	4.840E+01	4.259E+00	7.416E-02	8.813E-09	0.0	0.0	0.0	0.0	0.0	0.0
FE 55	1.569E+01	1.262E+01	9.205E+00	4.137E+00	1.091E+00	5.285E-03	4.153E-11	0.0	0.0	0.0	0.0	0.0
CO 58	3.780E+02	1.057E+01	2.954E-01	6.454E-06	1.102E-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CO 60	3.325E+01	2.915E+01	2.556E+01	1.723E+01	8.924E+00	6.428E-01	6.447E-05	2.424E-16	0.0	0.0	0.0	0.0
NI 59	2.086E-02	2.086E-02	2.086E-02	2.086E-02	2.086E-02	2.086E-02	2.084E-02	2.081E-02	2.068E-02	1.913E-02	8.771E-03	2.391E-03
NI 63	9.332E-02	9.262E-02	9.193E-02	8.987E-02	8.658E-02	7.444E-02	4.393E-02	9.734E-03	4.996E-05	0.0	0.0	0.0
NB 94	2.844E-03	2.844E-03	2.844E-03	2.844E-03	2.843E-03	2.841E-03	2.834E-03	2.815E-03	2.749E-03	2.021E-03	9.354E-05	8.575E-07
TC 99	4.199E-05	4.198E-05	4.198E-05	4.198E-05	4.198E-05	4.198E-05	4.197E-05	4.194E-05	4.185E-05	4.064E-05	3.032E-05	1.861E-05
SUMTOT	6.716E+02	1.607E+02	8.357E+01	2.574E+01	1.020E+01	7.466E-01	6.805E-02	3.372E-02	2.382E-02	2.129E-02	8.895E-03	2.410E-03
TOTAL	6.728E+02	1.607E+02	8.358E+01	2.574E+01	1.020E+01	7.466E-01	6.807E-02	3.374E-02	2.383E-02	2.129E-02	8.895E-03	2.410E-03

TABLE C.69. PHOTONS FROM ACTIVATION PRODUCTS IN BLENDED LMFBR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS=ONE TONNE INITIAL HEAVY METAL: ADV OX LMFBR: LWR-PU/U/U/U

EMEAN	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	7.855E+14	1.301E+14	5.335E+13	6.617E+12	1.267E+12	1.304E+11	3.281E+10	1.485E+10	8.759E+09	2.317E+09	2.354E+08	1.273E+08
2.500E-02	2.836E+13	1.539E+12	6.671E+11	4.126E+11	2.078E+11	1.687E+10	1.725E+09	6.462E+08	3.274E+08	2.015E+08	4.012E+07	2.145E+07
3.750E-02	1.832E+13	8.872E+11	3.520E+11	2.247E+11	1.149E+11	8.744E+09	4.688E+08	2.482E+08	1.790E+08	1.140E+08	2.264E+07	1.199E+07
5.750E-02	2.620E+13	1.133E+12	3.828E+11	2.443E+11	1.266E+11	9.347E+09	2.281E+08	2.031E+08	1.899E+08	1.279E+08	2.512E+07	1.307E+07
8.500E-02	1.569E+13	5.960E+11	1.547E+11	9.607E+10	4.978E+10	3.653E+09	7.495E+07	7.400E+07	7.200E+07	5.242E+07	9.608E+06	4.789E+06
1.250E-01	1.010E+13	3.433E+11	6.301E+10	3.708E+10	1.917E+10	1.406E+09	3.137E+07	3.103E+07	3.034E+07	2.297E+07	3.593E+06	1.667E+06
2.250E-01	1.300E+13	3.907E+11	3.393E+10	1.484E+10	7.068E+09	4.747E+08	1.761E+07	1.745E+07	1.706E+07	1.276E+07	1.199E+06	4.018E+05
3.750E-01	6.802E+12	1.890E+11	4.312E+10	1.953E+10	6.376E+09	1.586E+08	8.404E+05	7.980E+05	7.676E+05	5.643E+05	2.615E+04	1.961E+02
5.750E-01	6.238E+14	1.749E+13	5.315E+11	2.094E+10	6.034E+09	4.714E+07	3.463E+04	1.130E+04	2.498E+02	2.735E-01	2.621E-01	2.448E-01
8.500E-01	4.015E+15	8.561E+14	3.548E+14	3.109E+13	5.617E+11	1.920E+10	1.903E+10	1.890E+10	1.846E+10	1.357E+10	6.282E+08	3.744E+06
1.250E+00	1.596E+14	1.399E+14	1.226E+14	8.266E+13	4.282E+13	3.084E+12	3.094E+08	6.100E-01	9.682E-02	3.604E-02	3.602E-02	3.601E-02
1.750E+00	1.156E+13	3.232E+11	9.035E+09	2.336E+05	1.204E+04	2.384E+03	9.930E+00	2.262E-02	2.949E-04	5.833E-09	1.104E-10	1.066E-10
2.250E+00	9.344E+08	7.427E+08	6.500E+08	4.381E+08	2.270E+08	1.635E+07	1.640E+03	1.417E-06	5.668E-11	5.648E-11	5.532E-11	5.343E-11
2.750E+00	2.681E+06	2.295E+06	2.011E+06	1.356E+06	7.023E+05	5.058E+04	5.074E+00	5.783E-11	2.836E-11	2.830E-11	2.772E-11	2.677E-11
3.500E+00	1.483E-01	7.453E-02	3.747E-02	4.762E-03	1.530E-04	4.741E-10	8.762E-11	2.186E-11	2.085E-11	2.081E-11	2.038E-11	1.969E-11
5.000E+00	7.450E-06	1.196E-06	1.921E-07	8.019E-10	6.306E-12	6.221E-12	6.221E-12	6.221E-12	6.220E-12	6.207E-12	6.079E-12	5.872E-12
7.000E+00	4.834E-07	7.763E-08	1.247E-08	5.203E-11	4.084E-13	4.028E-13	4.028E-13	4.028E-13	4.027E-13	4.019E-13	3.936E-13	3.802E-13
1.100E+01	3.057E-08	4.909E-09	7.883E-10	3.290E-12	2.585E-14	2.550E-14	2.550E-14	2.550E-14	2.550E-14	2.545E-14	2.492E-14	2.407E-14
TOTAL	5.714E+15	1.149E+15	5.331E+14	1.214E+14	4.519E+13	3.275E+12	5.470E+10	3.497E+10	2.803E+10	1.642E+10	9.659E+08	1.845E+08
MEV/SEC	4.014E+15	9.156E+14	4.561E+14	1.299E+14	5.405E+13	3.876E+12	1.715E+10	1.634E+10	1.586E+10	1.160E+10	5.423E+08	7.536E+06

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS=ONE TONNE INITIAL HEAVY METAL: ADV OX LMFBR: LWR-PU/U/U/U

EMEAN	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	1.178E+07	1.951E+06	8.002E+05	9.925E+04	1.900E+04	1.956E+03	4.922E+02	2.227E+02	1.314E+02	3.476E+01	3.531E+00	1.910E+00
2.500E-02	7.091E+05	3.848E+04	1.668E+04	1.032E+04	5.195E+03	4.217E+02	4.313E+01	1.616E+01	8.185E+00	5.038E+00	1.003E+00	5.363E-01
3.750E-02	6.869E+05	3.327E+04	1.320E+04	8.426E+03	4.310E+03	3.279E+02	1.758E+01	9.307E+00	6.713E+00	4.275E+00	8.491E-01	4.497E-01
5.750E-02	1.506E+06	6.513E+04	2.201E+04	1.405E+04	7.282E+03	5.375E+02	1.312E+01	1.168E+01	1.092E+01	7.354E+00	1.444E+00	7.513E-01
8.500E-02	1.333E+06	5.066E+04	1.315E+04	8.166E+03	4.231E+03	3.105E+02	6.371E+00	6.290E+00	6.120E+00	4.456E+00	8.167E-01	4.071E-01
1.250E-01	1.262E+06	4.291E+04	7.876E+03	4.635E+03	2.397E+03	1.757E+02	3.921E+00	3.876E+00	3.792E+00	2.871E+00	4.491E-01	2.084E-01
2.250E-01	2.925E+06	8.790E+04	7.634E+03	3.340E+03	1.590E+03	1.068E+02	3.963E+00	3.927E+00	3.838E+00	2.870E+00	2.698E-01	9.041E-02
3.750E-01	2.551E+06	7.088E+04	1.617E+04	7.323E+03	2.391E+03	5.947E+01	3.151E-01	2.992E-01	2.878E-01	2.116E-01	9.808E-03	7.352E-05
5.750E-01	3.587E+08	1.006E+07	3.056E+05	1.204E+04	3.469E+03	2.710E+01	1.991E-02	6.499E-03	1.436E-04	1.573E-07	1.507E-07	1.408E-07
8.500E-01	3.413E+09	7.277E+08	3.016E+08	2.643E+07	4.775E+05	1.632E+04	1.618E+04	1.607E+04	1.569E+04	1.154E+04	5.339E+02	3.182E+00
1.250E+00	1.995E+08	1.749E+08	1.533E+08	1.033E+08	5.353E+07	3.856E+06	3.867E+02	7.625E-07	1.210E-07	4.504E-08	4.502E-08	4.502E-08
1.750E+00	2.023E+07	5.655E+05	1.581E+04	4.088E-01	2.107E-02	4.172E-03	1.738E-05	3.958E-08	5.161E-10	1.021E-14	1.932E-16	1.866E-16
2.250E+00	2.102E+03	1.671E+03	1.463E+03	9.857E+02	5.106E+02	3.678E+01	3.689E-03	3.188E-12	1.275E-16	1.271E-16	1.245E-16	1.202E-16
2.750E+00	7.374E+00	6.312E+00	5.531E+00	3.728E+00	1.931E+00	1.391E-01	1.395E-05	1.590E-16	7.799E-17	7.782E-17	7.622E-17	7.363E-17
3.500E+00	5.189E-07	2.609E-07	1.312E-07	1.667E-08	5.353E-10	1.660E-15	3.067E-16	7.650E-17	7.298E-17	7.283E-17	7.133E-17	6.890E-17
5.000E+00	3.725E-11	5.982E-12	9.606E-13	4.009E-15	3.153E-17	3.111E-17	3.111E-17	3.110E-17	3.110E-17	3.103E-17	3.040E-17	2.936E-17
7.000E+00	3.384E-12	5.434E-13	8.726E-14	3.642E-16	2.858E-18	2.820E-18	2.820E-18	2.820E-18	2.819E-18	2.813E-18	2.755E-18	2.662E-18
1.100E+01	3.363E-13	5.400E-14	8.672E-15	3.619E-17	2.844E-19	2.806E-19	2.805E-19	2.805E-19	2.805E-19	2.799E-19	2.741E-19	2.648E-19
TOTAL	4.014E+09	9.156E+08	4.561E+08	1.299E+08	5.405E+07	3.876E+06	1.715E+04	1.634E+04	1.586E+04	1.160E+04	5.423E+02	7.536E+00
GAM POW	6.435E+02	1.468E+02	7.312E+01	2.083E+01	8.665E+00	6.213E-01	2.749E-03	2.620E-03	2.542E-03	1.860E-03	8.693E-05	1.208E-06

TABLE C.70. GRAMS OF ACTINIDE ELEMENTS IN BLENDED LMFBR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
HE	0.0	2.970E-04	4.586E-04	8.512E-04	1.512E-03	4.297E-03	1.366E-02	3.427E-02	7.837E-02	3.021E-01	7.312E-01	7.878E-01
SE	7.544E-09	1.101E-08	1.380E-08	2.117E-08	3.171E-08	5.908E-08	8.587E-08	1.041E-07	1.596E-07	6.639E-07	2.478E-06	4.653E-06
TL	3.139E-15	6.780E-15	1.103E-14	2.276E-14	3.331E-14	3.316E-14	1.695E-14	2.535E-15	2.691E-16	1.141E-14	2.772E-13	4.095E-13
PB	8.099E-10	2.416E-09	5.345E-09	2.236E-08	7.021E-08	3.027E-07	8.621E-07	1.366E-06	1.857E-06	2.523E-04	2.855E-02	1.118E-01
BI	2.093E-13	4.386E-13	7.019E-13	1.436E-12	2.161E-12	2.784E-12	7.860E-12	2.117E-10	1.796E-08	3.951E-05	1.303E-02	7.769E-02
PO	3.284E-15	4.008E-15	4.031E-15	3.793E-15	3.665E-15	1.923E-14	1.086E-12	3.167E-11	6.715E-10	3.289E-08	2.593E-07	2.970E-07
AT	3.913E-23	3.926E-23	3.950E-23	4.035E-23	4.225E-23	5.645E-23	2.526E-22	3.870E-21	1.010E-19	1.789E-17	4.148E-16	8.425E-16
RN	0.0	8.029E-15	9.806E-15	2.025E-14	2.974E-14	3.187E-14	8.055E-14	1.205E-12	1.962E-11	5.609E-10	7.574E-09	8.678E-09
FR	3.579E-19	3.603E-19	3.640E-19	3.778E-19	4.092E-19	6.364E-19	3.007E-18	3.813E-17	9.327E-16	1.631E-13	3.783E-12	7.673E-12
RA	1.640E-11	3.550E-11	5.796E-11	1.223E-10	1.941E-10	5.450E-10	1.028E-08	1.872E-07	3.052E-06	1.495E-04	1.178E-03	1.350E-03
AC	1.005E-13	1.498E-13	2.087E-13	4.400E-13	9.923E-13	4.800E-12	2.766E-11	1.159E-10	6.187E-10	2.653E-08	6.502E-07	9.154E-07
TH	4.389E-08	7.397E-08	1.122E-07	2.711E-07	6.742E-07	3.958E-06	3.249E-05	1.892E-04	8.955E-04	1.075E-02	8.851E-02	1.460E-01
PA	6.375E-09	6.946E-09	7.519E-09	9.270E-09	1.231E-08	2.545E-08	7.654E-08	2.407E-07	1.024E-06	3.997E-05	9.781E-04	1.366E-03
U	4.306E+02	4.306E+02	4.306E+02	4.306E+02	4.306E+02	4.307E+02	4.310E+02	4.315E+02	4.328E+02	4.452E+02	4.698E+02	4.717E+02
NP	1.205E-01	1.212E-01	1.220E-01	1.254E-01	1.340E-01	1.924E-01	4.718E-01	1.163E+00	2.397E+00	2.985E+00	2.901E+00	2.764E+00
PU	4.546E+01	4.535E+01	4.523E+01	4.490E+01	4.445E+01	4.339E+01	4.256E+01	4.203E+01	4.068E+01	2.823E+01	3.314E+00	1.250E+00
AM	6.463E-01	7.675E-01	8.828E-01	1.196E+00	1.623E+00	2.954E+00	2.856E+00	2.166E+00	8.896E-01	1.221E-01	2.598E-05	9.005E-10
CM	6.574E-02	5.724E-02	5.313E-02	4.735E-02	3.992E-02	2.103E-02	5.562E-03	4.286E-03	4.036E-03	1.915E-03	3.156E-06	1.914E-06
BK	2.553E-10	1.158E-10	5.248E-11	4.890E-12	9.364E-14	1.259E-20	4.353E-26	4.318E-26	4.199E-26	2.934E-26	8.137E-28	2.086E-30
CF	1.926E-10	3.310E-10	3.929E-10	4.362E-10	4.342E-10	4.124E-10	3.566E-10	2.401E-10	6.020E-11	9.561E-17	2.896E-23	7.424E-26
ES	1.407E-19	3.839E-21	1.545E-21	9.036E-23	1.126E-23	1.189E-31	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	4.769E+02	4.769E+02	4.769E+02	4.769E+02	4.769E+02	4.769E+02	4.769E+02	4.769E+02	4.769E+02	4.769E+02	4.769E+02	4.769E+02

TABLE C.71. GRAMS OF PRINCIPAL ACTINIDE NUCLIDES IN BLENDED LMFBR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
HE 4	0.0	2.970E-04	4.586E-04	8.512E-04	1.512E-03	4.297E-03	1.366E-02	3.427E-02	7.837E-02	3.021E-01	7.312E-01	7.878E-01
U235	5.596E-01	5.605E-01	5.613E-01	5.638E-01	5.681E-01	5.851E-01	6.445E-01	8.135E-01	1.398E+00	7.971E+00	2.868E+01	3.034E+01
U236	8.616E-02	8.727E-02	8.837E-02	9.169E-02	9.722E-02	1.193E-01	1.965E-01	4.140E-01	1.140E+00	6.931E+00	1.053E+01	1.049E+01
U238	4.299E+02	4.299E+02	4.299E+02	4.299E+02	4.299E+02	4.299E+02	4.299E+02	4.299E+02	4.299E+02	4.300E+02	4.302E+02	4.306E+02
NP237	1.205E-01	1.212E-01	1.220E-01	1.254E-01	1.340E-01	1.923E-01	4.717E-01	1.163E+00	2.397E+00	2.985E+00	2.901E+00	2.764E+00
PU239	3.001E+01	3.001E+01	3.000E+01	3.000E+01	3.000E+01	2.998E+01	2.992E+01	2.976E+01	2.918E+01	2.266E+01	1.708E+00	2.271E-02
PU240	1.060E+01	1.060E+01	1.060E+01	1.060E+01	1.061E+01	1.060E+01	1.054E+01	1.032E+01	9.580E+00	3.689E+00	2.646E-04	3.130E-09
PU241	2.595E+00	2.473E+00	2.356E+00	2.040E+00	1.603E+00	6.122E-01	2.107E-02	8.324E-06	6.551E-06	3.145E-06	2.040E-09	9.922E-15
PU242	1.918E+00	1.918E+00	1.918E+00	1.918E+00	1.918E+00	1.918E+00	1.919E+00	1.919E+00	1.917E+00	1.886E+00	1.605E+00	1.227E+00
AM241	3.249E-01	4.462E-01	5.616E-01	8.750E-01	1.302E+00	2.234E+00	2.541E+00	1.860E+00	6.054E-01	9.472E-05	6.125E-08	3.138E-13
SUMTOT	4.761E+02	4.761E+02	4.761E+02	4.762E+02	4.762E+02	4.762E+02	4.762E+02	4.762E+02	4.762E+02	4.764E+02	4.764E+02	4.762E+02
TOTAL	4.769E+02	4.769E+02	4.769E+02	4.769E+02	4.769E+02	4.769E+02	4.769E+02	4.769E+02	4.769E+02	4.769E+02	4.769E+02	4.769E+02

TABLE C.72. CURIES OF ACTINIDE ELEMENTS IN BLENDED LMFBR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL	9.247E-07	1.997E-06	3.248E-06	6.703E-06	9.811E-06	9.768E-06	4.993E-06	7.423E-07	5.597E-08	2.508E-06	6.052E-05	9.368E-05
PB	2.574E-06	5.559E-06	9.041E-06	1.866E-05	2.731E-05	2.719E-05	1.391E-05	2.384E-06	6.265E-06	3.263E-04	3.044E-03	4.091E-03
BI	2.574E-06	5.559E-06	9.041E-06	1.866E-05	2.731E-05	2.719E-05	1.391E-05	2.384E-06	6.265E-06	3.263E-04	3.044E-03	4.091E-03
PO	4.223E-06	9.121E-06	1.483E-05	3.061E-05	4.480E-05	4.460E-05	2.282E-05	3.878E-06	9.294E-06	4.736E-04	4.195E-03	5.397E-03
AT	6.301E-11	6.321E-11	6.360E-11	6.498E-11	6.803E-11	9.090E-11	4.067E-10	6.231E-09	1.626E-07	2.881E-05	6.679E-04	1.357E-03
RN	0.0	5.559E-06	9.041E-06	1.866E-05	2.731E-05	2.719E-05	1.390E-05	2.236E-06	3.086E-06	1.498E-04	1.212E-03	1.400E-03
FR	6.311E-11	6.336E-11	6.381E-11	6.542E-11	6.902E-11	9.569E-11	4.343E-10	6.347E-09	1.632E-07	2.884E-05	6.685E-04	1.357E-03
RA	2.574E-06	5.559E-06	9.041E-06	1.866E-05	2.731E-05	2.719E-05	1.390E-05	2.242E-06	3.248E-06	1.786E-04	1.880E-03	2.756E-03
AC	7.020E-11	7.397E-11	7.862E-11	9.674E-11	1.397E-10	4.381E-10	2.408E-09	1.461E-08	2.071E-07	3.069E-05	7.141E-04	1.421E-03
TH	1.484E-04	1.514E-04	1.548E-04	1.645E-04	1.731E-04	1.731E-04	1.605E-04	1.522E-04	1.656E-04	3.829E-04	2.080E-03	2.960E-03
PA	2.297E-04	2.302E-04	2.308E-04	2.332E-04	2.393E-04	2.804E-04	4.775E-04	9.652E-04	1.835E-03	2.252E-03	2.237E-03	2.159E-03
U	2.832E-04	2.908E-04	3.089E-04	3.585E-04	4.328E-04	7.003E-04	1.412E-03	2.217E-03	2.487E-03	2.905E-03	3.365E-03	3.418E-03
NP	6.280E-02	6.277E-02	6.275E-02	6.273E-02	6.270E-02	6.258E-02	6.227E-02	6.143E-02	5.834E-02	2.643E-02	2.051E-03	1.949E-03
PU	2.775E+02	2.651E+02	2.531E+02	2.203E+02	1.751E+02	7.218E+01	9.226E+00	4.807E+00	4.011E+00	2.257E+00	1.124E-01	6.099E-03
AM	1.360E+00	1.775E+00	2.171E+00	3.244E+00	4.708E+00	7.392E+00	8.903E+00	6.493E+00	2.137E+00	2.465E-02	5.379E-06	1.807E-10
CM	4.860E+01	1.349E+01	5.935E+00	3.542E+00	2.924E+00	1.398E+00	1.427E-01	1.996E-02	1.494E-03	3.326E-04	2.102E-07	2.697E-10
BK	4.186E-07	1.898E-07	8.603E-08	8.015E-09	1.535E-10	2.081E-17	1.694E-19	1.681E-19	1.634E-19	1.142E-19	3.167E-21	8.119E-24
CF	2.274E-09	2.764E-09	2.945E-09	2.926E-09	2.653E-09	1.992E-09	1.469E-09	9.837E-10	2.465E-10	1.546E-16	3.167E-21	8.119E-24
ES	3.323E-15	7.041E-18	2.765E-18	1.686E-19	2.100E-20	2.218E-28	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	3.276E+02	2.804E+02	2.613E+02	2.272E+02	1.828E+02	8.154E+01	1.834E+01	1.138E+01	6.212E+00	2.316E+00	1.377E-01	3.855E-02

TABLE C.73. CURIES OF PRINCIPAL ACTINIDE NUCLIDES IN BLENDED LMFBR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL207	7.031E-12	1.074E-11	1.500E-11	3.170E-11	7.158E-11	3.463E-10	1.995E-09	8.356E-09	4.444E-08	1.879E-06	4.608E-05	6.437E-05
PB209	6.301E-11	6.321E-11	6.360E-11	6.498E-11	6.803E-11	9.090E-11	4.067E-10	6.231E-09	1.626E-07	2.881E-05	6.679E-04	1.357E-03
PB210	1.915E-11	1.858E-11	1.804E-11	1.669E-11	1.611E-11	8.606E-11	4.880E-09	1.423E-07	3.018E-06	1.478E-04	1.165E-03	1.335E-03
PB211	7.050E-12	1.077E-11	1.504E-11	3.179E-11	7.178E-11	3.473E-10	2.001E-09	8.375E-09	4.457E-08	1.884E-06	4.621E-05	6.455E-05
PB214	2.457E-13	6.042E-13	1.205E-12	5.113E-12	2.252E-11	3.702E-10	1.008E-08	1.851E-07	3.018E-06	1.478E-04	1.165E-03	1.335E-03
BI210	1.916E-11	1.860E-11	1.805E-11	1.670E-11	1.612E-11	8.607E-11	4.880E-09	1.423E-07	3.018E-06	1.478E-04	1.165E-03	1.335E-03
BI211	7.050E-12	1.077E-11	1.504E-11	3.179E-11	7.178E-11	3.473E-10	2.001E-09	8.375E-09	4.457E-08	1.884E-06	4.621E-05	6.455E-05
BI213	6.301E-11	6.321E-11	6.360E-11	6.498E-11	6.803E-11	9.090E-11	4.067E-10	6.231E-09	1.626E-07	2.881E-05	6.679E-04	1.357E-03
BI214	2.457E-13	6.042E-13	1.205E-12	5.113E-12	2.252E-11	3.702E-10	1.008E-08	1.851E-07	3.018E-06	1.478E-04	1.165E-03	1.335E-03
PO210	1.472E-11	1.794E-11	1.800E-11	1.680E-11	1.612E-11	8.607E-11	4.880E-09	1.423E-07	3.018E-06	1.478E-04	1.165E-03	1.335E-03
PO213	6.165E-11	6.185E-11	6.222E-11	6.358E-11	6.656E-11	8.894E-11	3.975E-10	6.097E-09	1.591E-07	2.819E-05	6.535E-04	1.327E-03
PO214	3.466E-12	6.041E-13	1.204E-12	5.112E-12	2.252E-11	3.701E-10	1.007E-08	1.850E-07	3.018E-06	1.478E-04	1.165E-03	1.335E-03
PO215	7.050E-12	1.077E-11	1.504E-11	3.179E-11	7.178E-11	3.473E-10	2.001E-09	8.375E-09	4.457E-08	1.884E-06	4.621E-05	6.455E-05
PO218	2.458E-13	6.044E-13	1.205E-12	5.114E-12	2.253E-11	3.703E-10	1.008E-08	1.851E-07	3.019E-06	1.479E-04	1.166E-03	1.335E-03
AT217	6.301E-11	6.321E-11	6.360E-11	6.498E-11	6.803E-11	9.090E-11	4.067E-10	6.231E-09	1.626E-07	2.881E-05	6.679E-04	1.357E-03
RN219	0.0	1.077E-11	1.504E-11	3.179E-11	7.178E-11	3.473E-10	2.001E-09	8.375E-09	4.457E-08	1.884E-06	4.621E-05	6.455E-05
RN222	0.0	6.044E-13	1.205E-12	5.114E-12	2.253E-11	3.703E-10	1.008E-08	1.851E-07	3.019E-06	1.479E-04	1.166E-03	1.335E-03
FR221	6.301E-11	6.321E-11	6.360E-11	6.498E-11	6.803E-11	9.090E-11	4.067E-10	6.231E-09	1.626E-07	2.881E-05	6.679E-04	1.357E-03
RA223	7.050E-12	1.077E-11	1.504E-11	3.179E-11	7.178E-11	3.473E-10	2.001E-09	8.375E-09	4.457E-08	1.884E-06	4.621E-05	6.455E-05
RA225	6.291E-11	6.321E-11	6.360E-11	6.498E-11	6.803E-11	9.090E-11	4.067E-10	6.231E-09	1.626E-07	2.881E-05	6.679E-04	1.357E-03
RA226	2.458E-13	6.044E-13	1.205E-12	5.114E-12	2.253E-11	3.703E-10	1.008E-08	1.851E-07	3.019E-06	1.479E-04	1.166E-03	1.335E-03
AC225	6.301E-11	6.321E-11	6.360E-11	6.498E-11	6.803E-11	9.090E-11	4.067E-10	6.231E-09	1.626E-07	2.881E-05	6.679E-04	1.357E-03
AC227	7.192E-12	1.076E-11	1.502E-11	3.176E-11	7.172E-11	3.472E-10	2.001E-09	8.375E-09	4.457E-08	1.884E-06	4.621E-05	6.455E-05
TH227	6.888E-12	1.063E-11	1.484E-11	3.136E-11	7.079E-11	3.425E-10	1.973E-09	8.264E-09	4.395E-08	1.858E-06	4.558E-05	6.366E-05
TH229	6.287E-11	6.321E-11	6.360E-11	6.498E-11	6.803E-11	9.090E-11	4.067E-10	6.231E-09	1.626E-07	2.881E-05	6.679E-04	1.357E-03
TH230	5.993E-10	1.082E-09	1.717E-09	4.530E-09	1.218E-08	7.722E-08	6.473E-07	3.773E-06	1.770E-05	1.903E-04	1.160E-03	1.329E-03
TH231	1.210E-06	1.212E-06	1.214E-06	1.219E-06	1.228E-06	1.265E-06	1.394E-06	1.759E-06	3.022E-06	1.724E-05	6.203E-05	6.560E-05
TH234	1.446E-04	1.446E-04	1.446E-04	1.446E-04	1.446E-04	1.446E-04	1.446E-04	1.446E-04	1.446E-04	1.446E-04	1.447E-04	1.448E-04
PA231	1.080E-10	1.338E-10	1.595E-10	2.368E-10	3.664E-10	8.937E-10	2.860E-09	9.505E-09	4.456E-08	1.884E-06	4.621E-05	6.455E-05
PA233	8.490E-05	8.545E-05	8.601E-05	8.841E-05	9.451E-05	1.356E-04	3.327E-04	8.204E-04	1.690E-03	2.105E-03	2.046E-03	1.949E-03
PA234M	1.446E-04	1.446E-04	1.446E-04	1.446E-04	1.446E-04	1.446E-04	1.446E-04	1.446E-04	1.446E-04	1.446E-04	1.447E-04	1.448E-04
U233	3.507E-09	3.920E-09	4.334E-09	5.517E-09	7.511E-09	1.742E-08	8.861E-08	6.038E-07	4.683E-06	8.479E-05	7.320E-04	1.338E-03
U234	4.527E-05	6.207E-05	7.899E-05	1.292E-04	2.102E-04	5.047E-04	1.239E-03	2.041E-03	2.261E-03	2.210E-03	1.745E-03	1.190E-03
U235	1.210E-06	1.212E-06	1.214E-06	1.219E-06	1.228E-06	1.265E-06	1.394E-06	1.759E-06	3.022E-06	1.724E-05	6.203E-05	6.560E-05
U236	5.577E-06	5.648E-06	5.720E-06	5.935E-06	6.292E-06	7.724E-06	1.272E-05	2.679E-05	7.377E-05	4.486E-04	6.817E-04	6.786E-04
U238	1.446E-04	1.446E-04	1.446E-04	1.446E-04	1.446E-04	1.446E-04	1.446E-04	1.446E-04	1.446E-04	1.446E-04	1.447E-04	1.448E-04
NP237	8.501E-05	8.544E-05	8.600E-05	8.841E-05	9.451E-05	1.356E-04	3.327E-04	8.204E-04	1.690E-03	2.105E-03	2.046E-03	1.949E-03
NP239	6.223E-02	6.222E-02	6.221E-02	6.220E-02	6.217E-02	6.205E-02	6.164E-02	6.050E-02	5.665E-02	2.433E-02	5.189E-06	1.795E-10
PU238	5.837E+00	5.969E+00	5.960E+00	5.832E+00	5.609E+00	4.799E+00	2.784E+00	5.956E-01	4.050E-03	2.819E-21	0.0	0.0
PU239	1.866E+00	1.866E+00	1.866E+00	1.866E+00	1.865E+00	1.864E+00	1.861E+00	1.850E+00	1.815E+00	1.409E+00	1.062E-01	1.413E-03
PU240	2.417E+00	2.417E+00	2.417E+00	2.417E+00	2.418E+00	2.417E+00	2.402E+00	2.352E+00	2.184E+00	8.410E-01	6.032E-05	7.136E-10
PU241	2.674E+02	2.548E+02	2.429E+02	2.102E+02	1.652E+02	6.310E+01	2.171E+00	8.575E-04	6.752E-04	3.241E-04	2.103E-07	1.023E-12
PU242	7.328E-03	7.328E-03	7.328E-03	7.328E-03	7.328E-03	7.328E-03	7.329E-03	7.328E-03	7.321E-03	7.204E-03	6.131E-03	4.686E-03
AM241	1.115E+00	1.532E+00	1.928E+00	3.004E+00	4.472E+00	7.671E+00	8.725E+00	6.386E+00	2.079E+00	3.252E-04	2.103E-07	1.077E-12
AM242M	9.131E-02	9.089E-02	9.048E-02	8.925E-02	8.724E-02	7.963E-02	5.787E-02	2.325E-02	9.553E-04	1.435E-21	0.0	0.0
AM242	9.085E-02	9.044E-02	9.003E-02	8.880E-02	8.680E-02	7.923E-02	5.758E-02	2.313E-02	9.505E-04	1.428E-21	0.0	0.0
AM243	6.223E-02	6.222E-02	6.221E-02	6.220E-02	6.217E-02	6.205E-02	6.164E-02	6.050E-02	5.665E-02	2.433E-02	5.169E-06	1.795E-10
CM242	4.443E+01	9.476E+00	2.067E+00	9.257E-02	7.182E-02	6.553E-02	4.762E-02	1.913E-02	7.861E-04	1.184E-21	0.0	0.0
CM244	4.120E+00	3.965E+00	3.817E+00	3.403E+00	2.810E+00	1.307E+00	8.967E-02	4.248E-05	7.097E-14	7.087E-14	7.083E-14	7.075E-14
SUMTOT	3.275E+02	2.804E+02	2.612E+02	2.271E+02	1.828E+02	8.151E+01	1.833E+01	1.138E+01	6.211E+00	2.316E+00	1.376E-01	3.852E-02
TOTAL	3.276E+02	2.804E+02	2.613E+02	2.272E+02	1.828E+02	8.154E+01	1.834E+01	1.138E+01	6.212E+00	2.316E+00	1.377E-01	3.855E-02

TABLE C.74. WATTS OF ACTINIDE ELEMENTS IN BLENDED LMFBR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
TL	2.176E-08	4.700E-08	7.644E-08	1.577E-07	2.309E-07	2.299E-07	1.175E-07	1.730E-08	3.774E-10	1.602E-08	3.752E-07	6.760E-07
PB	4.900E-09	1.058E-08	1.721E-08	3.552E-08	5.199E-08	5.176E-08	2.649E-08	4.544E-09	1.069E-08	5.448E-07	4.893E-06	6.320E-06
BI	4.377E-08	9.454E-08	1.538E-07	3.173E-07	4.644E-07	4.623E-07	2.365E-07	3.779E-08	4.840E-08	2.432E-06	2.227E-05	2.847E-05
PO	1.927E-07	4.163E-07	6.771E-07	1.397E-06	2.045E-06	2.036E-06	1.041E-06	1.732E-07	3.579E-07	1.847E-05	1.688E-04	2.232E-04
AT	2.689E-12	2.697E-12	2.714E-12	2.773E-12	2.903E-12	3.879E-12	1.736E-11	2.659E-10	6.937E-09	1.229E-06	2.850E-05	5.789E-05
RN	0.0	2.111E-07	3.433E-07	7.083E-07	1.037E-06	1.032E-06	5.278E-07	8.402E-08	1.027E-07	4.978E-06	4.054E-05	4.693E-05
FR	2.432E-12	2.440E-12	2.455E-12	2.509E-12	2.628E-12	3.521E-12	1.577E-11	2.408E-10	6.276E-09	1.112E-06	2.578E-05	5.236E-05
RA	8.833E-08	1.908E-07	3.103E-07	6.403E-07	9.372E-07	9.330E-07	4.771E-07	7.574E-08	8.963E-08	4.357E-06	3.577E-05	4.181E-05
AC	2.205E-12	2.213E-12	2.229E-12	2.285E-12	2.411E-12	3.343E-12	1.518E-11	2.217E-10	5.701E-09	1.007E-06	2.335E-05	4.742E-05
TH	1.433E-07	2.408E-07	3.544E-07	6.690E-07	9.522E-07	9.508E-07	5.321E-07	2.337E-07	5.686E-07	6.404E-06	5.501E-05	6.153E-05
PA	9.100E-07	9.112E-07	9.125E-07	9.180E-07	9.318E-07	1.025E-06	1.472E-06	2.580E-06	4.555E-06	5.553E-06	6.754E-06	7.087E-06
U	5.805E-06	6.232E-06	6.845E-06	8.514E-06	1.096E-05	1.933E-05	4.017E-05	6.332E-05	7.101E-05	8.238E-05	9.529E-05	9.696E-05
NP	1.552E-04	1.552E-04	1.552E-04	1.552E-04	1.553E-04	1.560E-04	1.606E-04	1.719E-04	1.886E-04	1.231E-04	6.255E-05	5.957E-05
PU	3.347E-01	3.387E-01	3.380E-01	3.328E-01	3.240E-01	2.939E-01	2.247E-01	1.502E-01	1.243E-01	6.982E-02	3.457E-03	1.819E-04
AM	3.919E-02	5.303E-02	6.619E-02	1.019E-01	1.507E-01	2.569E-01	2.919E-01	2.141E-01	7.087E-02	7.928E-04	1.731E-07	5.807E-12
CM	1.977E-01	1.516E-01	1.378E-01	1.209E-01	9.990E-02	4.674E-02	3.386E-03	4.992E-05	2.439E-05	1.103E-05	6.988E-09	1.723E-11
BK	3.102E-10	1.406E-10	6.374E-11	5.939E-12	1.137E-13	1.647E-20	1.177E-21	1.168E-21	1.135E-21	7.933E-22	2.200E-23	8.640E-26
CF	9.119E-11	1.148E-10	1.236E-10	1.246E-10	1.145E-10	8.931E-11	6.788E-11	4.551E-11	1.140E-11	5.573E-16	1.176E-22	3.015E-25
ES	2.645E-18	2.748E-19	1.079E-19	8.617E-21	-8.244E-22	-8.709E-30	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	5.718E-01	5.435E-01	5.422E-01	5.557E-01	5.748E-01	5.978E-01	5.202E-01	3.648E-01	1.954E-01	7.087E-02	4.027E-03	9.321E-04

TABLE C.75. WATTS OF PRINCIPAL ACTINIDE NUCLIDES IN BLENDED LMFBR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
PB209	7.246E-14	7.269E-14	7.314E-14	7.473E-14	7.823E-14	1.045E-13	4.677E-13	7.166E-12	1.870E-10	3.313E-08	7.681E-07	1.560E-06
PB214	7.837E-16	1.927E-15	3.841E-15	1.631E-14	7.182E-14	1.181E-12	3.213E-11	5.902E-10	9.625E-09	4.714E-07	3.716E-06	4.258E-06
BI210	4.418E-14	4.288E-14	4.163E-14	3.851E-14	3.716E-14	1.985E-13	1.125E-11	3.282E-10	6.956E-09	3.408E-07	2.686E-06	3.078E-06
BI211	2.812E-13	4.298E-13	6.001E-13	1.268E-12	2.863E-12	1.385E-11	7.981E-11	3.342E-10	1.778E-09	7.515E-08	1.843E-06	2.875E-06
BI213	2.649E-13	2.657E-13	2.674E-13	2.732E-13	2.860E-13	3.821E-13	1.710E-12	2.620E-11	6.834E-10	1.211E-07	2.808E-06	5.703E-06
BI214	3.149E-15	7.744E-15	1.544E-14	6.552E-14	2.886E-13	4.744E-12	1.291E-10	2.372E-09	3.868E-08	1.894E-06	1.493E-05	1.711E-05
PO210	4.720E-13	5.751E-13	5.770E-13	5.387E-13	5.167E-13	2.759E-12	1.564E-10	4.563E-09	9.673E-08	4.738E-06	3.735E-05	4.279E-05
PO213	3.120E-12	3.130E-12	3.149E-12	3.217E-12	3.368E-12	4.501E-12	2.014E-11	3.085E-10	8.049E-09	1.426E-06	3.307E-05	6.717E-05
PO214	1.609E-13	2.805E-14	5.592E-14	2.373E-13	1.045E-12	1.719E-11	4.677E-10	8.591E-09	1.401E-07	6.862E-06	5.409E-05	6.198E-05
PO215	3.147E-13	4.810E-13	6.716E-13	1.419E-12	3.204E-12	1.850E-11	8.932E-11	3.741E-10	1.990E-09	8.431E-08	2.063E-06	2.882E-06
PO218	8.906E-15	2.190E-14	4.366E-14	1.853E-13	8.162E-13	1.342E-11	3.652E-10	6.707E-09	1.094E-07	5.358E-06	4.223E-05	4.839E-05
AT217	2.689E-12	2.697E-12	2.714E-12	2.773E-12	2.903E-12	3.879E-12	1.736E-11	2.659E-10	6.937E-09	1.229E-06	2.850E-05	5.789E-05
RN219	0.0	4.471E-13	6.242E-13	1.319E-12	2.978E-12	1.441E-11	8.303E-11	3.477E-10	1.849E-09	7.818E-08	1.918E-06	2.679E-06
RN222	0.0	2.003E-14	3.992E-14	1.695E-13	7.464E-13	1.227E-11	3.339E-10	6.133E-09	1.000E-07	4.899E-06	3.862E-05	4.425E-05
FR221	2.432E-12	2.440E-12	2.455E-12	2.508E-12	2.626E-12	3.508E-12	1.570E-11	2.405E-10	6.274E-09	1.112E-06	2.578E-05	5.236E-05
RA223	2.510E-13	3.837E-13	5.357E-13	1.132E-12	2.556E-12	1.237E-11	7.125E-11	2.984E-10	1.587E-09	6.709E-08	1.646E-06	2.299E-06
RA225	4.412E-14	4.433E-14	4.460E-14	4.557E-14	4.771E-14	6.374E-14	2.852E-13	4.370E-12	1.140E-10	2.020E-08	4.684E-07	9.513E-07
RA226	7.097E-15	1.745E-14	3.479E-14	1.477E-13	6.594E-13	1.069E-11	2.910E-10	5.344E-09	8.716E-08	4.269E-06	3.365E-05	3.856E-05
AC225	2.201E-12	2.208E-12	2.222E-12	2.270E-12	2.376E-12	3.175E-12	1.421E-11	2.177E-10	5.679E-09	1.006E-06	2.333E-05	4.739E-05
TH227	2.514E-13	3.878E-13	5.415E-13	1.144E-12	2.584E-12	1.250E-11	7.202E-11	3.016E-10	1.604E-09	6.781E-08	1.663E-06	2.323E-06
TH229	1.523E-12	1.934E-12	1.946E-12	1.988E-12	2.081E-12	2.781E-12	1.244E-11	1.908E-10	4.974E-09	8.813E-07	2.043E-05	4.150E-05
TH230	1.696E-11	3.062E-11	4.859E-11	1.282E-10	3.447E-10	2.185E-09	1.832E-08	1.068E-07	5.010E-07	5.366E-06	3.282E-05	3.761E-05
PA231	3.255E-12	4.030E-12	4.807E-12	7.136E-12	1.104E-11	2.693E-11	8.617E-11	2.864E-10	1.343E-09	5.676E-08	1.392E-06	1.945E-06
PA233	1.927E-07	1.939E-07	1.952E-07	2.007E-07	2.145E-07	3.079E-07	7.551E-07	1.862E-06	3.836E-06	4.778E-06	4.644E-06	4.424E-06
U233	1.020E-10	1.139E-10	1.260E-10	1.604E-10	2.183E-10	5.063E-10	2.576E-09	1.755E-08	1.361E-07	2.465E-06	2.128E-05	3.890E-05
U234	1.304E-06	1.788E-06	2.275E-06	3.720E-06	6.055E-06	1.454E-05	3.568E-05	5.875E-05	6.512E-05	6.364E-05	5.025E-05	2.429E-05
U235	3.169E-08	3.174E-08	3.179E-08	3.193E-08	3.217E-08	3.313E-08	3.650E-08	4.607E-08	7.915E-08	4.514E-07	1.624E-06	1.718E-06
U236	1.511E-07	1.530E-07	1.549E-07	1.608E-07	1.705E-07	2.092E-07	3.445E-07	7.256E-07	1.998E-06	1.215E-05	1.847E-05	1.838E-05
U238	3.668E-06	3.668E-06	3.668E-06	3.668E-06	3.668E-06	3.668E-06	3.668E-06	3.668E-06	3.668E-06	3.668E-06	3.670E-06	3.673E-06
NP237	2.598E-06	2.611E-06	2.628E-06	2.702E-06	2.889E-06	4.146E-06	1.017E-05	2.507E-05	5.166E-05	6.434E-05	6.254E-05	5.957E-05
PU238	1.934E-01	1.978E-01	1.975E-01	1.933E-01	1.859E-01	1.591E-01	9.228E-02	1.974E-02	1.342E-04	9.341E-23	0.0	0.0
PU239	5.750E-02	5.750E-02	5.750E-02	5.750E-02	5.749E-02	5.746E-02	5.736E-02	5.703E-02	5.593E-02	4.342E-02	3.274E-03	4.353E-05
PU240	7.525E-02	7.526E-02	7.526E-02	7.527E-02	7.528E-02	7.525E-02	7.480E-02	7.324E-02	6.800E-02	2.619E-02	1.878E-06	2.222E-11
PU241	8.290E-03	7.901E-03	7.529E-03	6.517E-03	5.123E-03	1.956E-03	6.731E-05	2.560E-08	2.093E-08	1.005E-08	6.519E-12	3.170E-17
PU242	2.164E-04	2.164E-04	2.164E-04	2.164E-04	2.164E-04	2.164E-04	2.164E-04	2.164E-04	2.162E-04	2.127E-04	1.811E-04	1.384E-04
AM241	3.705E-02	5.089E-02	6.405E-02	9.980E-02	1.486E-01	2.548E-01	2.898E-01	2.121E-01	6.905E-02	1.080E-05	6.985E-09	2.579E-14
AM243	2.000E-03	2.000E-03	2.000E-03	1.999E-03	1.998E-03	1.995E-03	1.982E-03	1.945E-03	1.821E-03	7.820E-04	1.662E-07	5.771E-12
CM242	5.162E-02	1.101E-02	2.402E-03	1.076E-04	8.345E-05	7.613E-05	5.533E-05	2.223E-05	9.133E-07	1.378E-24	0.0	0.0
CM243	1.923E-03	1.877E-03	1.832E-03	1.703E-03	1.508E-03	9.271E-04	1.690E-04	1.303E-06	5.266E-14	0.0	0.0	0.0
CM244	1.441E-01	1.387E-01	1.335E-01	1.190E-01	9.829E-02	4.571E-02	3.137E-03	1.486E-06	2.483E-15	2.479E-15	2.477E-15	2.475E-15
SUMTOT	5.714E-01	5.432E-01	5.419E-01	5.554E-01	5.744E-01	5.975E-01	5.200E-01	3.644E-01	1.953E-01	7.080E-02	4.026E-03	9.301E-04
TOTAL	5.718E-01	5.435E-01	5.422E-01	5.557E-01	5.748E-01	5.978E-01	5.202E-01	3.646E-01	1.954E-01	7.087E-02	4.027E-03	9.321E-04

TABLE C.76. PHOTONS FROM ACTINIDES IN BLENDED LMFBR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS=ONE TONNE INITIAL HEAVY METAL: ADV OX LMFBR: LWR-PU/U/U/U

EMEAN	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	3.667E+11	1.589E+11	1.162E+11	1.090E+11	1.147E+11	1.241E+11	1.108E+11	7.638E+10	3.560E+10	8.877E+09	5.130E+08	3.408E+08
2.500E-02	1.123E+09	1.513E+09	1.883E+09	2.890E+09	4.262E+09	7.252E+09	8.227E+09	6.021E+09	1.980E+09	2.347E+07	2.437E+07	2.789E+07
3.750E-02	1.066E+09	6.040E+08	5.277E+08	5.748E+08	6.756E+08	8.865E+08	9.098E+08	6.766E+08	3.183E+08	7.175E+07	2.025E+07	3.291E+07
5.750E-02	1.550E+10	2.123E+10	2.669E+10	4.149E+10	6.169E+10	1.057E+11	1.202E+11	8.798E+10	2.869E+10	5.050E+07	1.768E+07	2.082E+07
8.500E-02	2.252E+09	2.247E+09	2.242E+09	2.227E+09	2.202E+09	2.113E+09	1.941E+09	1.799E+09	1.627E+09	7.205E+08	7.716E+07	9.809E+07
1.250E-01	2.013E+09	1.975E+09	1.958E+09	1.923E+09	1.871E+09	1.702E+09	1.416E+09	1.226E+09	1.058E+09	4.532E+08	1.563E+07	1.892E+07
2.250E-01	1.418E+09	1.390E+09	1.372E+09	1.330E+09	1.267E+09	1.076E+09	8.223E+08	7.485E+08	6.971E+08	3.040E+08	3.263E+07	4.315E+07
3.750E-01	8.201E+07	8.217E+07	8.233E+07	8.276E+07	8.337E+07	8.488E+07	8.704E+07	9.120E+07	9.716E+07	6.589E+07	5.722E+07	6.685E+07
5.750E-01	5.402E+06	2.163E+06	1.597E+06	1.819E+06	2.315E+06	3.121E+06	3.168E+06	2.352E+06	1.228E+06	3.464E+06	2.460E+07	2.863E+07
8.500E-01	7.699E+06	6.975E+06	6.820E+06	6.762E+06	6.681E+06	6.129E+06	4.492E+06	2.046E+06	3.372E+05	9.374E+05	6.053E+06	7.019E+06
1.250E+00	4.250E+06	4.008E+06	3.934E+06	3.839E+06	3.708E+06	3.270E+06	2.306E+06	9.546E+05	1.266E+05	1.931E+06	1.496E+07	1.721E+07
1.750E+00	3.135E+05	2.267E+05	2.064E+05	1.945E+05	1.777E+05	1.075E+05	3.399E+04	1.632E+04	4.224E+04	1.538E+06	1.238E+07	1.460E+07
2.250E+00	1.766E+05	1.241E+05	1.098E+05	9.590E+04	7.989E+04	3.930E+04	6.333E+03	4.206E+03	1.280E+04	4.671E+05	3.669E+06	4.203E+06
2.750E+00	1.347E+05	1.420E+05	1.776E+05	2.909E+05	3.907E+05	3.656E+05	1.788E+05	2.786E+04	2.352E+03	9.340E+03	6.437E+04	7.355E+04
3.500E+00	9.193E+04	6.467E+04	5.726E+04	5.001E+04	4.165E+04	2.046E+04	3.242E+03	1.859E+03	1.731E+03	2.418E+03	1.234E+04	1.400E+04
5.000E+00	3.932E+04	2.766E+04	2.449E+04	2.139E+04	1.781E+04	8.743E+03	1.376E+03	7.875E+02	7.245E+02	3.835E+02	1.533E+02	1.171E+02
7.000E+00	4.527E+03	3.188E+03	2.823E+03	2.465E+03	2.053E+03	1.007E+03	1.570E+02	8.959E+01	8.284E+01	4.394E+01	1.764E+01	1.348E+01
1.100E+01	5.209E+02	3.664E+02	3.243E+02	2.832E+02	2.357E+02	1.156E+02	1.796E+01	1.024E+01	9.492E+00	5.042E+00	2.029E+00	1.551E+00
TOTAL	3.902E+11	1.880E+11	1.510E+11	1.595E+11	1.868E+11	2.429E+11	2.444E+11	1.749E+11	7.008E+10	1.057E+10	8.196E+08	7.212E+08
MEV/SEC	7.270E+09	4.460E+09	4.132E+09	4.887E+09	6.151E+09	8.833E+09	9.382E+09	6.894E+09	2.710E+09	3.592E+08	1.155E+08	1.329E+08

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS=ONE TONNE INITIAL HEAVY METAL: ADV OX LMFBR: LWR-PU/U/U/U

EMEAN	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	5.501E+03	2.383E+03	1.743E+03	1.634E+03	1.721E+03	1.862E+03	1.662E+03	1.146E+03	5.341E+02	1.331E+02	7.694E+00	5.112E+00
2.500E-02	2.808E+01	3.782E+01	4.708E+01	7.224E+01	1.066E+02	1.813E+02	2.057E+02	1.505E+02	4.950E+01	5.867E-01	6.093E-01	6.972E-01
3.750E-02	3.997E+01	2.265E+01	1.979E+01	2.156E+01	2.533E+01	3.324E+01	3.412E+01	2.538E+01	1.194E+01	2.691E+00	7.593E-01	1.234E+00
5.750E-02	8.914E+02	1.221E+03	1.534E+03	2.386E+03	3.547E+03	6.078E+03	6.911E+03	5.059E+03	1.650E+03	2.904E+00	1.017E+00	1.197E+00
8.500E-02	1.914E+02	1.910E+02	1.906E+02	1.893E+02	1.872E+02	1.796E+02	1.650E+02	1.529E+02	1.383E+02	6.124E+01	6.559E+00	8.338E+00
1.250E-01	2.516E+02	2.468E+02	2.447E+02	2.404E+02	2.339E+02	2.128E+02	1.770E+02	1.533E+02	1.322E+02	5.666E+01	1.954E+00	2.365E+00
2.250E-01	3.191E+02	3.127E+02	3.088E+02	2.992E+02	2.850E+02	2.422E+02	1.850E+02	1.684E+02	1.568E+02	6.840E+01	7.342E+00	9.708E+00
3.750E-01	3.075E+01	3.081E+01	3.087E+01	3.104E+01	3.127E+01	3.183E+01	3.264E+01	3.420E+01	3.644E+01	2.471E+01	2.146E+01	2.507E+01
5.750E-01	3.106E+00	1.244E+00	9.181E-01	1.046E+00	1.331E+00	1.794E+00	1.822E+00	1.353E+00	7.062E-01	1.992E+00	1.415E+01	1.646E+01
8.500E-01	6.544E+00	5.929E+00	5.797E+00	5.748E+00	5.679E+00	5.210E+00	3.818E+00	1.739E+00	2.866E-01	7.118E-01	5.145E+00	5.966E+00
1.250E+00	5.312E+00	5.010E+00	4.918E+00	4.799E+00	4.635E+00	4.087E+00	2.883E+00	1.193E+00	1.583E-01	2.413E+00	1.870E+01	2.151E+01
1.750E+00	5.487E-01	3.967E-01	3.613E-01	3.404E-01	3.109E-01	1.881E-01	5.949E-02	2.856E-02	7.392E-02	2.692E+00	2.166E+01	2.556E+01
2.250E+00	3.973E-01	2.791E-01	2.471E-01	2.158E-01	1.797E-01	8.843E-02	1.425E-02	9.463E-03	2.879E-02	1.051E+00	8.255E+00	9.457E+00
2.750E+00	3.703E-01	3.904E-01	4.885E-01	7.999E-01	1.074E+00	1.005E+00	4.918E-01	7.661E-02	6.469E-03	2.568E-02	1.770E-01	2.023E-01
3.500E+00	3.218E-01	2.264E-01	2.004E-01	1.750E-01	1.458E-01	7.162E-02	1.135E-02	6.506E-03	6.058E-03	8.464E-03	4.319E-02	4.901E-02
5.000E+00	1.966E-01	1.383E-01	1.225E-01	1.069E-01	8.905E-02	4.372E-02	6.881E-03	3.937E-03	3.623E-03	1.917E-03	7.664E-04	5.854E-04
7.000E+00	3.169E-02	2.231E-02	1.976E-02	1.726E-02	1.437E-02	7.046E-03	1.099E-03	6.271E-04	5.799E-04	3.076E-04	1.235E-04	9.436E-05
1.100E+01	5.730E-03	4.030E-03	3.567E-03	3.115E-03	2.593E-03	1.271E-03	1.975E-04	1.126E-04	1.044E-04	5.546E-05	2.232E-05	1.707E-05
TOTAL	7.270E+03	4.460E+03	4.132E+03	4.887E+03	6.151E+03	8.833E+03	9.382E+03	6.894E+03	2.710E+03	3.592E+02	1.155E+02	1.329E+02
GAM POW	1.165E-03	7.149E-04	6.624E-04	7.834E-04	9.859E-04	1.416E-03	1.504E-03	1.105E-03	4.345E-04	5.758E-05	1.852E-05	2.131E-05

TABLE C.77. (ALPHA,N) NEUTRONS FROM ACTINIDES IN BLENDED LMFBR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
BI211	2.315E-07	3.538E-07	4.939E-07	1.044E-06	2.357E-06	1.140E-05	6.569E-05	2.751E-04	1.463E-03	6.186E-02	1.517E+00	2.119E+00
PO210	2.181E-08	2.658E-08	2.667E-08	2.469E-08	2.368E-08	1.275E-07	7.230E-06	2.105E-04	4.470E-03	2.190E-01	1.726E+00	1.977E+00
PO212	2.794E+00	6.036E+00	9.817E+00	2.026E+01	2.965E+01	2.952E+01	1.508E+01	2.218E+00	2.422E-02	2.081E-02	1.534E-02	1.366E-02
PO213	5.475E-05	5.492E-05	5.526E-05	5.646E-05	5.911E-05	7.898E-05	3.534E-04	5.414E-03	1.413E-01	2.503E+01	5.803E+02	1.179E+03
PO214	9.217E-07	1.607E-07	3.203E-07	1.359E-06	5.988E-06	9.843E-05	2.679E-03	4.921E-02	8.025E-01	3.931E+01	3.098E+02	3.550E+02
PO215	1.081E-06	1.652E-06	2.306E-06	4.874E-06	1.100E-05	5.324E-05	3.068E-04	1.285E-03	6.832E-03	2.688E-01	7.085E+00	9.896E+00
PO218	2.032E-09	4.997E-09	9.962E-09	4.228E-08	1.862E-07	3.061E-06	8.333E-05	1.530E-03	2.496E-02	1.223E+00	9.637E+00	1.104E+01
AT217	5.137E-06	5.153E-06	5.184E-06	5.297E-06	5.545E-06	7.410E-06	3.315E-05	5.080E-04	1.325E-02	2.348E+00	5.444E+01	1.106E+02
RN219	0.0	5.930E-07	8.280E-07	1.750E-06	3.951E-06	1.911E-05	1.101E-04	4.612E-04	2.453E-03	1.037E-01	2.544E+00	3.553E+00
RN222	0.0	1.424E-09	2.838E-09	1.205E-08	5.306E-08	8.722E-07	2.374E-05	4.360E-04	7.111E-03	3.483E-01	2.745E+00	3.145E+00
FR221	1.257E-06	1.261E-06	1.269E-06	1.297E-06	1.358E-06	1.814E-06	8.116E-06	1.243E-04	3.244E-03	5.749E-01	1.333E+01	2.707E+01
AC225	3.110E-07	3.119E-07	3.138E-07	3.207E-07	3.357E-07	4.486E-07	2.007E-06	3.075E-05	8.023E-04	1.422E-01	3.296E+00	6.694E+00
NP237	6.454E-02	6.487E-02	6.529E-02	6.712E-02	7.176E-02	1.030E-01	2.526E-01	6.228E-01	1.283E+00	1.598E+00	1.553E+00	1.480E+00
PU238	6.817E+03	6.970E+03	6.960E+03	6.811E+03	6.550E+03	5.605E+03	3.252E+03	6.957E+02	4.730E+00	3.291E-18	0.0	0.0
PU239	1.350E+03	1.350E+03	1.350E+03	1.350E+03	1.350E+03	1.349E+03	1.347E+03	1.335E+03	1.313E+03	1.020E+03	7.688E+01	1.022E+00
PU240	1.802E+03	1.802E+03	1.803E+03	1.803E+03	1.803E+03	1.802E+03	1.792E+03	1.754E+03	1.629E+03	6.272E+02	4.498E-02	5.322E-07
PU242	5.176E+00	5.176E+00	5.176E+00	5.176E+00	5.177E+00	5.177E+00	5.177E+00	5.177E+00	5.171E+00	5.089E+00	4.331E+00	3.311E+00
AM241	1.299E+03	1.785E+03	2.246E+03	3.500E+03	5.210E+03	8.937E+03	1.017E+04	7.440E+03	2.422E+03	3.789E-01	2.450E-04	1.255E-09
AM243	9.583E+01	9.582E+01	9.582E+01	9.579E+01	9.574E+01	9.556E+01	9.494E+01	9.317E+01	8.724E+01	3.746E+01	7.960E-03	2.765E-07
CM242	3.586E+05	7.648E+04	1.668E+04	7.471E+02	5.796E+02	5.288E+02	3.843E+02	1.544E+02	6.344E+00	9.558E-18	0.0	0.0
CM243	5.303E+02	5.176E+02	5.051E+02	4.696E+02	4.158E+02	2.557E+02	4.659E+01	3.594E-01	1.452E-08	0.0	0.0	0.0
CM244	2.921E+04	2.811E+04	2.706E+04	2.412E+04	1.992E+04	9.265E+03	6.357E+02	3.011E-01	5.031E-10	5.024E-10	5.021E-10	5.015E-10
TOTALS												
TABLE	3.997E+05	1.171E+05	5.672E+04	3.893E+04	3.597E+04	2.788E+04	1.774E+04	1.149E+04	5.472E+03	1.763E+03	1.072E+03	1.719E+03
ACTUAL	3.997E+05	1.171E+05	5.672E+04	3.893E+04	3.597E+04	2.788E+04	1.774E+04	1.149E+04	5.472E+03	1.763E+03	1.072E+03	1.719E+03

TABLE C.78. SPONTANEOUS FISSION NEUTRONS FROM ACTINIDES IN BLENDED LMFBR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
U238	5.455E+00	5.455E+00	5.455E+00	5.455E+00	5.455E+00	5.455E+00	5.455E+00	5.459E+00	5.455E+00	5.455E+00	5.459E+00	5.463E+00
PU238	9.057E+02	9.261E+02	9.247E+02	9.049E+02	8.703E+02	7.447E+02	4.320E+02	9.244E+01	6.284E-01	4.373E-19	0.0	0.0
PU240	9.653E+03	9.654E+03	9.654E+03	9.656E+03	9.657E+03	9.653E+03	9.595E+03	9.395E+03	8.723E+03	3.359E+03	2.409E-01	2.850E-06
PU242	3.234E+03	3.234E+03	3.234E+03	3.234E+03	3.234E+03	3.234E+03	3.234E+03	3.234E+03	3.231E+03	3.179E+03	2.706E+03	2.068E+03
CM242	2.894E+05	6.173E+04	1.347E+04	6.030E+02	4.678E+02	4.268E+02	3.102E+02	1.246E+02	5.120E+00	7.715E-18	0.0	0.0
CM244	5.681E+05	5.448E+05	5.244E+05	4.675E+05	3.861E+05	1.796E+05	1.232E+04	5.836E+00	9.751E-09	9.737E-09	9.731E-09	9.721E-09
CM246	1.131E+03	1.131E+03	1.131E+03	1.130E+03	1.129E+03	1.126E+03	1.115E+03	1.082E+03	9.768E+02	2.613E+02	4.904E-04	1.407E-13
TOTALS												
TABLE	8.704E+05	6.215E+05	5.528E+05	4.830E+05	4.014E+05	1.948E+05	2.702E+04	1.395E+04	1.295E+04	6.808E+03	2.713E+03	2.075E+03
ACTUAL	8.704E+05	6.215E+05	5.528E+05	4.830E+05	4.014E+05	1.948E+05	2.702E+04	1.395E+04	1.295E+04	6.808E+03	2.713E+03	2.075E+03
OVERALL TOTALS												
TABLE	1.270E+06	7.386E+05	6.095E+05	5.220E+05	4.374E+05	2.226E+05	4.476E+04	2.543E+04	1.842E+04	8.570E+03	3.785E+03	3.794E+03
ACTUAL	1.270E+06	7.386E+05	6.095E+05	5.220E+05	4.374E+05	2.226E+05	4.476E+04	2.543E+04	1.842E+04	8.570E+03	3.785E+03	3.794E+03

TABLE C.79. GRAMS OF FISSION PRODUCT ELEMENTS IN BLENDED LMFBR CLADDING WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
LI	2.724E-07	2.724E-07	2.724E-07	2.724E-07	2.724E-07	2.724E-07	2.724E-07	2.724E-07	2.724E-07	2.724E-07	2.724E-07	2.724E-07
BE	9.945E-08	9.945E-08	9.945E-08	9.945E-08	9.945E-08	9.945E-08	9.944E-08	9.944E-08	9.941E-08	9.907E-08	9.578E-08	9.056E-08
CU	2.152E-36	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZN	1.476E-10	1.476E-10	1.476E-10	1.476E-10	1.476E-10	1.476E-10	1.476E-10	1.476E-10	1.476E-10	1.476E-10	1.476E-10	1.476E-10
GA	5.210E-09	5.210E-09	5.210E-09	5.210E-09	5.210E-09	5.210E-09	5.210E-09	5.210E-09	5.210E-09	5.210E-09	5.210E-09	5.210E-09
GE	1.161E-03	1.161E-03	1.161E-03	1.161E-03	1.161E-03	1.161E-03	1.161E-03	1.161E-03	1.161E-03	1.161E-03	1.161E-03	1.161E-03
AS	3.335E-04	3.335E-04	3.335E-04	3.335E-04	3.335E-04	3.335E-04	3.335E-04	3.335E-04	3.335E-04	3.335E-04	3.335E-04	3.335E-04
SE	2.666E-02	2.666E-02	2.666E-02	2.666E-02	2.666E-02	2.665E-02	2.665E-02	2.664E-02	2.661E-02	2.626E-02	2.407E-02	2.298E-02
BR	8.052E-06	8.094E-06	8.136E-06	8.262E-06	8.473E-06	9.315E-06	1.226E-05	2.067E-05	4.994E-05	4.075E-04	2.597E-03	3.681E-03
RB	1.369E-01	1.369E-01	1.369E-01	1.369E-01	1.369E-01	1.369E-01	1.369E-01	1.369E-01	1.369E-01	1.369E-01	1.369E-01	1.369E-01
SR	3.154E-01	3.093E-01	3.051E-01	2.928E-01	2.742E-01	2.186E-01	1.446E-01	1.275E-01	1.273E-01	1.273E-01	1.273E-01	1.273E-01
Y	1.646E-01	1.627E-01	1.626E-01	1.626E-01	1.626E-01	1.626E-01	1.626E-01	1.626E-01	1.626E-01	1.626E-01	1.626E-01	1.626E-01
ZR	1.671E+00	1.670E+00	1.674E+00	1.687E+00	1.705E+00	1.761E+00	1.835E+00	1.852E+00	1.852E+00	1.851E+00	1.837E+00	1.816E+00
NB	9.277E-03	2.127E-04	6.088E-06	2.496E-06	3.268E-06	6.356E-06	1.716E-05	4.804E-05	1.561E-04	1.542E-03	1.510E-02	3.650E-02
MO	1.989E+00	2.007E+00	2.007E+00	2.007E+00	2.007E+00	2.007E+00	2.007E+00	2.007E+00	2.007E+00	2.007E+00	2.007E+00	2.007E+00
TC	5.185E-01	5.185E-01	5.185E-01	5.185E-01	5.185E-01	5.185E-01	5.184E-01	5.180E-01	5.169E-01	5.019E-01	3.745E-01	2.299E-01
RU	2.062E+00	1.976E+00	1.934E+00	1.898E+00	1.892E+00	1.892E+00	1.892E+00	1.893E+00	1.894E+00	1.909E+00	2.036E+00	2.181E+00
RH	5.746E-01	5.774E-01	5.774E-01	5.774E-01	5.774E-01	5.774E-01	5.774E-01	5.774E-01	5.774E-01	5.774E-01	5.774E-01	5.774E-01
PD	1.486E+00	1.569E+00	1.611E+00	1.648E+00	1.653E+00	1.653E+00	1.653E+00	1.653E+00	1.653E+00	1.653E+00	1.650E+00	1.645E+00
AG	1.665E-01	1.659E-01	1.656E-01	1.655E-01	1.655E-01	1.655E-01	1.655E-01	1.655E-01	1.655E-01	1.658E-01	1.686E-01	1.734E-01
CD	1.821E-01	1.828E-01	1.830E-01	1.831E-01	1.830E-01	1.828E-01	1.826E-01	1.826E-01	1.826E-01	1.826E-01	1.826E-01	1.826E-01
IN	1.382E-02	1.386E-02	1.388E-02	1.395E-02	1.404E-02	1.426E-02	1.439E-02	1.439E-02	1.439E-02	1.439E-02	1.439E-02	1.439E-02
SN	1.948E-01	1.945E-01	1.944E-01	1.944E-01	1.944E-01	1.944E-01	1.944E-01	1.943E-01	1.941E-01	1.914E-01	1.724E-01	1.582E-01
SB	6.496E-02	6.026E-02	5.639E-02	4.912E-02	4.447E-02	4.263E-02	4.262E-02	4.262E-02	4.262E-02	4.262E-02	4.262E-02	4.262E-02
TE	4.320E-01	4.363E-01	4.402E-01	4.474E-01	4.521E-01	4.539E-01	4.540E-01	4.540E-01	4.542E-01	4.569E-01	4.759E-01	4.901E-01
I	2.506E-04	9.989E-04	1.066E-03	1.074E-03	1.074E-03	1.074E-03	1.074E-03	1.074E-03	1.074E-03	1.074E-03	1.073E-03	1.071E-03
XE	0.0	1.820E-11	2.878E-11	6.053E-11	1.134E-10	3.251E-10	1.066E-09	3.183E-09	1.059E-08	1.058E-07	1.056E-06	2.631E-06
CS	2.508E+00	2.477E+00	2.451E+00	2.386E+00	2.304E+00	2.075E+00	1.764E+00	1.688E+00	1.687E+00	1.684E+00	1.660E+00	1.621E+00
BA	8.865E-01	9.173E-01	9.439E-01	1.009E+00	1.091E+00	1.320E+00	1.630E+00	1.707E+00	1.708E+00	1.710E+00	1.734E+00	1.773E+00
LA	7.569E-01	7.569E-01	7.569E-01	7.569E-01	7.569E-01	7.569E-01	7.569E-01	7.569E-01	7.569E-01	7.569E-01	7.569E-01	7.569E-01
CE	1.507E+00	1.417E+00	1.381E+00	1.357E+00	1.355E+00	1.355E+00	1.355E+00	1.355E+00	1.355E+00	1.355E+00	1.355E+00	1.355E+00
PR	7.020E-01	7.034E-01	7.034E-01	7.034E-01	7.034E-01	7.034E-01	7.034E-01	7.034E-01	7.034E-01	7.034E-01	7.034E-01	7.034E-01
ND	2.151E+00	2.239E+00	2.276E+00	2.299E+00	2.301E+00	2.301E+00	2.301E+00	2.301E+00	2.301E+00	2.301E+00	2.301E+00	2.301E+00
PM	1.448E-01	1.109E-01	8.512E-02	3.853E-02	1.028E-02	5.220E-05	6.848E-13	0.0	0.0	0.0	0.0	0.0
SM	6.224E-01	6.556E-01	6.807E-01	7.253E-01	7.503E-01	7.486E-01	7.188E-01	6.860E-01	6.771E-01	6.770E-01	6.770E-01	6.770E-01
EU	8.600E-02	8.280E-02	8.004E-02	7.392E-02	6.871E-02	7.064E-02	9.892E-02	1.317E-01	1.407E-01	1.407E-01	1.407E-01	1.407E-01
GD	6.813E-02	7.202E-02	7.547E-02	8.360E-02	9.207E-02	1.020E-01	1.036E-01	1.036E-01	1.036E-01	1.036E-01	1.036E-01	1.036E-01
TB	5.821E-03	5.757E-03	5.755E-03	5.755E-03	5.755E-03	5.755E-03	5.755E-03	5.755E-03	5.755E-03	5.755E-03	5.755E-03	5.755E-03
DY	5.092E-03	5.156E-03	5.158E-03	5.158E-03	5.158E-03	5.158E-03	5.158E-03	5.158E-03	5.158E-03	5.158E-03	5.158E-03	5.158E-03
HO	1.569E-04	1.569E-04	1.569E-04	1.569E-04	1.569E-04	1.568E-04	1.568E-04	1.566E-04	1.561E-04	1.551E-04	1.551E-04	1.551E-04
ER	2.180E-04	2.180E-04	2.180E-04	2.180E-04	2.180E-04	2.180E-04	2.181E-04	2.183E-04	2.188E-04	2.198E-04	2.198E-04	2.198E-04
TM	8.793E-08	8.423E-08	8.365E-08	8.343E-08	8.337E-08	8.336E-08	8.336E-08	8.336E-08	8.336E-08	8.336E-08	8.336E-08	8.336E-08
YB	1.560E-08	1.929E-08	1.988E-08	2.009E-08	2.015E-08	2.016E-08	2.016E-08	2.016E-08	2.016E-08	2.016E-08	2.016E-08	2.016E-08
TOTAL	1.945E+01	1.945E+01	1.945E+01	1.945E+01	1.945E+01	1.945E+01	1.945E+01	1.945E+01	1.945E+01	1.945E+01	1.945E+01	1.945E+01

TABLE C.80. GRAMS OF PRINCIPAL FISSION PRODUCT NUCLIDES IN BLENDED LMFBR CLADDING WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
RB 85	4.048E-02	4.048E-02	4.048E-02	4.048E-02	4.048E-02	4.048E-02	4.048E-02	4.048E-02	4.048E-02	4.048E-02	4.048E-02	4.048E-02
RB 87	9.639E-02	9.639E-02	9.639E-02	9.639E-02	9.639E-02	9.639E-02	9.639E-02	9.639E-02	9.639E-02	9.639E-02	9.639E-02	9.639E-02
SR 88	1.258E-01	1.258E-01	1.258E-01	1.258E-01	1.258E-01	1.258E-01	1.258E-01	1.258E-01	1.258E-01	1.258E-01	1.258E-01	1.258E-01
Y 89	1.609E-01	1.626E-01	1.626E-01	1.626E-01	1.626E-01	1.626E-01	1.626E-01	1.626E-01	1.626E-01	1.626E-01	1.626E-01	1.626E-01
SR 90	1.864E-01	1.820E-01	1.777E-01	1.655E-01	1.469E-01	9.127E-02	1.725E-02	1.477E-04	8.577E-12	0.0	0.0	0.0
ZR 90	7.588E-03	1.197E-02	1.626E-02	2.851E-02	4.708E-02	1.027E-01	1.766E-01	1.935E-01	1.940E-01	1.940E-01	1.940E-01	1.940E-01
ZR 91	2.214E-01	2.251E-01	2.251E-01	2.251E-01	2.251E-01	2.251E-01	2.251E-01	2.251E-01	2.251E-01	2.251E-01	2.251E-01	2.251E-01
ZR 92	2.747E-01	2.747E-01	2.747E-01	2.747E-01	2.747E-01	2.747E-01	2.747E-01	2.747E-01	2.747E-01	2.747E-01	2.747E-01	2.747E-01
ZR 93	3.409E-01	3.409E-01	3.409E-01	3.409E-01	3.409E-01	3.409E-01	3.409E-01	3.408E-01	3.407E-01	3.393E-01	3.258E-01	3.044E-01
NB 93	4.820E-08	6.844E-08	9.820E-08	2.234E-07	5.353E-07	2.610E-06	1.286E-05	4.373E-05	1.518E-04	1.538E-03	1.510E-02	3.650E-02
ZR 94	3.698E-01	3.698E-01	3.698E-01	3.698E-01	3.698E-01	3.698E-01	3.698E-01	3.698E-01	3.698E-01	3.698E-01	3.698E-01	3.698E-01
MO 95	3.925E-01	4.102E-01	4.106E-01	4.106E-01	4.106E-01	4.106E-01	4.106E-01	4.106E-01	4.106E-01	4.106E-01	4.106E-01	4.106E-01
ZR 96	4.475E-01	4.475E-01	4.475E-01	4.475E-01	4.475E-01	4.475E-01	4.475E-01	4.475E-01	4.475E-01	4.475E-01	4.475E-01	4.475E-01
MO 97	4.565E-01	4.565E-01	4.565E-01	4.565E-01	4.565E-01	4.565E-01	4.565E-01	4.565E-01	4.565E-01	4.565E-01	4.565E-01	4.565E-01
MO 98	5.282E-01	5.282E-01	5.282E-01	5.282E-01	5.282E-01	5.282E-01	5.282E-01	5.282E-01	5.282E-01	5.282E-01	5.282E-01	5.282E-01
TC 99	5.185E-01	5.185E-01	5.185E-01	5.185E-01	5.185E-01	5.185E-01	5.184E-01	5.180E-01	5.168E-01	5.019E-01	3.745E-01	2.299E-01
RU 99	2.549E-06	4.237E-06	5.924E-06	1.099E-05	1.942E-05	5.317E-05	1.713E-04	5.085E-04	1.687E-03	1.660E-02	1.440E-01	2.887E-01
MO100	5.947E-01	5.947E-01	5.947E-01	5.947E-01	5.947E-01	5.947E-01	5.947E-01	5.947E-01	5.947E-01	5.947E-01	5.947E-01	5.947E-01
RU100	4.158E-02	4.158E-02	4.158E-02	4.158E-02	4.158E-02	4.158E-02	4.158E-02	4.158E-02	4.158E-02	4.158E-02	4.158E-02	4.158E-02
RU101	5.713E-01	5.713E-01	5.713E-01	5.713E-01	5.713E-01	5.713E-01	5.713E-01	5.713E-01	5.713E-01	5.713E-01	5.713E-01	5.713E-01
RU102	6.635E-01	6.635E-01	6.635E-01	6.635E-01	6.635E-01	6.635E-01	6.635E-01	6.635E-01	6.635E-01	6.635E-01	6.635E-01	6.635E-01
RH103	5.746E-01	5.774E-01	5.774E-01	5.774E-01	5.774E-01	5.774E-01	5.774E-01	5.774E-01	5.774E-01	5.774E-01	5.774E-01	5.774E-01
RU104	6.158E-01	6.158E-01	6.158E-01	6.158E-01	6.158E-01	6.158E-01	6.158E-01	6.158E-01	6.158E-01	6.158E-01	6.158E-01	6.158E-01
PD104	6.847E-02	6.847E-02	6.847E-02	6.847E-02	6.847E-02	6.847E-02	6.847E-02	6.847E-02	6.847E-02	6.847E-02	6.847E-02	6.847E-02
PD105	4.421E-01	4.421E-01	4.421E-01	4.421E-01	4.421E-01	4.421E-01	4.421E-01	4.421E-01	4.421E-01	4.421E-01	4.421E-01	4.421E-01
RU106	1.669E-01	8.393E-02	4.219E-02	5.362E-03	1.722E-04	1.824E-10	2.283E-31	0.0	0.0	0.0	0.0	0.0
PD106	3.358E-01	4.188E-01	4.605E-01	4.974E-01	5.025E-01	5.027E-01	5.027E-01	5.027E-01	5.027E-01	5.027E-01	5.027E-01	5.027E-01
PD107	2.998E-01	2.998E-01	2.998E-01	2.998E-01	2.998E-01	2.998E-01	2.998E-01	2.998E-01	2.997E-01	2.994E-01	2.966E-01	2.919E-01
PD108	2.588E-01	2.588E-01	2.588E-01	2.588E-01	2.588E-01	2.588E-01	2.588E-01	2.588E-01	2.588E-01	2.588E-01	2.588E-01	2.588E-01
AG109	1.655E-01	1.655E-01	1.655E-01	1.655E-01	1.655E-01	1.655E-01	1.655E-01	1.655E-01	1.655E-01	1.655E-01	1.655E-01	1.655E-01
PD110	8.131E-02	8.131E-02	8.131E-02	8.131E-02	8.131E-02	8.131E-02	8.131E-02	8.131E-02	8.131E-02	8.131E-02	8.131E-02	8.131E-02
CD111	5.454E-02	5.454E-02	5.454E-02	5.454E-02	5.454E-02	5.454E-02	5.454E-02	5.454E-02	5.454E-02	5.454E-02	5.454E-02	5.454E-02
CD112	4.077E-02	4.077E-02	4.077E-02	4.077E-02	4.077E-02	4.077E-02	4.077E-02	4.077E-02	4.077E-02	4.077E-02	4.077E-02	4.077E-02
CD113	2.771E-02	2.771E-02	2.771E-02	2.771E-02	2.771E-02	2.771E-02	2.771E-02	2.771E-02	2.771E-02	2.771E-02	2.771E-02	2.771E-02
CD114	2.341E-02	2.341E-02	2.341E-02	2.341E-02	2.341E-02	2.341E-02	2.341E-02	2.341E-02	2.341E-02	2.341E-02	2.341E-02	2.341E-02
CD116	1.971E-02	1.971E-02	1.971E-02	1.971E-02	1.971E-02	1.971E-02	1.971E-02	1.971E-02	1.971E-02	1.971E-02	1.971E-02	1.971E-02
SN117	1.986E-02	1.986E-02	1.986E-02	1.986E-02	1.986E-02	1.986E-02	1.986E-02	1.986E-02	1.986E-02	1.986E-02	1.986E-02	1.986E-02
SN118	2.298E-02	2.298E-02	2.298E-02	2.298E-02	2.298E-02	2.298E-02	2.298E-02	2.298E-02	2.298E-02	2.298E-02	2.298E-02	2.298E-02
SN119	2.395E-02	2.402E-02	2.404E-02	2.405E-02	2.405E-02	2.405E-02	2.405E-02	2.405E-02	2.405E-02	2.405E-02	2.405E-02	2.405E-02
SN120	2.310E-02	2.310E-02	2.310E-02	2.310E-02	2.310E-02	2.310E-02	2.310E-02	2.310E-02	2.310E-02	2.310E-02	2.310E-02	2.310E-02
SB121	2.005E-02	2.005E-02	2.005E-02	2.005E-02	2.005E-02	2.006E-02	2.006E-02	2.007E-02	2.007E-02	2.007E-02	2.007E-02	2.007E-02
SN122	2.089E-02	2.089E-02	2.089E-02	2.089E-02	2.089E-02	2.089E-02	2.089E-02	2.089E-02	2.089E-02	2.089E-02	2.089E-02	2.089E-02
SB123	2.213E-02	2.250E-02	2.255E-02	2.256E-02	2.256E-02	2.256E-02	2.256E-02	2.256E-02	2.256E-02	2.256E-02	2.256E-02	2.256E-02
SN124	2.608E-02	2.608E-02	2.608E-02	2.608E-02	2.608E-02	2.608E-02	2.608E-02	2.608E-02	2.608E-02	2.608E-02	2.608E-02	2.608E-02
TE125	9.961E-03	1.506E-02	1.904E-02	2.642E-02	3.113E-02	3.300E-02	3.302E-02	3.302E-02	3.302E-02	3.302E-02	3.302E-02	3.302E-02
SN126	4.398E-02	4.398E-02	4.398E-02	4.398E-02	4.398E-02	4.397E-02	4.395E-02	4.388E-02	4.368E-02	4.103E-02	2.199E-02	7.776E-03
TE126	2.536E-03	2.537E-03	2.537E-03	2.538E-03	2.539E-03	2.545E-03	2.567E-03	2.626E-03	2.840E-03	5.481E-03	2.452E-02	3.874E-02
TE128	1.148E-01	1.148E-01	1.148E-01	1.148E-01	1.148E-01	1.148E-01	1.148E-01	1.148E-01	1.148E-01	1.148E-01	1.148E-01	1.148E-01
TE130	3.010E-01	3.010E-01	3.010E-01	3.010E-01	3.010E-01	3.010E-01	3.010E-01	3.010E-01	3.010E-01	3.010E-01	3.010E-01	3.010E-01
CS133	7.783E-01	7.783E-01	7.783E-01	7.783E-01	7.783E-01	7.783E-01	7.783E-01	7.783E-01	7.783E-01	7.783E-01	7.783E-01	7.783E-01
CS134	4.571E-02	3.266E-02	2.334E-02	8.513E-03	1.585E-03	1.913E-06	1.154E-16	0.0	0.0	0.0	0.0	0.0
BA134	2.125E-02	3.430E-02	4.362E-02	5.845E-02	6.537E-02	6.696E-02	6.696E-02	6.696E-02	6.696E-02	6.696E-02	6.696E-02	6.696E-02
CS135	9.087E-01	9.087E-01	9.087E-01	9.087E-01	9.087E-01	9.087E-01	9.087E-01	9.087E-01	9.085E-01	9.060E-01	8.818E-01	8.428E-01
BA135	1.377E-04	1.380E-04	1.383E-04	1.391E-04	1.405E-04	1.460E-04	1.651E-04	2.195E-04	4.116E-04	2.872E-03	2.712E-02	6.609E-02
BA136	2.436E-02	2.436E-02	2.436E-02	2.436E-02	2.436E-02	2.436E-02	2.436E-02	2.436E-02	2.436E-02	2.436E-02	2.436E-02	2.436E-02
CS137	7.751E-01	7.574E-01	7.401E-01	6.906E-01	6.152E-01	3.876E-01	7.690E-02	7.571E-04	7.160E-11	0.0	0.0	0.0
BA137	2.855E-02	4.625E-02	6.355E-02	1.131E-01	1.885E-01	4.161E-01	7.268E-01	8.029E-01	8.037E-01	8.037E-01	8.037E-01	8.037E-01
BA138	8.122E-01	8.122E-01	8.122E-01	8.122E-01	8.122E-01	8.122E-01	8.122E-01	8.122E-01	8.122E-01	8.122E-01	8.122E-01	8.122E-01
LA139	7.569E-01	7.569E-01	7.569E-01	7.569E-01	7.569E-01	7.569E-01	7.569E-01	7.569E-01	7.569E-01	7.569E-01	7.569E-01	7.569E-01
CE140	7.119E-01	7.119E-01	7.119E-01	7.119E-01	7.119E-01	7.119E-01	7.119E-01	7.119E-01	7.119E-01	7.119E-01	7.119E-01	7.119E-01
PR141	7.020E-01	7.034E-01	7.034E-01	7.034E-01	7.034E-01	7.034E-01	7.034E-01	7.034E-01	7.034E-01	7.034E-01	7.034E-01	7.034E-01
CE142	6.435E-01	6.435E-01	6.435E-01	6.435E-01	6.435E-01	6.435E-01	6.435E-01	6.435E-01	6.435E-01	6.435E-01	6.435E-01	6.435E-01
ND143	5.674E-01	5.674E-01	5.674E-01	5.674E-01	5.674E-01	5.674E-01	5.674E-01	5.674E-01	5.674E-01	5.674E-01	5.674E-01	5.674E-01
CE144	1.499E-01	6.150E-02	2.524E-02	1.745E-03	2.031E-05	3.721E-13	0.0	0.0	0.0	0.0	0.0	0.0
ND144	3.826E-01	4.710E-01	5.072E-01	5.307E-01	5.325E-01	5.325E-01	5.325E-01	5.325E-01	5.325E-01	5.325E-01	5.325E-01	5.325E-01
ND145	4.129E-01	4.129E-01	4.129E-01	4.129E-01	4.129E-01	4.129E-01	4.129E-01	4.129E-01	4.129E-01	4.129E-01	4.129E-01	4.129E-01
ND146	3.802E-01	3.802E-01	3.802E-01	3.802E-01	3.802E-01	3.802E-01	3.802E-01	3.802E-01	3.802E-01	3.802E-01	3.802E-01	3.802E-01
PM147	1.444E-01	1.109E-01	8.512E-02	3.853E-02	1.028E-02	5.220E-05	4.848E-13	0.0	0.0	0.0	0.0	0.0
SM147	6.942E-02	1.030E-01	1.287E-01	1.793E-01	2.035E-01	2.138E-01	2.138E-01	2.138E-01	2.138E-01	2.138E-01	2.138E-01	2.138E-01
ND148	2.448E-01	2.448E-01	2.448E-01	2.448E-01	2.448E-01	2.448E-01	2.448E-01	2.448E-01	2.448E-01	2.448E-01	2.448E-01	2.448E-01
SM148	8.812E-02	8.850E-02	8.850E-02	8.850E-02	8.850E-02	8.850E-02	8.850E-02	8.850E-02	8.850E-02	8.850E-02	8.850E-02	8.850E-02
SM149	1.686E-01	1.686E-01	1.686E-01	1.686E-01	1.686E-01	1.686E-01	1.686E-01	1.686E-01	1.686E-01	1.686E-01	1.686E-01	1.686E-01
ND150	1.463E-01	1.463E-01	1.463E-01	1.463E-01	1.463E-01	1.463E-01	1.463E-01	1.463E-01	1.463E-01	1.463E-01	1.463E-01	1.463E-01
SM150	3.995E-02	3.995E-02	3.995E-02	3.995E-02	3.995E-02	3.995E-02	3.995E-02	3.995E-02	3.995E-02	3.995E-02	3.995E-02	3.995E-02
SM151	9.026E-02	8.956E-02	8.888E-02	8.685E-02	8.356E-02	7.163E-02	4.178E-02	8.952E-03	4.070E-05	0.0	0.0	0.0
EU151	7.952E-04	1.488E-03	2.175E-03	4.205E-03	7.486E-03	1.942E-02	4.927E-02	8.210E-02	9.101E-02	9.105E-02	9.105E-02	9.105E-02
SM152	1.220E-01	1.220E-01	1.220E-01	1.220E-01	1.221E-01	1.221E-01	1.221E-01	1.221E-01	1.221E-01	1.221E-01	1.221E-01	1.221E-01
EU153	4.963E-02	4.964E-02	4.964E-02	4.964E-02	4.964E-02	4.964E-02	4.964E-02	4.964E-02	4.964E-02	4.964E-02	4.964E-02	4.964E-02
SM154	4.401E-02	4.401E-02	4.401E-02	4.401E-02	4.401E-02	4.401E-02	4.401E-02	4.401E-02	4.401E-02	4.401E-02	4.401E-02	4.401E-02
GD155	4.513E-03	7.350E-03	9.816E-03	1.545E-02	2.080E-02	2.593E-02	2.626E-02	2.626E-02	2.626E-02	2.626E-02	2.626E-02	2.626E-02
GD156	3.093E-02	3.093E-02	3.093E-02	3.093E-02	3.093E-02	3.093E-02	3.093E-02	3.093E-02	3.093E-02	3.093E-02	3.093E-02	3.093E-02
SUMTOT	1.921E+01	1.925E+01	1.925E+01	1.927E+01	1.928E+01	1.928E+01	1.928E+01	1.928E+01	1.928E+01	1.928E+01	1.928E+01	1.928E+01
TOTAL	1.945E+01	1.945E+01	1.945E+01	1.945E+01	1.945E+01	1.945E+01	1.945E+01	1.945E+01	1.945E+01	1.945E+01	1.945E+01	1.945E+01

TABLE C.81. CURIES OF FISSION PRODUCT ELEMENTS IN BLENDED LMFBR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
BE	1.935E-09	1.935E-09	1.935E-09	1.935E-09	1.935E-09	1.935E-09	1.935E-09	1.935E-09	1.934E-09	1.927E-09	1.853E-09	1.736E-09
CU	1.627E-32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	2.751E-04	2.751E-04	2.751E-04	2.750E-04	2.750E-04	2.750E-04	2.748E-04	2.742E-04	2.721E-04	2.472E-04	9.463E-05	1.910E-05
RB	2.120E-02	3.555E-08	8.438E-09	8.438E-09	8.438E-09	8.438E-09	8.438E-09	8.438E-09	8.438E-09	8.438E-09	8.438E-09	8.438E-09
SR	7.405E+01	2.516E+01	2.426E+01	2.258E+01	2.005E+01	1.246E+01	2.354E+00	2.013E-02	1.170E-09	0.0	0.0	0.0
Y	1.154E+02	2.603E+01	2.428E+01	2.259E+01	2.005E+01	1.246E+01	2.354E+00	2.016E-02	1.171E-09	0.0	0.0	0.0
ZR	1.886E+02	3.607E+00	6.980E-02	8.573E-04	8.568E-04	8.568E-04	8.568E-04	8.567E-04	8.564E-04	8.530E-04	8.189E-04	7.651E-04
NB	3.641E+02	8.270E+00	1.592E-01	2.357E-04	3.658E-04	6.524E-04	8.097E-04	8.142E-04	8.139E-04	8.105E-04	7.779E-04	7.268E-04
MO	4.174E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC	8.794E-03	8.794E-03	8.794E-03	8.794E-03	8.794E-03	8.793E-03	8.791E-03	8.786E-03	8.766E-03	8.513E-03	6.351E-03	3.898E-03
RU	6.502E+02	2.811E+02	1.412E+02	1.795E+01	5.766E-01	6.138E-07	7.640E-28	0.0	0.0	0.0	0.0	0.0
RH	6.412E+02	2.811E+02	1.412E+02	1.795E+01	5.766E-01	6.138E-07	7.640E-28	0.0	0.0	0.0	0.0	0.0
PD	1.542E-04	1.542E-04	1.542E-04	1.542E-04	1.542E-04	1.542E-04	1.542E-04	1.542E-04	1.542E-04	1.541E-04	1.526E-04	1.502E-04
AG	5.184E+00	1.882E+00	6.833E-01	3.270E-02	2.067E-04	6.058E-08	4.135E-08	1.386E-08	3.042E-10	1.417E-31	0.0	0.0
CD	4.882E-01	1.175E-01	1.109E-01	9.601E-02	7.570E-02	2.927E-02	1.052E-03	7.858E-08	2.829E-22	0.0	0.0	0.0
IN	9.727E-04	5.795E-06	3.466E-08	9.333E-14	8.583E-14	8.583E-14	8.583E-14	8.583E-14	8.583E-14	8.583E-14	8.583E-14	8.583E-14
SN	3.943E+00	6.496E-01	1.261E-01	4.612E-03	1.929E-03	1.753E-03	1.439E-03	1.258E-03	1.240E-03	1.165E-03	6.242E-04	2.207E-04
SB	2.401E+01	1.830E+01	1.424E+01	6.725E+00	1.925E+00	1.430E-02	1.422E-03	1.420E-03	1.413E-03	1.328E-03	7.115E-04	2.516E-04
TE	2.281E+01	5.857E+00	3.612E+00	1.640E+00	4.694E-01	3.147E-03	7.759E-11	2.008E-14	2.008E-14	2.008E-14	2.008E-14	2.008E-14
I	9.720E-07	4.233E-08	4.233E-08	4.233E-08	4.233E-08	4.233E-08	4.233E-08	4.233E-08	4.233E-08	4.231E-08	4.214E-08	4.187E-08
XE	0.0	1.249E-17	7.169E-27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	1.266E+02	1.082E+02	9.462E+01	7.111E+01	5.559E+01	3.373E+01	6.693E+00	6.693E-02	1.046E-03	1.044E-03	1.016E-03	9.708E-04
BA	6.402E+01	6.235E+01	6.093E+01	5.685E+01	5.065E+01	3.191E+01	6.330E+00	6.233E-02	5.894E-09	0.0	0.0	0.0
LA	2.349E-01	5.940E-10	2.141E-14	2.141E-14	2.141E-14	2.141E-14	2.141E-14	2.141E-14	2.141E-14	2.141E-14	2.141E-14	2.141E-14
CE	5.188E+02	1.963E+02	8.055E+01	5.568E+00	6.483E-02	1.664E-08	1.545E-08	1.545E-08	1.545E-08	1.545E-08	1.545E-08	1.545E-08
PR	4.843E+02	1.986E+02	8.152E+01	5.635E+00	6.561E-02	1.205E-09	0.0	0.0	0.0	0.0	0.0	0.0
ND	2.240E-02	3.122E-12	6.003E-13	6.281E-13	6.301E-13	6.302E-13	6.302E-13	6.302E-13	6.302E-13	6.302E-13	6.302E-13	6.302E-13
PM	1.424E+02	1.028E+02	7.894E+01	3.573E+01	9.536E+00	4.841E-02	4.496E-10	0.0	0.0	0.0	0.0	0.0
SM	2.375E+00	2.357E+00	2.339E+00	2.286E+00	2.199E+00	1.885E+00	1.100E+00	2.356E-01	1.071E-03	4.861E-09	4.861E-09	4.861E-09
EU	1.388E+01	1.223E+01	1.082E+01	7.518E+00	4.166E+00	4.876E-01	1.332E-03	6.337E-09	1.997E-24	0.0	0.0	0.0
GD	4.275E-02	1.502E-02	5.276E-03	2.287E-04	1.225E-06	3.094E-15	2.291E-15	2.297E-15	2.297E-15	2.297E-15	2.297E-15	2.297E-15
TB	7.439E-01	2.243E-02	6.764E-04	1.854E-08	4.620E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	9.836E-16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	3.138E-06	3.136E-06	3.134E-06	3.129E-06	3.120E-06	3.084E-06	2.962E-06	2.639E-06	1.761E-06	9.732E-09	2.579E-31	0.0
ER	3.119E-09	6.268E-21	1.260E-32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	2.526E-05	3.784E-06	7.078E-07	7.726E-08	1.249E-08	9.138E-12	9.676E-23	0.0	0.0	0.0	0.0	0.0
TOTAL	3.444E+03	1.335E+03	7.597E+02	2.743E+02	1.660E+02	9.303E+01	1.885E+01	4.188E-01	1.563E-02	1.411E-02	1.055E-02	7.003E-03

TABLE C.82. CURIES OF PRINCIPAL FISSION PRODUCT NUCLIDES IN BLENDED LMFBR CLADDING WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
SE 79	2.751E-04	2.751E-04	2.751E-04	2.750E-04	2.750E-04	2.750E-04	2.748E-04	2.742E-04	2.721E-04	2.472E-04	9.463E-05	1.910E-05
SR 90	2.544E+01	2.484E+01	2.425E+01	2.258E+01	2.005E+01	1.246E+01	2.354E+00	2.015E-02	1.170E-09	0.0	0.0	0.0
Y 90	2.544E+01	2.484E+01	2.426E+01	2.259E+01	2.005E+01	1.246E+01	2.354E+00	2.016E-02	1.171E-09	0.0	0.0	0.0
ZR 93	8.568E-04	8.568E-04	8.568E-04	8.568E-04	8.568E-04	8.568E-04	8.568E-04	8.567E-04	8.564E-04	8.530E-04	8.169E-04	7.551E-04
NB 93M	6.742E-05	1.045E-04	1.398E-04	2.354E-04	3.655E-04	6.522E-04	8.094E-04	8.139E-04	8.136E-04	8.103E-04	7.779E-04	7.268E-04
ZR 95	1.886E+02	3.606E+00	6.894E-02	4.820E-07	1.232E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 95	3.627E+02	8.243E+00	1.586E-01	1.070E-06	2.735E-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC 99	8.794E-03	8.794E-03	8.794E-03	8.794E-03	8.794E-03	8.793E-03	8.791E-03	8.786E-03	8.766E-03	8.513E-03	6.351E-03	3.898E-03
RU106	5.588E+02	2.809E+02	1.412E+02	1.795E+01	5.766E-01	6.138E-07	7.640E-28	0.0	0.0	0.0	0.0	0.0
RH106	5.588E+02	2.809E+02	1.412E+02	1.795E+01	5.766E-01	6.138E-07	7.640E-28	0.0	0.0	0.0	0.0	0.0
PD107	1.542E-04	1.542E-04	1.542E-04	1.542E-04	1.542E-04	1.542E-04	1.542E-04	1.542E-04	1.542E-04	1.541E-04	1.526E-04	1.502E-04
AG110M	5.116E+00	1.857E+00	6.744E-01	3.227E-02	2.039E-04	3.230E-13	0.0	0.0	0.0	0.0	0.0	0.0
SB125	2.349E+01	1.829E+01	1.424E+01	6.723E+00	1.924E+00	1.288E-02	3.179E-10	0.0	0.0	0.0	0.0	0.0
TE125M	5.605E+00	4.462E+00	3.475E+00	1.640E+00	4.694E-01	3.147E-03	7.757E-11	0.0	0.0	0.0	0.0	0.0
SN126	1.248E-03	1.248E-03	1.248E-03	1.248E-03	1.248E-03	1.248E-03	1.247E-03	1.246E-03	1.240E-03	1.165E-03	6.242E-04	2.207E-04
SB126	9.021E-04	1.748E-04	1.748E-04	1.747E-04	1.747E-04	1.747E-04	1.746E-04	1.744E-04	1.735E-04	1.631E-04	8.738E-05	3.090E-05
SB126M	1.248E-03	1.248E-03	1.248E-03	1.248E-03	1.248E-03	1.248E-03	1.247E-03	1.246E-03	1.240E-03	1.165E-03	6.242E-04	2.207E-04
CS134	5.917E+01	4.228E+01	3.021E+01	1.102E+01	2.052E+00	2.477E-03	1.494E-13	0.0	0.0	0.0	0.0	0.0
CS135	1.047E-03	1.047E-03	1.047E-03	1.047E-03	1.047E-03	1.047E-03	1.047E-03	1.047E-03	1.046E-03	1.044E-03	1.016E-03	9.708E-04
CS137	6.745E+01	6.591E+01	6.441E+01	6.009E+01	5.354E+01	3.273E+01	6.692E+00	6.588E-02	6.231E-09	0.0	0.0	0.0
BA137M	6.381E+01	6.235E+01	6.093E+01	5.685E+01	5.065E+01	3.191E+01	6.330E+00	6.233E-02	5.894E-09	0.0	0.0	0.0
CE144	4.783E+02	1.963E+02	8.055E+01	5.568E+00	6.483E-02	1.191E-09	0.0	0.0	0.0	0.0	0.0	0.0
PR144	4.783E+02	1.963E+02	8.055E+01	5.568E+00	6.483E-02	1.191E-09	0.0	0.0	0.0	0.0	0.0	0.0
PR144M	5.739E+00	2.355E+00	9.666E-01	6.681E-02	7.780E-04	1.429E-11	0.0	0.0	0.0	0.0	0.0	0.0
PM147	1.339E+02	1.028E+02	7.894E+01	3.573E+01	9.536E+00	4.841E-02	4.496E-10	0.0	0.0	0.0	0.0	0.0
SM151	2.375E+00	2.357E+00	2.339E+00	2.286E+00	2.199E+00	1.885E+00	1.100E+00	2.356E-01	1.071E-03	0.0	0.0	0.0
EU154	3.692E+00	3.406E+00	3.142E+00	2.467E+00	1.649E+00	3.290E-01	1.157E-03	1.155E-10	0.0	0.0	0.0	0.0
EU155	1.012E+01	8.798E+00	7.650E+00	5.030E+00	2.501E+00	1.528E-01	8.609E-06	6.232E-18	0.0	0.0	0.0	0.0
SUMTOT	3.057E+03	1.331E+03	7.593E+02	2.742E+02	1.659E+02	9.299E+01	1.885E+01	4.188E-01	1.563E-02	1.411E-02	1.055E-02	7.003E-03
TOTAL	3.444E+03	1.335E+03	7.597E+02	2.743E+02	1.660E+02	9.303E+01	1.885E+01	4.188E-01	1.563E-02	1.411E-02	1.055E-02	7.003E-03

TABLE C.83. WATTS OF FISSION PRODUCT ELEMENTS IN BLENDED LMFBR CLADDING WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
BE	2.323E-12	2.323E-12	2.323E-12	2.323E-12	2.323E-12	2.323E-12	2.323E-12	2.322E-12	2.322E-12	2.313E-12	2.224E-12	2.084E-12
CU	2.613E-35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	6.848E-08	6.848E-08	6.848E-08	6.848E-08	6.847E-08	6.846E-08	6.841E-08	6.826E-08	6.775E-08	6.155E-08	2.356E-08	4.754E-09
RB	9.580E-05	1.296E-10	7.053E-12	7.053E-12	7.053E-12	7.053E-12	7.053E-12	7.053E-12	7.053E-12	7.053E-12	7.053E-12	7.052E-12
SR	1.976E-01	2.995E-02	2.816E-02	2.621E-02	2.327E-02	1.446E-02	2.732E-03	2.339E-05	1.358E-12	0.0	0.0	0.0
Y	4.640E-01	1.420E-01	1.345E-01	1.252E-01	1.111E-01	6.905E-02	1.305E-02	1.117E-04	6.488E-12	0.0	0.0	0.0
ZR	9.552E-01	1.826E-02	3.493E-04	1.020E-07	9.955E-08	9.955E-08	9.954E-08	9.953E-08	9.950E-08	9.910E-08	9.514E-08	8.889E-08
NB	1.742E+00	3.958E-02	7.614E-04	4.959E-08	6.751E-08	1.183E-07	1.461E-07	1.469E-07	1.468E-07	1.455E-07	1.379E-07	1.288E-07
MO	1.341E-17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC	4.410E-06	4.410E-06	4.410E-06	4.410E-06	4.410E-06	4.410E-06	4.409E-06	4.406E-06	4.396E-06	4.269E-06	3.185E-06	1.955E-06
RU	3.393E-01	1.719E-02	8.398E-03	1.067E-03	3.428E-05	3.649E-11	4.543E-32	0.0	0.0	0.0	0.0	0.0
RH	5.378E+00	2.694E+00	1.355E+00	1.721E-01	5.530E-03	5.887E-09	7.328E-30	0.0	0.0	0.0	0.0	0.0
PD	9.143E-09	9.143E-09	9.143E-09	9.143E-09	9.143E-09	9.143E-09	9.143E-09	9.142E-09	9.142E-09	9.133E-09	9.046E-09	8.902E-09
AG	8.591E-02	3.119E-02	1.133E-02	5.420E-04	3.425E-06	5.596E-10	3.819E-10	1.282E-10	2.810E-12	1.309E-33	0.0	0.0
CD	1.571E-03	2.002E-04	1.864E-04	1.616E-04	1.274E-04	4.928E-05	1.771E-06	1.323E-10	4.763E-25	0.0	0.0	0.0
IN	2.860E-06	1.710E-06	1.025E-10	1.454E-16	1.231E-16	1.231E-16	1.231E-16	1.231E-16	1.231E-16	1.231E-16	1.231E-16	1.231E-16
SN	1.119E-02	1.627E-03	2.487E-04	4.863E-06	2.900E-06	2.568E-06	1.939E-06	1.577E-06	1.546E-06	1.453E-06	7.784E-07	2.752E-07
SB	8.026E-02	5.731E-02	4.455E-02	2.104E-02	6.033E-03	5.939E-05	1.911E-05	1.908E-05	1.899E-05	1.784E-05	9.562E-06	3.381E-06
TE	2.546E-02	5.065E-03	3.050E-03	1.379E-03	3.945E-04	2.645E-06	6.520E-14	3.005E-18	3.005E-18	3.005E-18	3.005E-18	3.005E-18
I	3.208E-09	1.958E-11	1.958E-11	1.958E-11	1.958E-11	1.958E-11	1.958E-11	1.958E-11	1.958E-11	1.957E-11	1.950E-11	1.937E-11
XE	0.0	1.201E-20	6.897E-30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CS	6.770E-01	5.032E-01	3.787E-01	1.786E-01	8.010E-02	3.733E-02	7.402E-03	7.322E-05	3.492E-07	3.483E-07	3.390E-07	3.240E-07
BA	2.512E-01	2.448E-01	2.392E-01	2.232E-01	1.989E-01	1.253E-01	2.486E-02	2.447E-04	2.314E-11	0.0	0.0	0.0
LA	3.937E-03	9.957E-12	3.690E-17	3.687E-17	3.687E-17	3.687E-17	3.687E-17	3.687E-17	3.687E-17	3.687E-17	3.687E-17	3.687E-17
CE	3.766E-01	1.302E-01	5.343E-02	3.693E-03	4.300E-05	7.898E-13	0.0	0.0	0.0	0.0	0.0	0.0
PR	3.518E+00	1.444E+00	5.924E-01	4.095E-02	4.768E-04	8.757E-12	0.0	0.0	0.0	0.0	0.0	0.0
ND	5.404E-05	6.188E-15	7.086E-25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM	1.540E-01	3.711E-02	2.832E-02	1.282E-02	3.420E-03	1.737E-05	1.612E-13	0.0	0.0	0.0	0.0	0.0
SM	2.785E-04	2.764E-04	2.743E-04	2.680E-04	2.579E-04	2.211E-04	1.289E-04	2.763E-05	1.257E-07	6.657E-11	6.657E-11	6.657E-11
EU	4.101E-02	3.706E-02	3.386E-02	2.589E-02	1.669E-02	3.098E-03	1.162E-05	4.820E-11	1.514E-26	0.0	0.0	0.0
GD	3.684E-05	1.294E-05	4.547E-06	1.971E-07	1.056E-09	2.810E-17	2.985E-17	2.992E-17	2.992E-17	2.992E-17	2.992E-17	2.992E-17
TB	6.059E-03	1.827E-04	5.509E-06	1.510E-10	3.763E-18	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY	1.149E-18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HO	3.477E-08	3.475E-08	3.473E-08	3.467E-08	3.457E-08	3.417E-08	3.282E-08	2.924E-08	1.951E-08	1.078E-10	2.857E-33	0.0
ER	6.287E-12	1.263E-23	2.538E-35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TM	4.929E-06	6.921E-09	9.941E-10	1.437E-11	1.937E-12	1.417E-15	1.500E-26	0.0	0.0	0.0	0.0	0.0
TOTAL	1.431E+01	5.433E+00	2.912E+00	8.332E-01	4.464E-01	2.496E-01	4.821E-02	5.061E-04	2.575E-05	2.423E-05	1.413E-05	6.166E-06

TABLE C.84. WATTS OF PRINCIPAL FISSION PRODUCT NUCLIDES IN BLENDED LMFBR CLADDING WASTE AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
SE 79	6.848E-08	6.848E-08	6.848E-08	6.848E-08	6.847E-08	6.846E-08	6.841E-08	6.826E-08	6.775E-08	6.155E-08	2.356E-08	4.754E-09
SR 90	2.952E-02	2.883E-02	2.815E-02	2.621E-02	2.327E-02	1.446E-02	2.732E-03	2.335E-05	1.358E-12	0.0	0.0	0.0
Y 90	1.410E-01	1.377E-01	1.345E-01	1.252E-01	1.111E-01	6.905E-02	1.305E-02	1.117E-04	6.488E-12	0.0	0.0	0.0
ZR 93	9.955E-08	9.955E-08	9.955E-08	9.955E-08	9.955E-08	9.955E-08	9.954E-08	9.953E-08	9.950E-08	9.910E-08	9.514E-08	8.889E-08
NB 93M	1.195E-08	1.852E-08	2.476E-08	4.170E-08	6.476E-08	1.155E-07	1.434E-07	1.442E-07	1.442E-07	1.436E-07	1.378E-07	1.288E-07
ZR 95	9.552E-01	1.826E-02	3.492E-04	2.441E-09	6.240E-18	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB 95	1.740E+00	3.954E-02	7.607E-04	5.133E-09	1.312E-17	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC 99	4.410E-06	4.410E-06	4.410E-06	4.410E-06	4.410E-06	4.410E-06	4.409E-06	4.406E-06	4.396E-06	4.269E-06	3.185E-06	1.955E-06
RU106	3.322E-02	1.670E-02	8.397E-03	1.067E-03	3.428E-08	3.649E-11	4.543E-32	0.0	0.0	0.0	0.0	0.0
RH106	5.359E+00	2.694E+00	1.355E+00	1.721E-01	5.530E-03	5.887E-09	7.328E-30	0.0	0.0	0.0	0.0	0.0
PD107	9.143E-09	9.143E-09	9.143E-09	9.143E-09	9.143E-09	9.143E-09	9.143E-09	9.143E-09	9.142E-09	9.133E-09	9.046E-09	8.902E-09
AG110M	8.542E-02	3.102E-02	1.126E-02	5.389E-04	3.405E-06	5.394E-15	0.0	0.0	0.0	0.0	0.0	0.0
SB125	7.345E-02	5.719E-02	4.453E-02	2.102E-02	6.014E-03	4.027E-05	9.939E-13	0.0	0.0	0.0	0.0	0.0
TE125M	4.711E-03	3.750E-03	2.921E-03	1.379E-03	3.945E-04	2.645E-06	6.520E-14	0.0	0.0	0.0	0.0	0.0
SN126	1.557E-06	1.557E-06	1.557E-06	1.557E-06	1.557E-06	1.556E-06	1.556E-06	1.554E-06	1.546E-06	1.453E-06	7.784E-07	2.782E-07
SB126	1.667E-05	3.229E-06	3.229E-06	3.229E-06	3.229E-06	3.228E-06	3.227E-06	3.222E-06	3.207E-06	3.013E-06	1.615E-06	5.709E-07
SB126M	1.589E-05	1.589E-05	1.589E-05	1.589E-05	1.589E-05	1.589E-05	1.588E-05	1.586E-05	1.578E-05	1.483E-05	7.947E-06	2.810E-06
CS134	6.022E-01	4.303E-01	3.074E-01	1.121E-01	2.088E-02	2.521E-05	1.521E-15	0.0	0.0	0.0	0.0	0.0
CS135	3.493E-07	3.493E-07	3.493E-07	3.493E-07	3.493E-07	3.493E-07	3.493E-07	3.493E-07	3.492E-07	3.483E-07	3.390E-07	3.240E-07
CS137	7.461E-02	7.291E-02	7.124E-02	6.647E-02	5.922E-02	3.730E-02	7.402E-03	7.288E-05	6.892E-12	0.0	0.0	0.0
BA137M	2.506E-01	2.448E-01	2.392E-01	2.232E-01	1.989E-01	1.253E-01	2.486E-02	2.447E-04	2.314E-11	0.0	0.0	0.0
CE144	3.172E-01	1.302E-01	5.343E-02	3.693E-03	4.300E-05	7.898E-13	0.0	0.0	0.0	0.0	0.0	0.0
PR144	3.515E+00	1.443E+00	5.921E-01	4.092E-02	4.765E-04	8.752E-12	0.0	0.0	0.0	0.0	0.0	0.0
PM147	4.803E-02	3.688E-02	2.832E-02	1.282E-02	3.420E-03	1.737E-08	1.612E-13	0.0	0.0	0.0	0.0	0.0
SM151	2.785E-04	2.764E-04	2.743E-04	2.680E-04	2.579E-04	2.211E-04	1.289E-04	2.763E-05	1.256E-07	0.0	0.0	0.0
EU154	3.302E-02	3.046E-02	2.811E-02	2.207E-02	1.475E-02	2.942E-03	1.035E-05	1.034E-12	0.0	0.0	0.0	0.0
EU155	7.359E-03	6.399E-03	5.564E-03	3.658E-03	1.819E-03	1.111E-04	6.261E-09	4.533E-21	0.0	0.0	0.0	0.0
SUMTOT	1.327E+01	5.422E+00	2.911E+00	8.328E-01	4.462E-01	2.495E-01	4.820E-02	5.061E-04	2.573E-05	2.422E-05	1.413E-05	6.166E-06
TOTAL	1.431E+01	5.433E+00	2.912E+00	8.332E-01	4.464E-01	2.496E-01	4.821E-02	5.061E-04	2.575E-05	2.423E-05	1.413E-05	6.166E-06

TABLE C.85. PHOTONS FROM FISSION PRODUCTS IN BLENDED LMFBR CLADDING WASTE
AS A FUNCTION OF DECAY TIME (BASIS = 1.0 MTHM)

18 GROUP PHOTON RELEASE RATES, PHOTONS/SECOND
BASIS=ONE TONNE INITIAL HEAVY METAL: ADV OX LMFBR: LWR-PU/U/U/U

EMEAN	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	3.618E+13	1.626E+13	8.444E+12	2.214E+12	1.275E+12	7.587E+11	1.443E+11	1.388E+09	5.713E+07	5.472E+07	3.839E+07	2.315E+07
2.500E-02	8.584E+12	3.936E+12	2.146E+12	6.214E+11	3.067E+11	1.558E+11	2.957E+10	2.927E+08	2.723E+07	2.572E+07	1.489E+07	6.324E+06
3.750E-02	7.696E+12	3.456E+12	1.835E+12	5.606E+11	3.359E+11	1.816E+11	3.436E+10	3.235E+08	5.619E+06	5.368E+06	3.490E+06	1.819E+06
5.750E-02	7.537E+12	3.438E+12	1.770E+12	4.414E+11	2.455E+11	1.436E+11	2.709E+10	2.481E+08	1.137E+07	1.076E+07	6.428E+06	2.900E+06
8.500E-02	5.224E+12	2.413E+12	1.251E+12	3.218E+11	1.703E+11	8.685E+10	1.615E+10	1.652E+08	2.472E+07	2.325E+07	1.270E+07	4.714E+06
1.250E-01	6.171E+12	2.805E+12	1.181E+12	2.630E+11	1.314E+11	6.035E+10	1.033E+10	9.114E+07	1.623E+06	1.537E+06	9.054E+05	3.964E+05
2.250E-01	4.744E+12	2.172E+12	1.108E+12	2.531E+11	1.264E+11	7.184E+10	1.341E+10	1.182E+08	2.389E+06	2.184E+06	1.190E+06	4.385E+05
3.750E-01	2.758E+12	1.333E+12	7.334E+11	1.991E+11	7.690E+10	3.066E+10	5.767E+09	9.960E+07	5.028E+07	4.723E+07	2.531E+07	8.950E+06
5.750E-01	1.724E+13	8.646E+12	5.954E+12	3.070E+12	2.097E+12	1.223E+12	2.443E+11	2.512E+09	1.116E+08	1.049E+08	5.620E+07	1.987E+07
8.500E-01	2.124E+13	2.236E+12	1.234E+12	4.294E+11	1.045E+11	1.080E+10	9.440E+08	1.361E+07	5.696E+06	5.263E+06	2.814E+06	9.946E+05
1.250E+00	1.018E+12	5.111E+11	2.968E+11	9.426E+10	4.001E+10	8.127E+09	3.292E+08	3.953E+06	1.358E+06	1.274E+06	6.828E+05	2.414E+05
1.750E+00	1.585E+11	6.756E+10	3.301E+10	5.186E+09	1.271E+09	3.177E+08	2.429E+07	2.021E+05	5.783E+01	5.432E+01	2.911E+01	1.029E+01
2.250E+00	1.664E+11	7.054E+10	3.035E+10	2.543E+09	4.962E+07	1.377E+04	2.595E+03	2.222E+01	1.649E-06	3.584E-07	3.584E-07	3.584E-07
2.750E+00	4.854E+09	2.284E+09	1.144E+09	1.441E+08	4.602E+06	4.882E+00	1.796E-07	1.796E-07	1.796E-07	1.796E-07	1.796E-07	1.796E-07
3.500E+00	5.831E+08	2.920E+08	1.468E+08	1.866E+07	5.993E+05	6.380E-01	1.322E-07	1.322E-07	1.322E-07	1.322E-07	1.322E-07	1.322E-07
5.000E+00	3.300E-08	3.448E-08	3.561E-08	3.767E-08	3.891E-08	3.936E-08	3.937E-08	3.937E-08	3.937E-08	3.937E-08	3.937E-08	3.937E-08
7.000E+00	2.141E-09	2.237E-09	2.311E-09	2.444E-09	2.525E-09	2.554E-09	2.554E-09	2.554E-09	2.554E-09	2.554E-09	2.554E-09	2.554E-09
1.100E+01	1.354E-10	1.415E-10	1.461E-10	1.546E-10	1.597E-10	1.615E-10	1.615E-10	1.615E-10	1.615E-10	1.615E-10	1.615E-10	1.615E-10
TOTAL	1.187E+14	4.695E+13	2.602E+13	8.476E+12	4.912E+12	2.741E+12	5.266E+11	5.257E+09	2.990E+08	2.822E+08	1.630E+08	6.980E+07
MEV/SEC	3.470E+13	9.959E+12	6.103E+12	2.551E+12	1.489E+12	8.017E+11	1.553E+11	1.605E+09	9.483E+07	8.902E+07	4.796E+07	1.722E+07

18 GROUP SPECIFIC ENERGY RELEASE RATES, MEV/WATT-SEC
BASIS=ONE TONNE INITIAL HEAVY METAL: ADV OX LMFBR: LWR-PU/U/U/U

EMEAN	SM+0.05%FP	1.0YR	2.0YR	5.0YR	10.0YR	30.0YR	100.0YR	300.0YR	1.0KY	10.0KY	100.0KY	250.0KY
1.500E-02	5.428E+05	2.439E+05	1.267E+05	3.321E+04	1.913E+04	1.138E+04	2.165E+03	2.083E+01	8.570E-01	8.208E-01	5.759E-01	3.472E-01
2.500E-02	2.146E+05	9.840E+04	5.365E+04	1.554E+04	7.669E+03	3.895E+03	7.392E+02	7.317E+00	6.808E-01	6.431E-01	3.723E-01	1.581E-01
3.750E-02	2.886E+05	1.296E+05	6.881E+04	2.102E+04	1.260E+04	6.810E+03	1.288E+03	1.215E+01	2.107E-01	2.013E-01	1.309E-01	6.820E-02
5.750E-02	4.334E+05	1.977E+05	1.018E+05	2.538E+04	1.412E+04	8.257E+03	1.558E+03	1.426E+01	6.537E-01	6.187E-01	3.696E-01	1.667E-01
8.500E-02	4.441E+05	2.051E+05	1.063E+05	2.735E+04	1.447E+04	7.382E+03	1.373E+03	1.404E+01	2.101E+00	1.976E+00	1.079E+00	4.007E-01
1.250E-01	7.714E+05	3.006E+05	1.476E+05	3.287E+04	1.642E+04	7.543E+03	1.292E+03	1.139E+01	2.028E-01	1.921E-01	1.132E-01	4.955E-02
2.250E-01	1.067E+06	4.888E+05	2.494E+05	5.694E+04	2.845E+04	1.616E+04	3.018E+03	2.655E+01	5.376E-01	4.915E-01	2.677E-01	9.866E-02
3.750E-01	1.034E+06	4.998E+05	2.750E+05	7.465E+04	2.884E+04	1.150E+04	2.163E+03	3.735E+01	1.886E+01	1.771E+01	9.492E+00	3.356E+00
5.750E-01	9.913E+06	4.972E+06	3.423E+06	1.765E+06	1.206E+06	7.089E+05	1.405E+05	1.445E+03	6.419E+01	6.030E+01	3.231E+01	1.143E+01
8.500E-01	1.805E+07	1.901E+06	1.049E+06	3.650E+05	8.879E+04	9.179E+03	8.024E+02	1.157E+01	4.842E+00	4.473E+00	2.392E+00	8.454E-01
1.250E+00	1.272E+06	6.388E+05	3.710E+05	1.178E+05	5.002E+04	1.016E+04	4.115E+02	4.942E+00	1.698E+00	1.593E+00	8.535E-01	3.018E-01
1.750E+00	2.774E+05	1.182E+05	5.776E+04	9.076E+03	2.225E+03	5.559E+02	4.251E+01	3.537E-01	1.012E-04	9.506E-05	5.095E-05	1.801E-05
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2.750E+00	1.335E+04	6.280E+03	3.145E+03	3.964E+02	1.265E+01	1.342E-05	4.938E-13	4.938E-13	4.938E-13	4.938E-13	4.938E-13	4.938E-13
3.500E+00	2.041E+03	1.022E+03	5.138E+02	6.529E+01	2.097E+00	2.233E-06	4.628E-13	4.628E-13	4.628E-13	4.628E-13	4.628E-13	4.628E-13
5.000E+00	1.650E-13	1.724E-13	1.781E-13	1.883E-13	1.946E-13	1.968E-13	1.968E-13	1.968E-13	1.968E-13	1.968E-13	1.968E-13	1.968E-13
7.000E+00	1.499E-14	1.566E-14	1.618E-14	1.711E-14	1.767E-14	1.788E-14	1.788E-14	1.788E-14	1.788E-14	1.788E-14	1.788E-14	1.788E-14
1.100E+01	1.490E-15	1.556E-15	1.607E-15	1.700E-15	1.756E-15	1.777E-15	1.777E-15	1.777E-15	1.777E-15	1.777E-15	1.777E-15	1.777E-15
TOTAL	3.470E+07	9.959E+06	6.103E+06	2.551E+06	1.489E+06	8.017E+05	1.553E+05	1.605E+03	9.483E+01	8.902E+01	4.796E+01	1.722E+01
GAM POW	5.562E+00	1.596E+00	9.783E-01	4.088E-01	2.387E-01	1.285E-01	2.490E-02	2.573E-04	1.520E-05	1.427E-05	7.688E-06	2.760E-06

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