

CRWMS/M&O

Calculation Cover Sheet

Complete only applicable items.

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	Print Name	Signature	Date
7. Originator	John M. Scaglione	<i>John M. Scaglione</i>	1/6/99
8. Checker	David P. Henderson	<i>David P. Henderson</i>	1/6/99
9. Lead Design Engineer	Daniel A. Thomas	<i>DA Thomas</i>	01/07/99
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1. Purpose

The purpose of this calculation file is to document criticality calculations performed on two different rod consolidation waste package designs. The results presented in this calculation file may be used to support further evaluation of the rod consolidation waste package design.

2. Method

The method used to perform the criticality calculations documented herein involved the use of the MCNP code system. The MCNP code system uses Monte Carlo techniques to simulate the transport of particles (neutrons) through arbitrary geometries to assess the average behavior of the neutron population in the actual physical system. The MCNP calculated parameter of interest in the criticality calculations for the various systems is the effective neutron multiplication factor (k_{eff}). The k_{eff} represents the ratio of neutrons in successive generations accounting for all neutron production and neutron loss mechanisms.

3. Assumptions

None.

4. Use of Computer Software

4.1. Software Approved for QA Work

4.1.1. MCNP

The MCNP code system was used to calculate the k_{eff} of various rod consolidation waste package configurations differentiated by various fuel loadings, fuel positions, and moderator densities. The software specifications are as follow:

- Program Name: MCNP
- Version/Revision Number: Version 4B2
- CSCI Number: 30033 V4B2LV
- Computer Type: HP 9000 Series Workstations

The input and output files for the various MCNP calculations are documented in the attachments to this calculation file as described in Sections 5 and 8, such that an independent repetition of the software use may be performed. The MCNP software used was: (a) appropriate for the application of rod consolidation waste package k_{eff} calculations, (b) used only within the range of validation as documented throughout References 7.1 and 7.2, and (c) obtained from the Software Configuration Manager in accordance with appropriate procedures.

4.2. Software Routines

None.

5. Calculation

A number of criticality calculations were performed on the rod consolidation waste packages to support a subsequent assessment of the waste package's reactivity response to various fuel loadings and conditions. The various criticality calculation configurations are described in this section. Section 6 presents the results for each of the criticality calculations. The number of significant figures in the composition values are a result of the composition calculation and should not be interpreted as reflecting the level of precision.

5.1. Waste Package Description

Sketches of the Rod Consolidation Waste Package (RCWP) and 12-Rod Consolidation Canister Waste Package Assembly (12-RCCWPA) are shown in Attachments I and III, respectively. These sketches do not show the canisters which contain the fuel rods obtained from the assemblies. A sketch of the canisters used to hold these fuel rods are shown in Attachments II and IV for the RCWP and 12-RCCWPA, respectively.

The RCWP internal structures are arranged such that seven honeycomb-like cells exist. Each of these honeycomb cells contains one container of fuel rods. Each of these containers contain all of the rods from three pressurized water reactor (PWR) fuel assemblies. In each Babcock & Wilcox (B&W) 15x15 design PWR fuel assembly there are 208 fuel rods, 16 guide tubes, and 1 instrument tube (p. 5, Ref. 7.4). Only the fuel rods will be placed in the containers which are inserted into the RCWP. For the B&W 15x15 design fuel, this results in 624 fuel rods per container. The calculations documented herein were performed using only B&W 15x15 design fuel rods.

The 12-RCCWPA internal structures are arranged such that 12 grid cells exist. Each of these grid cells contains one canister of fuel rods. Each of these canisters contains all of the rods from 1.75 PWR fuel assemblies, which results in 364 fuel rods per canister.

The RCWP internal structures which define the honeycomb cells are made of carbon steel. The 12-RCCWPA internal structures which define the grid cells are also made of carbon steel. The cans which contain the fuel rods are made of stainless steel. The outer barrier of both waste package designs is made of carbon steel (a corrosion allowance material). The inner barrier of both waste packages is made of Alloy 22, which is a specific type of nickel-based alloy (ASTM B 575 is commonly known by the name Alloy 22). Both waste package designs have an outer carbon steel lid and an inner Alloy 22 lid on each end.

5.2. Description of Waste Package MCNP Representaion

The MCNP representation of the RCWP follows the same description as that shown in the sketch of Attachment I. The MCNP representation of the 12-RCCWPA follows the same description as that shown in the sketch of Attachment III. The outer barrier, outer lids, and internal structures were represented as Grade 70 A 516 carbon steel as described in Table 5.2-1. The inner barrier and inner lids are represented as Alloy 22 as described in Table 5.2-2. An effectively infinite water reflector surrounds each waste package. The water composition is described in Table 5.2-3. The containers containing the fuel rods for the RCWP follow the same description as that shown in the sketch of Attachment II. The

containers are represented as Stainless Steel 316L as described in Table 5.2-4. The dome lids of the rod consolidation container were simplified in the MCNP representation as flat discs 4 cm in height, which increases the amount of water reflector axially and thus provides greater conservatism in the calculation. The canisters containing the fuel rods for the 12-RCCWPA follow the same description as that shown in the sketch of Attachment IV. The canisters are represented as Stainless Steel 316L as described in Table 5.2-4.

The various material compositions shown in Tables 5.2-1 through 5.2-7 were obtained from References 7.9 and 7.3. The chromium, nickel, and iron elemental weight percents obtained from References 7.9 and 7.3 were expanded into their constituent natural isotopic weight percents for use in MCNP. This expansion is performed by: 1) calculating a natural weight fraction of each isotope in the elemental state, and 2) multiplying the elemental weight percent in the material of interest by the natural weight fraction of the isotope in the elemental state to obtain the weight percent of the isotope in the material of interest. This is described mathematically in Equations 5.2-1 and 5.2-2.

Table 5.2-10 lists the fresh fuel material compositions for the 2.95, 3.00, 3.49, 3.94, 4.00, and 5.00 wt% U^{235} enriched fuel. Equations 5.2-3 through 5.2-6 were used for computing these values. The depleted fuel compositions and nodal densities at the various assembly average burnups were from Attachment II of Reference 7.5. Table 5.2-11 lists the files from Attachment II of Reference 7.5 that the depleted fuel compositions came from, the assembly identifier, and the assembly average burnup for each calculation. The burned fuel was delineated into eighteen axial regions each having a unique material composition. The top node had a height of 17.7800 cm, nodes 2 through 17 were 20.0025 cm each, and the bottom node (18) was 22.3520 cm in height (p. 61, Ref. 7.4). The depleted fuel isotopes used in this calculation correspond to those of the *Principle Isotope Set* from page 213 of Reference 7.7. The depleted fuel compositions for the 5.00 wt% U^{235} enriched fuel came from Attachment I of Reference 7.6. The material compositions and nodal densities for the 5.00 wt% U^{235} enriched fuel were renormalized to exclude the Eu-155 isotope which was present in the Reference 7.6 calculations because that isotope is not listed in the *Principle Isotope Set*. The renormalized material compositions and nodal densities are presented in Attachment V. Tables 5.2-8 and 5.2-9 contain the homogenized material compositions for the upper and lower fuel rod plenum regions. The helium-filled gap between the fuel rod cladding and the fuel was represented as void.

Equation 5.2-1. Natural Weight Fraction of Isotope in the Element

$$\left(\begin{array}{l} \text{Natural Weight Fraction} \\ \text{of Isotope in the Element} \end{array} \right) = \frac{(\text{Atomic Mass of Isotope})(\text{Atom Percent of Isotope in Element})}{\sum_{i=1}^I (\text{Atomic Mass of Isotope})_i (\text{Atom Percent of Isotope in Element})_i}$$

where (I) is the total number of isotopes in the natural element.

Equation 5.2-2. Weight Percent of Isotope in Material Composition

$$\left(\begin{array}{l} \text{Weight Percent} \\ \text{of Isotope in} \\ \text{Material Composition} \end{array} \right) = \left(\begin{array}{l} \text{Natural Weight Fraction} \\ \text{of Isotope in the Element} \end{array} \right) \left(\begin{array}{l} \text{Reference Weight Percent of} \\ \text{Element in Material Composition} \end{array} \right)$$

Equation 5.2-3. Uranium Isotope Weight Percents in Fabricated UO_2 (p. 208, Ref. 7.7)

$$U^{234} \text{ wt\%} = (0.007731) * (U^{235} \text{ wt\%})^{1.083}$$

$$U^{236} \text{ wt\%} = (0.0046) * (U^{235} \text{ wt\%})$$

$$U^{238} \text{ wt\%} = 100 - U^{234} \text{ wt\%} - U^{235} \text{ wt\%} - U^{236} \text{ wt\%}$$

Equation 5.2-4. Uranium Mass per mol of UO_2 (p. 208, Ref. 7.7)

$$\frac{U \text{ Mass}}{\text{mol } UO_2} = (1.008664904) \left[\begin{aligned} &(232.030)(U^{234} \text{ wt\%}) + (233.025)(U^{235} \text{ wt\%}) + \\ &(234.018)(U^{236} \text{ wt\%}) + (236.006)(U^{238} \text{ wt\%}) \end{aligned} \right] (0.01)$$

where the weight percentages of the uranium isotopes (U^{234} , U^{235} , U^{236} , and U^{238}) in uranium are calculated using Equation 5.2-3.

Equation 5.2-5. Oxygen Mass per mol of UO_2 (p. 208, Ref. 7.7)

$$\frac{O \text{ Mass}}{\text{mol } UO_2} = (2)(1.008664904)(15.858)$$

Equation 5.2-6. Oxygen Mass in UO_2 (p. 209, Ref. 7.7)

$$O \text{ Mass in } UO_2 = \left(\frac{O \text{ Mass} / \text{mol } UO_2}{U \text{ Mass} / \text{mol } UO_2} \right) (U \text{ Mass in } UO_2)$$

The wt% of each uranium isotope in the fresh UO_2 composition is determined by multiplying the wt% of each uranium isotope in the enriched uranium by the weight fraction of uranium in the UO_2 . The wt% of oxygen in the UO_2 is the weight fraction of oxygen in UO_2 multiplied by 100.

Table 5.2-1. Grade 70 A 516 Carbon Steel¹ (p. 2, Ref. 7.9)

Elemental Composition for Outer Barrier		Elemental/Isotopic Composition	
Element	Weight Percent	Element/Isotope	Weight Percent
Carbon (C)	0.300	C-natural	0.300
Manganese (Mn)	1.025	Mn-55	1.025
Phosphorus (P)	0.035	P-31	0.035
Sulfur (S)	0.035	S-32	0.035
Silicon (Si)	0.275	Si-natural	0.275
Iron (Fe)	98.330	Fe-54	5.604

Table 5.2-1. Grade 70 A 516 Carbon Steel¹ (p. 2, Ref. 7.9)

Elemental Composition for Outer Barrier		Elemental/Isotopic Composition	
Element	Weight Percent	Element/Isotope	Weight Percent
		Fe-56	90.335
		Fe-57	2.105
		Fe-58	0.286
Density ² = 7.85 g/cm ³			
Elemental Composition for Divider Plates		Elemental/Isotopic Composition	
Element	Weight Percent	Element/Isotope	Weight Percent
Carbon (C)	0.270	C-natural	0.270
Manganese (Mn)	1.025	Mn-55	1.025
Phosphorus (P)	0.035	P-31	0.035
Sulfur (S)	0.035	S-32	0.035
Silicon (Si)	0.275	Si-natural	0.275
Iron (Fe)	98.360	Fe-54	5.605
		Fe-56	90.363
		Fe-57	2.106
		Fe-58	0.286
Density ² = 7.85 g/cm ³			

¹ Two different compositions are listed for Grade 70 A 516 carbon steel due to the reference indicating that the material composition varies for different thickness²

² Density value is from page 9 of Reference 7.10

Table 5.2-2. Alloy 22 (p. 10, Ref. 7.3)

Elemental Composition		Elemental/Isotopic Composition	
Element	Weight Percent	Element/Isotope	Weight Percent
Carbon (C)	0.010	C-natural	0.010
Manganese (Mn)	0.500	Mn-55	0.500
Silicon (Si)	0.080	Si-natural	0.080
Chromium (Cr)	22.000	Cr-50	0.918
Nickel (Ni)	56.000	Cr-52	18.414
Molybdenum (Mo)	13.000	Cr-53	2.128
Cobalt (Co)	2.060	Cr-54	0.540
Tungsten (W)	3.000	Ni-58	37.741
Vanadium (V)	0.350	Ni-60	14.926
Iron (Fe)	3.000	Ni-61	0.657
		Ni-62	2.121
		Ni-64	0.555
		Mo-natural	13.000
		Co-59	2.060
		W-182	0.782
		W-183	0.427

Table 5.2-2. Alloy 22 (p. 10, Ref. 7.3)

Elemental Composition		Elemental/Isotopic Composition	
Element	Weight Percent	Element/Isotope	Weight Percent
		W-184	0.923
		W-185	0.869
		V-natural	0.350
		Fe-54	0.171
		Fe-56	2.756
		Fe-57	0.064
		Fe-58	0.009
Density = 8.69 g/cm ³			

Table 5.2-3. Water

Element	Weight Percent
Hydrogen (H)	11.1915
Oxygen (O)	88.8085
Density = 1.00 g/cm ³ (may vary)	

Table 5.2-4. Stainless Steel 316L (p. 14, Ref. 7.3)

Elemental Composition		Elemental/Isotopic Composition	
Element	Weight Percent	Element/Isotope	Weight Percent
Carbon (C)	0.030	C-nat	0.030
Manganese (Mn)	2.000	Mn-55	2.000
Phosphorus (P)	0.045	P-31	0.045
Sulfur (S)	0.030	S-32	0.030
Silicon (Si)	0.750	Si-nat	0.750
Chromium (Cr)	17.00	Cr-50	0.710
Nickel (Ni)	12.00	Cr-52	14.229
Molybdenum (Mo)	2.500	Cr-53	1.644
Nitrogen (N)	0.100	Cr-54	0.417
Iron (Fe)	65.545	Ni-58	8.087
		Ni-60	3.198
		Ni-61	0.141
		Ni-62	0.455
		Ni-64	0.119
		Mo-nat	2.500
		N-14	0.100
		Fe-54	3.735
		Fe-56	60.216
		Fe-57	1.403
		Fe-58	0.190
Density = 7.9497 g/cm ³			

Table 5.2-5. Zircaloy-4 (p. 21, Ref. 7.3)

Elemental Composition		Elemental/Isotopic Composition	
Element	Weight Percent	Element/Isotope	Weight Percent
Oxygen (O)	0.12	O-16	0.120
Chromium (Cr)	0.10	Cr-50	0.004
Iron (Fe)	0.20	Cr-52	0.084
Tin (Sn)	1.40	Cr-53	0.010
Zirconium (Zr)	98.18	Cr-54	0.002
		Fe-54	0.011
		Fe-56	0.184
		Fe-57	0.004
		Fe-58	0.001
		Sn-nat	1.400
		Zr-nat	98.180

Density = 6.56 g/cm³

Table 5.2-6. Upper and Lower Fuel Rod Plenum Volume Fractions (p. 14, Ref. 7.4)

Material	Upper Plenum	Lower Plenum
SS316L	0.081	0.1230
Zircaloy-4	0.0439	0.1926
Cladding	0.2313	0.2163
Gas (He)	0.6438	0.4681

Table 5.2-7. Renormalized Upper and Lower Fuel Rod Plenum Volume Fractions¹

Material	Upper Plenum	Lower Plenum
SS316L	0.10537	0.15695
Zircaloy-4	0.05711	0.24576
Gas (He)	0.83752	0.59729

¹ Volume fractions were renormalized to exclude cladding

Table 5.2-8. Homogenized Fuel Rod Upper Plenum Region

Element/Isotope	Weight Percent
C-nat	0.033
N-14	0.041
Si-nat	0.309
P-31	0.019
S-nat	0.012
Cr-50	0.329
Cr-52	6.595
Cr-53	0.762
Cr-54	0.193
Mn-55	0.823
Fe-54	1.619
Fe-56	26.105

Table 5.2-8. Homogenized Fuel Rod Upper Plenum Region

Element/Isotope	Weight Percent
Fe-57	0.608
Fe-58	0.083
Ni-58	2.566
Ni-60	1.015
Ni-61	0.045
Ni-62	0.144
Ni-64	0.038
O-16	0.071
Zr-nat	57.766
Sn-nat	0.824
Homogenized Density = 1.5565 g/cm ³	

Table 5.2-9. Homogenized Fuel Rod Lower Plenum Region

Element/Isotope	Weight Percent
C-nat	0.035
N-14	0.043
Si-nat	0.326
P-31	0.020
S-nat	0.013
Cr-50	0.347
Cr-52	6.961
Cr-53	0.804
Cr-54	0.204
Mn-55	0.869
Fe-54	1.710
Fe-56	27.560
Fe-57	0.642
Fe-58	0.087
Ni-58	2.710
Ni-60	1.072
Ni-61	0.047
Ni-62	0.152
Ni-64	0.040
O-16	0.068
Zr-nat	55.498
Sn-nat	0.791
Homogenized Density = 2.8521 g/cm ³	

Table 5.2-10. Fresh UO₂ Fuel Compositions

Enrichment	Wt% of Element/Isotope in Material Composition					Density ¹ (g/cm ³)
	U ²³⁴	U ²³⁵	U ²³⁶	U ²³⁸	Oxygen	
2.95	0.02201	2.60041	0.01196	85.51505	11.85057	10.1979

Table 5.2-10. Fresh UO₂ Fuel Compositions

Enrichment	Wt% of Element/Isotope in Material Composition					
	U ²³⁴	U ²³⁵	U ²³⁶	U ²³⁸	Oxygen	Density ¹ (g/cm ³)
3.00	0.02241	2.64440	0.01216	85.46778	11.85324	10.1982
3.49	0.02641	3.07639	0.01415	85.03177	11.85129	10.1980
3.94	0.03012	3.47304	0.01598	84.62897	11.85189	10.1981
4.00	0.03061	3.52582	0.01622	84.57277	11.85458	10.1984
5.00	0.03899	4.40733	0.02027	83.68009	11.85331	10.1985

¹ The density values for the 3.00, 4.00, and 5.00 wt% enriched fresh fuel were calculated from a pellet diameter of 0.936244 cm, a mass loading of 463.63 kg U/assembly, and an active fuel length of 360.172 cm.

Table 5.2-11. Listing of Depleted Fuel Composition References

Enrichment (wt% U ²³⁵)	Assembly Average Burnup (GWd/MTU)	Referenced Assembly	Referenced File ¹
2.95	8.687	D06	cr3i9b
	19.294		cr3i12b
	24.194		cr3i14b
	34.416		cr3i15b
3.49	4.014	F17	cr3i14b
	17.747		cr3i16b
	28.159		cr3i18b
	34.769		cr3i21b
3.94	5.500	H12	cr3i24b
	16.391		cr3i25b
	21.837		cr3i28b
	27.577		cr3i29b
	34.883		cr3i31b

¹ The referenced files are from Attachment II of Reference 7.5

6. Results

This calculation file documents the RCWP and 12-RCCWPA reactivity calculations that were performed for various enrichments and burnups. Each of the burned fuel calculations for the different burnups used a different depleted fuel composition. The fuel isotopes from the *Principle Isotope Set* from page 213 of Reference 7.7 were used for the depleted fuel calculations. Table 6-1 presents the k_{eff} results for each of the waste package calculations. The k_{eff} results represent the average combined collision, absorption, and track-length estimator from the MCNP calculations. The standard deviation represents the standard deviation of k_{eff} about the average combined collision, absorption, and track-length estimate due to the Monte Carlo calculation statistics. Figures 6-1 through 6-5 illustrate the results presented in Table 6-1. The corresponding MCNP input and output filenames for the cases shown in Table 6-1, are presented in Table 6-2.

Table 6-1. k_{eff} Results for the RCWP and 12-RCCWPA MCNP Calculations

Enrichment (wt% U ²³⁵)	Burnup (GWd/MTU)	k_{eff} / standard deviation	
		RCWP	12-RCCWPA
2.95	0.00	0.9208 / 0.00054	0.92764 / 0.00048
	8.687	0.83727 / 0.00048	0.84333 / 0.00047
	19.294	0.76377 / 0.00047	0.76342 / 0.00043
	24.194	0.73251 / 0.00053	0.73131 / 0.00044
	34.416	0.68162 / 0.00048	0.67888 / 0.00046
3.00	0.00	0.92324 / 0.00049	0.93113 / 0.00051
3.49	0.00	0.94882 / 0.00055	0.95944 / 0.0005
	4.014	0.90634 / 0.00051	0.91895 / 0.00047
	17.747	0.8067 / 0.00049	0.81344 / 0.00049
	28.159	0.74029 / 0.00047	0.7426 / 0.00045
	34.769	0.71776 / 0.00048	0.71783 / 0.00044
3.94	0.00	0.96746 / 0.00051	0.98365 / 0.00047
	5.500	0.9156 / 0.00056	0.93214 / 0.00052
	16.391	0.84015 / 0.00046	0.84935 / 0.00048
	21.837	0.80736 / 0.00051	0.81507 / 0.00046
	27.577	0.78201 / 0.00047	0.78856 / 0.00047
	34.883	0.74742 / 0.00043	0.75069 / 0.00045
4.00	0.00	0.97032 / 0.00052	0.9861 / 0.00046
5.00	0.00	1.00174 / 0.00053	1.02739 / 0.00051
	10	0.92276 / 0.00052	0.94235 / 0.00044
	20	0.86047 / 0.00046	0.87392 / 0.00049
	30	0.81205 / 0.00048	0.81942 / 0.00042
	40	0.77014 / 0.00049	0.7746 / 0.00049

Table 6-2. MCNP Input and Output Filenames

Enrichment (wt% U ²³⁵)	Burnup (GWd/MTU)	RCWP		12-RCCWPA	
		MCNP Input Filename	MCNP Output Filename	MCNP Input Filename	MCNP Output Filename
2.95	0.00	d6b1.i	d6b1.O	16.i	16.O
	8.687	d6b2.i	d6b2.O	17.i	17.O
	19.294	d6b3.i	d6b3.O	18.i	18.O
	24.194	d6b4.i	d6b4.O	19.i	19.O
	34.416	d6b5.i	d6b5.O	110.i	110.O
3.00	0.00	load5.i	load5.O	122.i	122.O
3.49	0.00	f17b1.i	f17b1.O	111.i	111.O
	4.014	f17b2.i	f17b2.O	112.i	112.O
	17.747	f17b3.i	f17b3.O	113.i	113.O
	28.159	f17b4.i	f17b4.O	114.i	114.O
	34.769	f17b5.i	f17b5.O	115.i	115.O
3.94	0.00	h12b1.i	h12b1.O	116.i	116.O
	5.500	h12b2.i	h12b2.O	117.i	117.O
	16.391	h12b3.i	h12b3.O	118.i	118.O

Table 6-2. MCNP Input and Output Filenames

Enrichment (wt% U ²³⁵)	Burnup (GWd/MTU)	RCWP		12-RCCWPA	
		MCNP Input Filename	MCNP Output Filename	MCNP Input Filename	MCNP Output Filename
	21.837	h12b4.i	h12b4.O	119.i	119.O
	27.577	h12b5.i	h12b5.O	120.i	120.O
	34.883	h12b6.i	h12b6.O	121.i	121.O
4.00	0.00	load3.i	load3.O	123.i	123.O
5.00	0.00	load1.i	load1.O	11.i	11.O
	10	e5b1.i	e5b1.O	12.i	12.O
	20	e5b2.i	e5b2.O	13.i	13.O
	30	e5b3.i	e5b3.O	14.i	14.O
	40	e5b4.i	e5b4.O	15.i	15.O

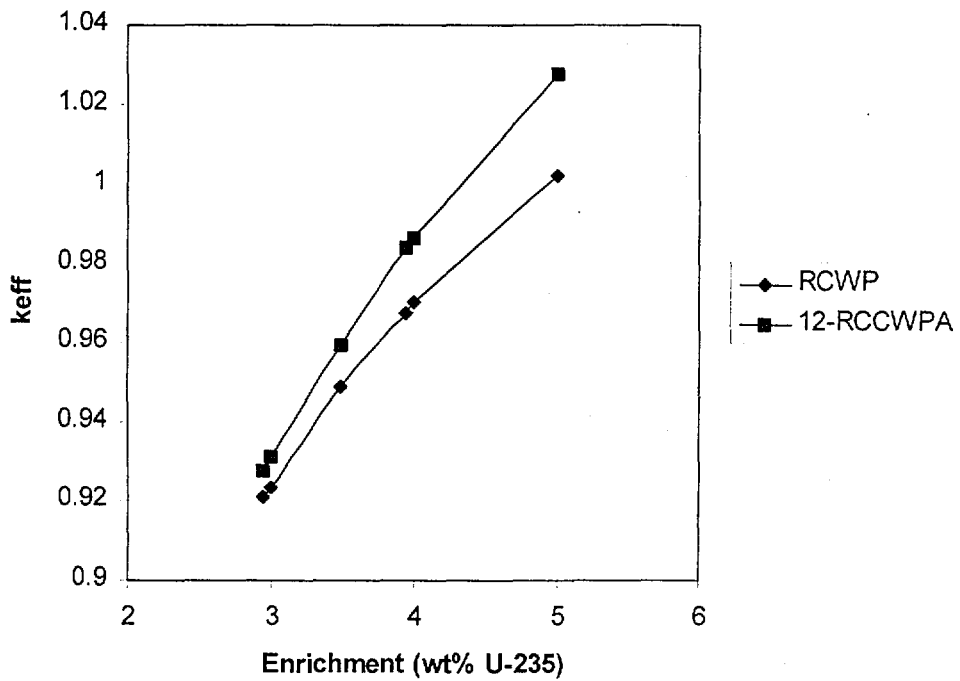


Figure 6-1. k_{eff} Versus Enrichment for Fresh Fuel

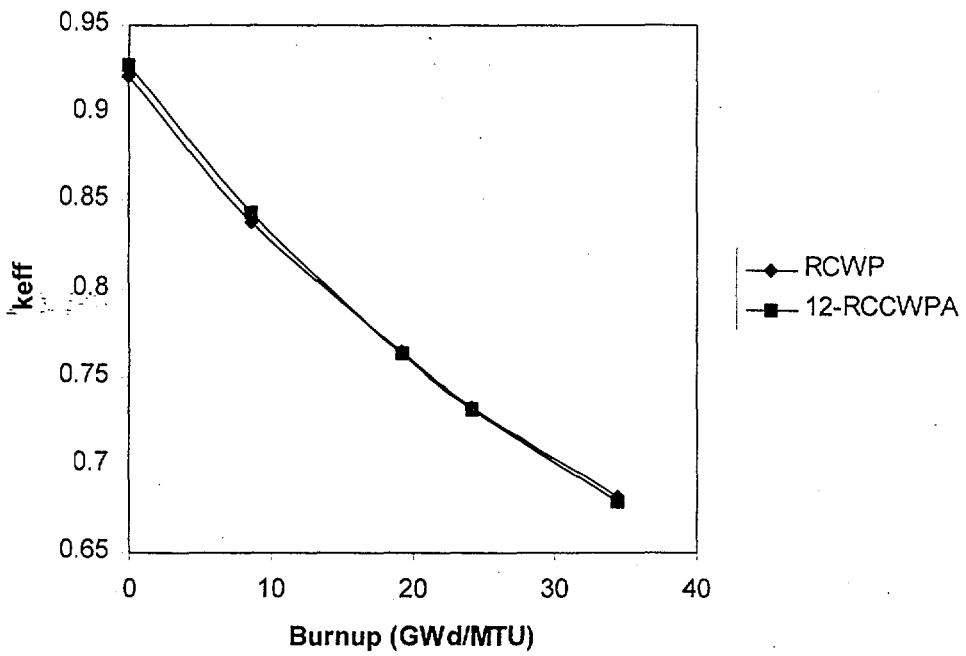


Figure 6-2. k_{eff} Versus Burnup for 2.95 wt% U^{235} Enriched Fuel

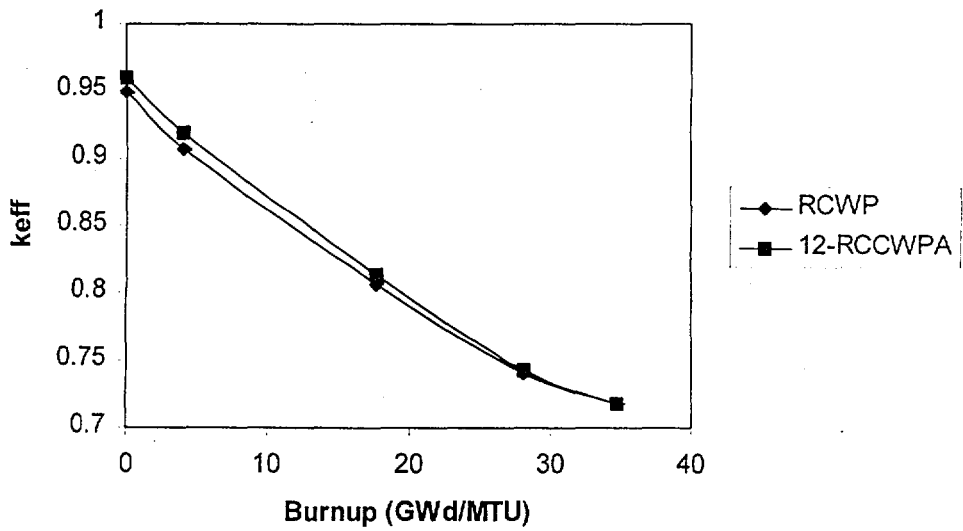


Figure 6-3. k_{eff} Versus Burnup for 3.49 wt% U^{235} Enriched Fuel

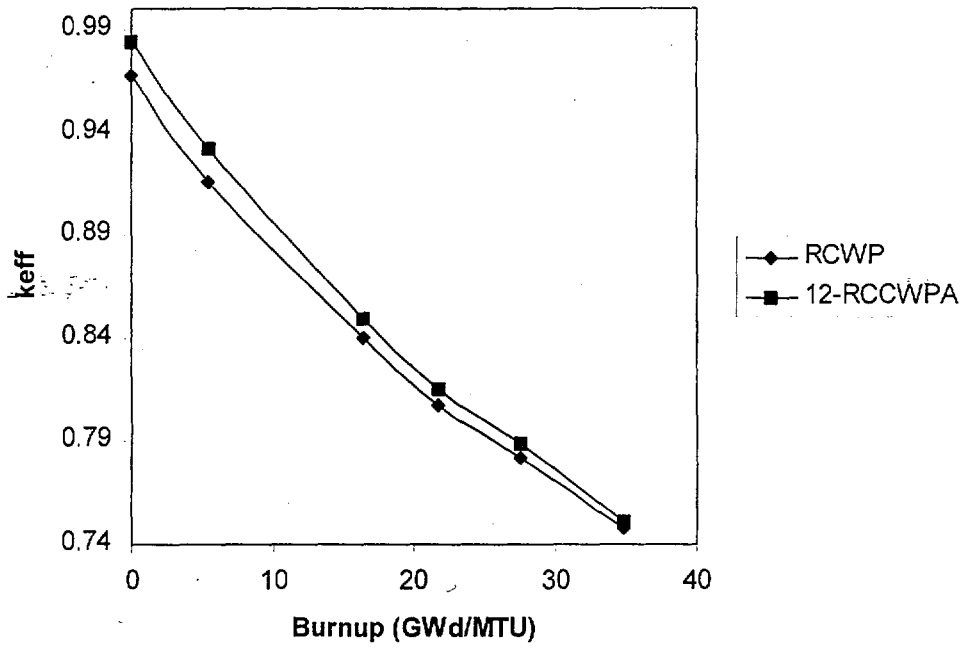


Figure 6-4. k_{eff} Versus Burnup for 3.94 wt% U²³⁵ Enriched Fuel

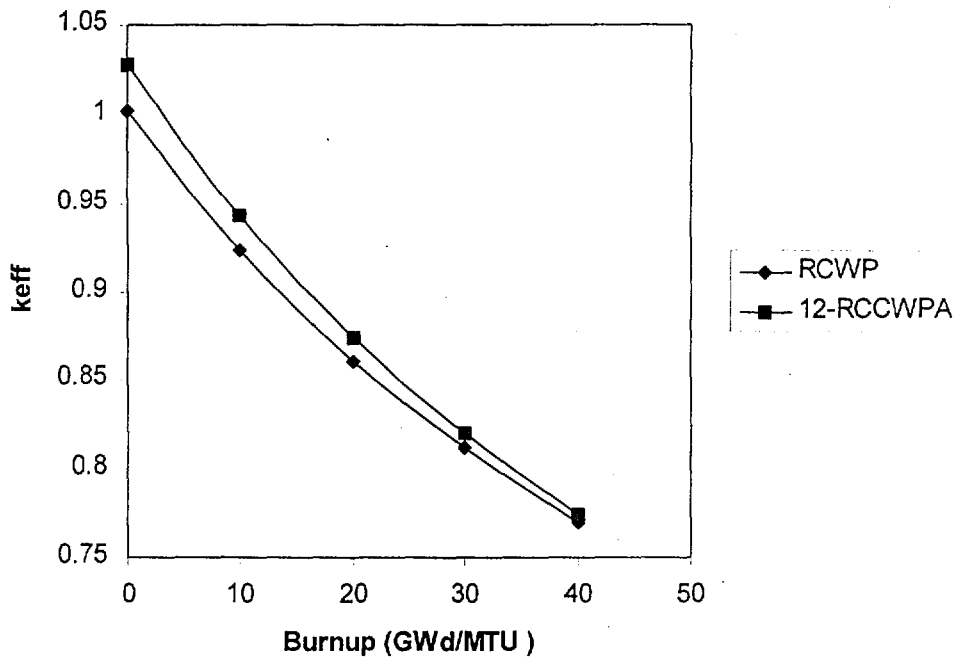


Figure 6-5. k_{eff} Versus Burnup for 5.00 wt% U²³⁵ Enriched Fuel

Title: Rod Consolidation Waste Package Criticality Calculations

Document Identifier: B00000000-01717-0210-00043 REV 00A¹⁶_{1.6.99} Attachment V, Page V-16 of 22

Table AV-1. Renormalized Depleted Fuel Isotopic Weight Percents

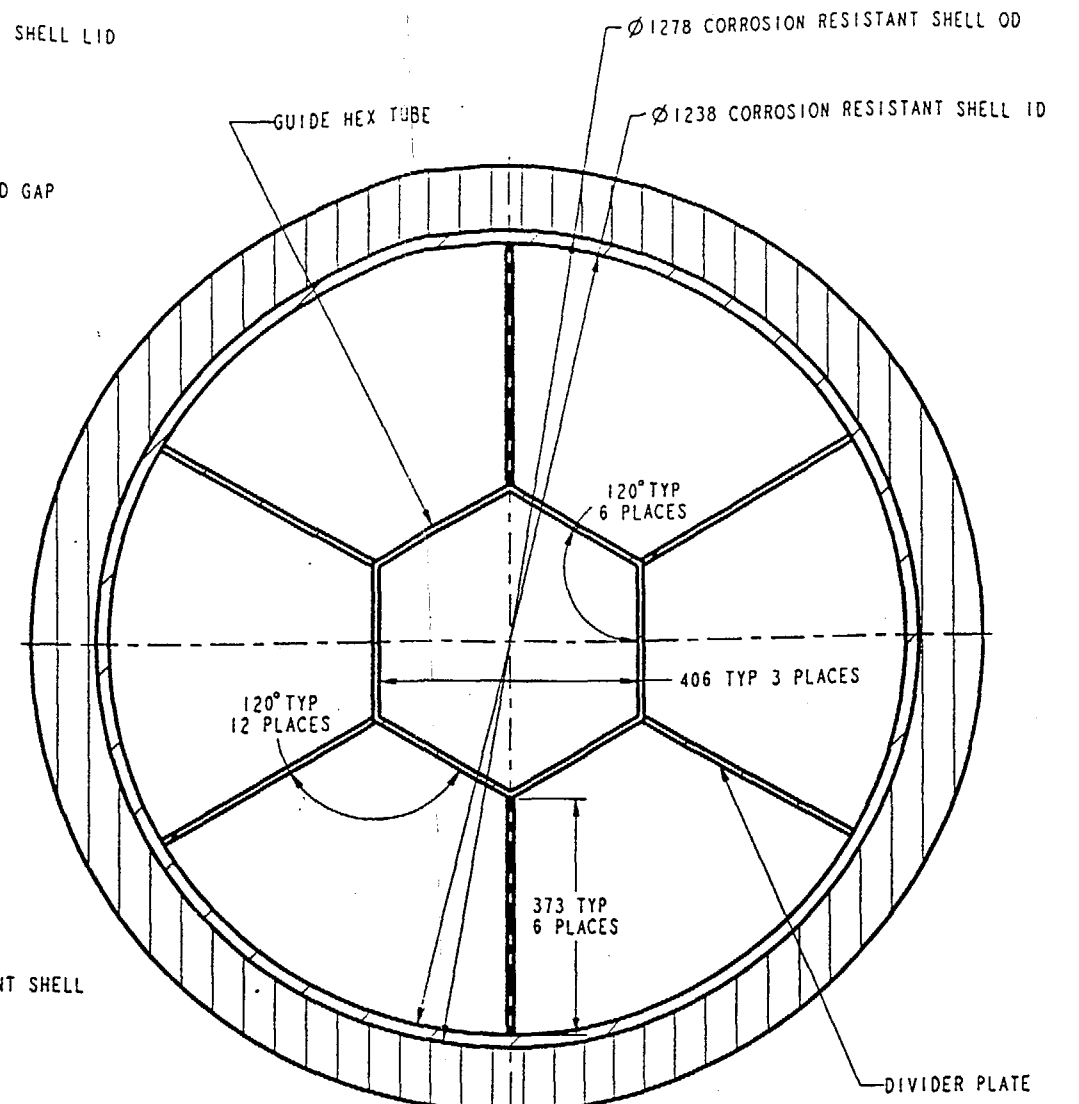
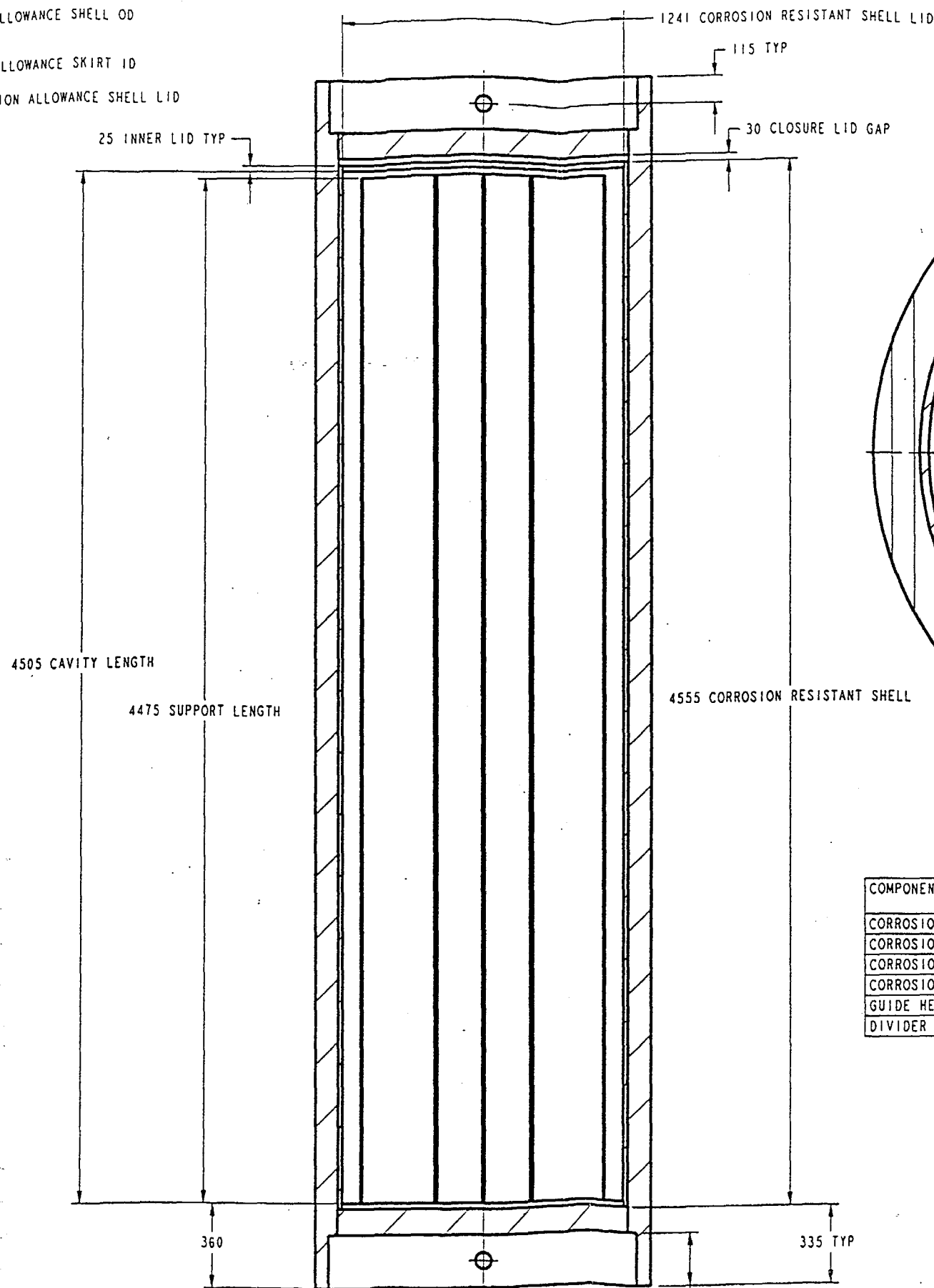
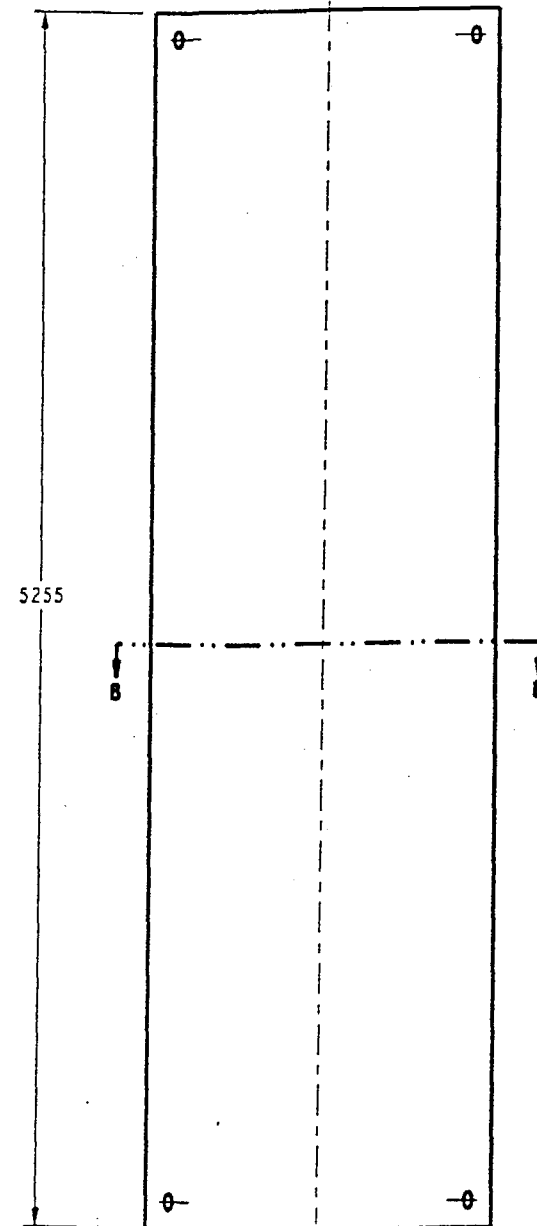
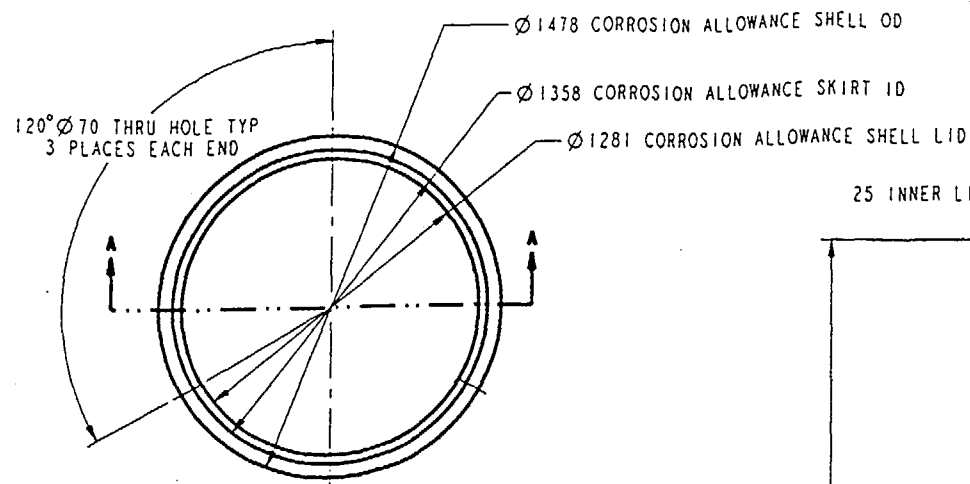
u236	1.41E+02	92236.50c	-4.96E-01	u236	1.65E+02	92236.50c	-5.86E-01
u238	2.39E+04	92238.50c	-8.41E+01	u238	2.37E+04	92238.50c	-8.41E+01
np237	1.13E+01	93237.50c	-3.98E-02	np237	1.65E+01	93237.50c	-5.86E-02
pu238	2.95E+00	94238.50c	-1.04E-02	pu238	5.77E+00	94238.50c	-2.05E-02
pu239	1.52E+02	94239.55c	-5.35E-01	pu239	1.60E+02	94239.55c	-5.68E-01
pu240	4.70E+01	94240.50c	-1.65E-01	pu240	6.30E+01	94240.50c	-2.24E-01
pu241	2.80E+01	94241.50c	-9.86E-02	pu241	3.88E+01	94241.50c	-1.38E-01
pu242	6.91E+00	94242.50c	-2.43E-02	pu242	1.39E+01	94242.50c	-4.94E-02
am241	9.74E-01	95241.50c	-3.43E-03	am241	1.20E+00	95241.50c	-4.26E-03
am242m	2.14E-02	95242.50c	-7.53E-05	am242m	2.71E-02	95242.50c	-9.62E-05
am243	1.17E+00	95243.50c	-4.12E-03	am243	3.13E+00	95243.50c	-1.11E-02
mo 95	1.74E+01	42095.50c	-6.13E-02	mo 95	2.25E+01	42095.50c	-7.99E-02
tc 99	2.09E+01	43099.50c	-7.36E-02	tc 99	2.68E+01	43099.50c	-9.52E-02
ru101	1.95E+01	44101.50c	-6.86E-02	ru101	2.57E+01	44101.50c	-9.12E-02
rh103	1.08E+01	45103.50c	-3.80E-02	rh103	1.35E+01	45103.50c	-4.79E-02
ag109	1.63E+00	47109.50c	-5.74E-03	ag109	2.49E+00	47109.50c	-8.84E-03
nd143	2.34E+01	60143.50c	-8.24E-02	nd143	2.80E+01	60143.50c	-9.94E-02
nd145	1.83E+01	60145.50c	-6.44E-02	nd145	2.31E+01	60145.50c	-8.20E-02
sm147	2.46E+00	62147.50c	-8.66E-03	sm147	2.70E+00	62147.50c	-9.59E-03
sm149	8.26E-02	62149.50c	-2.91E-04	sm149	8.38E-02	62149.50c	-2.98E-04
sm150	7.07E+00	62150.50c	-2.49E-02	sm150	9.98E+00	62150.50c	-3.54E-02
sm151	4.78E-01	62151.50c	-1.68E-03	sm151	5.36E-01	62151.50c	-1.90E-03
eu151	7.01E-04	63151.55c	-2.47E-06	eu151	5.24E-04	63151.55c	-1.86E-06
sm152	3.16E+00	62152.50c	-1.11E-02	sm152	4.06E+00	62152.50c	-1.44E-02
eu153	2.52E+00	63153.55c	-8.87E-03	eu153	3.74E+00	63153.55c	-1.33E-02
gd155	1.12E-03	64155.50c	-3.94E-06	gd155	1.36E-03	64155.50c	-4.83E-06
A5030N09				A5040N09			
O-16	3.462E+03	8016.50c	-1.22E+01	O-16	3.462E+03	8016.50c	-1.23E+01
u233	1.20E-05	92233.50c	-4.22E-08	u233	1.44E-05	92233.50c	-5.11E-08
u234	7.56E+00	92234.50c	-2.66E-02	u234	6.43E+00	92234.50c	-2.28E-02
u235	5.21E+02	92235.50c	-1.83E+00	u235	3.66E+02	92235.50c	-1.30E+00
u236	1.42E+02	92236.50c	-5.00E-01	u236	1.66E+02	92236.50c	-5.89E-01
u238	2.39E+04	92238.50c	-8.41E+01	u238	2.37E+04	92238.50c	-8.41E+01
np237	1.13E+01	93237.50c	-3.98E-02	np237	1.64E+01	93237.50c	-5.82E-02
pu238	2.94E+00	94238.50c	-1.03E-02	pu238	5.76E+00	94238.50c	-2.05E-02
pu239	1.51E+02	94239.55c	-5.32E-01	pu239	1.59E+02	94239.55c	-5.65E-01
pu240	4.70E+01	94240.50c	-1.65E-01	pu240	6.28E+01	94240.50c	-2.23E-01
pu241	2.80E+01	94241.50c	-9.86E-02	pu241	3.86E+01	94241.50c	-1.37E-01
pu242	6.92E+00	94242.50c	-2.44E-02	pu242	1.39E+01	94242.50c	-4.94E-02
am241	9.71E-01	95241.50c	-3.42E-03	am241	1.20E+00	95241.50c	-4.26E-03
am242m	2.13E-02	95242.50c	-7.50E-05	am242m	2.69E-02	95242.50c	-9.55E-05
am243	1.17E+00	95243.50c	-4.12E-03	am243	3.12E+00	95243.50c	-1.11E-02
mo 95	1.76E+01	42095.50c	-6.20E-02	mo 95	2.24E+01	42095.50c	-7.95E-02
tc 99	2.09E+01	43099.50c	-7.36E-02	tc 99	2.67E+01	43099.50c	-9.48E-02
ru101	1.94E+01	44101.50c	-6.83E-02	ru101	2.57E+01	44101.50c	-9.13E-02
rh103	1.08E+01	45103.50c	-3.80E-02	rh103	1.35E+01	45103.50c	-4.79E-02
ag109	1.63E+00	47109.50c	-5.74E-03	ag109	2.48E+00	47109.50c	-8.81E-03
nd143	2.34E+01	60143.50c	-8.24E-02	nd143	2.80E+01	60143.50c	-9.94E-02
nd145	1.84E+01	60145.50c	-6.48E-02	nd145	2.32E+01	60145.50c	-8.24E-02
sm147	2.47E+00	62147.50c	-8.69E-03	sm147	2.70E+00	62147.50c	-9.59E-03
sm149	8.27E-02	62149.50c	-2.91E-04	sm149	8.33E-02	62149.50c	-2.96E-04
sm150	7.11E+00	62150.50c	-2.50E-02	sm150	9.95E+00	62150.50c	-3.53E-02
sm151	4.78E-01	62151.50c	-1.68E-03	sm151	5.32E-01	62151.50c	-1.89E-03

8. Attachments

Table 8-1 presents the attachment specifications for this calculation file.

Table 8-1. Attachment Listing

Attachment #	# of Pages	Date	Description
I	1	10/20/98	Rod Consolidation Waste Package
II	1	11/9/98	Rod Consolidation Container
III	1	12/11/98	12 Rod Consolidation Canister Waste Package Assembly
IV	1	12/15/98	Canister for Consolidated Fuel Rods
V	22	N/A	Table of renormalized material compositions for 5.00 wt% U ²³⁵ enriched fuel
VI	2	12/16/98	MCNP input files (attachment tape moved to Reference 7.8)
VII	2	12/16/98	MCNP output files (attachment tape moved to Reference 7.8)



SECTION B-B

COMPONENT NAME	MATERIAL	THICKNESS	MASS (kg)	QTY REQ
CORROSION ALLOWANCE SHELL	SA-516 K02700	100	17252	1
CORROSION ALLOWANCE SHELL LID	SA-516 K02700	110	1113	2
CORROSION RESISTANT SHELL	SB-575 N06022	20	3126	1
CORROSION RESISTANT SHELL LID	SB-575 N06022	25	263	2
GUIDE HEX TUBE	SA-516 K02700	10	506	1
DIVIDER PLATE	SA-516 K02700	10	131	6

"FOR INFORMATION ONLY"

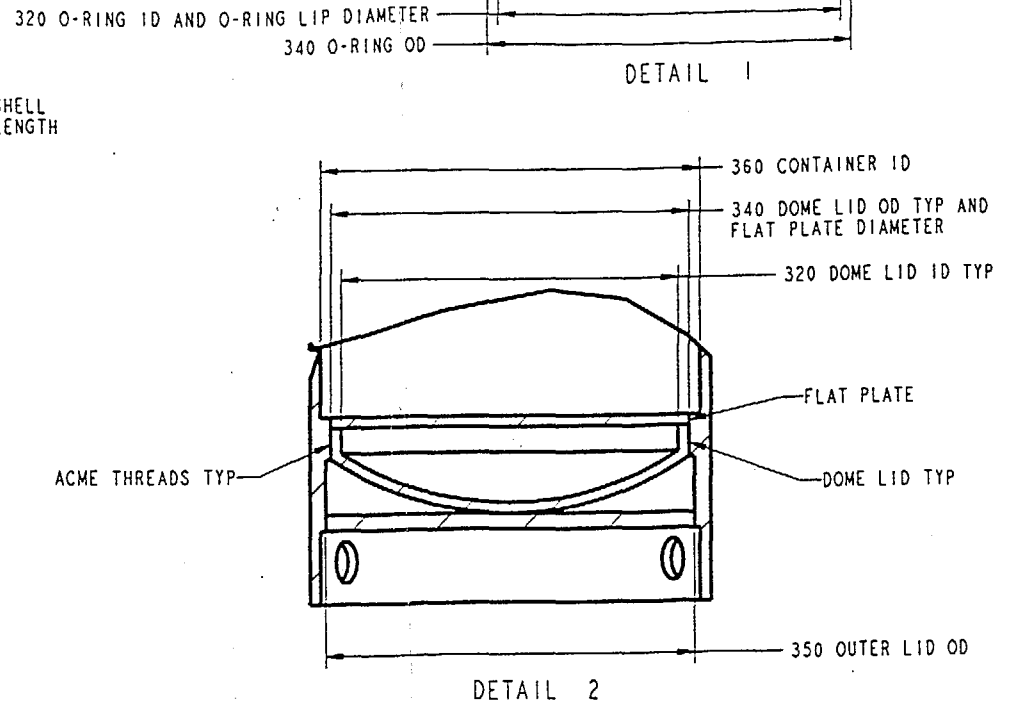
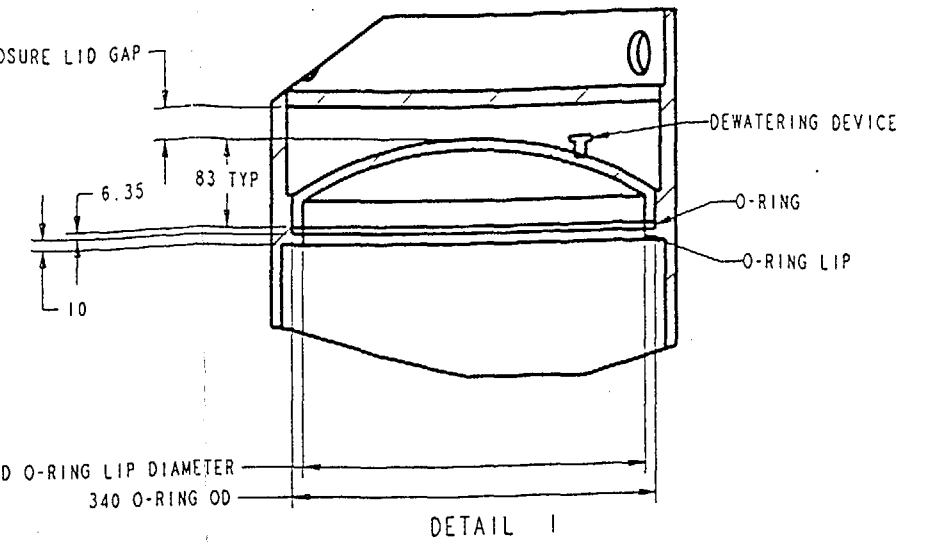
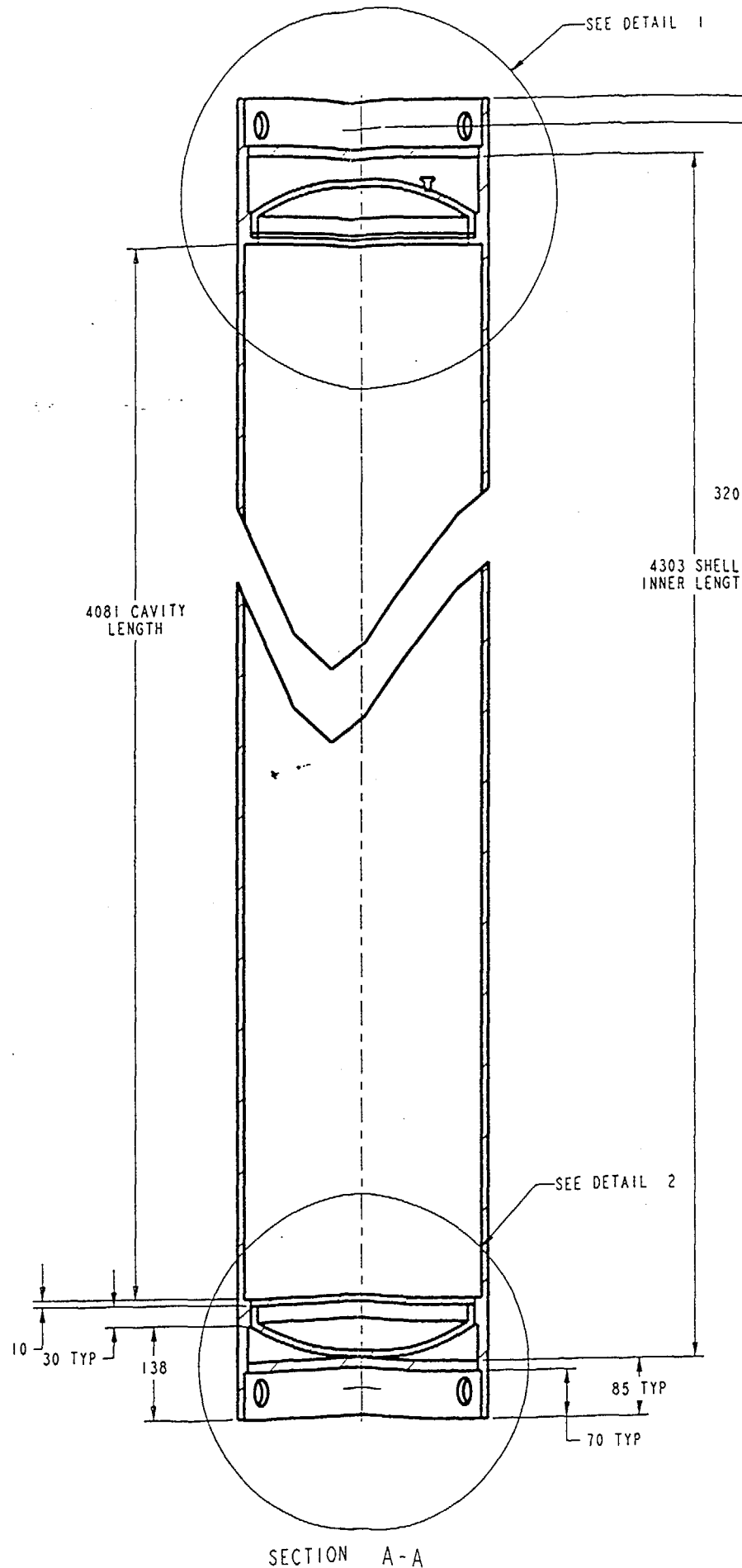
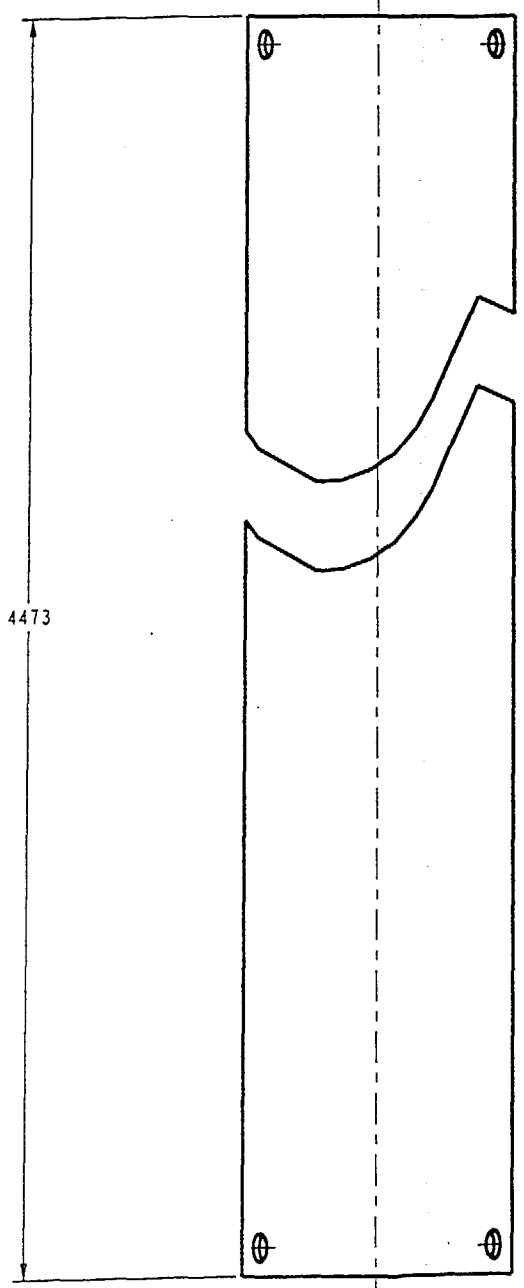
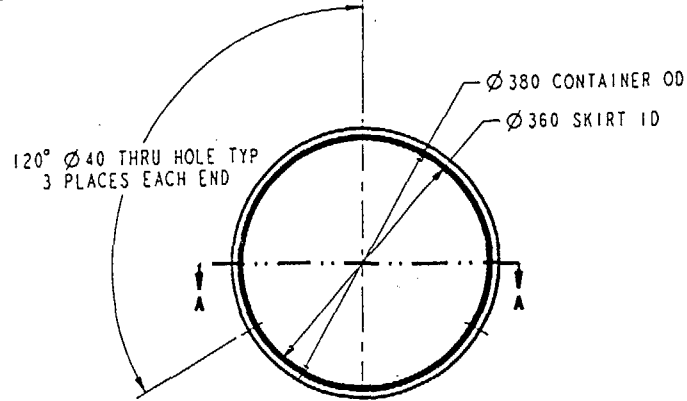
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 DATE: 09-23-98 *SMB 10/20/98*
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DO NOT SCALE FROM SKETCH

SECTION A-A

UNITS: mm



COMPONENT NAME	MATERIAL	THICKNESS	MASS (kg)	QTY REQ
TUBE	SA-240 S31603	10	429	1
OUTER LID	SA-240 S31603	15	11	2
DOME LID	SA-240 S31603	10	10	2
FLAT PLATE	SA-240 S31603	10	7	1
O-RING	SA-240 S31603	6.35	1	1

DO NOT SCALE FROM SKETCH
"FOR INFORMATION ONLY"

ROD CONSOLIDATION CONTAINER

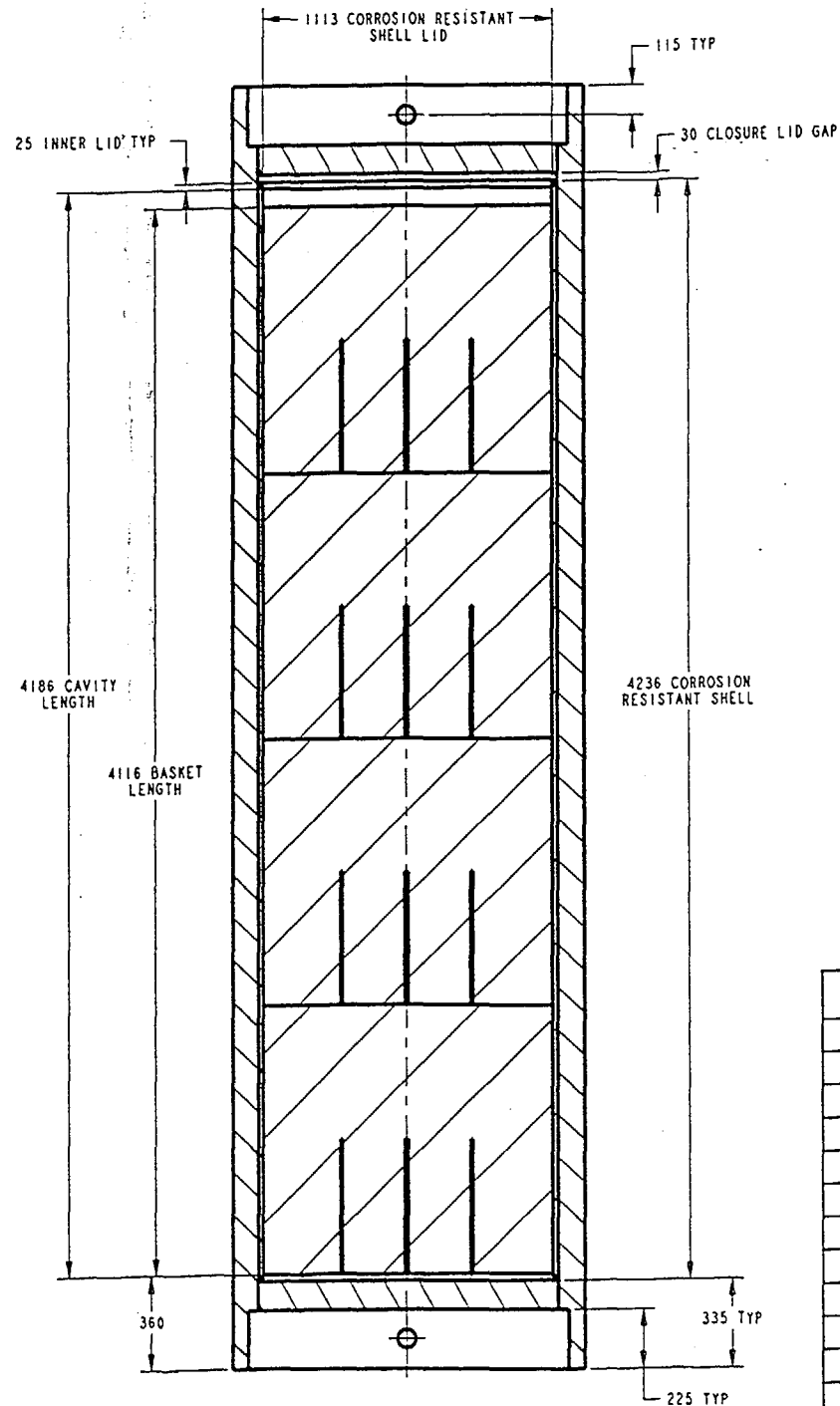
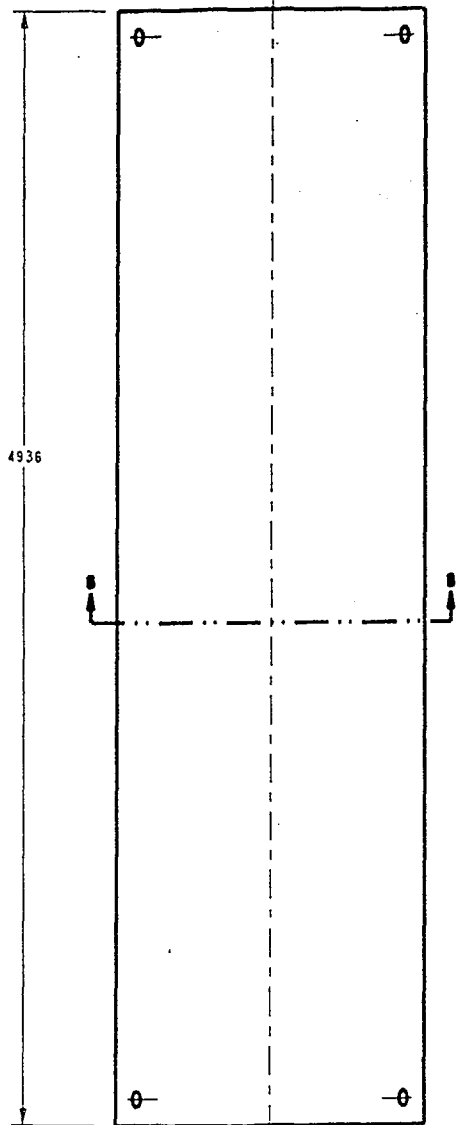
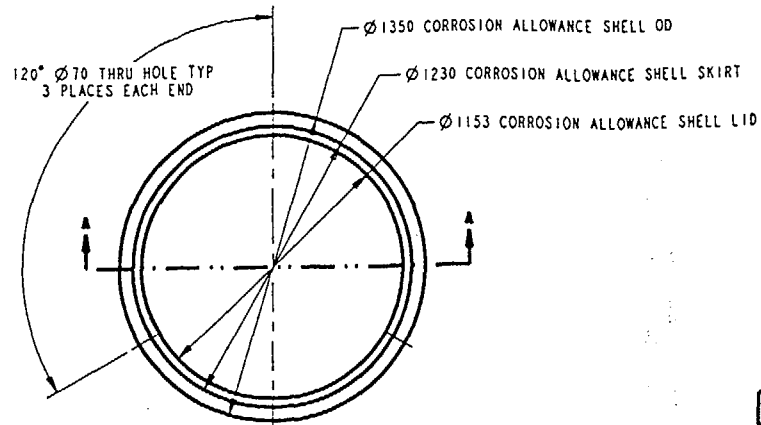
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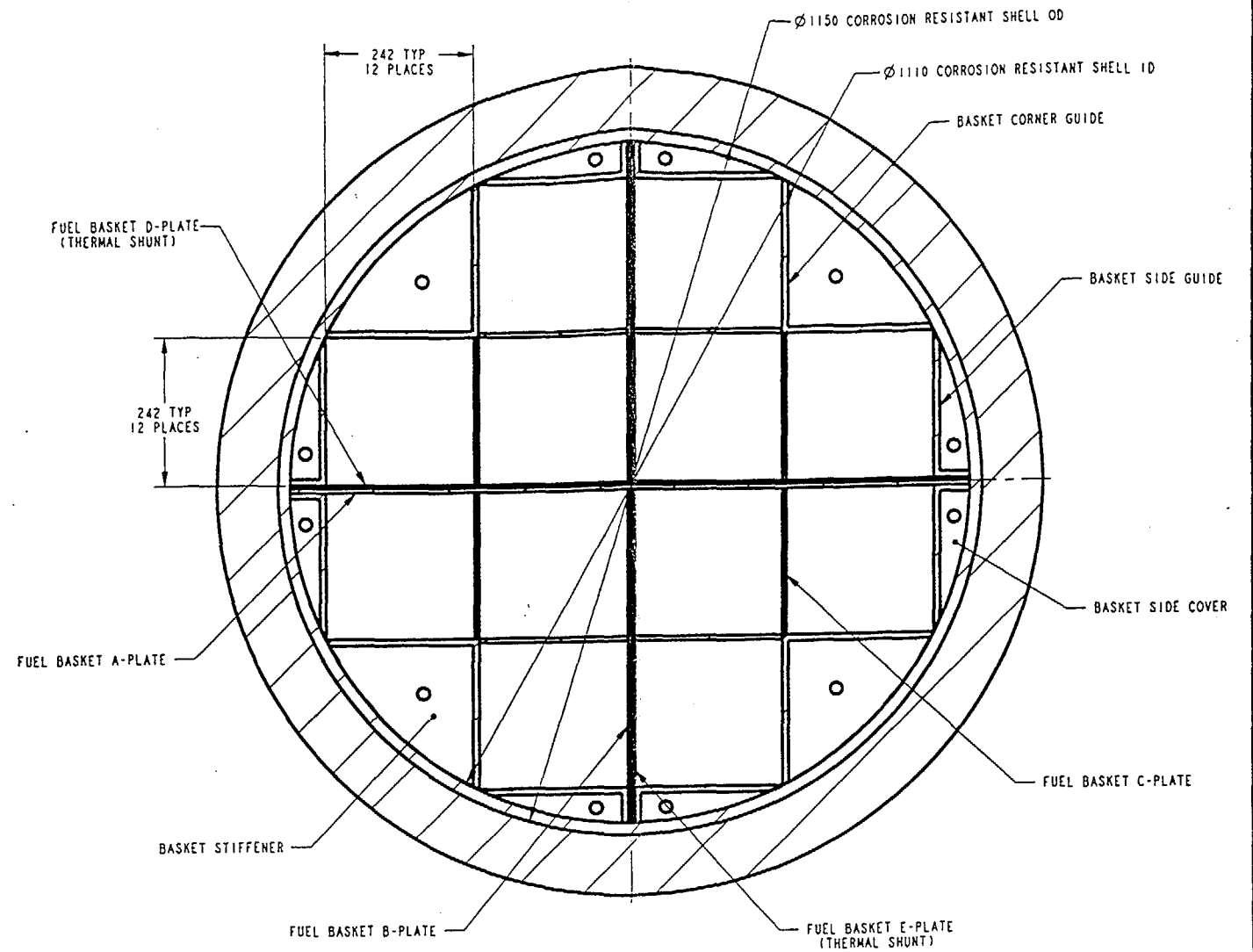
DATE: 11-09-98

FILE: /home/pro.library/checkout/rod_cons_can/SK-0111A.dwg

UNITS: mm



SECTION A-A



SECTION B-B

COMPONENT NAME	MATERIAL	THICKNESS	MASS (kg)	QTY REQ
BASKET CORNER GUIDE	SA-516 K02700	10	39	16
BASKET SIDE COVER	SA-516 K02700	10	0.5	8
BASKET SIDE GUIDE	SA-516 K02700	10	23	32
BASKET STIFFENER	SA-516 K02700	10	3	32
CORROSION ALLOWANCE SHELL	SA-516 K02700	100	14669	1
CORROSION ALLOWANCE SHELL LID	SA-516 K02700	110	902	2
CORROSION RESISTANT SHELL	SB-575 N06022	20	2611	1
CORROSION RESISTANT SHELL LID	SB-575 N06022	25	211	2
FUEL BASKET A-PLATE	SA-516 K02700	7	62	4
FUEL BASKET B-PLATE	SA-516 K02700	7	62	4
FUEL BASKET C-PLATE	SA-516 K02700	7	28	16
FUEL BASKET D-PLATE	SB-209 A96061 T4	5	15	4
FUEL BASKET E-PLATE	SB-209 A96061 T4	5	15	4

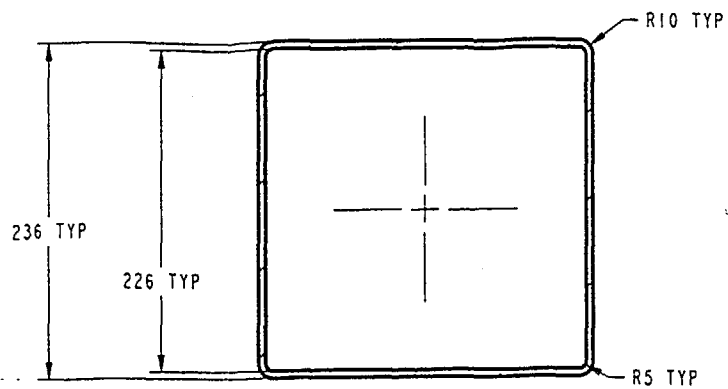
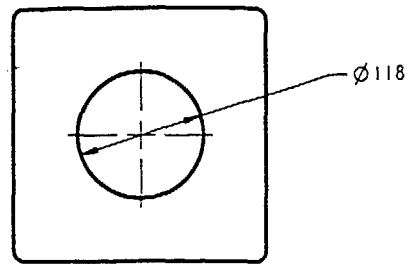
12 ROD CONSOLIDATION CANISTER
WASTE PACKAGE ASSEMBLY

SKETCH NUMBER: SK-0119 REV 00

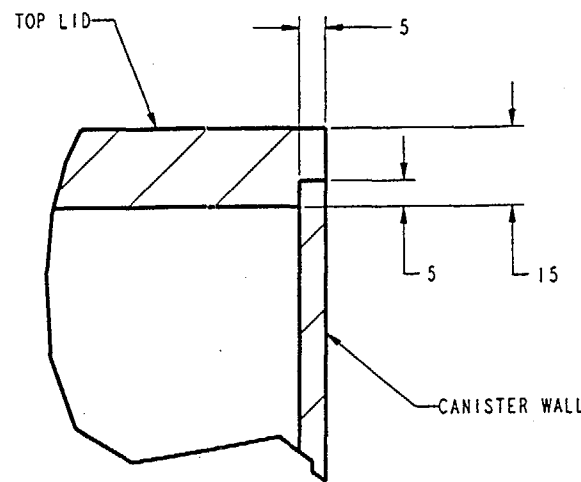
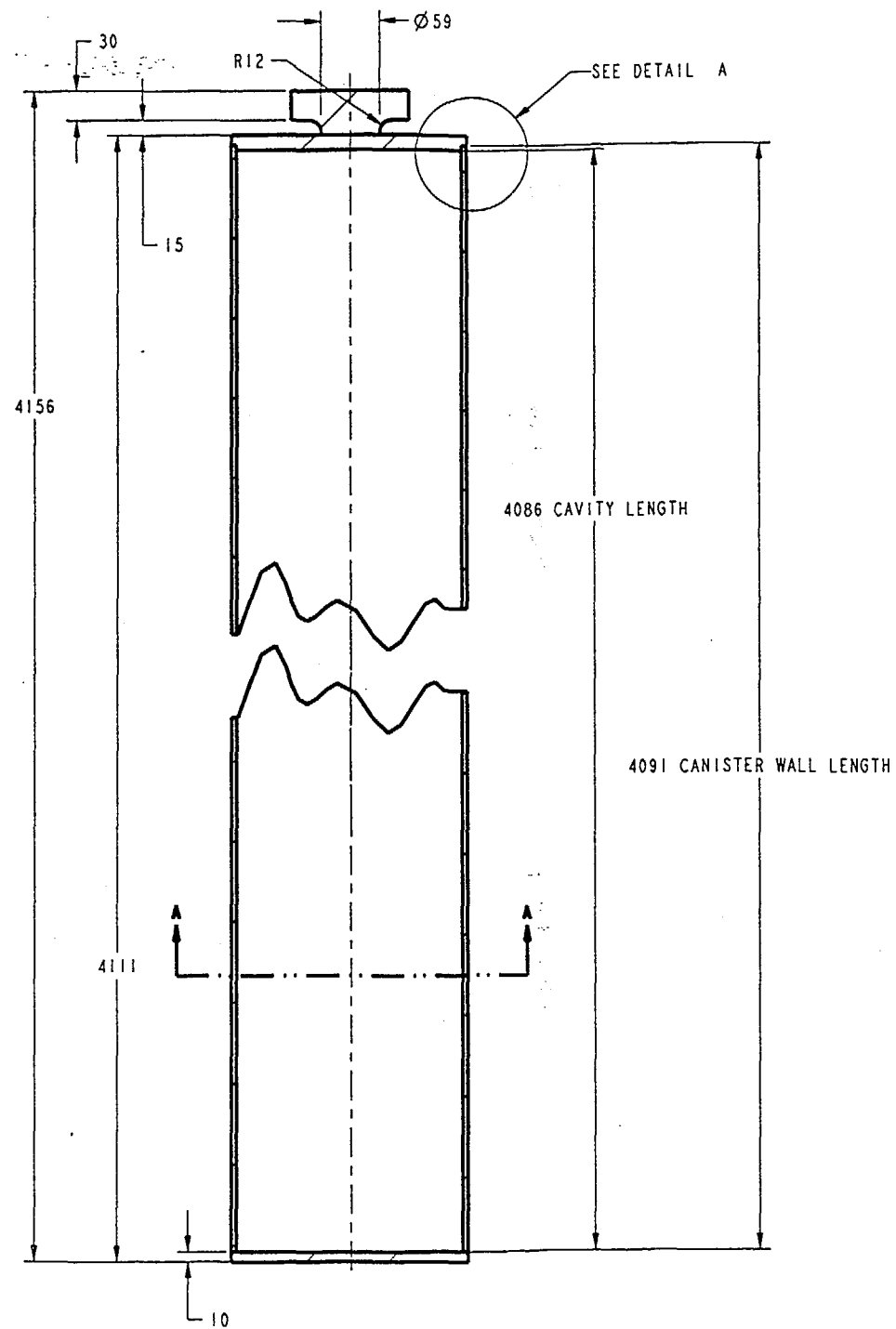
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12/11/98 *12/11/98* *12/11/98*

DATE: 12-08-98

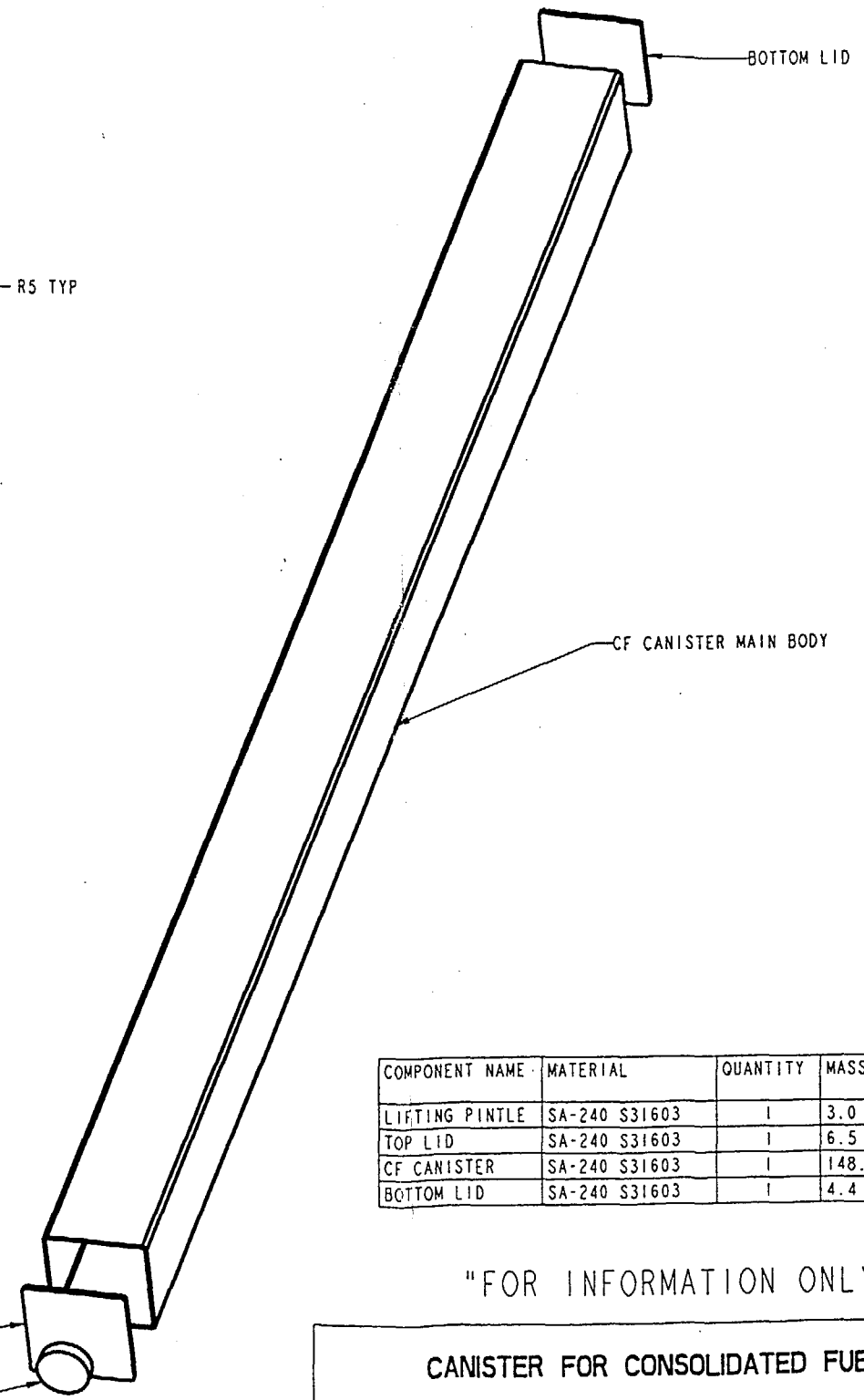
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SECTION A-A



DETAIL A



COMPONENT NAME	MATERIAL	QUANTITY	MASS (KG)
LIFTING PINTLE	SA-240 S31603	1	3.0
TOP LID	SA-240 S31603	1	6.5
CF CANISTER	SA-240 S31603	1	148.2
BOTTOM LID	SA-240 S31603	1	4.4

"FOR INFORMATION ONLY"

CANISTER FOR CONSOLIDATED FUEL RODS

SKETCH NUMBER: SK-0123 REV 00
 SKETCHED BY: BRYAN HARKINS *BH* 14 Dec 98 *SMB*
 DATE: 12-04-98 *11 FOR TWO 12/15/98*
 FILE: /home/pro_library/checkout/icfar6/icfar6.dwg

UNITS: mm
 DO NOT SCALE FROM SKETCH

Title: Rod Consolidation Waste Package Criticality Calculations

Document Identifier: B00000000-01717-0210-00043 REV 00

Attachment V, Page V-1 of 22

This attachment contains the renormalized depleted fuel compositions that come from Reference 7.6. The new weight percents were calculated by summing the masses for the isotopes from each fuel node from Reference 7.6, and then dividing the individual isotopic masses by the summed nodal mass for each node. The depleted nodal densities were computed by dividing the total nodal mass by the nodal fuel volume. In Table AV-1 the identifier AxxyyNzz is how the assembly enrichment, burnup, and node were identified in Reference 7.6. The xx is the enrichment, yy is the burnup in GWd/MTU, and zz is the axial node number. For example, A5010N01 is for 5.0 wt% enriched fuel at 10 GWd/MTU burnup, and for axial node 01. Table AV-2 presents the depleted fuel nodal densities.

Table AV-1. Renormalized Depleted Fuel Isotopic Weight Percents

10 GWd/MTU Burnup				20 GWd/MTU Burnup			
A5010N01	Mass (g)	ZAID	(wt%)	A5020N01	Mass (g)	ZAID	(wt%)
O-16	3.077E+03	8016.50c	-11.930014	O-16	3.077E+03	8016.50c	-1.19E+01
u233	2.49E-06	92233.50c	0.000000	u233	4.80E-06	92233.50c	-1.86E-08
u234	9.54E+00	92234.50c	-0.036985	u234	8.93E+00	92234.50c	-3.47E-02
u235	1.01E+03	92235.50c	-3.915579	u235	8.90E+02	92235.50c	-3.46E+00
u236	3.08E+01	92236.50c	-0.119406	u236	5.35E+01	92236.50c	-2.08E-01
u238	2.16E+04	92238.50c	-83.739108	u238	2.16E+04	92238.50c	-8.39E+01
np237	6.90E-01	93237.50c	-0.002675	np237	1.84E+00	93237.50c	-7.14E-03
pu238	2.77E-02	94238.50c	-0.000107	pu238	1.44E-01	94238.50c	-5.59E-04
pu239	4.35E+01	94239.55c	-0.168641	pu239	7.46E+01	94239.55c	-2.90E-01
pu240	2.92E+00	94240.50c	-0.011320	pu240	8.85E+00	94240.50c	-3.44E-02
pu241	5.77E-01	94241.50c	-0.002237	pu241	3.12E+00	94241.50c	-1.21E-02
pu242	1.60E-02	94242.50c	-0.000062	pu242	1.84E-01	94242.50c	-7.14E-04
am241	1.82E-02	95241.50c	-0.000071	am241	9.94E-02	95241.50c	-3.86E-04
am242m	8.43E-05	95242.50c	0.000000	am242m	1.44E-03	95242.50c	-5.59E-06
am243	2.97E-04	95243.50c	-0.000001	am243	8.54E-03	95243.50c	-3.32E-05
mo 95	2.55E+00	42095.50c	-0.009886	mo 95	4.97E+00	42095.50c	-1.93E-02
tc 99	3.13E+00	43099.50c	-0.012134	tc 99	6.12E+00	43099.50c	-2.38E-02
ru101	2.69E+00	44101.50c	-0.010429	ru101	5.38E+00	44101.50c	-2.09E-02
rh103	1.58E+00	45103.50c	-0.006125	rh103	3.12E+00	45103.50c	-1.21E-02
ag109	7.57E-02	47109.50c	-0.000293	ag109	2.27E-01	47109.50c	-8.81E-04
nd143	4.08E+00	60143.50c	-0.015817	nd143	7.74E+00	60143.50c	-3.01E-02
nd145	2.86E+00	60145.50c	-0.011088	nd145	5.55E+00	60145.50c	-2.15E-02
sm147	4.74E-01	62147.50c	-0.001838	sm147	8.73E-01	62147.50c	-3.39E-03
sm149	6.38E-02	62149.50c	-0.000247	sm149	6.88E-02	62149.50c	-2.67E-04
sm150	7.92E-01	62150.50c	-0.003070	sm150	1.68E+00	62150.50c	-6.52E-03
sm151	2.09E-01	62151.50c	-0.000810	sm151	2.92E-01	62151.50c	-1.13E-03
eu151	1.58E-03	63151.55c	-0.000006	eu151	1.43E-03	63151.55c	-5.55E-06
sm152	3.60E-01	62152.50c	-0.001396	sm152	8.30E-01	62152.50c	-3.22E-03
eu153	1.68E-01	63153.55c	-0.000651	eu153	4.10E-01	63153.55c	-1.59E-03
gd155	7.94E-04	64155.50c	-0.000003	gd155	5.90E-04	64155.50c	-2.29E-06
A5010N02				A5020N02			
O-16	3.462E+03	8016.50c	-11.946089	O-16	3.462E+03	8016.50c	-1.36E+01
u233	4.13E-06	92233.50c	0.000000	u233	8.05E-06	92233.50c	-3.17E-08
u234	1.03E+01	92234.50c	-0.035542	u234	9.37E+00	92234.50c	-3.69E-02
u235	1.04E+03	92235.50c	-3.588725	u235	8.53E+02	92235.50c	-3.36E+00
u236	5.03E+01	92236.50c	-0.173570	u236	8.68E+01	92236.50c	-3.42E-01
u238	2.43E+04	92238.50c	-83.851944	u238	2.42E+04	92238.50c	-9.54E+01
np237	1.51E+00	93237.50c	-0.005211	np237	4.15E+00	93237.50c	-1.64E-02
pu238	9.51E-02	94238.50c	-0.000328	pu238	5.14E-01	94238.50c	-2.03E-03
pu239	7.21E+01	94239.55c	-0.248795	pu239	1.14E+02	94239.55c	-4.49E-01

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Table AV-1. Renormalized Depleted Fuel Isotopic Weight Percents

pu240	7.18E+00	94240.50c	-0.024776	pu240	1.97E+01	94240.50c	-7.77E-02
pu241	2.12E+00	94241.50c	-0.007315	pu241	9.21E+00	94241.50c	-3.63E-02
pu242	9.84E-02	94242.50c	-0.000340	pu242	9.40E-01	94242.50c	-3.71E-03
am241	7.07E-02	95241.50c	-0.000244	am241	3.13E-01	95241.50c	-1.23E-03
am242m	8.76E-04	95242.50c	-0.000003	am242m	5.72E-03	95242.50c	-2.26E-05
am243	3.53E-03	95243.50c	-0.000012	am243	7.33E-02	95243.50c	-2.89E-04
mo 95	4.57E+00	42095.50c	-0.015770	mo 95	8.88E+00	42095.50c	-3.50E-02
tc 99	5.58E+00	43099.50c	-0.019255	tc 99	1.08E+01	43099.50c	-4.26E-02
ru101	4.84E+00	44101.50c	-0.016701	ru101	9.64E+00	44101.50c	-3.80E-02
rh103	2.85E+00	45103.50c	-0.009834	rh103	5.60E+00	45103.50c	-2.21E-02
ag109	1.81E-01	47109.50c	-0.000625	ag109	5.45E-01	47109.50c	-2.15E-03
nd143	7.12E+00	60143.50c	-0.024569	nd143	1.32E+01	60143.50c	-5.20E-02
nd145	5.04E+00	60145.50c	-0.017392	nd145	9.71E+00	60145.50c	-3.83E-02
sm147	8.38E-01	62147.50c	-0.002892	sm147	1.47E+00	62147.50c	-5.80E-03
sm149	7.41E-02	62149.50c	-0.000256	sm149	8.02E-02	62149.50c	-3.16E-04
sm150	1.48E+00	62150.50c	-0.005107	sm150	3.16E+00	62150.50c	-1.25E-02
sm151	2.98E-01	62151.50c	-0.001028	sm151	3.87E-01	62151.50c	-1.53E-03
eu151	1.81E-03	63151.55c	-0.000006	eu151	1.26E-03	63151.55c	-4.97E-06
sm152	7.21E-01	62152.50c	-0.002488	sm152	1.58E+00	62152.50c	-6.23E-03
eu153	3.42E-01	63153.55c	-0.001180	eu153	8.99E-01	63153.55c	-3.54E-03
gd155	7.56E-04	64155.50c	-0.000003	gd155	6.78E-04	64155.50c	-2.67E-06
A5010N03				A5020N03			
O-16	3.462E+03	8016.50c	-11.950340	O-16	3.462E+03	8016.50c	-1.21E+01
u233	4.77E-06	92233.50c	0.000000	u233	8.89E-06	92233.50c	-3.10E-08
u234	1.01E+01	92234.50c	-0.034864	u234	8.88E+00	92234.50c	-3.09E-02
u235	1.00E+03	92235.50c	-3.451925	u235	7.71E+02	92235.50c	-2.69E+00
u236	5.83E+01	92236.50c	-0.201247	u236	9.96E+01	92236.50c	-3.47E-01
u238	2.43E+04	92238.50c	-83.881786	u238	2.41E+04	92238.50c	-8.40E+01
np237	1.98E+00	93237.50c	-0.006835	np237	5.45E+00	93237.50c	-1.90E-02
pu238	1.50E-01	94238.50c	-0.000518	pu238	8.25E-01	94238.50c	-2.88E-03
pu239	8.28E+01	94239.55c	-0.285819	pu239	1.26E+02	94239.55c	-4.39E-01
pu240	9.60E+00	94240.50c	-0.033138	pu240	2.54E+01	94240.50c	-8.85E-02
pu241	3.27E+00	94241.50c	-0.011288	pu241	1.30E+01	94241.50c	-4.53E-02
pu242	1.87E-01	94242.50c	-0.000646	pu242	1.67E+00	94242.50c	-5.82E-03
am241	1.14E-01	95241.50c	-0.000394	am241	4.51E-01	95241.50c	-1.57E-03
am242m	1.58E-03	95242.50c	-0.000005	am242m	8.85E-03	95242.50c	-3.08E-05
am243	8.20E-03	95243.50c	-0.000028	am243	1.61E-01	95243.50c	-5.61E-04
mo 95	5.53E+00	42095.50c	-0.019089	mo 95	1.07E+01	42095.50c	-3.73E-02
tc 99	6.70E+00	43099.50c	-0.023128	tc 99	1.29E+01	43099.50c	-4.50E-02
ru101	5.82E+00	44101.50c	-0.020090	ru101	1.16E+01	44101.50c	-4.04E-02
rh103	3.45E+00	45103.50c	-0.011909	rh103	6.72E+00	45103.50c	-2.34E-02
ag109	2.45E-01	47109.50c	-0.000846	ag109	7.37E-01	47109.50c	-2.57E-03
nd143	8.50E+00	60143.50c	-0.029341	nd143	1.56E+01	60143.50c	-5.44E-02
nd145	6.07E+00	60145.50c	-0.020953	nd145	1.16E+01	60145.50c	-4.04E-02
sm147	1.01E+00	62147.50c	-0.003486	sm147	1.73E+00	62147.50c	-6.03E-03
sm149	7.51E-02	62149.50c	-0.000259	sm149	8.12E-02	62149.50c	-2.83E-04
sm150	1.83E+00	62150.50c	-0.006317	sm150	3.91E+00	62150.50c	-1.36E-02
sm151	3.23E-01	62151.50c	-0.001115	sm151	4.09E-01	62151.50c	-1.43E-03
eu151	1.76E-03	63151.55c	-0.000006	eu151	1.10E-03	63151.55c	-3.83E-06
sm152	9.00E-01	62152.50c	-0.003107	sm152	1.92E+00	62152.50c	-6.69E-03
eu153	4.39E-01	63153.55c	-0.001515	eu153	1.18E+00	63153.55c	-4.11E-03
gd155	7.39E-04	64155.50c	-0.000003	gd155	7.51E-04	64155.50c	-2.62E-06
A5010N04				A5020N04			

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Table AV-1. Renormalized Depleted Fuel Isotopic Weight Percents

O-16	3.462E+03	8016.50c	-11.988665	O-16	3.462E+03	8016.50c	-1.21E+01
u233	4.75E-06	92233.50c	0.000000	u233	9.07E-06	92233.50c	-3.16E-08
u234	1.01E+01	92234.50c	-0.034976	u234	8.84E+00	92234.50c	-3.08E-02
u235	9.94E+02	92235.50c	-3.442218	u235	7.34E+02	92235.50c	-2.56E+00
u236	6.19E+01	92236.50c	-0.214359	u236	1.05E+02	92236.50c	-3.66E-01
u238	2.42E+04	92238.50c	-83.804497	u238	2.41E+04	92238.50c	-8.40E+01
np237	2.21E+00	93237.50c	-0.007653	np237	6.07E+00	93237.50c	-2.12E-02
pu238	1.80E-01	94238.50c	-0.000623	pu238	9.93E-01	94238.50c	-3.46E-03
pu239	8.73E+01	94239.55c	-0.302320	pu239	1.30E+02	94239.55c	-4.53E-01
pu240	4.07E+01	94240.50c	-0.037054	pu240	2.81E+01	94240.50c	-9.80E-02
pu241	3.85E+00	94241.50c	-0.013333	pu241	1.47E+01	94241.50c	-5.13E-02
pu242	2.37E-01	94242.50c	-0.000821	pu242	2.09E+00	94242.50c	-7.29E-03
am241	1.38E-01	95241.50c	-0.000478	am241	5.28E-01	95241.50c	-1.84E-03
am242m	2.01E-03	95242.50c	-0.000007	am242m	1.05E-02	95242.50c	-3.66E-05
am243	1.14E-02	95243.50c	-0.000039	am243	2.19E-01	95243.50c	-7.64E-04
mo 95	6.00E+00	42095.50c	-0.020778	mo 95	1.15E+01	42095.50c	-4.01E-02
tc 99	7.21E+00	43099.50c	-0.024968	tc 99	1.39E+01	43099.50c	-4.85E-02
ru101	6.30E+00	44101.50c	-0.021817	ru101	1.26E+01	44101.50c	-4.39E-02
rh103	3.76E+00	45103.50c	-0.013021	rh103	7.24E+00	45103.50c	-2.52E-02
ag109	2.75E-01	47109.50c	-0.000952	ag109	8.30E-01	47109.50c	-2.89E-03
nd143	9.15E+00	60143.50c	-0.031686	nd143	1.66E+01	60143.50c	-5.79E-02
nd145	6.52E+00	60145.50c	-0.022579	nd145	1.23E+01	60145.50c	-4.29E-02
sm147	1.10E+00	62147.50c	-0.003809	sm147	1.85E+00	62147.50c	-6.45E-03
sm149	7.73E-02	62149.50c	-0.000268	sm149	8.08E-02	62149.50c	-2.82E-04
sm150	1.97E+00	62150.50c	-0.006822	sm150	4.25E+00	62150.50c	-1.48E-02
sm151	3.34E-01	62151.50c	-0.001157	sm151	4.16E-01	62151.50c	-1.45E-03
eu151	1.78E-03	63151.55c	-0.000006	eu151	1.05E-03	63151.55c	-3.66E-06
sm152	9.82E-01	62152.50c	-0.003401	sm152	2.08E+00	62152.50c	-7.25E-03
eu153	4.88E-01	63153.55c	-0.001690	eu153	1.32E+00	63153.55c	-4.60E-03
gd155	7.66E-04	64155.50c	-0.000003	gd155	8.12E-04	64155.50c	-2.83E-06
A5010N05				A5020N05			
O-16	3.462E+03	8016.50c	-11.991083	O-16	3.462E+03	8016.50c	-1.21E+01
u233	4.70E-06	92233.50c	0.000000	u233	8.81E-06	92233.50c	-3.07E-08
u234	1.01E+01	92234.50c	-0.034983	u234	8.62E+00	92234.50c	-3.01E-02
u235	9.83E+02	92235.50c	-3.404811	u235	7.29E+02	92235.50c	-2.54E+00
u236	6.35E+01	92236.50c	-0.219945	u236	1.07E+02	92236.50c	-3.73E-01
u238	2.42E+04	92238.50c	-83.821395	u238	2.41E+04	92238.50c	-8.40E+01
np237	2.31E+00	93237.50c	-0.008001	np237	6.29E+00	93237.50c	-2.19E-02
pu238	1.94E-01	94238.50c	-0.000672	pu238	1.06E+00	94238.50c	-3.70E-03
pu239	8.88E+01	94239.55c	-0.307576	pu239	1.32E+02	94239.55c	-4.60E-01
pu240	1.11E+01	94240.50c	-0.038447	pu240	2.90E+01	94240.50c	-1.01E-01
pu241	4.09E+00	94241.50c	-0.014167	pu241	1.54E+01	94241.50c	-5.37E-02
pu242	2.61E-01	94242.50c	-0.000904	pu242	2.24E+00	94242.50c	-7.81E-03
am241	1.51E-01	95241.50c	-0.000523	am241	5.63E-01	95241.50c	-1.96E-03
am242m	2.21E-03	95242.50c	-0.000008	am242m	1.13E-02	95242.50c	-3.94E-05
am243	1.31E-02	95243.50c	-0.000045	am243	2.41E-01	95243.50c	-8.40E-04
mo 95	6.18E+00	42095.50c	-0.021406	mo 95	1.19E+01	42095.50c	-4.15E-02
tc 99	7.43E+00	43099.50c	-0.025735	tc 99	1.42E+01	43099.50c	-4.95E-02
ru101	6.49E+00	44101.50c	-0.022479	ru101	1.29E+01	44101.50c	-4.50E-02
rh103	3.85E+00	45103.50c	-0.013335	rh103	7.45E+00	45103.50c	-2.60E-02
ag109	2.88E-01	47109.50c	-0.000998	ag109	8.65E-01	47109.50c	-3.02E-03
nd143	9.41E+00	60143.50c	-0.032593	nd143	1.70E+01	60143.50c	-5.93E-02
nd145	6.68E+00	60145.50c	-0.023137	nd145	1.27E+01	60145.50c	-4.43E-02

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Table AV-1. Renormalized Depleted Fuel Isotopic Weight Percents

sm147	1.15E+00	62147.50c	-0.003983	sm147	1.91E+00	62147.50c	-6.66E-03
sm149	7.70E-02	62149.50c	-0.000267	sm149	8.10E-02	62149.50c	-2.82E-04
sm150	2.03E+00	62150.50c	-0.007031	sm150	4.39E+00	62150.50c	-1.53E-02
sm151	3.36E-01	62151.50c	-0.001164	sm151	4.20E-01	62151.50c	-1.46E-03
eu151	1.79E-03	63151.55c	-0.000006	eu151	1.06E-03	63151.55c	-3.70E-06
sm152	1.02E+00	62152.50c	-0.003533	sm152	2.14E+00	62152.50c	-7.46E-03
eu153	5.11E-01	63153.55c	-0.001770	eu153	1.38E+00	63153.55c	-4.81E-03
gd155	7.81E-04	64155.50c	-0.000003	gd155	8.55E-04	64155.50c	-2.98E-06
A5010N06				A5020N06			
O-16	3.462E+03	8016.50c	-11.990126	O-16	3.462E+03	8016.50c	-1.21E+01
u233	4.59E-06	92233.50c	0.000000	u233	8.68E-06	92233.50c	-3.03E-08
u234	9.98E+00	92234.50c	-0.034565	u234	8.62E+00	92234.50c	-3.01E-02
u235	9.84E+02	92235.50c	-3.408003	u235	7.24E+02	92235.50c	-2.52E+00
u236	6.37E+01	92236.50c	-0.220620	u236	1.08E+02	92236.50c	-3.77E-01
u238	2.42E+04	92238.50c	-83.814705	u238	2.41E+04	92238.50c	-8.40E+01
np237	2.33E+00	93237.50c	-0.008070	np237	6.40E+00	93237.50c	-2.23E-02
pu238	1.97E-01	94238.50c	-0.000682	pu238	1.09E+00	94238.50c	-3.80E-03
pu239	8.92E+01	94239.55c	-0.308937	pu239	1.31E+02	94239.55c	-4.57E-01
pu240	1.13E+01	94240.50c	-0.039137	pu240	2.93E+01	94240.50c	-1.02E-01
pu241	4.14E+00	94241.50c	-0.014339	pu241	1.55E+01	94241.50c	-5.40E-02
pu242	2.68E-01	94242.50c	-0.000928	pu242	2.30E+00	94242.50c	-8.02E-03
am241	1.56E-01	95241.50c	-0.000540	am241	5.79E-01	95241.50c	-2.02E-03
am242m	2.30E-03	95242.50c	-0.000008	am242m	1.16E-02	95242.50c	-4.05E-05
am243	1.35E-02	95243.50c	-0.000047	am243	2.50E-01	95243.50c	-8.72E-04
mo 95	6.30E+00	42095.50c	-0.021820	mo 95	1.21E+01	42095.50c	-4.22E-02
tc 99	7.51E+00	43099.50c	-0.026010	tc 99	1.44E+01	43099.50c	-5.02E-02
ru101	6.54E+00	44101.50c	-0.022651	ru101	1.30E+01	44101.50c	-4.53E-02
rh103	3.90E+00	45103.50c	-0.013507	rh103	7.53E+00	45103.50c	-2.63E-02
ag109	2.92E-01	47109.50c	-0.001011	ag109	8.75E-01	47109.50c	-3.05E-03
nd143	9.48E+00	60143.50c	-0.032833	nd143	1.72E+01	60143.50c	-6.00E-02
nd145	6.79E+00	60145.50c	-0.023517	nd145	1.28E+01	60145.50c	-4.46E-02
sm147	1.17E+00	62147.50c	-0.004052	sm147	1.95E+00	62147.50c	-6.80E-03
sm149	7.69E-02	62149.50c	-0.000266	sm149	8.05E-02	62149.50c	-2.81E-04
sm150	2.05E+00	62150.50c	-0.007100	sm150	4.44E+00	62150.50c	-1.55E-02
sm151	3.36E-01	62151.50c	-0.001164	sm151	4.21E-01	62151.50c	-1.47E-03
eu151	1.81E-03	63151.55c	-0.000006	eu151	1.07E-03	63151.55c	-3.73E-06
sm152	1.03E+00	62152.50c	-0.003567	sm152	2.16E+00	62152.50c	-7.53E-03
eu153	5.16E-01	63153.55c	-0.001787	eu153	1.39E+00	63153.55c	-4.85E-03
gd155	7.94E-04	64155.50c	-0.000003	gd155	8.70E-04	64155.50c	-3.03E-06
A5010N07				A5020N07			
O-16	3.462E+03	8016.50c	-11.994988	O-16	3.462E+03	8016.50c	-1.21E+01
u233	4.54E-06	92233.50c	0.000000	u233	8.59E-06	92233.50c	-3.00E-08
u234	9.98E+00	92234.50c	-0.034579	u234	8.62E+00	92234.50c	-3.01E-02
u235	9.72E+02	92235.50c	-3.367807	u235	7.21E+02	92235.50c	-2.51E+00
u236	6.39E+01	92236.50c	-0.221402	u236	1.08E+02	92236.50c	-3.77E-01
u238	2.42E+04	92238.50c	-83.848695	u238	2.41E+04	92238.50c	-8.40E+01
np237	2.33E+00	93237.50c	-0.008073	np237	6.39E+00	93237.50c	-2.23E-02
pu238	1.97E-01	94238.50c	-0.000683	pu238	1.09E+00	94238.50c	-3.80E-03
pu239	8.91E+01	94239.55c	-0.308716	pu239	1.31E+02	94239.55c	-4.57E-01
pu240	1.13E+01	94240.50c	-0.039152	pu240	2.95E+01	94240.50c	-1.03E-01
pu241	4.17E+00	94241.50c	-0.014448	pu241	1.56E+01	94241.50c	-5.44E-02
pu242	2.72E-01	94242.50c	-0.000942	pu242	2.32E+00	94242.50c	-8.09E-03
am241	1.58E-01	95241.50c	-0.000547	am241	5.88E-01	95241.50c	-2.05E-03

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Table AV-1. Renormalized Depleted Fuel Isotopic Weight Percents

am242m	2.33E-03	95242.50c	-0.000008	am242m	1.18E-02	95242.50c	-4.12E-05
am243	1.38E-02	95243.50c	-0.000048	am243	2.53E-01	95243.50c	-8.82E-04
mo 95	6.33E+00	42095.50c	-0.021932	mo 95	1.21E+01	42095.50c	-4.22E-02
tc 99	7.50E+00	43099.50c	-0.025986	tc 99	1.44E+01	43099.50c	-5.02E-02
ru101	6.57E+00	44101.50c	-0.022764	ru101	1.31E+01	44101.50c	-4.57E-02
rh103	3.93E+00	45103.50c	-0.013617	rh103	7.56E+00	45103.50c	-2.64E-02
ag109	2.93E-01	47109.50c	-0.001015	ag109	8.80E-01	47109.50c	-3.07E-03
nd143	9.51E+00	60143.50c	-0.032950	nd143	1.73E+01	60143.50c	-6.03E-02
nd145	6.81E+00	60145.50c	-0.023595	nd145	1.29E+01	60145.50c	-4.50E-02
sm147	1.18E+00	62147.50c	-0.004088	sm147	1.97E+00	62147.50c	-6.87E-03
sm149	7.60E-02	62149.50c	-0.000263	sm149	8.01E-02	62149.50c	-2.79E-04
sm150	2.06E+00	62150.50c	-0.007138	sm150	4.43E+00	62150.50c	-1.54E-02
sm151	3.35E-01	62151.50c	-0.001161	sm151	4.18E-01	62151.50c	-1.46E-03
eu151	1.80E-03	63151.55c	-0.000006	eu151	1.06E-03	63151.55c	-3.70E-06
sm152	1.04E+00	62152.50c	-0.003603	sm152	2.17E+00	62152.50c	-7.57E-03
eu153	5.16E-01	63153.55c	-0.001788	eu153	1.40E+00	63153.55c	-4.88E-03
gd155	7.89E-04	64155.50c	-0.000003	gd155	8.78E-04	64155.50c	-3.06E-06
A5010N08				A5020N08			
O-16	3.462E+03	8016.50c	-11.995234	O-16	3.462E+03	8016.50c	-1.21E+01
u233	4.52E-06	92233.50c	0.000000	u233	8.58E-06	92233.50c	-2.99E-08
u234	9.98E+00	92234.50c	-0.034580	u234	8.65E+00	92234.50c	-3.02E-02
u235	9.72E+02	92235.50c	-3.367876	u235	7.18E+02	92235.50c	-2.50E+00
u236	6.36E+01	92236.50c	-0.220367	u236	1.08E+02	92236.50c	-3.77E-01
u238	2.42E+04	92238.50c	-83.850416	u238	2.41E+04	92238.50c	-8.41E+01
np237	2.32E+00	93237.50c	-0.008039	np237	6.36E+00	93237.50c	-2.22E-02
pu238	1.97E-01	94238.50c	-0.000683	pu238	1.09E+00	94238.50c	-3.80E-03
pu239	8.88E+01	94239.55c	-0.307683	pu239	1.31E+02	94239.55c	-4.57E-01
pu240	1.13E+01	94240.50c	-0.039153	pu240	2.93E+01	94240.50c	-1.02E-01
pu241	4.16E+00	94241.50c	-0.014414	pu241	1.55E+01	94241.50c	-5.41E-02
pu242	2.71E-01	94242.50c	-0.000939	pu242	2.31E+00	94242.50c	-8.06E-03
am241	1.57E-01	95241.50c	-0.000544	am241	5.84E-01	95241.50c	-2.04E-03
am242m	2.32E-03	95242.50c	-0.000008	am242m	1.17E-02	95242.50c	-4.08E-05
am243	1.36E-02	95243.50c	-0.000047	am243	2.52E-01	95243.50c	-8.79E-04
mo 95	6.33E+00	42095.50c	-0.021933	mo 95	1.21E+01	42095.50c	-4.22E-02
tc 99	7.50E+00	43099.50c	-0.025987	tc 99	1.44E+01	43099.50c	-5.02E-02
ru101	6.59E+00	44101.50c	-0.022834	ru101	1.31E+01	44101.50c	-4.57E-02
rh103	3.93E+00	45103.50c	-0.013617	rh103	7.56E+00	45103.50c	-2.64E-02
ag109	2.93E-01	47109.50c	-0.001015	ag109	8.77E-01	47109.50c	-3.06E-03
nd143	9.50E+00	60143.50c	-0.032916	nd143	1.72E+01	60143.50c	-6.00E-02
nd145	6.81E+00	60145.50c	-0.023596	nd145	1.29E+01	60145.50c	-4.50E-02
sm147	1.19E+00	62147.50c	-0.004123	sm147	1.97E+00	62147.50c	-6.87E-03
sm149	7.58E-02	62149.50c	-0.000263	sm149	7.96E-02	62149.50c	-2.78E-04
sm150	2.07E+00	62150.50c	-0.007172	sm150	4.43E+00	62150.50c	-1.55E-02
sm151	3.35E-01	62151.50c	-0.001161	sm151	4.16E-01	62151.50c	-1.45E-03
eu151	1.80E-03	63151.55c	-0.000006	eu151	1.05E-03	63151.55c	-3.66E-06
sm152	1.04E+00	62152.50c	-0.003603	sm152	2.17E+00	62152.50c	-7.57E-03
eu153	5.16E-01	63153.55c	-0.001788	eu153	1.40E+00	63153.55c	-4.88E-03
gd155	7.87E-04	64155.50c	-0.000003	gd155	8.71E-04	64155.50c	-3.04E-06
A5010N09				A5020N09			
O-16	3.462E+03	8016.50c	-11.994956	O-16	3.462E+03	8016.50c	-1.21E+01
u233	4.54E-06	92233.50c	0.000000	u233	8.61E-06	92233.50c	-3.00E-08
u234	9.98E+00	92234.50c	-0.034579	u234	8.65E+00	92234.50c	-3.02E-02
u235	9.72E+02	92235.50c	-3.367798	u235	7.21E+02	92235.50c	-2.51E+00

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Table AV-1. Renormalized Depleted Fuel Isotopic Weight Percents

u236	6.43E+01	92236.50c	-0.222787	u236	1.08E+02	92236.50c	-3.77E-01
u238	2.42E+04	92238.50c	-83.848470	u238	2.41E+04	92238.50c	-8.40E+01
np237	2.32E+00	93237.50c	-0.008038	np237	6.39E+00	93237.50c	-2.23E-02
pu238	1.97E-01	94238.50c	-0.000683	pu238	1.09E+00	94238.50c	-3.80E-03
pu239	8.89E+01	94239.55c	-0.308022	pu239	1.31E+02	94239.55c	-4.57E-01
pu240	1.13E+01	94240.50c	-0.039152	pu240	2.94E+01	94240.50c	-1.03E-01
pu241	4.16E+00	94241.50c	-0.014414	pu241	1.55E+01	94241.50c	-5.41E-02
pu242	2.71E-01	94242.50c	-0.000939	pu242	2.30E+00	94242.50c	-8.02E-03
am241	1.56E-01	95241.50c	-0.000541	am241	5.82E-01	95241.50c	-2.03E-03
am242m	2.31E-03	95242.50c	-0.000008	am242m	1.16E-02	95242.50c	-4.05E-05
am243	1.36E-02	95243.50c	-0.000047	am243	2.50E-01	95243.50c	-8.72E-04
mo 95	6.27E+00	42095.50c	-0.021724	mo 95	1.21E+01	42095.50c	-4.22E-02
tc 99	7.48E+00	43099.50c	-0.025917	tc 99	1.45E+01	43099.50c	-5.06E-02
ru101	6.60E+00	44101.50c	-0.022868	ru101	1.30E+01	44101.50c	-4.53E-02
rh103	3.90E+00	45103.50c	-0.013513	rh103	7.56E+00	45103.50c	-2.64E-02
ag109	2.93E-01	47109.50c	-0.001015	ag109	8.77E-01	47109.50c	-3.06E-03
nd143	9.51E+00	60143.50c	-0.032950	nd143	1.73E+01	60143.50c	-6.03E-02
nd145	6.79E+00	60145.50c	-0.023526	nd145	1.29E+01	60145.50c	-4.50E-02
sm147	1.18E+00	62147.50c	-0.004088	sm147	1.97E+00	62147.50c	-6.87E-03
sm149	7.57E-02	62149.50c	-0.000262	sm149	7.97E-02	62149.50c	-2.78E-04
sm150	2.06E+00	62150.50c	-0.007138	sm150	4.46E+00	62150.50c	-1.56E-02
sm151	3.33E-01	62151.50c	-0.001154	sm151	4.16E-01	62151.50c	-1.45E-03
eu151	1.80E-03	63151.55c	-0.000006	eu151	1.05E-03	63151.55c	-3.66E-06
sm152	1.04E+00	62152.50c	-0.003603	sm152	2.18E+00	62152.50c	-7.60E-03
eu153	5.19E-01	63153.55c	-0.001798	eu153	1.40E+00	63153.55c	-4.88E-03
gd155	7.79E-04	64155.50c	-0.000003	gd155	8.67E-04	64155.50c	-3.02E-06
A5010N10				A5020N10			
O-16	3.462E+03	8016.50c	-11.994100	O-16	3.462E+03	8016.50c	-1.21E+01
u233	4.58E-06	92233.50c	0.000000	u233	8.71E-06	92233.50c	-3.04E-08
u234	9.98E+00	92234.50c	-0.034576	u234	8.68E+00	92234.50c	-3.03E-02
u235	9.75E+02	92235.50c	-3.377952	u235	7.20E+02	92235.50c	-2.51E+00
u236	6.40E+01	92236.50c	-0.221732	u236	1.08E+02	92236.50c	-3.77E-01
u238	2.42E+04	92238.50c	-83.842490	u238	2.41E+04	92238.50c	-8.41E+01
np237	2.32E+00	93237.50c	-0.008038	np237	6.37E+00	93237.50c	-2.22E-02
pu238	1.96E-01	94238.50c	-0.000679	pu238	1.08E+00	94238.50c	-3.77E-03
pu239	8.84E+01	94239.55c	-0.306268	pu239	1.30E+02	94239.55c	-4.53E-01
pu240	1.12E+01	94240.50c	-0.038803	pu240	2.92E+01	94240.50c	-1.02E-01
pu241	4.11E+00	94241.50c	-0.014239	pu241	1.54E+01	94241.50c	-5.37E-02
pu242	2.68E-01	94242.50c	-0.000929	pu242	2.30E+00	94242.50c	-8.02E-03
am241	1.54E-01	95241.50c	-0.000534	am241	5.75E-01	95241.50c	-2.01E-03
am242m	2.28E-03	95242.50c	-0.000008	am242m	1.15E-02	95242.50c	-4.01E-05
am243	1.34E-02	95243.50c	-0.000046	am243	2.48E-01	95243.50c	-8.65E-04
mo 95	6.28E+00	42095.50c	-0.021757	mo 95	1.20E+01	42095.50c	-4.19E-02
tc 99	7.51E+00	43099.50c	-0.026019	tc 99	1.44E+01	43099.50c	-5.02E-02
ru101	6.58E+00	44101.50c	-0.022797	ru101	1.31E+01	44101.50c	-4.57E-02
rh103	3.91E+00	45103.50c	-0.013546	rh103	7.52E+00	45103.50c	-2.62E-02
ag109	2.90E-01	47109.50c	-0.001005	ag109	8.75E-01	47109.50c	-3.05E-03
nd143	9.49E+00	60143.50c	-0.032879	nd143	1.72E+01	60143.50c	-6.00E-02
nd145	6.80E+00	60145.50c	-0.023559	nd145	1.29E+01	60145.50c	-4.50E-02
sm147	1.18E+00	62147.50c	-0.004088	sm147	1.97E+00	62147.50c	-6.87E-03
sm149	7.57E-02	62149.50c	-0.000262	sm149	7.95E-02	62149.50c	-2.77E-04
sm150	2.06E+00	62150.50c	-0.007137	sm150	4.44E+00	62150.50c	-1.55E-02
sm151	3.33E-01	62151.50c	-0.001154	sm151	4.14E-01	62151.50c	-1.44E-03

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Table AV-1. Renormalized Depleted Fuel Isotopic Weight Percents

eu151	1.77E-03	63151.55c	-0.000006	eu151	1.03E-03	63151.55c	-3.59E-06
sm152	1.04E+00	62152.50c	-0.003603	sm152	2.17E+00	62152.50c	-7.57E-03
eu153	5.17E-01	63153.55c	-0.001791	eu153	1.40E+00	63153.55c	-4.88E-03
gd155	7.67E-04	64155.50c	-0.000003	gd155	8.50E-04	64155.50c	-2.96E-06
A5010N11				A5020N11			
O-16	3.462E+03	8016.50c	-11.994407	O-16	3.462E+03	8016.50c	-1.21E+01
u233	4.92E-06	92233.50c	0.000000	u233	8.80E-06	92233.50c	-3.07E-08
u234	9.98E+00	92234.50c	-0.034577	u234	8.65E+00	92234.50c	-3.02E-02
u235	9.74E+02	92235.50c	-3.374573	u235	7.20E+02	92235.50c	-2.51E+00
u236	6.41E+01	92236.50c	-0.222084	u236	1.08E+02	92236.50c	-3.77E-01
u238	2.42E+04	92238.50c	-83.844633	u238	2.41E+04	92238.50c	-8.41E+01
np237	2.32E+00	93237.50c	-0.008038	np237	6.36E+00	93237.50c	-2.22E-02
pu238	1.96E-01	94238.50c	-0.000679	pu238	1.08E+00	94238.50c	-3.77E-03
pu239	8.84E+01	94239.55c	-0.306275	pu239	1.30E+02	94239.55c	-4.53E-01
pu240	1.12E+01	94240.50c	-0.038804	pu240	2.92E+01	94240.50c	-1.02E-01
pu241	4.12E+00	94241.50c	-0.014274	pu241	1.55E+01	94241.50c	-5.41E-02
pu242	2.69E-01	94242.50c	-0.000932	pu242	2.31E+00	94242.50c	-8.06E-03
am241	1.52E-01	95241.50c	-0.000527	am241	5.66E-01	95241.50c	-1.97E-03
am242m	2.25E-03	95242.50c	-0.000008	am242m	1.13E-02	95242.50c	-3.94E-05
am243	1.35E-02	95243.50c	-0.000047	am243	2.50E-01	95243.50c	-8.72E-04
mo 95	6.30E+00	42095.50c	-0.021827	mo 95	1.20E+01	42095.50c	-4.19E-02
tc 99	7.53E+00	43099.50c	-0.026089	tc 99	1.44E+01	43099.50c	-5.02E-02
ru101	6.62E+00	44101.50c	-0.022936	ru101	1.31E+01	44101.50c	-4.57E-02
rh103	3.92E+00	45103.50c	-0.013581	rh103	7.56E+00	45103.50c	-2.64E-02
ag109	2.92E-01	47109.50c	-0.001012	ag109	8.75E-01	47109.50c	-3.05E-03
nd143	9.53E+00	60143.50c	-0.033018	nd143	1.73E+01	60143.50c	-6.03E-02
nd145	6.81E+00	60145.50c	-0.023594	nd145	1.29E+01	60145.50c	-4.50E-02
sm147	1.18E+00	62147.50c	-0.004088	sm147	1.97E+00	62147.50c	-6.87E-03
sm149	7.57E-02	62149.50c	-0.000262	sm149	7.94E-02	62149.50c	-2.77E-04
sm150	2.07E+00	62150.50c	-0.007172	sm150	4.45E+00	62150.50c	-1.55E-02
sm151	3.33E-01	62151.50c	-0.001154	sm151	4.13E-01	62151.50c	-1.44E-03
eu151	1.75E-03	63151.55c	-0.000006	eu151	1.01E-03	63151.55c	-3.52E-06
sm152	1.04E+00	62152.50c	-0.003603	sm152	2.18E+00	62152.50c	-7.60E-03
eu153	5.18E-01	63153.55c	-0.001795	eu153	1.40E+00	63153.55c	-4.88E-03
gd155	7.53E-04	64155.50c	-0.000003	gd155	8.35E-04	64155.50c	-2.91E-06
A5010N12				A5020N12			
O-16	3.462E+03	8016.50c	-11.994475	O-16	3.462E+03	8016.50c	-1.21E+01
u233	4.73E-06	92233.50c	0.000000	u233	8.91E-06	92233.50c	-3.11E-08
u234	9.98E+00	92234.50c	-0.034577	u234	8.64E+00	92234.50c	-3.01E-02
u235	9.74E+02	92235.50c	-3.374592	u235	7.19E+02	92235.50c	-2.51E+00
u236	6.42E+01	92236.50c	-0.222432	u236	1.09E+02	92236.50c	-3.80E-01
u238	2.42E+04	92238.50c	-83.845105	u238	2.41E+04	92238.50c	-8.41E+01
np237	2.31E+00	93237.50c	-0.008003	np237	6.37E+00	93237.50c	-2.22E-02
pu238	1.95E-01	94238.50c	-0.000676	pu238	1.08E+00	94238.50c	-3.77E-03
pu239	8.80E+01	94239.55c	-0.304891	pu239	1.30E+02	94239.55c	-4.53E-01
pu240	1.13E+01	94240.50c	-0.039151	pu240	2.94E+01	94240.50c	-1.03E-01
pu241	4.09E+00	94241.50c	-0.014171	pu241	1.55E+01	94241.50c	-5.41E-02
pu242	2.71E-01	94242.50c	-0.000939	pu242	2.33E+00	94242.50c	-8.13E-03
am241	1.51E-01	95241.50c	-0.000523	am241	5.60E-01	95241.50c	-1.95E-03
am242m	2.22E-03	95242.50c	-0.000008	am242m	1.12E-02	95242.50c	-3.91E-05
am243	1.34E-02	95243.50c	-0.000046	am243	2.51E-01	95243.50c	-8.75E-04
mo 95	6.28E+00	42095.50c	-0.021758	mo 95	1.21E+01	42095.50c	-4.22E-02
tc 99	7.57E+00	43099.50c	-0.026228	tc 99	1.45E+01	43099.50c	-5.06E-02

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Table AV-1. Renormalized Depleted Fuel Isotopic Weight Percents

ru101	6.63E+00	44101.50c	-0.022971	ru101	1.32E+01	44101.50c	-4.60E-02
rh103	3.93E+00	45103.50c	-0.013616	rh103	7.60E+00	45103.50c	-2.65E-02
ag109	2.94E-01	47109.50c	-0.001019	ag109	8.80E-01	47109.50c	-3.07E-03
nd143	9.55E+00	60143.50c	-0.033088	nd143	1.73E+01	60143.50c	-6.03E-02
nd145	6.82E+00	60145.50c	-0.023629	nd145	1.29E+01	60145.50c	-4.50E-02
sm147	1.17E+00	62147.50c	-0.004054	sm147	1.97E+00	62147.50c	-6.87E-03
sm149	7.35E-02	62149.50c	-0.000255	sm149	7.92E-02	62149.50c	-2.76E-04
sm150	2.08E+00	62150.50c	-0.007207	sm150	4.46E+00	62150.50c	-1.56E-02
sm151	3.31E-01	62151.50c	-0.001147	sm151	4.12E-01	62151.50c	-1.44E-03
eu151	1.72E-03	63151.55c	-0.000006	eu151	9.81E-04	63151.55c	-3.42E-06
sm152	1.05E+00	62152.50c	-0.003638	sm152	2.20E+00	62152.50c	-7.67E-03
eu153	5.18E-01	63153.55c	-0.001795	eu153	1.41E+00	63153.55c	-4.92E-03
gd155	7.25E-04	64155.50c	-0.000003	gd155	8.22E-04	64155.50c	-2.87E-06
A5010N13				A5020N13			
O-16	3.462E+03	8016.50c	-11.994464	O-16	3.462E+03	8016.50c	-1.21E+01
u233	4.81E-06	92233.50c	0.000000	u233	9.05E-06	92233.50c	-3.16E-08
u234	9.98E+00	92234.50c	-0.034577	u234	8.64E+00	92234.50c	-3.01E-02
u235	9.73E+02	92235.50c	-3.371125	u235	7.15E+02	92235.50c	-2.49E+00
u236	6.45E+01	92236.50c	-0.223471	u236	1.09E+02	92236.50c	-3.80E-01
u238	2.42E+04	92238.50c	-83.845031	u238	2.41E+04	92238.50c	-8.41E+01
np237	2.33E+00	93237.50c	-0.008073	np237	6.42E+00	93237.50c	-2.24E-02
pu238	1.97E-01	94238.50c	-0.000683	pu238	1.10E+00	94238.50c	-3.84E-03
pu239	8.83E+01	94239.55c	-0.305930	pu239	1.30E+02	94239.55c	-4.53E-01
pu240	1.14E+01	94240.50c	-0.039497	pu240	2.95E+01	94240.50c	-1.03E-01
pu241	4.13E+00	94241.50c	-0.014309	pu241	1.57E+01	94241.50c	-5.48E-02
pu242	2.75E-01	94242.50c	-0.000953	pu242	2.37E+00	94242.50c	-8.27E-03
am241	1.51E-01	95241.50c	-0.000523	am241	5.60E-01	95241.50c	-1.95E-03
am242m	2.23E-03	95242.50c	-0.000008	am242m	1.12E-02	95242.50c	-3.91E-05
am243	1.36E-02	95243.50c	-0.000047	am243	2.57E-01	95243.50c	-8.96E-04
mo 95	6.31E+00	42095.50c	-0.021862	mo 95	1.22E+01	42095.50c	-4.26E-02
tc 99	7.61E+00	43099.50c	-0.026366	tc 99	1.46E+01	43099.50c	-5.09E-02
ru101	6.67E+00	44101.50c	-0.023109	ru101	1.33E+01	44101.50c	-4.64E-02
rh103	3.93E+00	45103.50c	-0.013616	rh103	7.63E+00	45103.50c	-2.66E-02
ag109	2.96E-01	47109.50c	-0.001026	ag109	8.88E-01	47109.50c	-3.10E-03
nd143	9.59E+00	60143.50c	-0.033226	nd143	1.74E+01	60143.50c	-6.07E-02
nd145	6.89E+00	60145.50c	-0.023872	nd145	1.30E+01	60145.50c	-4.53E-02
sm147	1.18E+00	62147.50c	-0.004088	sm147	1.97E+00	62147.50c	-6.87E-03
sm149	7.37E-02	62149.50c	-0.000255	sm149	7.92E-02	62149.50c	-2.76E-04
sm150	2.09E+00	62150.50c	-0.007241	sm150	4.50E+00	62150.50c	-1.57E-02
sm151	3.31E-01	62151.50c	-0.001147	sm151	4.12E-01	62151.50c	-1.44E-03
eu151	1.70E-03	63151.55c	-0.000006	eu151	9.66E-04	63151.55c	-3.37E-06
sm152	1.06E+00	62152.50c	-0.003673	sm152	2.20E+00	62152.50c	-7.67E-03
eu153	5.25E-01	63153.55c	-0.001819	eu153	1.42E+00	63153.55c	-4.95E-03
gd155	7.19E-04	64155.50c	-0.000002	gd155	8.14E-04	64155.50c	-2.84E-06
A5010N14				A5020N14			
O-16	3.462E+03	8016.50c	-11.994067	O-16	3.462E+03	8016.50c	-1.21E+01
u233	4.87E-06	92233.50c	0.000000	u233	9.17E-06	92233.50c	-3.20E-08
u234	9.98E+00	92234.50c	-0.034576	u234	8.63E+00	92234.50c	-3.01E-02
u235	9.73E+02	92235.50c	-3.371013	u235	7.11E+02	92235.50c	-2.48E+00
u236	6.49E+01	92236.50c	-0.224850	u236	1.10E+02	92236.50c	-3.84E-01
u238	2.42E+04	92238.50c	-83.842253	u238	2.41E+04	92238.50c	-8.41E+01
np237	2.34E+00	93237.50c	-0.008107	np237	6.45E+00	93237.50c	-2.25E-02
pu238	1.99E-01	94238.50c	-0.000689	pu238	1.11E+00	94238.50c	-3.87E-03

Table AV-1. Renormalized Depleted Fuel Isotopic Weight Percents

pu239	8.84E+01	94239.55c	-0.306267	pu239	1.30E+02	94239.55c	-4.53E-01
pu240	1.15E+01	94240.50c	-0.039842	pu240	2.97E+01	94240.50c	-1.04E-01
pu241	4.18E+00	94241.50c	-0.014482	pu241	1.57E+01	94241.50c	-5.48E-02
pu242	2.80E-01	94242.50c	-0.000970	pu242	2.39E+00	94242.50c	-8.34E-03
am241	1.53E-01	95241.50c	-0.000530	am241	5.62E-01	95241.50c	-1.96E-03
am242m	2.27E-03	95242.50c	-0.000008	am242m	1.13E-02	95242.50c	-3.94E-05
am243	1.39E-02	95243.50c	-0.000048	am243	2.60E-01	95243.50c	-9.07E-04
mo 95	6.34E+00	42095.50c	-0.021965	mo 95	1.22E+01	42095.50c	-4.26E-02
tc 99	7.62E+00	43099.50c	-0.026400	tc 99	1.47E+01	43099.50c	-5.13E-02
ru101	6.71E+00	44101.50c	-0.023247	ru101	1.33E+01	44101.50c	-4.64E-02
rh103	3.96E+00	45103.50c	-0.013720	rh103	7.63E+00	45103.50c	-2.66E-02
ag109	2.98E-01	47109.50c	-0.001032	ag109	8.94E-01	47109.50c	-3.12E-03
nd143	9.68E+00	60143.50c	-0.033537	nd143	1.75E+01	60143.50c	-6.10E-02
nd145	6.93E+00	60145.50c	-0.024009	nd145	1.31E+01	60145.50c	-4.57E-02
sm147	1.19E+00	62147.50c	-0.004123	sm147	1.97E+00	62147.50c	-6.87E-03
sm149	7.37E-02	62149.50c	-0.000255	sm149	7.90E-02	62149.50c	-2.76E-04
sm150	2.11E+00	62150.50c	-0.007310	sm150	4.54E+00	62150.50c	-1.58E-02
sm151	3.31E-01	62151.50c	-0.001147	sm151	4.11E-01	62151.50c	-1.43E-03
eu151	1.70E-03	63151.55c	-0.000006	eu151	9.55E-04	63151.55c	-3.33E-06
sm152	1.07E+00	62152.50c	-0.003707	sm152	2.22E+00	62152.50c	-7.74E-03
eu153	5.30E-01	63153.55c	-0.001836	eu153	1.44E+00	63153.55c	-5.02E-03
gd155	7.13E-04	64155.50c	-0.000002	gd155	8.03E-04	64155.50c	-2.80E-06
A5010N15				A5020N15			
O-16	3.462E+03	8016.50c	-11.994476	O-16	3.462E+03	8016.50c	-1.21E+01
u233	4.87E-06	92233.50c	0.000000	u233	9.19E-06	92233.50c	-3.21E-08
u234	9.97E+00	92234.50c	-0.034543	u234	8.63E+00	92234.50c	-3.01E-02
u235	9.72E+02	92235.50c	-3.367663	u235	7.14E+02	92235.50c	-2.49E+00
u236	6.44E+01	92236.50c	-0.223125	u236	1.10E+02	92236.50c	-3.84E-01
u238	2.42E+04	92238.50c	-83.845114	u238	2.41E+04	92238.50c	-8.41E+01
np237	2.33E+00	93237.50c	-0.008073	np237	6.43E+00	93237.50c	-2.24E-02
pu238	1.99E-01	94238.50c	-0.000689	pu238	1.10E+00	94238.50c	-3.84E-03
pu239	8.90E+01	94239.55c	-0.308356	pu239	1.30E+02	94239.55c	-4.53E-01
pu240	1.14E+01	94240.50c	-0.039497	pu240	2.96E+01	94240.50c	-1.03E-01
pu241	4.21E+00	94241.50c	-0.014586	pu241	1.56E+01	94241.50c	-5.44E-02
pu242	2.79E-01	94242.50c	-0.000967	pu242	2.38E+00	94242.50c	-8.30E-03
am241	1.54E-01	95241.50c	-0.000534	am241	5.66E-01	95241.50c	-1.97E-03
am242m	2.31E-03	95242.50c	-0.000008	am242m	1.13E-02	95242.50c	-3.94E-05
am243	1.41E-02	95243.50c	-0.000049	am243	2.59E-01	95243.50c	-9.03E-04
mo 95	6.39E+00	42095.50c	-0.022139	mo 95	1.23E+01	42095.50c	-4.29E-02
tc 99	7.62E+00	43099.50c	-0.026401	tc 99	1.47E+01	43099.50c	-5.13E-02
ru101	6.71E+00	44101.50c	-0.023248	ru101	1.33E+01	44101.50c	-4.64E-02
rh103	3.95E+00	45103.50c	-0.013685	rh103	7.62E+00	45103.50c	-2.66E-02
ag109	2.98E-01	47109.50c	-0.001032	ag109	8.91E-01	47109.50c	-3.11E-03
nd143	9.66E+00	60143.50c	-0.033469	nd143	1.75E+01	60143.50c	-6.10E-02
nd145	6.93E+00	60145.50c	-0.024010	nd145	1.32E+01	60145.50c	-4.60E-02
sm147	1.19E+00	62147.50c	-0.004123	sm147	1.98E+00	62147.50c	-6.91E-03
sm149	7.55E-02	62149.50c	-0.000262	sm149	7.88E-02	62149.50c	-2.75E-04
sm150	2.10E+00	62150.50c	-0.007276	sm150	4.54E+00	62150.50c	-1.58E-02
sm151	3.33E-01	62151.50c	-0.001154	sm151	4.09E-01	62151.50c	-1.43E-03
eu151	1.71E-03	63151.55c	-0.000006	eu151	9.58E-04	63151.55c	-3.34E-06
sm152	1.06E+00	62152.50c	-0.003673	sm152	2.22E+00	62152.50c	-7.74E-03
eu153	5.31E-01	63153.55c	-0.001840	eu153	1.43E+00	63153.55c	-4.99E-03
gd155	7.24E-04	64155.50c	-0.000003	gd155	7.95E-04	64155.50c	-2.77E-06

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Table AV-1. Renormalized Depleted Fuel Isotopic Weight Percents

A5010N16				A5020N16			
O-16	3.462E+03	8016.50c	-11.992170	O-16	3.462E+03	8016.50c	-1.21E+01
u233	4.80E-06	92233.50c	0.000000	u233	9.02E-06	92233.50c	-3.15E-08
u234	1.01E+01	92234.50c	-0.034986	u234	8.69E+00	92234.50c	-3.03E-02
u235	9.82E+02	92235.50c	-3.401656	u235	7.23E+02	92235.50c	-2.52E+00
u236	6.35E+01	92236.50c	-0.219965	u236	1.07E+02	92236.50c	-3.73E-01
u238	2.42E+04	92238.50c	-83.828998	u238	2.41E+04	92238.50c	-8.41E+01
np237	2.25E+00	93237.50c	-0.007794	np237	6.19E+00	93237.50c	-2.16E-02
pu238	1.88E-01	94238.50c	-0.000651	pu238	1.04E+00	94238.50c	-3.63E-03
pu239	8.72E+01	94239.55c	-0.302062	pu239	1.29E+02	94239.55c	-4.50E-01
pu240	1.10E+01	94240.50c	-0.038104	pu240	2.87E+01	94240.50c	-1.00E-01
pu241	3.99E+00	94241.50c	-0.013821	pu241	1.50E+01	94241.50c	-5.23E-02
pu242	2.57E-01	94242.50c	-0.000890	pu242	2.22E+00	94242.50c	-7.74E-03
am241	1.46E-01	95241.50c	-0.000506	am241	5.48E-01	95241.50c	-1.91E-03
am242m	2.15E-03	95242.50c	-0.000007	am242m	1.09E-02	95242.50c	-3.80E-05
am243	1.25E-02	95243.50c	-0.000043	am243	2.34E-01	95243.50c	-8.16E-04
mo 95	6.22E+00	42095.50c	-0.021546	mo 95	1.19E+01	42095.50c	-4.15E-02
tc 99	7.44E+00	43099.50c	-0.025772	tc 99	1.44E+01	43099.50c	-5.02E-02
ru101	6.55E+00	44101.50c	-0.022689	ru101	1.30E+01	44101.50c	-4.53E-02
rh103	3.86E+00	45103.50c	-0.013371	rh103	7.46E+00	45103.50c	-2.60E-02
ag109	2.85E-01	47109.50c	-0.000987	ag109	8.58E-01	47109.50c	-2.99E-03
nd143	9.44E+00	60143.50c	-0.032700	nd143	1.71E+01	60143.50c	-5.96E-02
nd145	6.75E+00	60145.50c	-0.023382	nd145	1.28E+01	60145.50c	-4.46E-02
sm147	1.17E+00	62147.50c	-0.004053	sm147	1.96E+00	62147.50c	-6.84E-03
sm149	7.53E-02	62149.50c	-0.000261	sm149	7.85E-02	62149.50c	-2.74E-04
sm150	2.05E+00	62150.50c	-0.007101	sm150	4.41E+00	62150.50c	-1.54E-02
sm151	3.28E-01	62151.50c	-0.001136	sm151	4.04E-01	62151.50c	-1.41E-03
eu151	1.73E-03	63151.55c	-0.000006	eu151	9.83E-04	63151.55c	-3.43E-06
sm152	1.03E+00	62152.50c	-0.003568	sm152	2.17E+00	62152.50c	-7.57E-03
eu153	5.11E-01	63153.55c	-0.001770	eu153	1.38E+00	63153.55c	-4.81E-03
gd155	7.26E-04	64155.50c	-0.000003	gd155	7.80E-04	64155.50c	-2.72E-06
A5010N17				A5020N17			
O-16	3.462E+03	8016.50c	-11.951818	O-16	3.462E+03	8016.50c	-1.21E+01
u233	4.51E-06	92233.50c	0.000000	u233	8.40E-06	92233.50c	-2.93E-08
u234	1.01E+01	92234.50c	-0.034869	u234	8.92E+00	92234.50c	-3.11E-02
u235	1.00E+03	92235.50c	-3.452352	u235	7.69E+02	92235.50c	-2.68E+00
u236	5.82E+01	92236.50c	-0.200927	u236	9.89E+01	92236.50c	-3.45E-01
u238	2.43E+04	92238.50c	-83.892158	u238	2.41E+04	92238.50c	-8.40E+01
np237	1.92E+00	93237.50c	-0.006629	np237	5.23E+00	93237.50c	-1.82E-02
pu238	1.42E-01	94238.50c	-0.000490	pu238	7.78E-01	94238.50c	-2.71E-03
pu239	7.99E+01	94239.55c	-0.275843	pu239	1.21E+02	94239.55c	-4.22E-01
pu240	9.25E+00	94240.50c	-0.031934	pu240	2.48E+01	94240.50c	-8.65E-02
pu241	3.06E+00	94241.50c	-0.010564	pu241	1.23E+01	94241.50c	-4.29E-02
pu242	1.74E-01	94242.50c	-0.000601	pu242	1.59E+00	94242.50c	-5.54E-03
am241	1.10E-01	95241.50c	-0.000380	am241	4.43E-01	95241.50c	-1.54E-03
am242m	1.50E-03	95242.50c	-0.000005	am242m	8.49E-03	95242.50c	-2.96E-05
am243	7.33E-03	95243.50c	-0.000025	am243	1.47E-01	95243.50c	-5.12E-04
mo 95	5.55E+00	42095.50c	-0.019161	mo 95	1.07E+01	42095.50c	-3.73E-02
tc 99	6.69E+00	43099.50c	-0.023096	tc 99	1.30E+01	43099.50c	-4.53E-02
ru101	5.83E+00	44101.50c	-0.020127	ru101	1.16E+01	44101.50c	-4.04E-02
rh103	3.45E+00	45103.50c	-0.011911	rh103	6.71E+00	45103.50c	-2.34E-02
ag109	2.37E-01	47109.50c	-0.000818	ag109	7.17E-01	47109.50c	-2.50E-03
nd143	8.52E+00	60143.50c	-0.029414	nd143	1.56E+01	60143.50c	-5.44E-02

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Table AV-1. Renormalized Depleted Fuel Isotopic Weight Percents

nd145	6.09E+00	60145.50c	-0.021025	nd145	1.16E+01	60145.50c	-4.04E-02
sm147	1.05E+00	62147.50c	-0.003625	sm147	1.79E+00	62147.50c	-6.24E-03
sm149	7.26E-02	62149.50c	-0.000251	sm149	7.71E-02	62149.50c	-2.69E-04
sm150	1.81E+00	62150.50c	-0.006249	sm150	3.87E+00	62150.50c	-1.35E-02
sm151	3.13E-01	62151.50c	-0.001081	sm151	3.89E-01	62151.50c	-1.36E-03
eu151	1.79E-03	63151.55c	-0.000006	eu151	1.07E-03	63151.55c	-3.73E-06
sm152	9.07E-01	62152.50c	-0.003131	sm152	1.94E+00	62152.50c	-6.76E-03
eu153	4.37E-01	63153.55c	-0.001509	eu153	1.17E+00	63153.55c	-4.08E-03
gd155	7.11E-04	64155.50c	-0.000002	gd155	7.15E-04	64155.50c	-2.49E-06
A5010N18				A5020N18			
O-16	3.869E+03	8016.50c	-11.951472	O-16	3.462E+03	8016.50c	-1.09E+01
u233	3.55E-06	92233.50c	-1.0967E-08	u233	6.88E-06	92233.50c	-2.16E-08
u234	1.18E+01	92234.50c	-0.036455	u234	1.08E+01	92234.50c	-3.39E-02
u235	1.24E+03	92235.50c	-3.830823	u235	1.04E+03	92235.50c	-3.26E+00
u236	4.65E+01	92236.50c	-0.143656	u236	8.00E+01	92236.50c	-2.51E-01
u238	2.71E+04	92238.50c	-83.722023	u238	2.71E+04	92238.50c	-8.50E+01
np237	1.15E+00	93237.50c	-0.003553	np237	3.12E+00	93237.50c	-9.79E-03
pu238	5.63E-02	94238.50c	-0.000174	pu238	3.01E-01	94238.50c	-9.44E-04
pu239	6.42E+01	94239.55c	-0.198338	pu239	1.06E+02	94239.55c	-3.32E-01
pu240	5.19E+00	94240.50c	-0.016034	pu240	1.52E+01	94240.50c	-4.77E-02
pu241	1.23E-00	94241.50c	-0.003800	pu241	6.00E+00	94241.50c	-1.88E-02
pu242	4.33E-02	94242.50c	-0.000134	pu242	4.70E-01	94242.50c	-1.47E-03
am241	4.11E-02	95241.50c	-0.000127	am241	2.07E-01	95241.50c	-6.49E-04
am242m	3.98E-04	95242.50c	-0.000001	am242m	3.32E-03	95242.50c	-1.04E-05
am243	1.14E-03	95243.50c	-0.000004	am243	2.68E-02	95243.50c	-8.41E-05
mo 95	4.07E+00	42095.50c	-0.012574	mo 95	7.94E+00	42095.50c	-2.49E-02
tc 99	4.96E+00	43099.50c	-0.015323	tc 99	9.67E+00	43099.50c	-3.03E-02
ru101	4.29E+00	44101.50c	-0.013253	ru101	8.58E+00	44101.50c	-2.69E-02
rh103	2.51E+00	45103.50c	-0.007754	rh103	4.99E+00	45103.50c	-1.57E-02
ag109	1.33E-01	47109.50c	-0.000411	ag109	4.03E-01	47109.50c	-1.26E-03
nd143	6.42E+00	60143.50c	-0.019834	nd143	1.21E+01	60143.50c	-3.80E-02
nd145	4.53E+00	60145.50c	-0.013995	nd145	8.78E+00	60145.50c	-2.75E-02
sm147	7.80E-01	62147.50c	-0.002410	sm147	1.41E+00	62147.50c	-4.42E-03
sm149	8.00E-02	62149.50c	-0.000247	sm149	8.26E-02	62149.50c	-2.59E-04
sm150	1.28E+00	62150.50c	-0.003954	sm150	2.72E+00	62150.50c	-8.53E-03
sm151	2.91E-01	62151.50c	-0.000899	sm151	3.82E-01	62151.50c	-1.20E-03
eu151	2.11E-03	63151.55c	-0.000007	eu151	1.62E-03	63151.55c	-5.08E-06
sm152	6.09E-01	62152.50c	-0.001881	sm152	1.39E+00	62152.50c	-4.36E-03
eu153	2.79E-01	63153.55c	-0.000862	eu153	7.05E-01	63153.55c	-2.21E-03
gd155	9.06E-04	64155.50c	-0.000003	gd155	6.87E-04	64155.50c	-2.15E-06

30 GWd/MTU Burnup				40 GWd/MTU Burnup			
A5030N01	Mass (g)	ZAID	(wt%)	A5040N01	Mass (g)	ZAID	(wt%)
O-16	3.077E+03	8016.50c	-1.20E+01	O-16	3.077E+03	8016.50c	-1.21E+01
u233	7.22E-06	92233.50c	-2.82E-08	u233	9.37E-06	92233.50c	-3.68E-08
u234	8.43E+00	92234.50c	-3.29E-02	u234	7.93E+00	92234.50c	-3.11E-02
u235	7.78E+02	92235.50c	-3.04E+00	u235	6.80E+02	92235.50c	-2.67E+00
u236	7.35E+01	92236.50c	-2.87E-01	u236	9.12E+01	92236.50c	-3.58E-01
u238	2.15E+04	92238.50c	-8.39E+01	u238	2.14E+04	92238.50c	-8.40E+01
np237	3.33E+00	93237.50c	-1.30E-02	np237	5.08E+00	93237.50c	-1.99E-02
pu238	3.90E-01	94238.50c	-1.52E-03	pu238	7.90E-01	94238.50c	-3.10E-03
pu239	9.67E+01	94239.55c	-3.77E-01	pu239	1.13E+02	94239.55c	-4.43E-01

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Table AV-1. Renormalized Depleted Fuel Isotopic Weight Percents

pu240	1.61E+01	94240.50c	-6.28E-02	pu240	2.36E+01	94240.50c	-9.26E-02
pu241	7.25E+00	94241.50c	-2.83E-02	pu241	1.22E+01	94241.50c	-4.79E-02
pu242	6.89E-01	94242.50c	-2.69E-03	pu242	1.62E+00	94242.50c	-6.36E-03
am241	2.35E-01	95241.50c	-9.17E-04	am241	3.88E-01	95241.50c	-1.52E-03
am242m	4.19E-03	95242.50c	-1.64E-05	am242m	7.82E-03	95242.50c	-3.07E-05
am243	5.02E-02	95243.50c	-1.96E-04	am243	1.63E-01	95243.50c	-6.40E-04
mo 95	7.35E+00	42095.50c	-2.87E-02	mo 95	9.64E+00	42095.50c	-3.78E-02
tc 99	9.02E+00	43099.50c	-3.52E-02	tc 99	1.19E+01	43099.50c	-4.67E-02
ru101	8.06E+00	44101.50c	-3.15E-02	ru101	1.07E+01	44101.50c	-4.20E-02
rh103	4.66E+00	45103.50c	-1.82E-02	rh103	6.10E+00	45103.50c	-2.39E-02
ag109	4.37E-01	47109.50c	-1.71E-03	ag109	6.87E-01	47109.50c	-2.70E-03
nd143	1.11E+01	60143.50c	-4.33E-02	nd143	1.42E+01	60143.50c	-5.57E-02
nd145	8.18E+00	60145.50c	-3.19E-02	nd145	1.06E+01	60145.50c	-4.16E-02
sm147	1.21E+00	62147.50c	-4.72E-03	sm147	1.49E+00	62147.50c	-5.85E-03
sm149	7.10E-02	62149.50c	-2.77E-04	sm149	7.43E-02	62149.50c	-2.92E-04
sm150	2.62E+00	62150.50c	-1.02E-02	sm150	3.64E+00	62150.50c	-1.43E-02
sm151	3.37E-01	62151.50c	-1.32E-03	sm151	3.70E-01	62151.50c	-1.45E-03
eu151	1.11E-03	63151.55c	-4.33E-06	eu151	8.67E-04	63151.55c	-3.40E-06
sm152	1.31E+00	62152.50c	-5.11E-03	sm152	1.77E+00	62152.50c	-6.95E-03
eu153	7.28E-01	63153.55c	-2.84E-03	eu153	1.10E+00	63153.55c	-4.32E-03
gd155	5.58E-04	64155.50c	-2.18E-06	gd155	6.04E-04	64155.50c	-2.37E-06
A5030N02				A5040N02			
O-16	3.462E+03	8016.50c	-1.21E+01	O-16	3.462E+03	8016.50c	-1.22E+01
u233	1.14E-05	92233.50c	-3.98E-08	u233	1.44E-05	92233.50c	-5.07E-08
u234	8.40E+00	92234.50c	-2.93E-02	u234	7.61E+00	92234.50c	-2.68E-02
u235	6.70E+02	92235.50c	-2.34E+00	u235	5.33E+02	92235.50c	-1.88E+00
u236	1.16E+02	92236.50c	-4.05E-01	u236	1.40E+02	92236.50c	-4.93E-01
u238	2.41E+04	92238.50c	-8.41E+01	u238	2.39E+04	92238.50c	-8.41E+01
np237	7.43E+00	93237.50c	-2.59E-02	np237	1.11E+01	93237.50c	-3.91E-02
pu238	1.39E+00	94238.50c	-4.85E-03	pu238	2.83E+00	94238.50c	-9.96E-03
pu239	1.38E+02	94239.55c	-4.82E-01	pu239	1.53E+02	94239.55c	-5.38E-01
pu240	3.35E+01	94240.50c	-1.17E-01	pu240	4.66E+01	94240.50c	-1.64E-01
pu241	1.86E+01	94241.50c	-6.49E-02	pu241	2.80E+01	94241.50c	-9.85E-02
pu242	3.11E+00	94242.50c	-1.09E-02	pu242	6.64E+00	94242.50c	-2.34E-02
am241	6.10E-01	95241.50c	-2.13E-03	am241	8.65E-01	95241.50c	-3.04E-03
am242m	1.29E-02	95242.50c	-4.50E-05	am242m	1.95E-02	95242.50c	-6.86E-05
am243	3.83E-01	95243.50c	-1.34E-03	am243	1.12E+00	95243.50c	-3.94E-03
mo 95	1.29E+01	42095.50c	-4.50E-02	mo 95	1.68E+01	42095.50c	-5.91E-02
tc 99	1.58E+01	43099.50c	-5.51E-02	tc 99	2.04E+01	43099.50c	-7.18E-02
ru101	1.43E+01	44101.50c	-4.99E-02	ru101	1.91E+01	44101.50c	-6.72E-02
rh103	8.14E+00	45103.50c	-2.84E-02	rh103	1.04E+01	45103.50c	-3.66E-02
ag109	1.03E+00	47109.50c	-3.59E-03	ag109	1.59E+00	47109.50c	-5.60E-03
nd143	1.85E+01	60143.50c	-6.46E-02	nd143	2.30E+01	60143.50c	-8.09E-02
nd145	1.40E+01	60145.50c	-4.89E-02	nd145	1.80E+01	60145.50c	-6.33E-02
sm147	1.93E+00	62147.50c	-6.74E-03	sm147	2.24E+00	62147.50c	-7.88E-03
sm149	8.39E-02	62149.50c	-2.93E-04	sm149	8.72E-02	62149.50c	-3.07E-04
sm150	4.99E+00	62150.50c	-1.74E-02	sm150	7.03E+00	62150.50c	-2.47E-02
sm151	4.37E-01	62151.50c	-1.53E-03	sm151	4.89E-01	62151.50c	-1.72E-03
eu151	8.42E-04	63151.55c	-2.94E-06	eu151	6.29E-04	63151.55c	-2.21E-06
sm152	2.38E+00	62152.50c	-8.31E-03	sm152	3.10E+00	62152.50c	-1.09E-02
eu153	1.62E+00	63153.55c	-5.65E-03	eu153	2.46E+00	63153.55c	-8.66E-03
gd155	7.86E-04	64155.50c	-2.74E-06	gd155	9.61E-04	64155.50c	-3.38E-06
A5030N03				A5040N03			

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Table AV-1. Renormalized Depleted Fuel Isotopic Weight Percents

O-16	3.462E+03	8016.50c	-1.22E+01	O-16	3.462E+03	8016.50c	-1.22E+01
u233	1.26E-05	92233.50c	-4.43E-08	u233	1.52E-05	92233.50c	-5.38E-08
u234	7.96E+00	92234.50c	-2.80E-02	u234	6.85E+00	92234.50c	-2.42E-02
u235	5.95E+02	92235.50c	-2.09E+00	u235	4.26E+02	92235.50c	-1.51E+00
u236	1.32E+02	92236.50c	-4.64E-01	u236	1.56E+02	92236.50c	-5.52E-01
u238	2.39E+04	92238.50c	-8.40E+01	u238	2.38E+04	92238.50c	-8.42E+01
np237	9.74E+00	93237.50c	-3.42E-02	np237	1.42E+01	93237.50c	-5.02E-02
pu238	2.22E+00	94238.50c	-7.80E-03	pu238	4.41E+00	94238.50c	-1.56E-02
pu239	1.48E+02	94239.55c	-5.20E-01	pu239	1.57E+02	94239.55c	-5.55E-01
pu240	4.16E+01	94240.50c	-1.46E-01	pu240	5.65E+01	94240.50c	-2.00E-01
pu241	2.44E+01	94241.50c	-8.58E-02	pu241	3.47E+01	94241.50c	-1.23E-01
pu242	5.10E+00	94242.50c	-1.79E-02	pu242	1.07E+01	94242.50c	-3.78E-02
am241	8.07E-01	95241.50c	-2.84E-03	am241	1.04E+00	95241.50c	-3.68E-03
am242m	1.78E-02	95242.50c	-6.26E-05	am242m	2.37E-02	95242.50c	-8.38E-05
am243	7.67E-01	95243.50c	-2.70E-03	am243	2.16E+00	95243.50c	-7.64E-03
mo 95	1.56E+01	42095.50c	-5.48E-02	mo 95	2.00E+01	42095.50c	-7.07E-02
tc 99	1.88E+01	43099.50c	-6.61E-02	tc 99	2.42E+01	43099.50c	-8.56E-02
ru101	1.73E+01	44101.50c	-6.08E-02	ru101	2.29E+01	44101.50c	-8.10E-02
rh103	9.72E+00	45103.50c	-3.42E-02	rh103	1.22E+01	45103.50c	-4.31E-02
ag109	1.37E+00	47109.50c	-4.82E-03	ag109	2.11E+00	47109.50c	-7.46E-03
nd143	2.15E+01	60143.50c	-7.56E-02	nd143	2.58E+01	60143.50c	-9.12E-02
nd145	1.66E+01	60145.50c	-5.84E-02	nd145	2.11E+01	60145.50c	-7.46E-02
sm147	2.21E+00	62147.50c	-7.77E-03	sm147	2.47E+00	62147.50c	-8.73E-03
sm149	8.62E-02	62149.50c	-3.03E-04	sm149	8.63E-02	62149.50c	-3.05E-04
sm150	6.24E+00	62150.50c	-2.19E-02	sm150	8.75E+00	62150.50c	-3.09E-02
sm151	4.72E-01	62151.50c	-1.66E-03	sm151	5.17E-01	62151.50c	-1.83E-03
eu151	7.44E-04	63151.55c	-2.62E-06	eu151	5.25E-04	63151.55c	-1.86E-06
sm152	2.84E+00	62152.50c	-9.98E-03	sm152	3.66E+00	62152.50c	-1.29E-02
eu153	2.13E+00	63153.55c	-7.49E-03	eu153	3.20E+00	63153.55c	-1.13E-02
gd155	9.49E-04	64155.50c	-3.34E-06	gd155	1.13E-03	64155.50c	-4.00E-06
A5030N04				A5040N04			
O-16	3.462E+03	8016.50c	-1.22E+01	O-16	3.462E+03	8016.50c	-1.23E+01
u233	1.25E-05	92233.50c	-4.40E-08	u233	1.51E-05	92233.50c	-5.36E-08
u234	7.61E+00	92234.50c	-2.68E-02	u234	6.56E+00	92234.50c	-2.33E-02
u235	5.50E+02	92235.50c	-1.93E+00	u235	3.94E+02	92235.50c	-1.40E+00
u236	1.38E+02	92236.50c	-4.85E-01	u236	1.62E+02	92236.50c	-5.75E-01
u238	2.39E+04	92238.50c	-8.41E+01	u238	2.37E+04	92238.50c	-8.41E+01
np237	1.07E+01	93237.50c	-3.76E-02	np237	1.58E+01	93237.50c	-5.61E-02
pu238	2.66E+00	94238.50c	-9.36E-03	pu238	5.29E+00	94238.50c	-1.88E-02
pu239	1.51E+02	94239.55c	-5.31E-01	pu239	1.62E+02	94239.55c	-5.75E-01
pu240	4.52E+01	94240.50c	-1.59E-01	pu240	6.07E+01	94240.50c	-2.15E-01
pu241	2.68E+01	94241.50c	-9.43E-02	pu241	3.80E+01	94241.50c	-1.35E-01
pu242	6.19E+00	94242.50c	-2.18E-02	pu242	1.26E+01	94242.50c	-4.47E-02
am241	8.98E-01	95241.50c	-3.16E-03	am241	1.14E+00	95241.50c	-4.05E-03
am242m	1.99E-02	95242.50c	-7.00E-05	am242m	2.60E-02	95242.50c	-9.23E-05
am243	1.01E+00	95243.50c	-3.55E-03	am243	2.77E+00	95243.50c	-9.83E-03
mo 95	1.67E+01	42095.50c	-5.88E-02	mo 95	2.14E+01	42095.50c	-7.59E-02
tc 99	2.01E+01	43099.50c	-7.07E-02	tc 99	2.57E+01	43099.50c	-9.12E-02
ru101	1.86E+01	44101.50c	-6.54E-02	ru101	2.47E+01	44101.50c	-8.77E-02
rh103	1.03E+01	45103.50c	-3.62E-02	rh103	1.30E+01	45103.50c	-4.61E-02
ag109	1.53E+00	47109.50c	-5.38E-03	ag109	2.35E+00	47109.50c	-8.34E-03
nd143	2.27E+01	60143.50c	-7.99E-02	nd143	2.73E+01	60143.50c	-9.69E-02
nd145	1.76E+01	60145.50c	-6.19E-02	nd145	2.24E+01	60145.50c	-7.95E-02

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Table AV-1. Renormalized Depleted Fuel Isotopic Weight Percents

sm147	2.33E+00	62147.50c	-8.20E-03	sm147	2.58E+00	62147.50c	-9.16E-03
sm149	8.53E-02	62149.50c	-3.00E-04	sm149	8.69E-02	62149.50c	-3.08E-04
sm150	6.81E+00	62150.50c	-2.40E-02	sm150	9.53E+00	62150.50c	-3.38E-02
sm151	4.81E-01	62151.50c	-1.69E-03	sm151	5.41E-01	62151.50c	-1.92E-03
eu151	7.10E-04	63151.55c	-2.50E-06	eu151	5.31E-04	63151.55c	-1.88E-06
sm152	3.04E+00	62152.50c	-1.07E-02	sm152	3.91E+00	62152.50c	-1.39E-02
eu153	2.37E+00	63153.55c	-8.34E-03	eu153	3.55E+00	63153.55c	-1.26E-02
gd155	1.03E-03	64155.50c	-3.62E-06	gd155	1.29E-03	64155.50c	-4.58E-06
A5030N05				A5040N05			
O-16	3.462E+03	8016.50c	-1.22E+01	O-16	3.462E+03	8016.50c	-1.23E+01
u233	1.23E-05	92233.50c	-4.33E-08	u233	1.49E-05	92233.50c	-5.29E-08
u234	7.56E+00	92234.50c	-2.66E-02	u234	6.51E+00	92234.50c	-2.31E-02
u235	5.32E+02	92235.50c	-1.87E+00	u235	3.73E+02	92235.50c	-1.32E+00
u236	1.41E+02	92236.50c	-4.96E-01	u236	1.65E+02	92236.50c	-5.86E-01
u238	2.39E+04	92238.50c	-8.41E+01	u238	2.37E+04	92238.50c	-8.41E+01
np237	1.12E+01	93237.50c	-3.94E-02	np237	1.62E+01	93237.50c	-5.75E-02
pu238	2.87E+00	94238.50c	-1.01E-02	pu238	5.63E+00	94238.50c	-2.00E-02
pu239	1.53E+02	94239.55c	-5.38E-01	pu239	1.60E+02	94239.55c	-5.68E-01
pu240	4.66E+01	94240.50c	-1.64E-01	pu240	6.23E+01	94240.50c	-2.21E-01
pu241	2.79E+01	94241.50c	-9.82E-02	pu241	3.85E+01	94241.50c	-1.37E-01
pu242	6.68E+00	94242.50c	-2.35E-02	pu242	1.35E+01	94242.50c	-4.79E-02
am241	9.48E-01	95241.50c	-3.34E-03	am241	1.17E+00	95241.50c	-4.15E-03
am242m	2.10E-02	95242.50c	-7.39E-05	am242m	2.66E-02	95242.50c	-9.44E-05
am243	1.12E+00	95243.50c	-3.94E-03	am243	3.02E+00	95243.50c	-1.07E-02
mo 95	1.72E+01	42095.50c	-6.05E-02	mo 95	2.21E+01	42095.50c	-7.85E-02
tc 99	2.05E+01	43099.50c	-7.21E-02	tc 99	2.64E+01	43099.50c	-9.37E-02
ru101	1.92E+01	44101.50c	-6.76E-02	ru101	2.54E+01	44101.50c	-9.02E-02
rh103	1.06E+01	45103.50c	-3.73E-02	rh103	1.34E+01	45103.50c	-4.76E-02
ag109	1.60E+00	47109.50c	-5.63E-03	ag109	2.45E+00	47109.50c	-8.70E-03
nd143	2.31E+01	60143.50c	-8.13E-02	nd143	2.78E+01	60143.50c	-9.87E-02
nd145	1.81E+01	60145.50c	-6.37E-02	nd145	2.30E+01	60145.50c	-8.17E-02
sm147	2.40E+00	62147.50c	-8.45E-03	sm147	2.65E+00	62147.50c	-9.41E-03
sm149	8.47E-02	62149.50c	-2.98E-04	sm149	8.51E-02	62149.50c	-3.02E-04
sm150	7.01E+00	62150.50c	-2.47E-02	sm150	9.83E+00	62150.50c	-3.49E-02
sm151	4.85E-01	62151.50c	-1.71E-03	sm151	5.38E-01	62151.50c	-1.91E-03
eu151	7.10E-04	63151.55c	-2.50E-06	eu151	5.17E-04	63151.55c	-1.84E-06
sm152	3.12E+00	62152.50c	-1.10E-02	sm152	4.01E+00	62152.50c	-1.42E-02
eu153	2.48E+00	63153.55c	-8.73E-03	eu153	3.69E+00	63153.55c	-1.31E-02
gd155	1.10E-03	64155.50c	-3.87E-06	gd155	1.32E-03	64155.50c	-4.69E-06
A5030N06				A5040N06			
O-16	3.462E+03	8016.50c	-1.22E+01	O-16	3.462E+03	8016.50c	-1.23E+01
u233	1.21E-05	92233.50c	-4.26E-08	u233	1.46E-05	92233.50c	-5.18E-08
u234	7.50E+00	92234.50c	-2.64E-02	u234	6.43E+00	92234.50c	-2.28E-02
u235	5.27E+02	92235.50c	-1.85E+00	u235	3.66E+02	92235.50c	-1.30E+00
u236	1.41E+02	92236.50c	-4.96E-01	u236	1.65E+02	92236.50c	-5.86E-01
u238	2.39E+04	92238.50c	-8.41E+01	u238	2.37E+04	92238.50c	-8.42E+01
np237	1.12E+01	93237.50c	-3.94E-02	np237	1.64E+01	93237.50c	-5.82E-02
pu238	2.92E+00	94238.50c	-1.03E-02	pu238	5.75E+00	94238.50c	-2.04E-02
pu239	1.53E+02	94239.55c	-5.38E-01	pu239	1.60E+02	94239.55c	-5.68E-01
pu240	4.68E+01	94240.50c	-1.65E-01	pu240	6.28E+01	94240.50c	-2.23E-01
pu241	2.82E+01	94241.50c	-9.92E-02	pu241	3.87E+01	94241.50c	-1.37E-01
pu242	6.86E+00	94242.50c	-2.41E-02	pu242	1.38E+01	94242.50c	-4.90E-02
am241	9.70E-01	95241.50c	-3.41E-03	am241	1.18E+00	95241.50c	-4.19E-03

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Table AV-1. Renormalized Depleted Fuel Isotopic Weight Percents

am242m	2.14E-02	95242.50c	-7.53E-05	am242m	2.67E-02	95242.50c	-9.48E-05
am243	1.16E+00	95243.50c	-4.08E-03	am243	3.11E+00	95243.50c	-1.10E-02
mo 95	1.74E+01	42095.50c	-6.12E-02	mo 95	2.23E+01	42095.50c	-7.92E-02
tc 99	2.08E+01	43099.50c	-7.32E-02	tc 99	2.67E+01	43099.50c	-9.48E-02
ru101	1.94E+01	44101.50c	-6.83E-02	ru101	2.57E+01	44101.50c	-9.13E-02
rh103	1.07E+01	45103.50c	-3.77E-02	rh103	1.35E+01	45103.50c	-4.79E-02
ag109	1.62E+00	47109.50c	-5.70E-03	ag109	2.48E+00	47109.50c	-8.81E-03
nd143	2.33E+01	60143.50c	-8.20E-02	nd143	2.80E+01	60143.50c	-9.94E-02
nd145	1.82E+01	60145.50c	-6.40E-02	nd145	2.30E+01	60145.50c	-8.17E-02
sm147	2.43E+00	62147.50c	-8.55E-03	sm147	2.67E+00	62147.50c	-9.48E-03
sm149	8.40E-02	62149.50c	-2.96E-04	sm149	8.42E-02	62149.50c	-2.99E-04
sm150	7.08E+00	62150.50c	-2.49E-02	sm150	9.93E+00	62150.50c	-3.53E-02
sm151	4.84E-01	62151.50c	-1.70E-03	sm151	5.37E-01	62151.50c	-1.91E-03
eu151	7.13E-04	63151.55c	-2.51E-06	eu151	5.18E-04	63151.55c	-1.84E-06
sm152	3.15E+00	62152.50c	-1.11E-02	sm152	4.03E+00	62152.50c	-1.43E-02
eu153	2.51E+00	63153.55c	-8.83E-03	eu153	3.74E+00	63153.55c	-1.33E-02
gd155	1.12E-03	64155.50c	-3.94E-06	gd155	1.35E-03	64155.50c	-4.79E-06
A5030N07				A5040N07			
O-16	3.462E+03	8016.50c	-1.22E+01	O-16	3.462E+03	8016.50c	-1.23E+01
u233	1.20E-05	92233.50c	-4.22E-08	u233	1.44E-05	92233.50c	-5.11E-08
u234	7.53E+00	92234.50c	-2.65E-02	u234	6.44E+00	92234.50c	-2.29E-02
u235	5.19E+02	92235.50c	-1.83E+00	u235	3.67E+02	92235.50c	-1.30E+00
u236	1.41E+02	92236.50c	-4.96E-01	u236	1.65E+02	92236.50c	-5.86E-01
u238	2.39E+04	92238.50c	-8.41E+01	u238	2.37E+04	92238.50c	-8.41E+01
np237	1.12E+01	93237.50c	-3.94E-02	np237	1.66E+01	93237.50c	-5.89E-02
pu238	2.93E+00	94238.50c	-1.03E-02	pu238	5.81E+00	94238.50c	-2.06E-02
pu239	1.51E+02	94239.55c	-5.32E-01	pu239	1.60E+02	94239.55c	-5.68E-01
pu240	4.70E+01	94240.50c	-1.65E-01	pu240	6.28E+01	94240.50c	-2.23E-01
pu241	2.79E+01	94241.50c	-9.82E-02	pu241	3.88E+01	94241.50c	-1.38E-01
pu242	6.90E+00	94242.50c	-2.43E-02	pu242	1.39E+01	94242.50c	-4.94E-02
am241	9.70E-01	95241.50c	-3.41E-03	am241	1.21E+00	95241.50c	-4.30E-03
am242m	2.13E-02	95242.50c	-7.50E-05	am242m	2.73E-02	95242.50c	-9.69E-05
am243	1.17E+00	95243.50c	-4.12E-03	am243	3.14E+00	95243.50c	-1.11E-02
mo 95	1.75E+01	42095.50c	-6.16E-02	mo 95	2.24E+01	42095.50c	-7.95E-02
tc 99	2.09E+01	43099.50c	-7.36E-02	tc 99	2.67E+01	43099.50c	-9.48E-02
ru101	1.95E+01	44101.50c	-6.86E-02	ru101	2.56E+01	44101.50c	-9.09E-02
rh103	1.08E+01	45103.50c	-3.80E-02	rh103	1.36E+01	45103.50c	-4.83E-02
ag109	1.63E+00	47109.50c	-5.74E-03	ag109	2.49E+00	47109.50c	-8.84E-03
nd143	2.34E+01	60143.50c	-8.24E-02	nd143	2.80E+01	60143.50c	-9.94E-02
nd145	1.83E+01	60145.50c	-6.44E-02	nd145	2.31E+01	60145.50c	-8.20E-02
sm147	2.46E+00	62147.50c	-8.66E-03	sm147	2.69E+00	62147.50c	-9.55E-03
sm149	8.28E-02	62149.50c	-2.91E-04	sm149	8.41E-02	62149.50c	-2.99E-04
sm150	7.07E+00	62150.50c	-2.49E-02	sm150	9.95E+00	62150.50c	-3.53E-02
sm151	4.77E-01	62151.50c	-1.68E-03	sm151	5.37E-01	62151.50c	-1.91E-03
eu151	6.98E-04	63151.55c	-2.46E-06	eu151	5.24E-04	63151.55c	-1.86E-06
sm152	3.16E+00	62152.50c	-1.11E-02	sm152	4.06E+00	62152.50c	-1.44E-02
eu153	2.51E+00	63153.55c	-8.84E-03	eu153	3.74E+00	63153.55c	-1.33E-02
gd155	1.11E-03	64155.50c	-3.91E-06	gd155	1.37E-03	64155.50c	-4.86E-06
A5030N08				A5040N08			
O-16	3.462E+03	8016.50c	-1.22E+01	O-16	3.462E+03	8016.50c	-1.23E+01
u233	1.19E-05	92233.50c	-4.19E-08	u233	1.44E-05	92233.50c	-5.11E-08
u234	7.51E+00	92234.50c	-2.64E-02	u234	6.44E+00	92234.50c	-2.29E-02
u235	5.19E+02	92235.50c	-1.83E+00	u235	3.67E+02	92235.50c	-1.30E+00

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Table AV-1. Renormalized Depleted Fuel Isotopic Weight Percents

u236	1.41E+02	92236.50c	-4.96E-01	u236	1.65E+02	92236.50c	-5.86E-01
u238	2.39E+04	92238.50c	-8.41E+01	u238	2.37E+04	92238.50c	-8.41E+01
np237	1.13E+01	93237.50c	-3.98E-02	np237	1.65E+01	93237.50c	-5.86E-02
pu238	2.95E+00	94238.50c	-1.04E-02	pu238	5.77E+00	94238.50c	-2.05E-02
pu239	1.52E+02	94239.55c	-5.35E-01	pu239	1.60E+02	94239.55c	-5.68E-01
pu240	4.70E+01	94240.50c	-1.65E-01	pu240	6.30E+01	94240.50c	-2.24E-01
pu241	2.80E+01	94241.50c	-9.86E-02	pu241	3.88E+01	94241.50c	-1.38E-01
pu242	6.91E+00	94242.50c	-2.43E-02	pu242	1.39E+01	94242.50c	-4.94E-02
am241	9.74E-01	95241.50c	-3.43E-03	am241	1.20E+00	95241.50c	-4.26E-03
am242m	2.14E-02	95242.50c	-7.53E-05	am242m	2.71E-02	95242.50c	-9.62E-05
am243	1.17E+00	95243.50c	-4.12E-03	am243	3.13E+00	95243.50c	-1.11E-02
mo 95	1.74E+01	42095.50c	-6.13E-02	mo 95	2.25E+01	42095.50c	-7.99E-02
tc 99	2.09E+01	43099.50c	-7.36E-02	tc 99	2.68E+01	43099.50c	-9.52E-02
ru101	1.95E+01	44101.50c	-6.86E-02	ru101	2.57E+01	44101.50c	-9.12E-02
rh103	1.08E+01	45103.50c	-3.80E-02	rh103	1.35E+01	45103.50c	-4.79E-02
ag109	1.63E+00	47109.50c	-5.74E-03	ag109	2.49E+00	47109.50c	-8.84E-03
nd143	2.34E+01	60143.50c	-8.24E-02	nd143	2.80E+01	60143.50c	-9.94E-02
nd145	1.83E+01	60145.50c	-6.44E-02	nd145	2.31E+01	60145.50c	-8.20E-02
sm147	2.46E+00	62147.50c	-8.66E-03	sm147	2.70E+00	62147.50c	-9.59E-03
sm149	8.26E-02	62149.50c	-2.91E-04	sm149	8.38E-02	62149.50c	-2.98E-04
sm150	7.07E-00	62150.50c	-2.49E-02	sm150	9.98E+00	62150.50c	-3.54E-02
sm151	4.78E-01	62151.50c	-1.68E-03	sm151	5.36E-01	62151.50c	-1.90E-03
eu151	7.01E-04	63151.55c	-2.47E-06	eu151	5.24E-04	63151.55c	-1.86E-06
sm152	3.16E+00	62152.50c	-1.11E-02	sm152	4.06E+00	62152.50c	-1.44E-02
eu153	2.52E+00	63153.55c	-8.87E-03	eu153	3.74E+00	63153.55c	-1.33E-02
gd155	1.12E-03	64155.50c	-3.94E-06	gd155	1.36E-03	64155.50c	-4.83E-06
A5030N09				A5040N09			
O-16	3.462E+03	8016.50c	-1.22E+01	O-16	3.462E+03	8016.50c	-1.23E+01
u233	1.20E-05	92233.50c	-4.22E-08	u233	1.44E-05	92233.50c	-5.11E-08
u234	7.56E+00	92234.50c	-2.66E-02	u234	6.43E+00	92234.50c	-2.28E-02
u235	5.21E+02	92235.50c	-1.83E+00	u235	3.66E+02	92235.50c	-1.30E+00
u236	1.42E+02	92236.50c	-5.00E-01	u236	1.66E+02	92236.50c	-5.89E-01
u238	2.39E+04	92238.50c	-8.41E+01	u238	2.37E+04	92238.50c	-8.41E+01
np237	1.13E+01	93237.50c	-3.98E-02	np237	1.64E+01	93237.50c	-5.82E-02
pu238	2.94E+00	94238.50c	-1.03E-02	pu238	5.76E+00	94238.50c	-2.05E-02
pu239	1.51E+02	94239.55c	-5.32E-01	pu239	1.59E+02	94239.55c	-5.65E-01
pu240	4.70E+01	94240.50c	-1.65E-01	pu240	6.28E+01	94240.50c	-2.23E-01
pu241	2.80E+01	94241.50c	-9.86E-02	pu241	3.86E+01	94241.50c	-1.37E-01
pu242	6.92E+00	94242.50c	-2.44E-02	pu242	1.39E+01	94242.50c	-4.94E-02
am241	9.71E-01	95241.50c	-3.42E-03	am241	1.20E+00	95241.50c	-4.26E-03
am242m	2.13E-02	95242.50c	-7.50E-05	am242m	2.69E-02	95242.50c	-9.55E-05
am243	1.17E+00	95243.50c	-4.12E-03	am243	3.12E+00	95243.50c	-1.11E-02
mo 95	1.76E+01	42095.50c	-6.20E-02	mo 95	2.24E+01	42095.50c	-7.95E-02
tc 99	2.09E+01	43099.50c	-7.36E-02	tc 99	2.67E+01	43099.50c	-9.48E-02
ru101	1.94E+01	44101.50c	-6.83E-02	ru101	2.57E+01	44101.50c	-9.13E-02
rh103	1.08E+01	45103.50c	-3.80E-02	rh103	1.35E+01	45103.50c	-4.79E-02
ag109	1.63E+00	47109.50c	-5.74E-03	ag109	2.48E+00	47109.50c	-8.81E-03
nd143	2.34E+01	60143.50c	-8.24E-02	nd143	2.80E+01	60143.50c	-9.94E-02
nd145	1.84E+01	60145.50c	-6.48E-02	nd145	2.32E+01	60145.50c	-8.24E-02
sm147	2.47E+00	62147.50c	-8.69E-03	sm147	2.70E+00	62147.50c	-9.59E-03
sm149	8.27E-02	62149.50c	-2.91E-04	sm149	8.33E-02	62149.50c	-2.96E-04
sm150	7.11E+00	62150.50c	-2.50E-02	sm150	9.95E+00	62150.50c	-3.53E-02
sm151	4.78E-01	62151.50c	-1.68E-03	sm151	5.32E-01	62151.50c	-1.89E-03

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Table AV-1. Renormalized Depleted Fuel Isotopic Weight Percents

eu151	6.96E-04	63151.55c	-2.45E-06	eu151	5.14E-04	63151.55c	-1.83E-06
sm152	3.17E+00	62152.50c	-1.12E-02	sm152	4.06E+00	62152.50c	-1.44E-02
eu153	2.52E+00	63153.55c	-8.87E-03	eu153	3.74E+00	63153.55c	-1.33E-02
gd155	1.11E-03	64155.50c	-3.91E-06	gd155	1.35E-03	64155.50c	-4.79E-06
A5030N10				A5040N10			
O-16	3.462E+03	8016.50c	-1.22E+01	O-16	3.462E+03	8016.50c	-1.23E+01
u233	1.22E-05	92233.50c	-4.29E-08	u233	1.46E-05	92233.50c	-5.18E-08
u234	7.58E+00	92234.50c	-2.67E-02	u234	6.48E+00	92234.50c	-2.30E-02
u235	5.20E+02	92235.50c	-1.83E+00	u235	3.65E+02	92235.50c	-1.30E+00
u236	1.42E+02	92236.50c	-5.00E-01	u236	1.66E+02	92236.50c	-5.89E-01
u238	2.39E+04	92238.50c	-8.41E+01	u238	2.37E+04	92238.50c	-8.42E+01
np237	1.13E+01	93237.50c	-3.98E-02	np237	1.63E+01	93237.50c	-5.79E-02
pu238	2.92E+00	94238.50c	-1.03E-02	pu238	5.72E+00	94238.50c	-2.03E-02
pu239	1.49E+02	94239.55c	-5.25E-01	pu239	1.58E+02	94239.55c	-5.61E-01
pu240	4.70E+01	94240.50c	-1.65E-01	pu240	6.25E+01	94240.50c	-2.22E-01
pu241	2.77E+01	94241.50c	-9.75E-02	pu241	3.83E+01	94241.50c	-1.36E-01
pu242	6.90E+00	94242.50c	-2.43E-02	pu242	1.39E+01	94242.50c	-4.94E-02
am241	9.53E-01	95241.50c	-3.35E-03	am241	1.17E+00	95241.50c	-4.15E-03
am242m	2.08E-02	95242.50c	-7.32E-05	am242m	2.63E-02	95242.50c	-9.34E-05
am243	1.16E+00	95243.50c	-4.08E-03	am243	3.11E+00	95243.50c	-1.10E-02
mo 95	1.75E+01	42095.50c	-6.16E-02	mo 95	2.25E+01	42095.50c	-7.99E-02
tc 99	2.09E+01	43099.50c	-7.36E-02	tc 99	2.68E+01	43099.50c	-9.52E-02
ru101	1.94E+01	44101.50c	-6.83E-02	ru101	2.59E+01	44101.50c	-9.20E-02
rh103	1.08E+01	45103.50c	-3.80E-02	rh103	1.36E+01	45103.50c	-4.83E-02
ag109	1.63E+00	47109.50c	-5.74E-03	ag109	2.48E+00	47109.50c	-8.81E-03
nd143	2.35E+01	60143.50c	-8.27E-02	nd143	2.81E+01	60143.50c	-9.98E-02
nd145	1.83E+01	60145.50c	-6.44E-02	nd145	2.33E+01	60145.50c	-8.27E-02
sm147	2.47E+00	62147.50c	-8.70E-03	sm147	2.72E+00	62147.50c	-9.66E-03
sm149	8.22E-02	62149.50c	-2.89E-04	sm149	8.29E-02	62149.50c	-2.94E-04
sm150	7.12E+00	62150.50c	-2.51E-02	sm150	9.97E+00	62150.50c	-3.54E-02
sm151	4.73E-01	62151.50c	-1.67E-03	sm151	5.29E-01	62151.50c	-1.88E-03
eu151	6.75E-04	63151.55c	-2.38E-06	eu151	5.01E-04	63151.55c	-1.78E-06
sm152	3.19E+00	62152.50c	-1.12E-02	sm152	4.09E+00	62152.50c	-1.45E-02
eu153	2.53E+00	63153.55c	-8.91E-03	eu153	3.75E+00	63153.55c	-1.33E-02
gd155	1.08E-03	64155.50c	-3.80E-06	gd155	1.32E-03	64155.50c	-4.69E-06
A5030N11				A5040N11			
O-16	3.462E+03	8016.50c	-1.22E+01	O-16	3.462E+03	8016.50c	-1.23E+01
u233	1.23E-05	92233.50c	-4.33E-08	u233	1.48E-05	92233.50c	-5.26E-08
u234	7.55E+00	92234.50c	-2.66E-02	u234	6.48E+00	92234.50c	-2.30E-02
u235	5.19E+02	92235.50c	-1.83E+00	u235	3.62E+02	92235.50c	-1.29E+00
u236	1.42E+02	92236.50c	-5.00E-01	u236	1.66E+02	92236.50c	-5.89E-01
u238	2.39E+04	92238.50c	-8.41E+01	u238	2.37E+04	92238.50c	-8.42E+01
np237	1.13E+01	93237.50c	-3.98E-02	np237	1.64E+01	93237.50c	-5.82E-02
pu238	2.91E+00	94238.50c	-1.02E-02	pu238	5.73E+00	94238.50c	-2.03E-02
pu239	1.49E+02	94239.55c	-5.25E-01	pu239	1.58E+02	94239.55c	-5.61E-01
pu240	4.71E+01	94240.50c	-1.66E-01	pu240	6.26E+01	94240.50c	-2.22E-01
pu241	2.78E+01	94241.50c	-9.79E-02	pu241	3.83E+01	94241.50c	-1.36E-01
pu242	6.90E+00	94242.50c	-2.43E-02	pu242	1.39E+01	94242.50c	-4.94E-02
am241	9.39E-01	95241.50c	-3.31E-03	am241	1.15E+00	95241.50c	-4.08E-03
am242m	2.05E-02	95242.50c	-7.22E-05	am242m	2.58E-02	95242.50c	-9.16E-05
am243	1.16E+00	95243.50c	-4.08E-03	am243	3.13E+00	95243.50c	-1.11E-02
mo 95	1.75E+01	42095.50c	-6.16E-02	mo 95	2.25E+01	42095.50c	-7.99E-02
tc 99	2.09E+01	43099.50c	-7.36E-02	tc 99	2.69E+01	43099.50c	-9.55E-02

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Table AV-1. Renormalized Depleted Fuel Isotopic Weight Percents

ru101	1.95E+01	44101.50c	-6.86E-02	ru101	2.59E+01	44101.50c	-9.20E-02
rh103	1.08E+01	45103.50c	-3.80E-02	rh103	1.35E+01	45103.50c	-4.79E-02
ag109	1.63E+00	47109.50c	-5.74E-03	ag109	2.49E+00	47109.50c	-8.84E-03
nd143	2.35E+01	60143.50c	-8.27E-02	nd143	2.80E+01	60143.50c	-9.94E-02
nd145	1.84E+01	60145.50c	-6.48E-02	nd145	2.34E+01	60145.50c	-8.31E-02
sm147	2.47E+00	62147.50c	-8.70E-03	sm147	2.71E+00	62147.50c	-9.62E-03
sm149	8.22E-02	62149.50c	-2.89E-04	sm149	8.27E-02	62149.50c	-2.94E-04
sm150	7.13E+00	62150.50c	-2.51E-02	sm150	9.99E+00	62150.50c	-3.55E-02
sm151	4.72E-01	62151.50c	-1.66E-03	sm151	5.26E-01	62151.50c	-1.87E-03
eu151	6.59E-04	63151.55c	-2.32E-06	eu151	4.87E-04	63151.55c	-1.73E-06
sm152	3.19E+00	62152.50c	-1.12E-02	sm152	4.10E+00	62152.50c	-1.46E-02
eu153	2.53E+00	63153.55c	-8.91E-03	eu153	3.76E+00	63153.55c	-1.34E-02
gd155	1.06E-03	64155.50c	-3.73E-06	gd155	1.29E-03	64155.50c	-4.58E-06
A5030N12				A5040N12			
O-16	3.462E+03	8016.50c	-1.22E+01	O-16	3.462E+03	8016.50c	-1.23E+01
u233	1.24E-05	92233.50c	-4.37E-08	u233	1.49E-05	92233.50c	-5.29E-08
u234	7.57E+00	92234.50c	-2.67E-02	u234	6.44E+00	92234.50c	-2.29E-02
u235	5.16E+02	92235.50c	-1.82E+00	u235	3.58E+02	92235.50c	-1.27E+00
u236	1.42E+02	92236.50c	-5.00E-01	u236	1.65E+02	92236.50c	-5.86E-01
u238	2.39E+04	92238.50c	-8.41E+01	u238	2.37E+04	92238.50c	-8.42E+01
np237	1.13E+01	93237.50c	-3.98E-02	np237	1.64E+01	93237.50c	-5.83E-02
pu238	2.94E+00	94238.50c	-1.04E-02	pu238	5.75E+00	94238.50c	-2.04E-02
pu239	1.49E+02	94239.55c	-5.25E-01	pu239	1.57E+02	94239.55c	-5.58E-01
pu240	4.72E+01	94240.50c	-1.66E-01	pu240	6.27E+01	94240.50c	-2.23E-01
pu241	2.79E+01	94241.50c	-9.82E-02	pu241	3.83E+01	94241.50c	-1.36E-01
pu242	7.00E+00	94242.50c	-2.46E-02	pu242	1.41E+01	94242.50c	-5.01E-02
am241	9.32E-01	95241.50c	-3.28E-03	am241	1.13E+00	95241.50c	-4.01E-03
am242m	2.03E-02	95242.50c	-7.15E-05	am242m	2.52E-02	95242.50c	-8.95E-05
am243	1.17E+00	95243.50c	-4.12E-03	am243	3.16E+00	95243.50c	-1.12E-02
mo 95	1.75E+01	42095.50c	-6.16E-02	mo 95	2.25E+01	42095.50c	-7.99E-02
tc 99	2.11E+01	43099.50c	-7.43E-02	tc 99	2.69E+01	43099.50c	-9.55E-02
ru101	1.96E+01	44101.50c	-6.90E-02	ru101	2.61E+01	44101.50c	-9.27E-02
rh103	1.08E+01	45103.50c	-3.80E-02	rh103	1.35E+01	45103.50c	-4.80E-02
ag109	1.64E+00	47109.50c	-5.77E-03	ag109	2.50E+00	47109.50c	-8.88E-03
nd143	2.35E+01	60143.50c	-8.27E-02	nd143	2.80E+01	60143.50c	-9.95E-02
nd145	1.85E+01	60145.50c	-6.51E-02	nd145	2.33E+01	60145.50c	-8.28E-02
sm147	2.45E+00	62147.50c	-8.63E-03	sm147	2.69E+00	62147.50c	-9.55E-03
sm149	8.17E-02	62149.50c	-2.88E-04	sm149	8.19E-02	62149.50c	-2.91E-04
sm150	7.15E+00	62150.50c	-2.52E-02	sm150	1.00E+01	62150.50c	-3.55E-02
sm151	4.68E-01	62151.50c	-1.65E-03	sm151	5.22E-01	62151.50c	-1.85E-03
eu151	6.40E-04	63151.55c	-2.25E-06	eu151	4.71E-04	63151.55c	-1.67E-06
sm152	3.21E+00	62152.50c	-1.13E-02	sm152	4.09E+00	62152.50c	-1.45E-02
eu153	2.55E+00	63153.55c	-8.98E-03	eu153	3.76E+00	63153.55c	-1.34E-02
gd155	1.05E-03	64155.50c	-3.70E-06	gd155	1.26E-03	64155.50c	-4.48E-06
A5030N13				A5040N13			
O-16	3.462E+03	8016.50c	-1.22E+01	O-16	3.462E+03	8016.50c	-1.23E+01
u233	1.26E-05	92233.50c	-4.44E-08	u233	1.51E-05	92233.50c	-5.36E-08
u234	7.51E+00	92234.50c	-2.64E-02	u234	6.43E+00	92234.50c	-2.28E-02
u235	5.12E+02	92235.50c	-1.80E+00	u235	3.54E+02	92235.50c	-1.26E+00
u236	1.43E+02	92236.50c	-5.03E-01	u236	1.67E+02	92236.50c	-5.93E-01
u238	2.39E+04	92238.50c	-8.41E+01	u238	2.37E+04	92238.50c	-8.42E+01
np237	1.14E+01	93237.50c	-4.01E-02	np237	1.65E+01	93237.50c	-5.86E-02
pu238	2.97E+00	94238.50c	-1.05E-02	pu238	5.80E+00	94238.50c	-2.06E-02

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Table AV-1. Renormalized Depleted Fuel Isotopic Weight Percents

pu239	1.49E+02	94239.55c	-5.25E-01	pu239	1.57E+02	94239.55c	-5.58E-01
pu240	4.75E+01	94240.50c	-1.67E-01	pu240	6.30E+01	94240.50c	-2.24E-01
pu241	2.81E+01	94241.50c	-9.89E-02	pu241	3.86E+01	94241.50c	-1.37E-01
pu242	7.10E+00	94242.50c	-2.50E-02	pu242	1.43E+01	94242.50c	-5.08E-02
am241	9.28E-01	95241.50c	-3.27E-03	am241	1.13E+00	95241.50c	-4.01E-03
am242m	2.02E-02	95242.50c	-7.11E-05	am242m	2.51E-02	95242.50c	-8.92E-05
am243	1.20E+00	95243.50c	-4.23E-03	am243	3.21E+00	95243.50c	-1.14E-02
mo 95	1.75E+01	42095.50c	-6.16E-02	mo 95	2.26E+01	42095.50c	-8.03E-02
tc 99	2.12E+01	43099.50c	-7.46E-02	tc 99	2.72E+01	43099.50c	-9.66E-02
ru101	1.98E+01	44101.50c	-6.97E-02	ru101	2.62E+01	44101.50c	-9.31E-02
rh103	1.09E+01	45103.50c	-3.84E-02	rh103	1.36E+01	45103.50c	-4.83E-02
ag109	1.65E+00	47109.50c	-5.81E-03	ag109	2.52E+00	47109.50c	-8.95E-03
nd143	2.35E+01	60143.50c	-8.27E-02	nd143	2.81E+01	60143.50c	-9.98E-02
nd145	1.86E+01	60145.50c	-6.55E-02	nd145	2.35E+01	60145.50c	-8.35E-02
sm147	2.47E+00	62147.50c	-8.70E-03	sm147	2.69E+00	62147.50c	-9.55E-03
sm149	8.19E-02	62149.50c	-2.88E-04	sm149	8.21E-02	62149.50c	-2.92E-04
sm150	7.22E+00	62150.50c	-2.54E-02	sm150	1.01E+01	62150.50c	-3.59E-02
sm151	4.69E-01	62151.50c	-1.65E-03	sm151	5.23E-01	62151.50c	-1.86E-03
eu151	6.28E-04	63151.55c	-2.21E-06	eu151	4.61E-04	63151.55c	-1.64E-06
sm152	3.22E+00	62152.50c	-1.13E-02	sm152	4.14E+00	62152.50c	-1.47E-02
eu153	2.56E+00	63153.55c	-9.01E-03	eu153	3.83E+00	63153.55c	-1.36E-02
gd155	1.03E-03	64155.50c	-3.63E-06	gd155	1.25E-03	64155.50c	-4.44E-06
A5030N14				A5040N14			
O-16	3.462E+03	8016.50c	-1.22E+01	O-16	3.462E+03	8016.50c	-1.23E+01
u233	1.27E-05	92233.50c	-4.47E-08	u233	1.53E-05	92233.50c	-5.44E-08
u234	7.51E+00	92234.50c	-2.64E-02	u234	6.43E+00	92234.50c	-2.28E-02
u235	5.08E+02	92235.50c	-1.79E+00	u235	3.50E+02	92235.50c	-1.24E+00
u236	1.44E+02	92236.50c	-5.07E-01	u236	1.67E+02	92236.50c	-5.93E-01
u238	2.39E+04	92238.50c	-8.42E+01	u238	2.37E+04	92238.50c	-8.42E+01
np237	1.15E+01	93237.50c	-4.05E-02	np237	1.66E+01	93237.50c	-5.90E-02
pu238	2.99E+00	94238.50c	-1.05E-02	pu238	5.88E+00	94238.50c	-2.09E-02
pu239	1.49E+02	94239.55c	-5.25E-01	pu239	1.56E+02	94239.55c	-5.54E-01
pu240	4.76E+01	94240.50c	-1.68E-01	pu240	6.31E+01	94240.50c	-2.24E-01
pu241	2.82E+01	94241.50c	-9.93E-02	pu241	3.86E+01	94241.50c	-1.37E-01
pu242	7.22E+00	94242.50c	-2.54E-02	pu242	1.45E+01	94242.50c	-5.15E-02
am241	9.30E-01	95241.50c	-3.27E-03	am241	1.12E+00	95241.50c	-3.98E-03
am242m	2.02E-02	95242.50c	-7.11E-05	am242m	2.49E-02	95242.50c	-8.85E-05
am243	1.22E+00	95243.50c	-4.30E-03	am243	3.26E+00	95243.50c	-1.16E-02
mo 95	1.77E+01	42095.50c	-6.23E-02	mo 95	2.26E+01	42095.50c	-8.03E-02
tc 99	2.14E+01	43099.50c	-7.54E-02	tc 99	2.75E+01	43099.50c	-9.77E-02
ru101	1.98E+01	44101.50c	-6.97E-02	ru101	2.64E+01	44101.50c	-9.38E-02
rh103	1.09E+01	45103.50c	-3.84E-02	rh103	1.36E+01	45103.50c	-4.83E-02
ag109	1.67E+00	47109.50c	-5.88E-03	ag109	2.54E+00	47109.50c	-9.02E-03
nd143	2.37E+01	60143.50c	-8.35E-02	nd143	2.82E+01	60143.50c	-1.00E-01
nd145	1.86E+01	60145.50c	-6.55E-02	nd145	2.36E+01	60145.50c	-8.38E-02
sm147	2.48E+00	62147.50c	-8.73E-03	sm147	2.70E+00	62147.50c	-9.59E-03
sm149	8.17E-02	62149.50c	-2.88E-04	sm149	8.17E-02	62149.50c	-2.90E-04
sm150	7.27E+00	62150.50c	-2.56E-02	sm150	1.02E+01	62150.50c	-3.62E-02
sm151	4.67E-01	62151.50c	-1.64E-03	sm151	5.21E-01	62151.50c	-1.85E-03
eu151	6.15E-04	63151.55c	-2.17E-06	eu151	4.51E-04	63151.55c	-1.60E-06
sm152	3.25E+00	62152.50c	-1.14E-02	sm152	4.15E+00	62152.50c	-1.47E-02
eu153	2.58E+00	63153.55c	-9.08E-03	eu153	3.84E+00	63153.55c	-1.36E-02
gd155	1.02E-03	64155.50c	-3.59E-06	gd155	1.24E-03	64155.50c	-4.40E-06

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Table AV-1. Renormalized Depleted Fuel Isotopic Weight Percents

A5030N15				A5040N15			
O-16	3.462E+03	8016.50c	-1.22E+01	O-16	3.462E+03	8016.50c	-1.23E+01
u233	1.27E-05	92233.50c	-4.47E-08	u233	1.53E-05	92233.50c	-5.43E-08
u234	7.48E+00	92234.50c	-2.63E-02	u234	6.42E+00	92234.50c	-2.28E-02
u235	5.08E+02	92235.50c	-1.79E+00	u235	3.50E+02	92235.50c	-1.24E+00
u236	1.44E+02	92236.50c	-5.07E-01	u236	1.67E+02	92236.50c	-5.93E-01
u238	2.39E+04	92238.50c	-8.42E+01	u238	2.37E+04	92238.50c	-8.42E+01
np237	1.14E+01	93237.50c	-4.01E-02	np237	1.65E+01	93237.50c	-5.86E-02
pu238	2.98E+00	94238.50c	-1.05E-02	pu238	5.88E+00	94238.50c	-2.09E-02
pu239	1.49E+02	94239.55c	-5.25E-01	pu239	1.56E+02	94239.55c	-5.54E-01
pu240	4.79E+01	94240.50c	-1.69E-01	pu240	6.34E+01	94240.50c	-2.25E-01
pu241	2.81E+01	94241.50c	-9.89E-02	pu241	3.86E+01	94241.50c	-1.37E-01
pu242	7.20E+00	94242.50c	-2.54E-02	pu242	1.45E+01	94242.50c	-5.15E-02
am241	9.38E-01	95241.50c	-3.30E-03	am241	1.13E+00	95241.50c	-4.01E-03
am242m	2.04E-02	95242.50c	-7.18E-05	am242m	2.52E-02	95242.50c	-8.95E-05
am243	1.21E+00	95243.50c	-4.26E-03	am243	3.27E+00	95243.50c	-1.16E-02
mo 95	1.76E+01	42095.50c	-6.20E-02	mo 95	2.27E+01	42095.50c	-8.06E-02
tc 99	2.12E+01	43099.50c	-7.46E-02	tc 99	2.74E+01	43099.50c	-9.73E-02
ru101	1.99E+01	44101.50c	-7.01E-02	ru101	2.65E+01	44101.50c	-9.41E-02
rh103	1.09E+01	45103.50c	-3.84E-02	rh103	1.37E+01	45103.50c	-4.87E-02
ag109	1.67E+00	47109.50c	-5.88E-03	ag109	2.54E+00	47109.50c	-9.02E-03
nd143	2.37E+01	60143.50c	-8.35E-02	nd143	2.83E+01	60143.50c	-1.01E-01
nd145	1.86E+01	60145.50c	-6.55E-02	nd145	2.37E+01	60145.50c	-8.42E-02
sm147	2.47E+00	62147.50c	-8.70E-03	sm147	2.71E+00	62147.50c	-9.63E-03
sm149	8.13E-02	62149.50c	-2.86E-04	sm149	8.13E-02	62149.50c	-2.89E-04
sm150	7.24E+00	62150.50c	-2.55E-02	sm150	1.02E+01	62150.50c	-3.62E-02
sm151	4.66E-01	62151.50c	-1.64E-03	sm151	5.20E-01	62151.50c	-1.85E-03
eu151	6.14E-04	63151.55c	-2.16E-06	eu151	4.49E-04	63151.55c	-1.59E-06
sm152	3.26E+00	62152.50c	-1.15E-02	sm152	4.15E+00	62152.50c	-1.47E-02
eu153	2.59E+00	63153.55c	-9.12E-03	eu153	3.84E+00	63153.55c	-1.36E-02
gd155	1.02E-03	64155.50c	-3.59E-06	gd155	1.24E-03	64155.50c	-4.40E-06
A5030N16				A5040N16			
O-16	3.462E+03	8016.50c	-1.22E+01	O-16	3.462E+03	8016.50c	-1.23E+01
u233	1.25E-05	92233.50c	-4.40E-08	u233	1.51E-05	92233.50c	-5.36E-08
u234	7.57E+00	92234.50c	-2.67E-02	u234	6.49E+00	92234.50c	-2.31E-02
u235	5.19E+02	92235.50c	-1.83E+00	u235	3.61E+02	92235.50c	-1.28E+00
u236	1.41E+02	92236.50c	-4.96E-01	u236	1.65E+02	92236.50c	-5.86E-01
u238	2.39E+04	92238.50c	-8.42E+01	u238	2.37E+04	92238.50c	-8.42E+01
np237	1.10E+01	93237.50c	-3.87E-02	np237	1.60E+01	93237.50c	-5.68E-02
pu238	2.79E+00	94238.50c	-9.82E-03	pu238	5.47E+00	94238.50c	-1.94E-02
pu239	1.47E+02	94239.55c	-5.18E-01	pu239	1.55E+02	94239.55c	-5.51E-01
pu240	4.61E+01	94240.50c	-1.62E-01	pu240	6.14E+01	94240.50c	-2.18E-01
pu241	2.70E+01	94241.50c	-9.51E-02	pu241	3.73E+01	94241.50c	-1.33E-01
pu242	6.70E+00	94242.50c	-2.36E-02	pu242	1.36E+01	94242.50c	-4.83E-02
am241	9.13E-01	95241.50c	-3.21E-03	am241	1.12E+00	95241.50c	-3.98E-03
am242m	1.98E-02	95242.50c	-6.97E-05	am242m	2.48E-02	95242.50c	-8.81E-05
am243	1.10E+00	95243.50c	-3.87E-03	am243	2.98E+00	95243.50c	-1.06E-02
mo 95	1.73E+01	42095.50c	-6.09E-02	mo 95	2.22E+01	42095.50c	-7.89E-02
tc 99	2.08E+01	43099.50c	-7.32E-02	tc 99	2.66E+01	43099.50c	-9.45E-02
ru101	1.93E+01	44101.50c	-6.80E-02	ru101	2.57E+01	44101.50c	-9.13E-02
rh103	1.07E+01	45103.50c	-3.77E-02	rh103	1.33E+01	45103.50c	-4.72E-02
ag109	1.60E+00	47109.50c	-5.63E-03	ag109	2.44E+00	47109.50c	-8.67E-03
nd143	2.31E+01	60143.50c	-8.13E-02	nd143	2.77E+01	60143.50c	-9.84E-02

Title: Rod Consolidation Waste Package Criticality Calculations
 Document Identifier: B00000000-01717-0210-00043 REV 00

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Table AV-1. Renormalized Depleted Fuel Isotopic Weight Percents

nd145	1.83E+01	60145.50c	-6.44E-02	nd145	2.31E+01	60145.50c	-8.21E-02
sm147	2.45E+00	62147.50c	-8.63E-03	sm147	2.70E+00	62147.50c	-9.59E-03
sm149	8.06E-02	62149.50c	-2.84E-04	sm149	8.06E-02	62149.50c	-2.86E-04
sm150	7.02E+00	62150.50c	-2.47E-02	sm150	9.89E+00	62150.50c	-3.51E-02
sm151	4.58E-01	62151.50c	-1.61E-03	sm151	5.09E-01	62151.50c	-1.81E-03
eu151	6.27E-04	63151.55c	-2.21E-06	eu151	4.52E-04	63151.55c	-1.61E-06
sm152	3.17E+00	62152.50c	-1.12E-02	sm152	4.09E+00	62152.50c	-1.45E-02
eu153	2.48E+00	63153.55c	-8.73E-03	eu153	3.72E+00	63153.55c	-1.32E-02
gd155	9.82E-04	64155.50c	-3.46E-06	gd155	1.19E-03	64155.50c	-4.23E-06
A5030N17				A5040N17			
O-16	3.462E+03	8016.50c	-1.21E+01	O-16	3.462E+03	8016.50c	-1.23E+01
u233	1.19E-05	92233.50c	-4.17E-08	u233	1.45E-05	92233.50c	-5.13E-08
u234	7.99E+00	92234.50c	-2.80E-02	u234	6.92E+00	92234.50c	-2.45E-02
u235	5.84E+02	92235.50c	-2.05E+00	u235	4.20E+02	92235.50c	-1.49E+00
u236	1.32E+02	92236.50c	-4.63E-01	u236	1.55E+02	92236.50c	-5.48E-01
u238	2.40E+04	92238.50c	-8.41E+01	u238	2.38E+04	92238.50c	-8.42E+01
np237	9.39E+00	93237.50c	-3.29E-02	np237	1.37E+01	93237.50c	-4.85E-02
pu238	2.12E+00	94238.50c	-7.43E-03	pu238	4.17E+00	94238.50c	-1.48E-02
pu239	1.42E+02	94239.55c	-4.98E-01	pu239	1.50E+02	94239.55c	-5.31E-01
pu240	4.08E+01	94240.50c	-1.43E-01	pu240	5.52E+01	94240.50c	-1.95E-01
pu241	2.33E+01	94241.50c	-8.17E-02	pu241	3.30E+01	94241.50c	-1.17E-01
pu242	4.96E+00	94242.50c	-1.74E-02	pu242	1.04E+01	94242.50c	-3.68E-02
am241	7.95E-01	95241.50c	-2.79E-03	am241	1.02E+00	95241.50c	-3.61E-03
am242m	1.69E-02	95242.50c	-5.92E-05	am242m	2.25E-02	95242.50c	-7.96E-05
am243	7.22E-01	95243.50c	-2.53E-03	am243	2.04E+00	95243.50c	-7.22E-03
mo 95	1.56E+01	42095.50c	-5.47E-02	mo 95	2.00E+01	42095.50c	-7.08E-02
tc 99	1.89E+01	43099.50c	-6.63E-02	tc 99	2.43E+01	43099.50c	-8.60E-02
ru101	1.74E+01	44101.50c	-6.10E-02	ru101	2.30E+01	44101.50c	-8.14E-02
rh103	9.69E+00	45103.50c	-3.40E-02	rh103	1.22E+01	45103.50c	-4.32E-02
ag109	1.35E+00	47109.50c	-4.73E-03	ag109	2.06E+00	47109.50c	-7.29E-03
nd143	2.15E+01	60143.50c	-7.54E-02	nd143	2.59E+01	60143.50c	-9.16E-02
nd145	1.67E+01	60145.50c	-5.85E-02	nd145	2.11E+01	60145.50c	-7.47E-02
sm147	2.32E+00	62147.50c	-8.13E-03	sm147	2.59E+00	62147.50c	-9.16E-03
sm149	8.08E-02	62149.50c	-2.83E-04	sm149	8.02E-02	62149.50c	-2.84E-04
sm150	6.22E+00	62150.50c	-2.18E-02	sm150	8.66E+00	62150.50c	-3.06E-02
sm151	4.43E-01	62151.50c	-1.55E-03	sm151	4.81E-01	62151.50c	-1.70E-03
eu151	6.98E-04	63151.55c	-2.45E-06	eu151	4.85E-04	63151.55c	-1.72E-06
sm152	2.87E+00	62152.50c	-1.01E-02	sm152	3.71E+00	62152.50c	-1.31E-02
eu153	2.11E+00	63153.55c	-7.40E-03	eu153	3.18E+00	63153.55c	-1.13E-02
gd155	8.89E-04	64155.50c	-3.12E-06	gd155	1.05E-03	64155.50c	-3.72E-06
A5030N18				A5040N18			
O-16	3.462E+03	8016.50c	-1.09E+01	O-16	3.462E+03	8016.50c	-1.10E+01
u233	1.00E-05	92233.50c	-3.15E-08	u233	1.29E-05	92233.50c	-4.10E-08
u234	1.00E+01	92234.50c	-3.15E-02	u234	9.31E+00	92234.50c	-2.96E-02
u235	8.74E+02	92235.50c	-2.75E+00	u235	7.29E+02	92235.50c	-2.32E+00
u236	1.10E+02	92236.50c	-3.47E-01	u236	1.35E+02	92236.50c	-4.29E-01
u238	2.70E+04	92238.50c	-8.51E+01	u238	2.68E+04	92238.50c	-8.51E+01
np237	5.66E+00	93237.50c	-1.78E-02	np237	8.59E+00	93237.50c	-2.73E-02
pu238	8.20E-01	94238.50c	-2.58E-03	pu238	1.67E+00	94238.50c	-5.31E-03
pu239	1.34E+02	94239.55c	-4.22E-01	pu239	1.51E+02	94239.55c	-4.80E-01
pu240	2.68E+01	94240.50c	-8.45E-02	pu240	3.86E+01	94240.50c	-1.23E-01
pu241	1.32E+01	94241.50c	-4.16E-02	pu241	2.11E+01	94241.50c	-6.70E-02
pu242	1.66E+00	94242.50c	-5.23E-03	pu242	3.81E+00	94242.50c	-1.21E-02

Title: Rod Consolidation Waste Package Criticality Calculations

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Table AV-1. Renormalized Depleted Fuel Isotopic Weight Percents

am241	4.49E-01	95241.50c	-1.42E-03	am241	6.99E-01	95241.50c	-2.22E-03
am242m	8.60E-03	95242.50c	-2.71E-05	am242m	1.45E-02	95242.50c	-4.61E-05
am243	1.50E-01	95243.50c	-4.73E-04	am243	4.75E-01	95243.50c	-1.51E-03
mo 95	1.16E+01	42095.50c	-3.66E-02	mo 95	1.53E+01	42095.50c	-4.86E-02
tc 99	1.43E+01	43099.50c	-4.51E-02	tc 99	1.87E+01	43099.50c	-5.94E-02
ru101	1.27E+01	44101.50c	-4.00E-02	ru101	1.71E+01	44101.50c	-5.43E-02
rh103	7.30E+00	45103.50c	-2.30E-02	rh103	9.53E+00	45103.50c	-3.03E-02
ag109	7.72E-01	47109.50c	-2.43E-03	ag109	1.21E+00	47109.50c	-3.84E-03
nd143	1.72E+01	60143.50c	-5.42E-02	nd143	2.16E+01	60143.50c	-6.86E-02
nd145	1.27E+01	60145.50c	-4.00E-02	nd145	1.65E+01	60145.50c	-5.24E-02
sm147	1.92E+00	62147.50c	-6.05E-03	sm147	2.31E+00	62147.50c	-7.34E-03
sm149	8.70E-02	62149.50c	-2.74E-04	sm149	8.97E-02	62149.50c	-2.85E-04
sm150	4.26E+00	62150.50c	-1.34E-02	sm150	5.92E+00	62150.50c	-1.88E-02
sm151	4.33E-01	62151.50c	-1.36E-03	sm151	4.71E-01	62151.50c	-1.50E-03
eu151	1.14E-03	63151.55c	-3.59E-06	eu151	8.32E-04	63151.55c	-2.64E-06
sm152	2.13E+00	62152.50c	-6.71E-03	sm152	2.83E+00	62152.50c	-8.99E-03
eu153	1.27E+00	63153.55c	-4.00E-03	eu153	1.94E+00	63153.55c	-6.16E-03
gd155	7.30E-04	64155.50c	-2.30E-06	gd155	8.38E-04	64155.50c	-2.66E-06

Table AV-2. Depleted Fuel Nodal Densities for 5.00 wt% Enriched Fuel

Node #	Node Height (cm)	10 GWd/MTU	20 GWd/MTU	30 GWd/MTU	40 GWd/MTU
1	17.78	10.05471	10.03967	9.98557	9.93431
2	20.0025	10.04118	9.98793	9.92886	9.84637
3	20.0025	10.03761	9.94202	9.85573	9.79824
4	20.0025	10.00552	9.93647	9.84888	9.76406
5	20.0025	10.00350	9.93760	9.84682	9.76000
6	20.0025	10.00430	9.93643	9.84579	9.75850
7	20.0025	10.00025	9.93563	9.84254	9.75912
8	20.0025	10.00004	9.93444	9.84293	9.75922
9	20.0025	10.00027	9.93557	9.84373	9.75864
10	20.0025	10.00099	9.93468	9.84254	9.75796
11	20.0025	10.00073	9.93475	9.84232	9.75701
12	20.0025	10.00067	9.93496	9.84156	9.75506
13	20.0025	10.00068	9.93392	9.84097	9.75511
14	20.0025	10.00101	9.93310	9.84035	9.75385
15	20.0025	10.00067	9.93413	9.84028	9.75406
16	20.0025	10.00260	9.93441	9.83995	9.75349
17	20.0025	10.03637	9.93882	9.88372	9.79206
18	22.352	10.03666	9.88602	9.83708	9.75936

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Attachment VI, Page VI-1 of 2

This attachment contains the MCNP input files for the rod consolidation waste package criticality calculations. The input files are contained on an attachment tape of this calculation file (the attachment tape has been moved to Reference 7.8). The information contained in this hard-copy representation of Attachment VI is a listing of the various MCNP input files and their attributes. The tape containing Attachment VI was written using the Colorado Model T1000e External Parallel Port Backup System for personal computers.

File Name	File Type	File Size (bytes)	Date File Copied to Tape
d6b1.i	ASCII	19,913	12/16/98
d6b2.i	ASCII	36,180	12/16/98
d6b3.i	ASCII	36,185	12/16/98
d6b4.i	ASCII	36,188	12/16/98
d6b5.i	ASCII	36,188	12/16/98
e5b1.i	ASCII	35,655	12/16/98
e5b2.i	ASCII	35,663	12/16/98
e5b3.i	ASCII	35,659	12/16/98
e5b4.i	ASCII	35,653	12/16/98
f17b1.i	ASCII	19,814	12/16/98
f17b2.i	ASCII	36,184	12/16/98
f17b3.i	ASCII	36,184	12/16/98
f17b4.i	ASCII	36,179	12/16/98
f17b5.i	ASCII	36,181	12/16/98
h12b1.i	ASCII	19,814	12/16/98
h12b2.i	ASCII	36,183	12/16/98
h12b3.i	ASCII	36,183	12/16/98
h12b4.i	ASCII	36,182	12/16/98
h12b5.i	ASCII	36,182	12/16/98
h12b6.i	ASCII	36,182	12/16/98
load1.i	ASCII	19,523	12/16/98
load3.i	ASCII	19,523	12/16/98
load5.i	ASCII	19,523	12/16/98
l1.i	ASCII	20,447	12/16/98
l10.i	ASCII	42,155	12/16/98
l11.i	ASCII	20,468	12/16/98
l12.i	ASCII	42,157	12/16/98
l13.i	ASCII	42,157	12/16/98
l14.i	ASCII	42,152	12/16/98
l15.i	ASCII	42,154	12/16/98
l16.i	ASCII	20,468	12/16/98
l17.i	ASCII	42,156	12/16/98
l18.i	ASCII	42,156	12/16/98
l19.i	ASCII	42,155	12/16/98
l2.i	ASCII	41,629	12/16/98
l20.i	ASCII	42,155	12/16/98
l21.i	ASCII	42,155	12/16/98

Title: Rod Consolidation Waste Package Criticality Calculations

Document Identifier: B00000000-01717-0210-00043 REV 00

Attachment VI, Page VI-2 of 2

File Name	File Type	File Size (bytes)	Date File Copied to Tape
122.i	ASCII	20,452	12/16/98
123.i	ASCII	20,452	12/16/98
13.i	ASCII	41,637	12/16/98
14.i	ASCII	41,628	12/16/98
15.i	ASCII	41,625	12/16/98
16.i	ASCII	20,465	12/16/98
17.i	ASCII	42,150	12/16/98
18.i	ASCII	42,152	12/16/98
19.i	ASCII	42,152	12/16/98

Title: Rod Consolidation Waste Package Criticality Calculations

Document Identifier: B00000000-01717-0210-00043 REV 00

Attachment VII, Page VII-1 of 2

This attachment contains the MCNP output files for the rod consolidation waste package criticality calculations. The output files are contained on an attachment tape of this calculation file (the attachment tape has been moved to Reference 7.8). The information contained in this hard-copy representation of Attachment VII is a listing of the various MCNP output files and their attributes. The tape containing Attachment VII was written using the Colorado Model T1000e External Parallel Port Backup System for personal computers.

File Name	File Type	File Size (bytes)	Date File Copied to Tape
d6b1.O	ASCII	519,146	12/16/98
d6b2.O	ASCII	648,197	12/16/98
d6b3.O	ASCII	589,810	12/16/98
d6b4.O	ASCII	589,768	12/16/98
d6b5.O	ASCII	588,561	12/16/98
e5b1.O	ASCII	615,470	12/16/98
e5b2.O	ASCII	615,323	12/16/98
e5b3.O	ASCII	620,887	12/16/98
e5b4.O	ASCII	615,372	12/16/98
f17b1.O	ASCII	490,749	12/16/98
f17b2.O	ASCII	589,964	12/16/98
f17b3.O	ASCII	622,719	12/16/98
f17b4.O	ASCII	598,153	12/16/98
f17b5.O	ASCII	592,881	12/16/98
h12b1.O	ASCII	514,478	12/16/98
h12b2.O	ASCII	591,725	12/16/98
h12b3.O	ASCII	610,781	12/16/98
h12b4.O	ASCII	591,825	12/16/98
h12b5.O	ASCII	591,823	12/16/98
h12b6.O	ASCII	601,296	12/16/98
load1.O	ASCII	508,457	12/16/98
load3.O	ASCII	546,783	12/16/98
load5.O	ASCII	518,751	12/16/98
l1.O	ASCII	496,694	12/16/98
l10.O	ASCII	640,293	12/16/98
l11.O	ASCII	500,686	12/16/98
l12.O	ASCII	643,014	12/16/98
l13.O	ASCII	643,056	12/16/98
l14.O	ASCII	641,876	12/16/98
l15.O	ASCII	642,909	12/16/98
l16.O	ASCII	497,455	12/16/98
l17.O	ASCII	639,855	12/16/98
l18.O	ASCII	639,855	12/16/98
l19.O	ASCII	638,486	12/16/98
l2.O	ASCII	664,357	12/16/98
l20.O	ASCII	639,953	12/16/98
l21.O	ASCII	639,797	12/16/98

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Document Identifier: B00000000-01717-0210-00043 REV 00

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File Name	File Type	File Size (bytes)	Date File Copied to Tape
122.O	ASCII	501,937	12/16/98
123.O	ASCII	499,299	12/16/98
13.O	ASCII	665,459	12/16/98
14.O	ASCII	665,361	12/16/98
15.O	ASCII	664,254	12/16/98
16.O	ASCII	498,234	12/16/98
17.O	ASCII	640,418	12/16/98
18.O	ASCII	640,012	12/16/98
19.O	ASCII	640,117	12/16/98