

# **Report on Waste Burial Charges**

Changes in Decommissioning Waste Disposal Costs at Low-Level Waste Burial Facilities

U.S. Nuclear Regulatory Commission Office of Nuclear Reactor Regulation Washington, DC 20555-0001



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Division of Regulatory Improvement Programs Office of Nuclear Reactor Regulation U.S. Nuclear Regulatory Commission Washington, DC 20555-0001



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## Abstract

A requirement placed upon nuclear power reactor licensees by the U.S. Nuclear Regulatory Commission (NRC) is that licensees must annually adjust the estimate of the cost of decommissioning their plants, in dollars of the current year, as part of the process to provide reasonable assurance that adequate funds for decommissioning will be available when needed. This report, which is revised periodically, explains the formula that is acceptable to the NRC for determining the minimum decommissioning fund requirements for nuclear power plants. The sources of information used in the formula are identified, and the values developed for the estimation of radioactive waste burial/disposition costs, by site and by year, are given. Licensees may use the formula, coefficients, and burial/disposition adjustment factors from this report in their cost analyses, or they may use adjustment factors derived from any methodology that results in a total cost estimate of no less than the amount estimated by using the parameters presented in this report.

This report includes an alternative low-level waste (LLW) disposition option other than direct disposal at the two remaining operating LLW burial sites. This option, which is accepted as a valid approach for consideration by licensees, allows contracting with waste vendors to provide for the disposition of certain LLW generated during decommissioning.

This tenth revision of NUREG-1307 contains updated disposal costs for the reference pressurized water reactor (PWR) and the reference boiling water reactor (BWR) and the ratios of disposal costs at the two remaining burial sites in Washington and South Carolina for the year 2002. In addition, disposal costs for the reference reactors and ratios of disposal costs at the Washington and South Carolina sites for the years 1995, 1996, 1997, 1998, and 2000 are provided for historical purposes. This report also provides costs for dispositioning a portion of the total LLW volume using waste vendors, including the ratios of these costs relative to the original 1986 disposal cost estimates. Future updates of NUREG-1307 will provide revised estimates for this alternative LLW disposition option in addition to the direct disposal option. Several sample calculations for estimating the burial/disposition cost for both the old and new options are presented, demonstrating the use of the data contained in this report.

Estimated disposal costs at the Washington site increased by 64% for the reference PWR and 330% for the reference BWR over corresponding estimates for 2000. The large increases for LLW disposal were primarily due to increases in exposure dose rate charges (700%), disposal charges per unit volume (66%), charges per container (42%), and charges per shipment (42%). Estimated disposal costs at the South Carolina site for 2002 are virtually the same as the estimates for 2000. Wastes disposed from non-Atlantic Compact users are about 5% costlier than Compact users. For Atlantic Compact users, the cost of LLW disposition using waste vendors is about 48% (PWR) and 46% (BWR) less than direct disposal at the South Carolina burial site. For non-Atlantic Compact users, the corresponding cost is about 49% (PWR) and 47% (BWR) less than direct disposal. At the Washington burial site, however, the waste vendor option is about 58% (PWR) and 7% (BWR) greater than direct disposal.

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## Foreword

Nuclear power reactor licensees are required, per 10 CFR 50.75, to adjust annually the estimated decommissioning costs of their nuclear facilities in order to ensure adequate funds are available for decommissioning. The regulation references NUREG-1307 as the appropriate source for obtaining the adjustment factor for waste burial/disposition costs; this Revision 10 of NUREG-1307 provides the current waste burial costs at the Washington and South Carolina disposal sites. In addition, this revision provides costs for low-level radioactive waste disposition using waste vendors. Licensees can factor these numbers into the adjustment formula, as specified in 10 CFR 50.75(c)(2), to determine the minimum decommissioning fund requirement for their nuclear facilities.

Although this report is specifically prepared for the use of power reactor licensees, it can also be a valuable source of information for material licensees on current waste burial/disposition costs. After July 1, 1994, access to the Barnwell, South Carolina, facility was limited to Southeast Compact waste generators. Effective July 1, 1995, the scheduled closure date, December 31, 1995, was canceled and access to the Barnwell facility was extended to waste generators from all States except North Carolina. Effective July 1, 2000, the Barnwell disposal facility at Barnwell, South Carolina, became the host disposal facility for the newly-formed Atlantic Compact, comprised of the states of Connecticut, New Jersey, and South Carolina. Low-level waste (LLW) from non-Atlantic Compact states (including previously excluded North Carolina) will be accepted through 2008, but will be limited by a total maximum allowable volume per year, which decreases each year, beginning in 2001. A slightly costlier rate schedule will apply for non-Atlantic Compact waste generators. The costs of waste disposal at the Barnwell disposal facility will be determined annually by the South Carolina Public Service Commission (PSC) to provide the site operator with an allowable operating margin. At the Richland, Washington, facility, the costs of disposal are determined annually based on waste generator volume projections and a maximum operator revenue set by the Washington Utilities and Transportation Commission. If the total operator revenue is exceeded in a given year, a rebate may be sent to the waste generator.

Another option available to licensees for the disposition of their LLW is to contract with waste vendors to provide these services. Licensees are increasingly recognizing that, generally, waste vendors are more effective at identifying the lowest cost solutions to LLW disposition. This report also provides waste burial/disposition adjustment factors (changed by the non-waste vendor portion of the LLW) for the waste vendor option, in addition to the standard option of direct disposal at the two available disposal facilities.

Low-level radioactive waste disposal costs are an important element in the cost of decommissioning a nuclear facility. This report provides the latest information that was available at time of publication for licensees to use for annually adjusting the estimated cost of decommissioning their nuclear facilities.

June

Christopher I. Grimes, Program Director Policy and Rulemaking Program Division of Regulatory Improvement Programs Office of Nuclear Reactor Regulation

## **1** Introduction

From 10 CFR 50.75(b), the U.S. Nuclear Regulatory Commission (NRC) requires nuclear power plant licensees to annually adjust the estimate of the cost (in dollars of the current year) of decommissioning their plants. This is just one step of a multi-step process of providing reasonable assurance to the NRC that adequate funds for decommissioning will be available when needed. This report provides adjustment factors for the waste burial/disposition component of the decommissioning fund requirement, as required by 10 CFR 50.75(c)(2). This report also provides the regional adjustment factors for the labor and energy components of the decommissioning fund requirement. The term "adjustment factor," as used in this report and in 10 CFR 50.75(c)(2), refers to increases and/or decreases in decommissioning costs since the NRC regulations were issued. The decommissioning fund requirements in these regulations are in 1986 dollars. This report is periodically updated to reflect changes in waste burial/disposition costs.

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Provided in this report is the development of a formula for estimating decommissioning cost that is acceptable to the NRC. The sources of information used in the formula are identified, and the values developed for the adjustment of radioactive waste burial/disposition costs, by site and by year, are given in this report. Licensees may use the formula, the coefficients, and the burial/disposition adjustment factors from this report in their analyses, or they may use an adjustment rate at least equal to the approach presented herein.

The formula and its coefficients, together with guidance to the appropriate sources of data needed, are summarized in Chapter 2. The development of the formula and its coefficients, with sample calculations, are presented in Chapter 3. Price schedules for burial/disposition for the year 2002 are given in Appendix A for currently operating burial sites and waste vendors. The calculations to determine the burial/disposition cost factors,  $B_x$ , for each site and each year of evaluation are summarized in Appendix B.

This tenth revision of NUREG-1307 contains updated lowlevel waste (LLW) burial/disposition costs for the reference pressurized water reactor (PWR) and the reference boiling water reactor (BWR) and the ratios of LLW burial/disposition costs at the two remaining burial sites in Washington and South Carolina for the year 2002. In addition, disposal costs for the reference reactors and ratios of disposal costs at the Washington and South Carolina sites for the years 1995, 1996, 1997, 1998, and 2000 are provided for historical purposes. In addition to direct disposal at the two remaining burial sites, this report also includes the option of LLW disposition by waste vendors, initiated in NUREG-1307, Rev. 8.

### 2 Summary

The elements of decommissioning cost, per 10 CFR 50.75(c)(2), are assigned to three categories: those that are proportional to labor costs,  $L_x$ ; those that are proportional to energy costs,  $E_x$ ; and those that are proportional to burial costs,  $B_x$ . The adjustment of the total decommissioning cost estimate can be expressed by

Estimated Cost (Year X)

= 
$$[1986 \text{ Cost}] [A L_x + B E_x + C B_x]$$

where A, B, and C are the fractions of the total 1986 dollar costs that are attributable to labor (0.65), energy (0.13), and burial (0.22), respectively, and sum to 1.0. The factors  $L_x$ ,  $E_x$ , and  $B_x$  are defined by

- $L_x =$  labor cost adjustment, January of 1986 to January of Year X,
- E<sub>x</sub> = energy cost adjustment, January of 1986 to January of Year X, and
- B<sub>x</sub> = LLW burial/disposition cost adjustment, January of 1986 to January of Year X (i.e., burial/disposition cost in January of Year X divided by burial cost in January of 1986).

Licensees are to evaluate  $L_x$  and  $E_x$  for the years subsequent to 1986 based on the national producer price indexes, national consumer price indexes, and on local conditions for a given site (see Chapter 3).

B, is evaluated by recalculating the costs of burial/disposition of the radioactive wastes from the reference PWR (Ref. 1) and the reference BWR (Ref. 2) based on the price schedules provided by the available burial sites/waste vendors for the year of interest. The results of these recalculations are presented in Table 2.1, by site and by year. Effective July 1, 2000, different price schedules at the South Carolina burial site apply for states within and outside the newly-created Atlantic Compact, comprised of South Carolina, Connecticut, and New Jersey (see footnote (c) at the bottom of the table). Issues of this report prior to 1998 considered direct burial of LLW at an available LLW disposal site as the only LLW disposition option. This report includes the additional LLW disposition option of turning over the majority of the LLW generated during decommissioning to waste vendors for disposition. The B<sub>x</sub> values for this option are also provided in Table 2.1 for the years 2000 and 2002 (see footnote (d) at the bottom of the table). It is left to the licensees to determine whether direct disposal or disposition using waste vendors best represents their particular situation.

B <sub>x</sub> Values for Washington Site <sup>(b)</sup>			B <sub>x</sub> Values for South Carolina Site (Barnwell)									
	(U.S. Ecology)				Atlantic Compact <sup>(c)</sup>				Non-Atlantic Compact <sup>(c)</sup>			
	Direct	Disposal	Direct Dis Venc	sposal with dors <sup>(d)</sup>	Direct [	Disposal		Disposal indors <sup>(d)</sup>	Direct [	Disposal	Direct Di Ven	sposal with dors <sup>(d)</sup>
Year	PWR	BWR	PWR	BWR	PWR	BWR	PWR	BWR	PWR	BWR	PWR	BWR
2002	3 634	14 549	5.748	15.571	17.922	15.988	9 273	8 626	18.732	16.705	9 467	8 860
2000	2.223	3 375	4.060	4 379	17.922	15.987	7.878	7.943	18 129	16.244	8 052	8 189
1998	3.165	14 403	4 538	15.203	15 886	13.948	7.173	6 968	NA	NA	NA	NA
1997	3 112	6 264	NA	NA	15 852	13 837	NA	NA	NA	NA	NA	NA
1996	2.845	3 294	NA	NA	12 771	10.379	NA	NA	NA	NA	NA	NA
1995	2 0 1 5	1 878	NA	NA	12 824	10 420	NA	NA	NA	NA	NA	NA

Table 2.1 Values of B<sub>x</sub> as a Function of LLW Burial Site, Waste Vendor, and Year<sup>(a)</sup>

(a) The values shown in this table are developed in Appendix B, with all values normalized to the 1986 Washington PWR/BWR values by dividing the calculated burial costs for each site and year by the Washington site burial costs calculated for the year 1986.

(b) Effective 1/1/93, the Washington site is not accepting waste from outside the Northwest and Rocky Mountain Compacts.

(c) From 7/1/95 through 6/30/2000, access was allowed for all states except North Carolina. Effective 7/1/2000 rates are based on whether a waste generator is or is not a member of the Atlantic Compact.

(d) Effective with NUREG-1307, Rev. 8, turning over the majority of LLW to waste vendors for disposition is considered a possibility.

## **3** Development of Cost Adjustment Formula

The evaluations presented in this chapter are based on information presented in NUREG/CR-0130 (Addendum 4) and NUREG/CR-0672 (Addendum 3) (Refs. 1, 2), in which the estimated costs for immediate dismantlement of the reference PWR and the reference BWR are adjusted to January 1986 dollars. Decommissioning costs are divided into three general areas per 10 CFR 50.75(c)(2) that tend to escalate similarly: (1) labor, materials, and services, (2) energy and waste transportation, and (3) radioactive waste burial/disposition. A relatively simple equation can be used to determine the minimum decommissioning fund requirement in year 2002 or previous year dollars. That equation is

Estimated Cost (Year X) =  $[1986 \text{ Cost}]^*(A L_x + B E_x + C B_x)$ 

where

Estimated Cost (Year X) = estimated decommissioning costs in Year x dollars,

[1986 \$ Cost]

- estimated decommissioning costs in 1986 dollars,
- A = fraction of the [1986 \$ Cost] attributable to labor, materials, and services (0.65)
- B = fraction of the [1986 \$ Cost] attributable to energy and transportation (0.13)
- C = fraction of the [1986 \$ Cost] attributable to waste burial (0.22)
- L<sub>x</sub> = labor, materials, and services cost adjustment, January of 1986 to January of Year X
- $E_x$  = energy and waste transportation cost adjustment, January of 1986 to January of Year X

divided by the burial cost in January of 1986)

$$= (R_x + \sum S_x) / (R_{1986} + \sum S_{1986})$$

where:

R<sub>x</sub> = radioactive waste burial/disposition costs (excluding surcharges) in Year X dollars

 $\sum S_x$  = summation of surcharges in Year X dollars

R<sub>1986</sub> = radioactive waste burial costs (excluding surcharges) in 1986 dollars

 $\sum S_{1986}$  = summation of surcharges in 1986 dollars.

Values for  $L_x$  and  $E_x$  for years subsequent to 1986 are to be based on the national producer price indexes, national consumer price indexes, and local conditions for a given site, as outlined in Sections 3.1 and 3.2. Thus, the licensee can evaluate these parameters appropriately for a particular site. The values to be used in determining  $B_x$  are taken from actual cost schedules and from price quotes by waste vendors.

Values of  $B_x$  for the year 2002, and earlier years, are provided to the licensees via this report for information purposes only, as described in Section 3.3.

The major elements of the three components of the decommissioning cost estimates for both the reference PWR and BWR are provided in Table 3.1. Considering the uncertainties and contingencies contained within these numbers, and considering that the values of the coefficients for the PWR and the BWR are so similar, the best estimates of their values are their averages:

 $A_{ave} = 0.65$   $B_{ave} = 0.13$   $C_{ave} = 0.22$ 

for both the PWR and BWR estimates.

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	<u>Reference</u> I	WR Values	<u>Reference</u>	<b>BWR Values</b>
	1986 \$		1986 \$	
Cost Category	(millions)	Coefficient	(millions)	Coefficien
Labor	17.98 <sup>(a)</sup>		35.12 <sup>(b)</sup>	
Equipment	1.64(*)		4.03 <sup>(b)</sup>	
Supplies	3.12 <sup>(a)</sup>		3.71 <sup>(b)</sup>	
Contractor	12.9 <sup>(a)</sup>		21.1 <sup>(b)</sup>	
Insurance	1.9 <sup>(a)</sup>		1.9 <sup>(b)</sup>	
Containers	10.9 <sup>(d)</sup>		8.14 <sup>(c)</sup>	
Added Staff	7.5 <sup>(a)</sup>		4.4 <sup>(b)</sup>	
Added Supplies	1.2(*)		0.2%)	
Spec. Contractor	0.78 <sup>(a)</sup>		0.71 <sup>(b)</sup>	
Pre-engineering	7.4 <sup>(a)</sup>		7.4 <sup>(b)</sup>	
Post-TMI-backfits	0.9 <sup>(a)</sup>		0.1 <sup>(b)</sup>	
Surveillance	0.31 <sup>(a)</sup>			
Fees	0.14 <sup>(a)</sup>		<u>0.14</u> (b)	
Subtotal	66.67	A = 0.64	86.95	A = 0.66
Energy	8.31 <sup>(a)</sup>		8.84 <sup>(b)</sup>	
Transportation	<u>6.08</u> <sup>(d)</sup>		<u>7.54</u> <sup>(c)</sup>	
Subtotal	14.39	B = 0.14	16.38	B = 0.12
Burial		C = 0.22	_29.98 <sup>(c)</sup>	C = 0.22
Total	103.54		133.31	

#### Table 3.1 Evaluation of the Coefficients A, B, and C in January 1986 Dollars

Note: All costs include a 25% contingency factor.

(a) Based on Table 3.1, NUREG/CR-0130, Addendum 4.

(b) Based on Table 3.1, NUREG/CR-0672, Addendum 3.

(c) Based on Table 5.2, NUREG/CR-0672, Addendum 3.

(d) Based on Table 6.2, NUREG/CR-0130, Addendum 4.

## 3.1 Labor Adjustment Factors

Current employment cost indexes for labor (column 3, Table 3.2, below) can be obtained from "Employment Cost Indexes," published by the U.S. Department of Labor, Bureau of Labor Statistics (BLS) (Ref. 4). Specifically, the appropriate regional data from the table (currently Table 7) entitled "Total compensation, private industry workers: by bargaining status, region, and area size," should be used. These indexes may also be obtained from BLS databases made available on the Internet (see Appendix C for instructions). To calculate a labor adjustment factor for a particular region, a base employment cost index, the current employment cost index, and a scaling factor are needed. These values are shown in Table 3.2 for each region. The base index from the BLS data for January 1986 is listed in Column 2 of Table 3.2. These values are based on an index value of 100 in June 1981 (Base June 1981 = 100). However, current 2001 BLS index values are based on an index value of 100 in June 1989 (Base June 1989 = 100). These values are shown in column 3. To convert between these two indexes, regional scaling factors are needed. These scaling factors are listed in the fourth column of Table 3.2.

#### Table 3.2 Regional Factors for Labor Cost Adjustment

Region	1986 Reference (Base June 1981 = 100)	2001 BLS (Base June 1989 = 100)	Scaling factor	L (2001)
Northeast	130 5	156.3	1 555	1 862 ′
South	127.7	154 6	1 441	` 1 745
Midwest	125 0	158 6	1.409	1.788
West	130.1	159 4	1.449	1.775

In general,  $L_x$  is calculated for each region by multiplying the 2001 value (column 3) by the scaling factor (column 4) and then dividing by the reference value (column 2). For example, for the Northeast region:

 $L_{x} = (156.3)_{Base \ 1989} (column \ 3)$   $x \ (1.555)_{Base \ 1981/Base \ 1989} (column \ 4)$   $\div (130.5)_{Base \ 1981} (column \ 2)$  = 1.862.

This value of  $L_x = 1.862$  should then be used in the equation to adjust the labor cost (to post-2001 dollars) for decommissioning a nuclear power plant located in the Northeast region of the United States. The 2001  $L_x$  values for the four regions are shown in the last column of Table 3.2.

## **3.2 Energy Adjustment Factors**

The adjustment factor for energy,  $E_x$ , is a weighted average of two components, namely, industrial electric power,  $P_x$ , and light fuel oil,  $F_x$ . For the reference PWR,  $E_x$  is given by:

$$E_x (PWR) = 0.58P_x + 0.42F_x$$

and for the reference BWR it is:

$$E_x (BWR) = 0.54P_x + 0.46F_x$$

These equations are derived from Table 6.3 of Reference 1 and Table 5.3 of Reference 2. The current values of  $P_x$  and  $F_x$  are calculated from the Producer Price Indexes (PPI), available in the "PPI Detailed Report," published by the U.S. Department of Labor, Bureau of Labor Statistics (BLS) (Ref. 5). These indexes can also be obtained from BLS databases made available on the

Internet (see Appendix C for instructions). The indexes used to calculate  $P_x$  should be taken from data for industrial electric power (PPI Commodity code 0543), and the indexes used to calculate  $F_x$  should be taken from data for light fuel oils (PPI Commodity code 0573). No regional BLS data for these PPI commodity codes are currently available.

 $P_x$  and  $F_x$  are the values of current producer price indexes (PPI codes 0543 and 0573, respectively) divided by the corresponding indexes for January 1986. All PPI values are based on a value of 100 for the year 1982 (Base 1982 = 100). Thus, the values of  $P_x$  and  $F_x$  for December 2001 (latest data available) are

P<sub>x</sub> = 136.9 (December 2001 value of code 0543) ÷ 114.2 (January 1986 value of code 0543) = 1.199

 $F_x = 56.6$  (December 2001 value of code 0573)  $\div$  82.0 (January 1986 value of code 0573) = 0.690.

. The value of  $E_x$  for the reference PWR is therefore

 $E_x (PWR) = [(0.58 \times 1.199) + (0.42 \times 0.690)] = 0.985.$ 

This value of  $E_x = 0.985$  should then be used in the equation to adjust the energy cost (to January 2002 dollars) for decommissioning a PWR. For the reference BWR,

 $E_x$  (BWR) = [(0.54 x 1.199) + (0.46 x 0.690)] = 0.965.

## 3.3 Waste Burial Adjustment Factors

The adjustment factor for waste burial/disposition,  $B_x$ , can be taken directly from data on the appropriate LLW burial location as given in Table 2.1 of this report. For example,  $B_x = 17.922$  (in 2002 dollars) for a PWR directly disposing all decommissioning LLW from a state in the Atlantic Compact at the South Carolina burial site.

## 3.4 Sample Calculations of Estimated Reactor Decommissioning Costs

Four sample calculations are provided in this section to demonstrate the use of the decommissioning cost equation developed above using the appropriate adjustment terms of  $L_x$  for labor, material, and services;  $E_x$  for energy and waste transportation; and  $B_x$  for radioactive waste burial/disposition. The coefficients A, B, and C (0.65, 0.13, and 0.22, labor, energy, and burial fractions, respectively) used in the examples, are developed in Table 3.1 and the equations in this chapter.

#### Example 1 (LLW Direct Disposal)

Scenario Description Reactor Type: PWR Thermal Power Rating: 3400 MW <sub>th</sub> Location of Plant: Western Region of the U S. LLW Disposition Preference Direct Disposal LLW Burial Location Washington					
Base Cost (1986 Dollars) = \$105 million [from 10 CFR 50 75(c)(1)]					
L <sub>x</sub> = 1.775 [from Table 3 2]					
$E_x = 0.985$ [from Section 3.2]					
B <sub>x</sub> = 3 634 [from Table 2 1]					
Decommissioning Cost (2002 dollars) = (\$105 million)*[(0 65)*(1.775)+(0 13)*(0 985)+(0 22)*(3 634)] = \$219 million					

#### Example 2 (LLW Direct Disposal)

Scenario Description         Reactor Type:       PWR         Thermal Power Rating       3400 MW <sub>th</sub> Location of Plant       Northeast Region of the U S         LLW Disposition Preference: Direct Disposal       LLW Burial Location
Base Cost (1986 Dollars) = \$105 million [from 10 CFR 50 75(c)(1)]
L <sub>x</sub> = 1 862 [from Table 3 2]
E <sub>x</sub> = 0 985 [from Section 3 2]
B <sub>x</sub> = 17 922 [from Table 2 1]
Decommissioning Cost (2002 dollars) = (\$105 million)*[(0 65)*(1 862)+(0 13)*(0 985)+(0 22)*(17.922)] = \$555 million

#### Example 3 (LLW Disposition by Waste Vendors)

Scenario Description Reactor Type PWR Thermal Power Rating 3400 MW <sub>th</sub> Location of Plant Northeast Region of the U S. LLW Disposition Preference: Contract with Waste Vendors LLW Burish Location South Carolina (Atlantic Compact)
Base Cost (1986 Dollars) = \$105 million [from 10 CFR 50.75(c)(1)]
$L_x = 1.862$ from Table 3.2]
$E_x = 0.985$ [from Section 3.2]
$B_x = 9273$ [from Table 21]
Decommission "3 Cost (2002 dollars) = $($105 \text{ mii}' \text{ a})^{*}[(0.65)^{*}(1.862) + (i - 3)^{*}(0.985) + (0.22)^{*}(9.273)]$ = \$355 milt "3

## Example 4 (LLW Disposition \* Waste Vendors)

Scenario Description Reactor Type BWR Thermal Power Rating 340 Location of Plant Midwest k LLW Disposition Preference: Cor LLW Burial Location: South Car	a 1 of the US with Waste Vendors (Non-Atlantic Compact)					
Base Cost (1986 Dollars) = \$135 mili	om 10 CFR 50 75(c)(1)]					
$L_x = 1.788$ [from Table 3 2]						
$E_x = 0.965$ [from Section 3 2]						
B <sub>x</sub> = 8 860 [from Table 2 1]						
Decommissioning Cost (2002 dollars = (\$135 million)*[(0 65)*(1.788)+(0 3 *(0 965)+(0 22)*(8 860)] = \$437 million						

## 4 References

 Konzek, G. J., and R. I. Smith, "Technology, Safety and Costs of Decommissioning a Reference Pressurized Water Reactor Power Station - Technical Support for Decommissioning Matters Related to Preparation of the Final Decommissioning Rule," (Report prepared by Pacific Northwest Laboratory, Richland, Washington), NUREG/CR-0130, Addendum 4, U.S. Nuclear Regulatory Commission, July 1988.

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- Konzek, G. J., and R. I. Smith, "Technology, Safety and Costs of Decommissioning a Reference Boiling Water Reactor Power Station - Technical Support for Decommissioning Matters Related to Preparation of the Final Decommissioning Rule," (Report prepared by Pacific Northwest Laboratory, Richland, Washington), NUREG/CR-0672, Addendum 3, U.S. Nuclear Regulatory Commission, July 1988.
- U.S. Nuclear Regulatory Commission, Office of Nuclear Regulatory Research, "Report on Waste Burial Charges - Changes in Decommissioning Waste Disposal Costs at Low-Level Waste Burial Facilities," NUREG-1307, Revision 8, December 1998.
- 4. U.S. Department of Labor, Bureau of Labor Statistics, *Employment Cost Indexes*, Updated Annually (approximately) via various Bulletins.
- 5. U.S. Department of Labor, Bureau of Labor Statistics, *PPI Detailed Report*, Updated Monthly.

LLW Burial/Disposition Prices for the Current Year

## LLW Burial/Disposition Prices for the Current Year

This appendix contains the price schedules for burial/disposition of low-level wastes at the Washington and South Carolina sites for the year 2002. Also provided are vendor price quotes for disposition of LLW generated by the decommissioning of nuclear power plants. These schedules are used to calculate the burial/disposition costs discussed in Appendix B.

## A.1 Washington LLW Disposal Site

Beginning in 1993, the Northwest Compact imposed on eligible (Northwest or Rocky Mountain Compact) waste generators an annual permit fee based on the volume of waste to be shipped to the Washington site for disposal. In the year, the annual permit fee ranges from \$411 to \$41,100. Hospitals, universities, research centers, and industries pay the lower fees, and nuclear power plants pay the highest fee of \$41,100 per year. The permit fees for nuclear power plants are included in this analysis for the years 1993 and later.

Beginning in 1994, the rate schedule for handling and disposing of heavy objects (greater than 5,000 pounds) at the Washington site was revised to recover additional crane rental costs from the waste generator. In 1996, the heavy object limit was raised to 17,500 pounds. A series of shipments of heavy objects for disposal was assumed that would minimize the crane surcharge and result in only a one-time heavy object charge.

Effective January 1, 1996, the operator of the Washington site implemented a restructured rate schedule based on waste volume, number of shipments, number of containers, and dose rate at the container surface. Each waste generator is also assessed an annual site availability charge based on cumulative volume and dose rate at the surface of all containers disposed. The site availability charge appears near the bottom of Tables B.1 through B.4.

In 1997, and again in 1998, the operator of the Washington site more than tripled rate charges on containers having

surface dose rates in excess of 100 R/hr. The overall increase arising from these two increases is about a factor of 11. These large increases affect the overall burial costs for a BWR reactor more than for a PWR reactor since a BWR usually has more highly irradiated components than a PWR.

In 2000, charges for all ranges of container surface dose rates were reduced by a factor of eight. This significantly reduced burial costs at the Washington LLW disposal site. However, effective May 1, 2002, these surface dose rate charges had increased by more than a factor of eight (to about what they were in 1998). In addition, volume, shipment, and container charges had increased by 6.5%, 42.2%, and 42.2%, respectively. Thus, burial charges for 2002 are significantly higher than the charges for 2000 but are roughly comparable to what they were in 1998. Exhibit A.1 provides the current rate schedule for the Washington LLW disposal site, effective May 1, 2002.

### A.2 South Carolina LLW Disposal Site

Access to the South Carolina site by waste generators outside the Southeast Compact ended June 30, 1994, with site closure scheduled for December 31, 1995. However, effective July 1, 1995, the scheduled closure was canceled and access to the Barnwell facility was extended to all states except North Carolina. In June 2000, prohibition on waste from North Carolina was lifted.

Effective November 1, 1996, the operator of the South Carolina disposal site implemented a restructured waste disposal rate schedule. The restructured pricing is based on weight, dose rate, and curies with a cost incentive toward higher density packaging. All business after November 1, 1996, is through customer-specific contracts.

Effective July 1, 1998, the operator of the South Carolina disposal site imposed a site access fee on users which varies according to their level of use. Access fees for large users (e.g., utilities with nuclear plants) average about \$205,000 per year. The site access fee appears in Table B.8.

Exhibit A.2 provides the current rate schedule for the Atlantic Compact states at the South Carolina LLW disposal site, effective July 1, 2002. Exhibit A.3 provides the current rate schedule for the non-Atlantic Compact states at the South Carolina LLW disposal site, effective July 1, 2001. The annual site access fee of \$205,000 per year was replaced with an Atlantic Compact Surcharge of \$4.00 per cubic foot. Most base disposal charges for non-Atlantic Compact waste are about 4% higher than the corresponding charges for Atlantic Compact waste. Dose rate surcharges and the Atlantic Compact Commission administrative surcharge are the same for both Atlantic and non-Atlantic Compact waste; other surcharges are about 4% higher for non-Atlantic Compact waste. An additional option is currently available only for Atlantic Compact licensees but must be elected at the beginning of the fiscal year. In some instances, the licensee may choose to pay the \$0.66 per millicurie rate for only LLW curies for radionuclides with half-lives greater than five years rather than pay the \$0.33 per millicurie rate for the entire LLW curies.

In the transition years between 2001 and 2008, the maximum allowable volume of LLW disposed at the South Carolina LLW disposal site from all sources will be governed by a schedule contained in the Atlantic Interstate Low-Level Radioactive Waste Compact Implementation Act, which was enacted into law July 1, 2000. This schedule is shown in Table A.1. After 2008, non-Atlantic Compact waste will not be accepted for disposal.

Table A.1 Schedule of Maximum Allowable LLW Disposal at the South Carolina Disposal Facility (4)

Fiscal Year	Maximum Allowable LLW Volume from All Sources (ft <sup>3</sup> )
2001	160,000
2002	80,000
2003	70,000
2004	60,000
2005	50,000
2006	45,000
2007	40,000
2008	35,000

(a) Reference: Code of Laws of South Carolina, 1976, Section 1, Title 48, Chapter 46

# A.3 LLW Disposition by Waste Vendors

Rapidly increasing fees for disposal of low-level radioactive waste has spawned the creation of a niche market for firms specializing in the management of LLW. Increasingly, licensees of nuclear power plants are outsourcing LLW management functions to these waste vendors for a negotiated fee (usually \$/pound of LLW processed). The degree to which LLW management functions are outsourced is negotiated on a case-by-case basis. Waste vendors can manage all LLW management functions from time of generation to disposal (including packaging, transportation, and volume reduction) or any subset of these functions as desired by the licensee.

The vendor determines the most efficient disposition process for each waste stream, which may include sorting into clean/contaminated streams, recycling where possible, volume reduction via the many techniques currently commercially available, and disposal of the residual LLW at the most cost effective disposal site. The vendor's profit is the difference between the price negotiated with the licensee and the total cost for waste minimization, recycling, volume reduction, packaging, transportation, and disposal. The more effective the vendor is at minimization, recycling, volume reduction, and obtaining volume discounts for packaging, transportation, and disposal, the greater will be the profit.

Currently, there are approximately five waste vendors operating in the United States. Clearly, waste management costs at nuclear power plants are being reduced through the use of waste vendors. Also, closer attention to LLW management by power plant licensees has resulted in dramatic reductions of LLW being disposed of at the commercial LLW burial sites. Since publication of NUREG/CR-0130 and NUREG/CR-0672, the average annual LLW volume disposed of by nuclear power plants has decreased by an order of magnitude. This volume reduction has been achieved through a combination of increased efforts to minimize the volume of LLW generated to begin with and increased use of waste vendors to reduce the volume of disposed LLW.

The trend of utilizing waste vendors by licensees of operating nuclear power plants is also now being observed at nuclear power plants being decommissioned. Table A.2 shows the disposition destination for LLW generated between 1993 and 1997 during the decommissioning of the Yankee Rowe Nuclear Power Plant (NPP). Over 60% of the waste generated during the decommissioning of this plant was contracted to waste vendors for disposition.

		1
LLW Destination	LLW Volume (m <sup>3</sup> ) [ft <sup>3</sup> ]	LLW Volume (% of Total)
South Carolina Disposal Site	874 [30,867]	21.1
Utah Disposal Site	634 [22,390]	15.3
Waste Vendors	2,617 [92,428]	63.3
Liquid LLW Vendors	11 [385]	0.3
Total	4,136 [146,070]	100 0

 Table A.2 Disposition Destination of Yankee Rowe

 NPP LLW<sup>(a)</sup>

(a) Reference: NRC Public Document Room (PDR) under NUREG-1307, Revision 8

The decommissioning analyses reported in NUREG/CR-0130 and NUREG/CR-0672 did not consider the possible use of waste vendors given that this market niche essentially did not exist at the time. Since the use of waste vendors has clearly become an accepted practice by the nuclear power industry for operations and decommissioning since that time, beginning with Revision 8, NUREG-1307 includes an alternative that provides for contracting with waste vendors to manage the disposition of certain portions of LLW generated during decommissioning. This new alternative does not modify or alter in any way the bases for the decommissioning fund requirement specified in 10 CFR 50.75. It merely provides another burial cost adjustment factor (B<sub>x</sub>) that reflects LLW disposition by waste vendors. ł

In support of this analysis performed for NUREG-1307, Rev. 8, several waste vendors were surveyed to develop a representative cost for waste vendor services. Each of the vendors was asked to provide a generic price quote for processing two waste streams: activated/contaminated concrete and contaminated metal. They were asked to provide these quotes as a price per pound of waste, or as a range of price per pound, based on the waste concrete and metal inventories in NUREG/CR-0130 and NUREG/CR-0672. The price quotes were to encompass complete disposition of these waste streams (from generation to disposal) and were to be developed assuming the vendor had a contract with a licensee engaged in a large decommissioning project.

In support of Revision 10, NUREG-1307, a similar survey was conducted. Three vendors provided price quotes in response to the survey. The price quotes are provided in Table A.3. For confidentiality reasons, the vendors providing the data are not identified.

Vendor	Activated/Contaminated Concrete (\$/kg) [\$/lb]	Contaminated Metal (\$/kg) [\$/lb]		
Vendor #1	1.32 - 2.98 [0 60 - 1.35]	3.31 - 4.41 [1.50 - 2.00]		
Vendor #2	7.83 - 8.53 [3.55 - 3.87]	4.94 - 6.55 [2.24 - 2.97]		
Vendor #3	2.76 - 3.86 [1.25 - 1.75]	5.51 - 6.61 [2 50 - 3.00]		

(a) Reference: NRC Public Document Room (PDR) under NUREG-1307, Revision 10

The vendor prices used to calculate the waste burial/ disposition cost factors,  $B_x$  for both PWR and BWR were \$4.41/kg [\$2.00/lb] for activated/contaminated concrete and \$5.51/kg [\$2.50/lb] for contaminated metal. These were developed by taking the average of the values in Table A.3 and rounding the result to the nearest half dollar.

This analysis assumed that disposition of dry active waste (DAW) was contracted by waste vendors at the same price as activated/contaminated concrete. All liquid radioactive waste and activated metal are dispositioned as assumed in NUREG/CR-0130 and NUREG/CR-0672 or, in other words, these wastes go directly to disposal without further processing. The resulting  $B_x$  will be conservative because the waste vendor quotes included packaging and transportation of LLW, which are already included in the labor and energy cost elements, respectively, of the 10 CFR 50.75 algorithm.

Also, when utilization of waste vendors is more cost effective than direct disposal, the resulting  $B_x$  will further be conservative because at least some of the activated metal could be dispositioned more economically through the services of a waste vendor.

## **EXHIBIT A.1**

#### US ECOLOGY, INC. **RICHLAND, WASHINGTON FACILITY**

#### RADIOACTIVE WASTE DISPOSAL **DISPOSAL CHARGES** EFFECTIVE May 1, 2002 SCHEDULE A, SEVENTEENTH REVISION

Rates in this Schedule A are subject to adjustment in accordance with the rate adjustment mechanism adopted in the Commission's Note: Sixth Supplemental Order in Docket No. UR-950619 as extended by Commission Order in Docket Nos. UR-010623 and UR-010706. A. SITE AVAILABILITY CHARGE

#### 1. Rates

Block	Block Criteria

Bloc	ck <u>Block Criteria</u>	Annual Charge per Generator	
0	No site use at all		
1	Greater than zero but less than or equal to 10 ft <sup>3</sup> and 50 mR/h		
2	Greater than 10 ft <sup>3</sup> or 50 mR/h <sup>*</sup> but less than or equal to 20 ft <sup>3</sup> and 100 mR/h <sup>*</sup>	589	1
	Greater than 20 ft <sup>3</sup> or 100 mR/h* but less than or equal to 40 ft <sup>3</sup> and 200 mR/h*		
4	Greater than 40 ft <sup>3</sup> or 200 mR/h* but less than or equal to 80 ft <sup>3</sup> and 400 mR/h*	2,170	)
	Greater than 80 ft <sup>3</sup> or 400 mR/h* but less than or equal to 160 ft <sup>3</sup> and 800 mR/h*		
	Greater than 160 ft <sup>3</sup> or 800 mR/h <sup>+</sup> but less than or equal to 320 ft <sup>3</sup> and 1,600 mR/h <sup>+</sup>		
	Greater than 320 ft <sup>3</sup> or 1,600 mR/h <sup>*</sup> but less than or equal to 640 ft <sup>3</sup> and 3,200 mR/h <sup>*</sup>		
8	Greater than 640 ft <sup>3</sup> or 3,200 mR/h <sup>+</sup> but less than or equal to 1,280 ft <sup>3</sup> and 6,400 mR/h <sup>+</sup>		
9	Greater than 1,280 ft <sup>3</sup> or 6,400 mR/h* but less than or equal to 2,560 ft <sup>3</sup> and 12,800 mR/h*		
10	Greater than 2,560 ft <sup>3</sup> or 12,800 mR/h* but less than or equal to 5,120 ft <sup>3</sup> and 25,600 mR/h*		
11	Greater than 5,120 ft <sup>3</sup> or 25,600 mR/h <sup>*</sup>	124,158	6

For purposes of determining the site availability charge, mR/hour is calculated by summing the mR per hour at combiner surface of all containers received during the year.

#### 2. Exemptions

As to waste which is generated for research, medical or educational purposes, educational research institutions shall be a. placed in a rate block for the site availability charge which is one (1) lower than what would otherwise apply through application of the block criteria shown above. "Educational research institution" means a state or independent, not-for-profit, post-secondary educational institution.

As to waste which anses as residual or secondary waste from brokers' provision of compaction or processing services for b. others, if application of the block criteria shown above would place a broker in a rate block for the site availability charge which is greater than Block No. 7, such broker shall be placed in the rate block which is the greater of (i) Block No. 7, or (ii) the block which is two (2) lower than what would otherwise apply through application of the block criteria shown above. "Brokers" are those customers holding the "broker" classification of site use permits issued by the Department of Ecology.

#### 3. Payment Arrangements

b.

#### Initial Determination a.

Initial determination as to the applicable rate block for each customer shall be based on projections provided by customers prior to the beginning of each calendar year. For those customers who do not intend to ship waste to the facility during the calendar year (those assigned to block No. 0) and for those customers who are initially determined to fall into block Nos. 1-2, the entire site availability charge for the year will be due and payable as of January 1. For those customers who are initially determined to fall into block Nos. 3-8, the entire site availability charge will also be due and payable as of January 1, although those customers may make special arrangements with the Company to pay the charge in equal installments at the beginning of each calendar quarter. For those generators who are initially determined to fall in block Nos. 9-11, 1/12 of the site availability charge will be due and payable as of the beginning of each calendar month. These customers may pay in advance if they wish.

#### Reconciliation

The site availability charge is assessed on the basis of actual volume and dose rate of waste delivered during the calendar year. Assessment of additional amounts, or refunds of overpaid amounts, will be made as appropriate to reconcile the initial determination regarding applicable rate block with the actual volume and dose rates during the calendar year.

Page 1 of 2

## **EXHIBIT A.1 (Continued)**

#### SCHEDULE A (Continued)

US ECOLOGY, INC.
RICHLAND, WASHINGTON FACILITY
RADIOACTIVE WASTE DISPOSAL RATES

EFFECTIVE MAY 1, 2002

В.	DISPO	DSAL RATES		
	1.	Volume:	\$37.90 per cubic foot	
	2.	Shipment:	\$6,009 per manifested shipment	
	3.	Container:	\$2,060 per container on each manifest.	
	4.	Exposure:		
		Block No.	Dose Rate at Container Surface	Charge per Container
		1	Less than or equal to 200 mR/h	\$ 130
		2	Greater than 200 mR/h but less than or equal to 1,000 mR/h	9,240
		3	Greater than 1,000 mR/h but less than or equal to 10,000 mR/h	36,800
		4	Greater than 10,000 mR/h but less than or equal to 100,000 mR/h	55,300
		5	Greater than 100,000 mR/h	928,000

#### EXTRAORDINARY VOLUMES

Waste shipments qualifying as an "extraordinary volume" under RCW 81.108 020(3) are charged a rate equal to 51.5% of the volume disposal rate.

#### NUCLEAR DECOMMISSIONING WASTE

The volume disposal rate applicable to waste from the decommissioning of nuclear generating units shall be 80% of those set forth above; provided, however, that such waste must satisfy the quantity requirements for "extraordinary volume" under RCW 81.108 020(3).

#### SCHEDULE B Surcharges and Other Special Charges Fifth Revision

### ENGINEERED CONCRETE BARRIERS

72" x 8' barrier 84" x 8' barrier \$7,422.00 each \$8,938.00 each

#### SURCHARGE FOR HEAVY OBJECTS

The Company shall collect its actual labor and equipment costs incurred, plus a margin thereon of 25%, in handling and disposing of objects or packages weighing more than seventeen thousand five hundred (17,500) pounds.

#### SCHEDULE C Tax and Fee Rider Twelfth Revision

The rates and charges set forth in Schedules A and B shall be increased by the amount of any fee, surcharge or tax assessed on a volume or gross revenue basis against or collected by US Ecology as listed below:

Perpetual Care and Maintenance Fees	\$1.75 per cubic foot
Business & Occupation Tax	3.3% of rates and charges
Site Surveillance Fee	
Surcharge (RCW 43.200 233)	\$6.50 per cubic foot
Commission Regulatory Fee	

3

-end-

#### Page 2 of 2

## Exhibit A.2



Approved by S.C. Budget and Control Board Pursuant to 48-46-40(A)(2), S.C.C.

## **Uniform Schedule of Maximum Disposal Rates** for Atlantic Compact Regional Waste

EFFECTIVE JULY 1, 2002

#### 1. BASE DISPOSAL CHARGES (not including surcharges)

	А.	Standard and Special-Nuclear-Material Waste:				
		a.)	Weight – Density Range	Rate		
			i.) Equal to or greater than 120 lbs./ft <sup>3</sup>	\$ 4.40 per pound		
			ii.) Equal to or greater than 75 lbs./ft <sup>3</sup> and less than 120 lbs./ft <sup>3</sup>	\$ 4.84 per pound		
			iii.) Equal to or greater than 60 lbs./ ${ m ft}^3$ and less than 75 lbs./ ${ m ft}^3$	\$ 5.94 per pound		
			iv.) Equal to or greater than 45 lbs /ft <sup>3</sup> and less than 60 lbs./ft <sup>3</sup>	\$ 7.70 per pound		
			v.) Less than 45 lbs./ft <sup>3</sup>	\$ 7.70 per pound times the ratio of 45 lbs./ft <sup>3</sup> divided by package density		
		b.1) b.2)	Millicurie charge, or Millicurie charge	<ul> <li>33 per millicurie</li> <li>.66 per millicurie for radionucides with greater than 5-year half lives</li> </ul>		
			Note: Option b.1 will apply unless generator specifically elects option b.2 for all of its shipments at the beginning of a fiscal year.			
	в.	Biol	ogical Waste	\$ 1.00 per pound in addition to above rates		
	NOTE 1	: MAX				
	NOTE 2	: THE	MINIMUM CHARGE PER SHIPMENT, EXCLUDING SURCHARGES AND SPECIFIC OTHER	CHARGES, IS \$1,000.00.		
2.	EXTEN	DED-C	CARE FUND	ncluded in Rates		
3.	SITE ST	SITE STABILIZATION AND CLOSURE FUND		ncluded in Rates		
	· • · · ·		- 1 -			

## **Exhibit A.2 (Continued)**



Approved by S.C. Budget and Control Board Pursuant to 48-46-40(A)(2), S.C.C.

#### 4. SURCHARGES

#### A. Dose Rate Surcharge

Dose	Leve	ł	Multiplier of Base Weight Rate
0 mR/hr	-	200 mR/hr	1.00
>200 mR/hr	-	1 R/hr	1.08
>1R/hr	-	2R/hr	1.12
>2R/hr	-	3R/hr	1.17
>3R/hr	-	4R/hr	1.22
>4R/hr	-	5R/hr	1.27
>5R/hr	-	10R/hr	1.32
>10R/hr	-	25R/hr	1.37
>25R/hr	-	50R/hr	1.42
>50R/hr			1.48

B. Irradiated Hardware Charges (applicable only where shipment requires shut-down of other disposal operations)

Per Shipment

- C. Irradiated Cask-Handling Fee
- D. Special Nuclear Material Surcharge
- E. Atlantic Compact Commission administrative surcharge

\$4 per cubic foot (Subject to change during year)

\$50,008.00

Included in Item 4.B

\$10.00 per gram

#### 5. MISCELLANEOUS

A. Large components (e.g., steam generators, reactor pressure vessels, coolant pumps)

Disposal fees for large components (e.g., steam generators, reactor pressure vessels, reactor coolant pumps) are based on the generally applicable rates, in their entirety, except that the weight and volume used to determine density and weight related charges is calculated as follows:

1. For packages where the large component shell qualifies as the disposal vault per DHEC regulations, weight and volume calculations are based on all sub-components and material contained within the inside surface of the large component shell, including all internals and any stabilization media injected by the shipper, but excluding the shell itself and all incidental external attachments required for shipping and handling; and

2. For packages with a separate shipping container that qualifies as the disposal vault per DHEC regulations, weight and volume calculations are based on the large component, all sub-components and material contained within the inside surface of the shipping container, including any stabilization media injected by the shipper (including that between the large component and the shipping container), but excluding the shipping container itself and all incidental external attachments required for shipping and handling.

- B. Transport vehicles with additional shielding features may be subject to an additional handling fee which will be provided upon request.
- C. Decontamination services, if required: \$150 per man hour, plus supplies at current CNS rate.

NUREG-1307, Rev. 10

## Exhibit A.2 (Continued)



Approved by S.C. Budget and Control Board Pursuant to 48-46-40(A)(2), S.C.C.

- D. Customers may be charged for all special services as described in the Barnwell Site Disposal Criteria.
- E. Terms of payment are net 30 days upon presentation of invoices. A per-month service charge of one and one-half percent (1%%) shall be levied on accounts not paid within thirty (30) days.
- F. Company purchase orders or a written letter of authorization in form and substance acceptable to CNS shall be received before receipt of radioactive waste material at the Barnwell Disposal Site and shall refer to CNS Radioactive Material License, the Barnwell Site Disposal Criteria and subsequent changes thereto.
- G. All shipments shall receive a CNS shipment identification number and conform to the Prior Notification Plan.
- H. All radioactive waste shall be packaged in accordance with Department of Transportation and Nuclear Regulatory Commission Regulations in Title 49 and Title 10 of the Code of Federal Regulations, Chem-Nuclear Systems, L.L.C.'s South Carolina Radioactive Material Licenses, Chem-Nuclear Systems, L.L.C.'s Barnwell Site Disposal Criteria, and amendments thereto.

**Exhibit A.3** 



Approved by S.C. Budget and Control Board Fursuant to 48-46-40(A)(6), S.C.C.

## Disposal Rate Schedule for *non*-Atlantic Compact Waste

EFFECTIVE JULY 1, 2001 THROUGH JUNE 30, 2003

## 1. BASE DISPOSAL CHARGES (not including surcharges)

2.

3.

A. Standard and Special-Nuclear-Material Waste:

	a.)		Weight Density Range		Rate	
		i.)	Equal to or greater than 120 lbs./ft <sup>3</sup>		\$ 4.59 per pound	
		ii.)	Equal to or greater than 75 lbs./ft <sup>3</sup> and less than 120 lbs./ft <sup>3</sup>		\$ 5.05 per pound	
		iii.)	Equal to or greater than 60 lbs./ft <sup>3</sup> and less than 75 lbs./ft <sup>3</sup>	l	\$ 6.20 per pound	
		iv.)	Equal to or greater than 45 lbs./ft <sup>3</sup> and less than 60 lbs./ft <sup>3</sup>	3	\$ 8.04 per pound	
		v.)	Less than 45 lbs./ft <sup>3</sup>		\$ 8.04 per pound times the ratio of 45 lbs./ft <sup>3</sup> divided by package density	
	b.)	Millic	urie charge	\$	.38 per millicurie	
в.	Biolo	gical	Waste		<ul> <li>1.04 per pound</li> <li>addition to above</li> <li>ates</li> </ul>	
NOTE 1:	MAXIM	IUM MA	LICURIE CHARGE IS \$137,808.00 PER SHIPMENT.			
NOTE 2:	NOTE 2: THE MINIMUM CHARGE PER BHIPMENT, EXCLUDING SURCHARGES AND SPECIFIC OTHER CHARGES, IS \$1,000.00.					
EXTEND	ED-C/	ARE	FUND	Inc	cluded in Rates	
SITE STABILIZATION AND CLOSURE FUND			Inc	cluded in Rates		

## Exhibit A.3 (Continued)



Approved by S.C. Budget and Control Board Pursuant to 48-46-40(A)(6), S.C.C.

#### 4. SURCHARGES

#### A. Dose Rate Surcharge

-			N. W. V. of Deep Meight Poto
Dose	Leve	2	Multiplier of Base Weight Rate
0 mR/hr	_	200 mR/hr	1.00
>200 mR/hr	_	1 R/hr	1.08
		2R/hr	1.12
>1R/hr	-		1.17
>2R/hr	-	3R/hr	
>3R/hr	-	4R/hr	1.22
		5R/hr	1.27
>4R/hr	-	10R/hr	1.32
>5R/hr	-		1.37
>10R/hr	-	25R/hr	
>25R/hr	-	50R/hr	1.42
			1.48
>50R/hr			

B. Irradiated Hardware Charges (applicable only where shipment requires shut-down of other disposal operations)

Per Shipment

- C. Irradiated Cask-Handling Fee
- D. Special Nuclear Material Surcharge
- E. Atlantic Compact Commission administrative surcharge

\$4 per cubic foot (Subject to change during year)

\$52,200.00

Included in Item 4.B

\$10.44 per gram

#### 5. MISCELLANEOUS

A. Large components (e.g., steam generators, reactor pressure vessels, coolant pumps)

Disposal fees for large components (e.g., steam generators, reactor pressure vessels, reactor coolant pumps) will be based on the generally applicable rates, in their entirety, except that the weight and volume used to determine density and weight related charges is calculated as follows:

1. For packages where the large component shell qualifies as the disposal vault per DHEC regulations, weight and volume calculations are based on all sub-components and material contained within the inside surface of the large component shell, including all internals and any stabilization media injected by the shipper, but excluding the shell itself and all incidental external attachments required for shipping and handling; and

2. For packages with a separate shipping container that qualifies as the disposal vault per DHEC regulations, weight and volume calculations are based on the large component, all sub-components and material contained within the inside surface of the shipping container, including any stabilization media injected by the shipper (including that between the large component and the shipping container), but excluding the shipping container itself and all incidental external attachments required for shipping and handling.

B. Transport vehicles with additional shielding features may be subject to an additional handling fee which will be provided upon request.

## **EXHIBIT A.3 (Continued)**



Approved by S.C. Budget and Control Board Fursuant to 48-46-40(A)(6), S.C.C.

- C. Decontamination services, if required: \$150 per man hour, plus supplies at current CNS rate.
- D. Customers may be charged for all special services as described in the Barnwell Site Disposal Criteria.
- E. Terms of payment are net 30 days upon presentation of invoices. A per-month service charge of one and one-half percent (1½%) shall be levied on accounts not paid within thirty (30) days.
- F. Company purchase orders or a written letter of authorization in form and substance acceptable to CNS shall be received before receipt of radioactive waste material at the Barnwell Disposal Site and shall refer to CNS Radioactive Material License, the Barnwell Site Disposal Criteria and subsequent changes thereto.
- G. All shipments shall receive a CNS shipment identification number and conform to the Prior Notification Plan.
- H. All radioactive waste shall be packaged in accordance with Department of Transportation and Nuclear Regulatory Commission Regulations in Title 49 and Title 10 of the Code of Federal Regulations, Chem-Nuclear Systems, L.L.C.'s South Carolina Radioactive Material Licenses, Chem-Nuclear Systems, L.L.C.'s Barnwell Site Disposal Criteria, and amendments thereto.

A.11

Appendix B

**Calculation of LLW Burial/Disposition Cost Estimation Factors** 

1

## **Appendix B**

## **Calculation of LLW Burial/Disposition Cost Estimation Factors**

The calculations necessary to determine the costs for burial/disposition of the radioactive wastes postulated to result from decommissioning the reference PWR and the reference BWR are performed using detailed spreadsheets. The spreadsheets evaluate the burial/disposition costs for each of the items originally costed in the PWR and BWR decommissioning studies and in the updated costs presented in Addendums 4 and 3 (Refs. 1, 2), respectively, to those reports. Those costs are based on the burial price schedule for U.S. Ecology's Washington Nuclear Center, located on the Hanford Site near Richland, Washington.

The  $B_x$  values reported in this document reflect the results for cost changes and waste burial/disposition at different sites normalized to the 1986 burial costs for the Washington low-level waste (LLW) disposal site. All the calculations are based on the same inventory of radioactive wastes as was postulated in the 1986 and 1978-80 analyses. Starting in 1988, the inventories also included post-TMI-2 contributions from the reference PWR and the reference BWR (Refs. 1, 2).

### **B.1 Washington LLW Disposal Site**

The LLW disposal site located in Washington was used to develop the original decommissioning cost estimates for the reference PWR and the reference BWR. These estimates are the basis for the minimum decommissioning fund requirement specified in 10 CFR 50.75(c), which is in 1986 dollars. Thus, as shown in Table 2.1,  $B_x^{\perp} = 1.0/1.0$  (for PWR/BWR) for 1986. For the year 2002,  $B_x = 3.634/14.549$ . These  $B_x$  values reflect the adjustment in waste burial costs at the Washington LLW disposal site since 1986.  $B_x$  values are summarized in Table 2.1.

The year 2002 waste burial costs were developed using the rate schedule provided in Exhibit A.1. The spreadsheet calculations, which are too voluminous to present here, are summarized in Table B.1. Tables B.2 through B.6 provide

summaries of the waste burial costs at the Washington LLW disposal site for 2000, 1998, 1997, 1996, and 1995, respectively. These estimates were originally reported in previous issues of NUREG-1307.

## **B.2** South Carolina LLW Disposal Site

The year 2002 waste burial costs for the South Carolina LLW disposal site were developed using the rate schedules provided in Exhibits A.2 and A.3. The spreadsheet calculations, which are too voluminous to present here, are summarized in Table B.7 for Atlantic Compact reactors and Table B.8 for non-Atlantic Compact reactors. For the year 2002,  $B_x = 17.922/15.988$  for the South Carolina disposal site from Atlantic Compact reactors and  $B_x = 18.732/16.705$  from non-Atlantic Compact reactors. These  $B_x$  values reflect the year 2002 burial cost estimates for the South Carolina LLW disposal site normalized to the 1986 Washington LLW disposal site burial costs.  $B_x$  values are summarized in Table 2.1:

Tables B.9 through B.14 provide summaries of the waste burial costs at the South Carolina LLW disposal site for 2000, 1998, 1997, 1996, and 1995, respectively. These estimates were originally reported in previous issues of NUREG-1307.

# **B.3 LLW Disposition by Waste Vendors**

The year 2002 waste disposition costs for activated/ contaminated concrete, contaminated metal, and dry active waste (DAW) by waste vendors were developed using the unit prices discussed in Section A.3.

The year 2002 waste burial costs for activated metal and liquid radioactive waste at the Washington and South Carolina LLW disposal sites were developed using the rate

#### Appendix B

schedules provided in Exhibits A.1, A.2, and A.3. The spreadsheet calculations, which are too voluminous to present here, are summarized in Tables B.15 through B.17. For the year 2002,  $B_x = 5.748/15.571$  for the Washington LLW disposal site and  $B_x = 9.273/8.626$  for the South Carolina disposal site from Atlantic Compact reactors and  $B_x = 9.467/8.860$  from non-Atlantic Compact reactors. These  $B_x$  values reflect the year 2002 waste vendors disposition cost estimates for both the Washington and South Carolina LLW disposal sites normalized to the 1986 Washington LLW disposal site burial costs.  $B_x$  values are summarized in Table 2.1.

Tables B.18 through B.22 provide summaries of the waste burial/disposition costs at the Washington and South Caroli na LLW disposal sites for 2000 and 1998. No estimates are provided for LLW disposition by waste vendors prior to 1998 since this was the first year that this disposition alternative was included in NUREG-1307.

## **B.4** Other

As other low-level radioactive waste burial sites come into service in the various interstate compacts, values for  $B_x$ will be calculated using the price schedules for each of those sites and will be incorporated into subsequent issues of this report. Those materials whose activity concentrations exceed the limits for Class C LLW are identified by footnote as greater-than-Class C (GTCC) material. Because the analyses in this report postulate placing this material in a LLW disposal facility, the disposal costs for this material may be significantly overestimated compared with high-density packaging and geologic repository disposal. It may also be feasible to store GTCC waste in independent spent fuel storage installations (ISFSIs) or other interim storage facilities, as permitted by 10 CFR 72.

## Table B.1 Burial Costs at the Washington Site(2002 dollars)

REFERENCE PWR_COMPONENT	VOLUME CHARGE	SHIPMENT CHARGE	CONTAINER CHARGE	LINER DOSE RATE CHARGE	BENTON COUNTY TAX_SURCHARGE	DISPOSAL COST
VESSEL WALL	144,020	220 240				
VESSEL HEAD & BOTTOM	151,600	228,342	78,280	2,101,400	0	2,552,042
UPPER CORE SUPPORT ASSM	15,160	240,360	82,400	5,200	0	479,560
UPPER SUPPORT COLUMN	• • • •	24,036	8,240	147,200	0	194,636
UPPER CORE BARREL	15,160	24,036	8,240	147,200	0	194,636
UPPER CORE GRID PLATE	7,580	12,018	4,120	110,600	Ó	134,318
GUIDE TUBES	18,950	30,045	10,300	276,500	Ő	335,795
LOWER CORE BARREL (*)	22,740	36,054	12,360	220,800	ŏ	291,954
THERMAL SHIELDS (*)	121,280	192,288	65,920	1,769,600	ů 0	2,149,088
CORE SHROUD(*)	22,740	36,054	12,360	331,800	ő	
LOWER GRID PLATE (*)	15,160	24,036	8,240	221,200	õ	402,954
LOWER SUPPORT COLUMN	18,950	30,045	10,300	276,500	0	268,636
LOWER CORE FORGING	3,790	6,009	2,060	55,300	0	335,795
MISC INTERNALS	41,690	66,099	22,660	608,300	0	67,159
BIO CUIFID CONCOURS	30,320	48,072	16,480	442,400	-	738,749
BIO SHIELD CONCRETE	945,984	294,441	401,700	112,100	0	537,272
REACTOR CAVITY LINER	19,405	6,009	8,240	0	0	1,642,125
REACTOR COOLANT PUMPS	159,180	72,108	24,720	0	0	33,654
PRESSURIZER	136,440	48,072	16,480	0	0	256,008
R.Hx, EHx, SUMP PUMP, CAVITY PUMP	15,160	6,009	6,180	•	0	200,992
PRESSURIZER RELIEF TANK	45,480	12,018	4,120	0	0	27,349
SAFETY INJECTION ACCUM TANKS	151,600	48,072	16,480	0	Ó	61,618
STEAM GENERATORS	809,620	192,288	65,920	0	0	216,152
REACTOR COOLANT PIPING	125,070	42,063	14,420	0	0	1,067,828
REMAINING CONTAM. MATLS	1,993,843	606,909	846,660	0	0	181,553
CONTAMINATED MATRL OTHR BLD	18,082,166	4,783,164		0	0	3,447,412
FILTER CARTRIDGES	11,939	36,054	7,640,540	0	0	30,505,870
SPENT RESINS	75,800	120,180	12,360	1,545,600	0	1,605,953
COMBUSTIBLE WASTES	383,738	360,540	41,200	1,106,000	0	1,343,180
EVAPORATOR BOTTOMS	356,260		123,600	0	0	867,878
POST-TMI-2 ADDITIONS	589,838	564,846	193,640	1,635,910	0	2,750,656
HEAVY OBJECT SURCHARGE	-	0	0	0	0	589,838
SITE AVAILABILITY CHARGES, (3 YRS	1					127,975
SUBTOTAL PWR COSTS	24,530,661	0.100.000				372,474
-	24,000,001	8,190,267	9,758,220	11,001,510	0	53,981,107
TAXES & FEES (% OF CHARGES)					•	00,001,107
TAXES & FEES (\$/UNIT VOL.)						2,051,282
ANNUAL PERMIT FEES (3 YRS)						9,223,270
						123,300
TOTAL PWR COSTS					-	123,300
						65,378,959

(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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Appendix B

## Table B.1 Burial Costs at the Washington Site(2002 dollars)

	VOLUME	SHIPMENT	CONTAINER	LINER DOSE	BENTON COUNTY TAX SUR <u>CHARGE</u>	DISPOSAL COST
REFERENCE BWR COMPONENT	CHARGE	CHARGE	CHARGE	RATE CHARGE	THE OUNDERING	
	10.070	84,126	57,680	25,984,000	0	26,139,185
STEAM SEPARATOR	13,379	42,063	28,840	774,200	0	851,811
FUEL SUPPORT & PIECES	6,708	•	16,480	7,424,000	0	7,508,639
CONTROL RODS/INCORES	20,087	48,072	24,720	663,600	0	729,718
CONTROL RODS GUIDES	5,344	36,054	82,400	37,120,000	0	37,341,341
JET PUMPS	18,761	120,180	148,320	66,816,000	0	67,429,107
TOP FUEL GUIDES	32,139	432,648	63,860	1,714,300	0	1,889,047
CORE SUPPORT PLATE	14,743	96,144	288,400	129,920,000	0	131,112,574
CORE SHROUD(*)	62,914	841,260	45,320	1,216,600	0	1,392,826
REACTOR VESSEL WALL	10,726	120,180	28,840	0	0	233,412
SAC SHIELD (NEUTRON ACT. MATL.)	120,446	84,126		0	0	160,198
REACT. WATER REC	117,793	30,045	12,360	0	0	721,551
SAC SHIELD (CONTAM. MATL.)	414,929	228,342	78,280	0	0	7,663,723
OTHER PRIMARY CONTAINMENT	4,732,573	1,021,530	1,909,620	ő	0	74,370
CONTAINM. ATMOSPHERIC	64,241	6,009	4,120	ő	0	38,878
HIGH PRESSURE CORE SPRAY	22,740	12,018	4,120	ŏ	Ō	21,448
LOW PRESSURE CORE SPRAY	13,379	6,009	2,060	ő	Ō	67,205
REACTOR BLDG CLOSED COOLING	42,827	12,018	12,360	ő	0	29,585
REACTOR CORE ISO COOLING	17,396	6,009	6,180	ő	Ō	127,466
RESIDUAL HEAT REMOVAL	83,001	30,045	14,420	0	0	694,327
POOL LINER & RACKS	509,945	108,162	76,220	0	õ	971,625
CONTAMINATED CONCRETE	580,893	168,252	222,480	0	ů	2,978,983
OTHER REACTOR BUILDING	1,899,169	276,414	803,400	0	õ	2,947,229
	1,881,811	492,738	572,680	0	ů 0	654,597
TURBINE NUCLEAR STEAM CONDENSATE	485,840	78,117	90,640	0	ŏ	1,329,403
LOW PRESSURE FEEDWATER HEATERS	986,385	252,378	90,640	0	ů 0	113,251
	95,053	12,018	6,180	0	õ	1,166,769
MAIN STEAM MOISTURE SEPARATOR REHEATERS	956,975	156,234	53,560	0	ŏ	336,907
REACTOR FEEDWATER PUMPS	259,653	36,054	41,200	0	ů	226,499
HIGH PRESSURE FEEDWATER HEATERS	161,947	48,072	16,480	0	õ	10,575,790
	6,500,608	1,430,142	2,645,040		0	4,974,053
OTHER TG BLDG	3,218,885	432,648	1,322,520	0	0	3, 575, 931
RAD WASTE BLDG	405,909	228,342	2,941,680	0	0	2,410,082
REACTOR BLDG	274,017	150,225	1,985,840	0	0	2,088,623
TG BLDG	236,496	138,207	1,713,920	0	0	6,550,245
RAD WASTE & CONTROL	852,750	1,352,025	463,500	3,881,970	0	904,419
CONCENTRATOR BOTTOMS	231,190	366,549	125,660	181,020	0	48,209
OTHER	48,209	0	0	0	Ų	184,275
POST-TMI-2 ADDITIONS	10,400					496,632
HEAVY OBJECT SURCHARGE					0	326,759,932
SITE AVAILABILITY CHARGES, (3.5 YRS)	25,399,860	8,983,455	16,000,020	275,695,690	U	320,133,332
SUBTOTAL BWR COSTS	20,000,000					12,416,877
						9,550,079
TAXES & FEES (% OF CHARGES)						164,400
TAXES & FEES (\$/UNIT VOL.)						101/100
ANNUAL PERMIT FEES (3.5 YRS)						348,891,289
TOTAL BWR COSTS						

(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

## Table B.2 Burial Costs at the Washington Site(2000 dollars)

REFERENCE PWR COMPONENT	VOLUME CHARGE	SHIPMENT CHARGE	CONTAINER CHARGE	LINER DOSE RATE_CHARGE	BENTON COUNTY TAX_SURCHARGE	DISPOSAL COST
VESSEL WALL	87,020	160,664				
VESSEL HEAD & BOTTOM	91,600	169,120	55,062	264,100	0	566,846
UPPER CORE SUPPORT ASSM	9,160	16,912	57,960	640	0	319,320
UPPER SUPPORT COLUMN	9,160	16,912	5,796	18,200	0	50,068
UPPER CORE BARREL	4,580	8,456	5,796	18,200	0	50,068
UPPER CORE GRID PLATE	11,450	21,140	2,898	13,900	0	29,834
GUIDE TUBES	13,740	25,368	7,245	34,750	0	74,585
LOWER CORE BARREL (*)	73,280	•	8,694	27,300	0	75,102
THERMAL SHIELDS (=)	13,740	135,296	46,368	222,400	0	477,344
CORE SHROUD(*)	9,160	25,368	8,694	41,700	0	89,502
LOWER GRID PLATE (*)	11,450	16,912	5,796	27,800	0	59,668
LOWER SUPPORT COLUMN	2,290	21,140	7,245	34,750	0	74,585
LOWER CORE FORGING	25,190	4,228	1,449	6,950	0	14,917
MISC INTERNALS	18,320	46,508	15,939	76,450	0	164,087
BIO SHIELD CONCRETE	571,584	33,824	11,592	55,600	0	119,336
REACTOR CAVITY LINER	11,725	207,172	282,555	0	0	1,061,311
REACTOR COOLANT PUMPS	96,180	4,228	5,796	0	0	21,749
PRESSURIZER	82,440	50,736	17,388	0	0	164,304
R.Hx, EHx, SUMP PUMP, CAVITY PUMP	9,160	33,824	11,592	0	0	127,856
PRESSURIZER RELIEF TANK	27,480	4,228	4,347	0	0	17,735
SAFETY INJECTION ACCUM TANKS	91,600	8,456	2,898	0	0	38,834
STEAM GENERATORS	489,190	33,824	11,592	0	0	137,016
REACTOR COOLANT PIPING	75,570	135,296	46,368	0	0	670,854
REMAINING CONTAM. MATLS	1,204,723	29,596	10,143	0	0	115,309
CONTAMINATED MATRL OTHR BLD	10,925,636	427,028	595, 539	0	0	2,227,290
FILTER CARTRIDGES	7,214	3,365,488	5,374,341	0	0	19,665,465
SPENT RESINS	45,800	25,368	8,694	191,100	0	232,376
COMBUSTIBLE WASTES		84,560	28,980	139,000	0	298,340
EVAPORATOR BOTTOMS	231,863 215,260	253,680	86,940	0	0	572,483
POST-TMI-2 ADDITIONS	356,393	397,432	136,206	205,082	0	953,980
HEAVY OBJECT SURCHARGE	220, 393	0	0	0	0	356, 393
SITE AVAILABILITY CHARGES, (3 YRS	: <b>1</b>					122,550
SUBTOTAL PWR COSTS	14,821,956	5 360 361				429,702
	14,021,956	5,762,764	6,863,913	1,377,922	0	29,378,807
TAXES & FEES (% OF CHARGES)						1 000 000
TAXES & FEES (\$/UNIT VOL.)						1,263,289
ANNUAL PERMIT FEES (3 YRS)						9,223,270
TOTAL PWR COSTS						120,000
						39,985,366

(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

Appendix B

## Table B.2 Burial Costs at the Washington Site(2000 dollars)

	VOLUME	SHIPMENT	CONTAINER CHARGE	LINER DOSE RATE CHARGE	BENTON COUNTY TAX SURCHARGE	DISPOSAL COST
REFERENCE BWR COMPONENT	CHARGE	CHARGE	CHARGE	NATE CIERCOE		
STEAM SEPARATOR	8,084	59,192	40,572	3,262,000	0	3,369,848
FUEL SUPPORT & PIECES	4,053	29,596	20,286	97,300	0	151,235
CONTROL RODS/INCORES	12,137	33,824	11,592	932,000	0	989,553
CONTROL RODS/INCORES	3,229	25,368	17,388	83,400	0	129,385
	11,336	84,560	57,960	4,660,000	0	4,813,856
JET PUMPS	19,419	304,416	104,328	8,388,000	0	8,816,163
TOP FUEL GUIDES	8,908	67,648	44,919	215,450	0	336,925
CORE SUPPORT PLATE	38,014	591,920	202,860	16,310,000	0	17,142,794
CORE SHROUD(4)	6,481	84,560	31,878	152,900	0	275,819
REACTOR VESSEL WALL	72,776	59,192	20,286	0	0	152,254
SAC SHIELD (NEUTRON ACT. MATL.)	71,173	21,140	8,694	0	0	101,007
REACT. WATER REC	•	160,664	55,062	0	0	466,435
SAC SHIELD (CONTAM. MATL.)	250,709	718,760	1,343,223	0	0	4,921,506
OTHER PRIMARY CONTAINMENT	2,859,523		2,898	Ő	Ō	45,942
CONTAINM. ATMOSPHERIC	38,816	4,228	2,898	õ	ò	25,094
HIGH PRESSURE CORE SPRAY	13,740	8,456	1,449	ő	Ō	13,761
LOW PRESSURE CORE SPRAY	8,084	4,228	•	0	Ő	43,027
REACTOR BLDG CLOSED COOLING	25,877	8,456	8,694	0	õ	19,086
REACTOR CORE ISO COOLING	10,511	4,228	4,347	0	õ	81,434
RESIDUAL HEAT REMOVAL	50,151	21,140	10,143	0	ŏ	437,837
POOL LINER & RACKS	308,120	76,104	53,613	ů 0	õ	625,864
CONTAMINATED CONCRETE	350,988	118,384	156,492	0	ő	1,907,117
OTHER REACTOR BUILDING	1,147,519	194,488	565,110	0	ŏ	1,886,549
TURBINE	1,137,031	346,696	402,822	0	õ	412,275
NUCLEAR STEAM CONDENSATE	293,555	54,964	63,756	0	õ	837,327
LOW PRESSURE FEEDWATER HEATERS	595,995	177,576	63,756	0	ő	70,236
MAIN STEAM	57,433	8,456	4,347	0	ő	725,827
MOISTURE SEPARATOR REHEATERS	578,225	109,928	37,674	0	0	211,236
REACTOR FEEDWATER PUMPS	156,888	25,368	28,980	0	ŏ	143,268
HIGH PRESSURE FEEDWATER HEATERS	97,852	33,824	11,592	0	0	6,794,588
OTHER TG BLDG	3,927,808	1,006,264	1,860,516	0	0	3,179,594
RAD WASTE BLDG	1,944,920	304,416	930,258	0	ů O	2,475,095
REACTOR BLDG	245,259	160,664	2,069,172	•	0	1,668,103
TG BLDG	165,567	105,700	1,396,836	0	0	• •
RAD WASTE & CONTROL	142,896	97,244	1,205,568	0	-	1,445,708
CONCENTRATOR BOTTOMS	515,250	951,300	326,025	486,640	0	2,279,215
OTHER	139,690	257,908	88,389	22,522	0	508,509
POST-TMI-2 ADDITIONS	29,129	0	0	0	0	29,129
HEAVY OBJECT SURCHARGE						172,650
SITE AVAILABILITY CHARGES, (3.5 YE	(S)					572,936
SUBTOTAL BWR COSTS	15,347,145	6,320,860	11,254,383	34,610,212	0	68,278,186
TAXES & FEES (% OF CHARGES)						2,935,962
						9,550,079
TAXES & FEES (\$/UNIT VOL.) ANNUAL PERMIT FEES (3.5 YRS)						160,000
ANNUAL PERMIT PERS (5.5 185)						80,924,227
TOTAL BWR COSTS						00,924,221

(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

## Table B.3 Burial Costs at the Washington Site(1998 dollars)

REFERENCE PWR_COMPONENT	VOLUME CHARGE	SHIPMENT CHARGE	CONTAINER CHARGE	LINER DOSE RATE CHARGE	BENTON COUNTY TAX_SURCHARGE	DISPOSAL COST
VESSEL WALL	116,280	238,640	44,004	2,147,000	0	2,545,924
VESSEL HEAD & BOTTOM	122,400	251,200	46,320	2,147,000	0	419,920
UPPER CORE SUPPORT ASSM	12,240	25,120	4,632	151,200	0	193,192
UPPER SUPPORT COLUMN	12,240	25,120	4,632	151,200	ŏ	193,192
UPPER CORE BARREL	6,120	12,560	2,316	113,000	õ	133,996
UPPER CORE GRID PLATE	15,300	31,400	5,790	282,500	Ő	334,990
GUIDE TUBES	18,360	37,680	6,948	226,800	õ	289,788
LOWER CORE BARREL (*)	97,920	200,960	37,056	1,808,000	õ	2,143,936
THERMAL SHIELDS (*)	18,360	37,680	6,948	339,000	ő	401,988
CORE SHROUD(*)	12,240	25,120	4,632	226,000	ŏ	267,992
LOWER GRID PLATE(*)	15,300	31,400	5,790	282,500	õ	334,990
LOWER SUPPORT COLUMN	3,060	6,280	1,158	56,500	õ	66,998
LOWER CORE FORGING	33,660	69,080	12,738	621,500	õ	736,978
MISC INTERNALS	24,480	50,240	9,264	452,000	õ	535,984
BIO SHIELD CONCRETE	763,776	307,720	225,810	0	Ő	1,297,306
REACTOR CAVITY LINER	15,667	6,280	4,632	0	õ	26,579
REACTOR COOLANT PUMPS	128,520	75,360	13,896	ō	ů	217,776
PRESSURIZER	110,160	50,240	9,264	0	ů	169,664
R.Hx, EHx, SUMP PUMP, CAVITY PUMP	12,240	6,280	3,474	Ő	ŏ	21,994
PRESSURIZER RELIEF TANK	36,720	12,560	2,316	0	ő	51,596
SAFETY INJECTION ACCUM TANKS	122,400	50,240	9,264	0	ő	181,904
STEAM GENERATORS	653,677	200,960	37,056	ő	ő	891,693
REACTOR COOLANT PIPING	100,980	43,960	8,106	ō	ő	153,046
REMAINING CONTAM. MATLS	1,609,805	634,280	475,938	0	ŏ	2,720,023
CONTAMINATED MATRL OTHR BLD	14,599,321	4,998,880	4,295,022	ō	ŏ	23,893,223
FILTER CARTRIDGES	9,639	37,680	6,948	1,587,600	õ	1,641,867
SPENT RESINS	61,200	125,600	23,160	1,130,000	Ő	1,339,960
COMBUSTIBLE WASTES	309,825	376,800	69,480	0	õ	756,105
EVAPORATOR BOTTOMS	287,640	590,320	108,852	1,676,341	ő	2,663,153
POST-TMI-2 ADDITIONS	476,228	0	0	0	ŏ	476,228
HEAVY OBJECT CHARGE				· ·	Ŷ	121,713
SITE AVAILABILITY CHARGES, (3 YRS	)		_			413,442
SUBTOTAL PWR COSTS	19,805,758	8,559,640	5,485,446	11,251,141	0	45,637,140
TAXES & FEES (% OF CHARGES)						
TAXES & FEES (\$/UNIT VOL.)						1,962,397
ANNUAL PERMIT FEES (3 YRS)						9,223,270
						120,000
TOTAL PWR COSTS						56,942,806

(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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### Table B.3 Burial Costs at the Washington Site(1998 dollars)

CHARGE	CHARGE				
		CHARGE	RATE CHARGE	TAX_SURCHARGE	COST_
10,802	87,920	32,424	26,600,000	0	26,731,14
5,416				-	856,58
16,218				-	7,675,72
4,315	37,680	13,896	678,000		733,89
15,147	125,600	46,320	38,000,000		38,187,06
25,949	452,160	83,376	68,400,000		68,961,46
11,903	100,480	35,898	1,751,500		1,899,78
50,796	879,200	162,120	133,000,000		134,092,11
8,660	125,600	25,476	1,243,000		1,402,73
	87,920	16,212	0	•	201,37
	31,400	6,948	0	0	133,45
	238,640	44,004	0	0	617,65
			0	0	5,962,08
			0	0	60,46
	•		0	0	33,23
•			0	0	18,24
•		-	Ó	0	54,08
•			0	0	23,7
			Ō	0	106,5
			0	0	567,6
		•	Ő		769,9
	•		õ		2,273,8
			0		2,356,2
	•		•		524,8
	•				1,111,10
	•		•		92,7
	•		•		966,0
	•				270,4
			0		190,2
	•		0		8,230,0
			0		3,794,4
		•	0	•	
	•		U		2,219,9
			0		1,494,5
			•		1,298,84
				•	6,340,0
•	•	•			827,4
38,923	0	0	0	0	38,9
					193,3
RS)		<u> </u>			551,2
20,507,539	9,388,600	8,994,186	282,228,581	0	321,863,5
					13,840,1
					9,550,0
					140,00
F	$16, 218 \\ 4, 315 \\ 15, 147 \\ 25, 949 \\ 11, 903 \\ 50, 796 \\ 8, 660 \\ 97, 247 \\ 95, 105 \\ 335, 009 \\ 3, 821, 022 \\ 51, 867 \\ 18, 360 \\ 10, 802 \\ 34, 578 \\ 14, 045 \\ 67, 014 \\ 411, 723 \\ 469, 006 \\ 1, 533, 366 \\ 1, 519, 351 \\ 392, 261 \\ 796, 396 \\ 76, 745 \\ 772, 650 \\ 209, 641 \\ 130, 754 \\ 5, 248, 512 \\ 2, 598, 889 \\ 327, 726 \\ 221, 238 \\ 190, 944 \\ 688, 500 \\ 186, 660 \\ 38, 923 \\ \end{array}$	16,218 $50,240$ 4,315 $37,680$ 15,147       125,600         25,949 $452,160$ 11,903       100,480 $50,796$ $879,200$ 8,660       125,600         97,247 $87,920$ 95,105 $31,400$ 335,009       238,640         3,821,022 $1,067,600$ 51,867 $6,280$ 18,360       12,560         10,802 $6,280$ 34,578       12,560         14,045 $6,280$ 67,014 $31,400$ 411,723       113,040         469,006 $175,840$ 1,533,366       280,880         1,519,351       514,960         392,261 $81,640$ 796,396       263,760         76,745       12,560         772,650       163,280         209,641       37,680         130,754 $50,240$ 5,248,512       1,494,640         2,598,889       452,160         327,726       238,640         221,238       157,000	16,218 $50,240$ $9,264$ $4,315$ $37,680$ $13,896$ $15,147$ $125,600$ $46,320$ $25,949$ $452,160$ $83,376$ $11,903$ $100,480$ $35,698$ $50,796$ $879,200$ $162,120$ $8,660$ $125,600$ $25,476$ $97,247$ $87,920$ $16,212$ $95,105$ $31,400$ $6,948$ $335,009$ $238,640$ $44,004$ $3,821,022$ $1,067,600$ $1,073,466$ $51,867$ $6,280$ $2,316$ $18,360$ $12,560$ $2,316$ $10,802$ $6,280$ $3,474$ $67,014$ $31,400$ $8,106$ $411,723$ $113,040$ $42,846$ $469,006$ $175,840$ $125,064$ $1,519,351$ $514,960$ $321,924$ $392,261$ $81,640$ $50,952$ $76,445$ $12,560$ $3,474$ $772,650$ $163,280$ $30,108$ $209,641$ $37,680$ $23,160$ $130,754$ $50,240$ $9,264$ $5,248,512$ $1,494,640$ $1,486,872$ $2,598,889$ $452,160$ $743,436$ $327,726$ $238,640$ $1,653,624$ $21,238$ $157,000$ $1,116,312$ $190,944$ $144,440$ $965,456$ $688,500$ $1,413,000$ $260,550$ $186,660$ $383,080$ $70,638$ $38,923$ $0$ $0$	16,218 $50,240$ $9,264$ $7,600,000$ 4,315 $37,660$ $13,896$ $678,000$ 15,147 $125,600$ $46,320$ $38,000,000$ 25,949 $452,160$ $83,376$ $68,400,000$ 11,903 $100,480$ $35,898$ $1,751,500$ $50,796$ $879,200$ $162,120$ $133,000,000$ $8,660$ $125,600$ $25,476$ $1,243,000$ $97,247$ $87,920$ $16,212$ $0$ $95,105$ $31,400$ $6,948$ $0$ $335,009$ $238,640$ $44,004$ $0$ $3,821,022$ $1,067,600$ $1,073,466$ $0$ $10,802$ $6,280$ $2,316$ $0$ $10,802$ $6,280$ $3,474$ $0$ $67,014$ $31,400$ $8,106$ $0$ $411,723$ $113,040$ $42,846$ $0$ $449,006$ $175,840$ $125,064$ $0$ $1,533,366$ $288,880$ $451,620$ $0$ $76,745$ $12,550$ $3,474$ $0$ $75,240$ $9,264$ $0$ $0$ $13,250$ $163,280$ $30,108$ $0$ $209,641$ $37,680$ $23,160$ $0$ $21,238$ $157,000$ $1,16,312$ $0$ $22,243$ $157,000$ $1,486,872$ $0$ $22,238,540$ $1,653,624$ $0$ $22,248$ $0$ $32,261$ $81,57,000$ $1,16,312$ $0$ $22,598,889$ $452,160$ $743,436$ $0$ $22,2,238$ $157,000$ $1,16,312$ $0$	16,218       50,240       9,264       7,600,000       0         4,315       37,680       13,996       679,000       0         15,147       125,600       46,320       38,000,000       0         11,903       100,480       35,898       1,751,500       0         50,796       879,200       162,120       133,000,000       0         97,247       87,920       162,122       0       0         35,009       238,640       44,004       0       0         3,821,022       1,067,600       1,073,466       0       0         10,802       6,280       1,158       0       0         14,045       6,280       1,158       0       0         14,045       6,280       1,158       0       0         14,045       6,280       3,474       0       0         15,33,366       28,860       451,620       0       0         14,045       6,280       3,474       0       0         13,31040       42,846       0       0       0         14,045       6,280       321,924       0       0         1533,366       286,803       321,924

### Table B.4 Burial Costs at the Washington Site(1997 dollars)

REFERENCE PWR COMPONENT_	VOLUME CHARGE	SHIPMENT CHARGE	CONTAINER CHARGE	LINER DOSE RATE CHARGE	BENTON COUNTY TAX_SURCHARGE	DISPOSAL
VESSEL WALL VESSEL HEAD & BOTTOM	145,920	106,324	22,610	703,000	21,585	999,439
	153,600	111,920	23,800	0	6,161	295,481
UPPER CORE SUPPORT ASSM	15,360	11,192	2,380	48,760	1,720	79,412
UPPER SUPPORT COLUMN	15,360	11,192	2,380	48,760	1,720	79,412
UPPER CORE BARREL	7,680	5,596	1,190	37,000	1,136	52,602
UPPER CORE GRID PLATE	19,200	13,990	2,975	92,500	2,840	131,505
GUIDE TUBES	23,040	16,788	3,570	73,140	2,580	119,118
LOWER CORE BARREL <sup>(a)</sup>	122,880	89,536	19,040	592,000	18,177	841,633
THERMAL SHIELDS (*)	23,040	16,788	3,570	111,000	3,408	157,806
CORE SHROUD(a)	15,360	11,192	2,380	74,000	2,272	105,204
LOWER GRID PLATE(*)	19,200	13,990	2,975	92,500	2,840	131,505
LOWER SUPPORT COLUMN	3,840	2,798	595	18,500	568	26,301
LOWER CORE FORGING	42,240	30,778	6,545	203,500	6,248	289,311
MISC INTERNALS	30,720	22,384	4,760	148,000	4,544	210,408
BIO SHIELD CONCRETE	958,464-	545,610	116,025	0	26,335	1,646,434
REACTOR CAVITY LINER	19,661	11,192	2,380	0	540	33,773
REACTOR COOLANT PUMPS	161,280	33,576	7,140	Ō	4,398	206,394
PRESSURIZER	138,240	22,384	4,760	0	3,612	168,996
R.Hx, EHx, SUMP PUMP, CAVITY PUMP	15,360	8,394	1,785	0	490	26,029
PRESSURIZER RELIEF TANK	46,080	5,596	1,190	0	1,158	54,024
SAFETY INJECTION ACCUM TANKS	153,600	22,384	4,760	0	3,952	184,696
STEAM GENERATORS	820,301	89,536	19,040	ŏ	20,366	949,243
REACTOR COOLANT PIPING	126,720	19,586	4,165	ő	3,288	153,759
REMAINING CONTAM. MATLS	2,020,147	1,149,978	244,545	ō	55,377	3,470,047
CONTAMINATED MATRL OTHR BLD	18,320,717	10,377,782	2,206,855	ő	495,141	31,400,495
FILTER CARTRIDGES	12,096	16,788	3,570	511,980	12,274	556,708
SPENT RESINS	76,800	55,960	11,900	370,000	11,360	
COMBUSTIBLE WASTES	388,800	167,880	35,700	0	12,747	526,020
EVAPORATOR BOTTOMS	360,960	263,012	55,930	547,031	23,586	605,127
POST-TMI-2 ADDITIONS	597,619	0	00,000	0	13,229	1,250,519
HEAVY OBJECT CHARGE	• • • • •	Ū	•	Ŭ	13,229	610,848
SITE AVAILABILITY CHARGES, (3 )	(RS)					120,875
SUBTOTAL PWR COSTS	24,854,285	13,254,126	2,818,515	3,671,671	762 654	265,092
			210101313	J, 0/1, 0/1	763,654	45,748,218
TAXES & FEES (% OF CHARGES)						2,001,813
TAXES & FEES (\$/UNIT VOL.)						8,122,950
ANNUAL PERMIT FEES (3 YRS)						112,500
TOTAL PWR COSTS						55,985,481
						00,000,401

(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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### Table B.4 Burial Costs at the Washington Site(1997 dollars)

REFERENCE BWR COMPONENT	VOLUME	SHIPMENT CHARGE	CONTAINER CHARGE	LINER DOSE RATE CHARGE	BENTON COUNTY TAX SURCHARGE	DISPOSAL COST
STEAM SEPARATOR	13,555	39,172	16,660	8,713,600	195,949	8,978,936
FUEL SUPPORT & PIECES	6,797	19,586	8,330	259,000	6,513	300,226
CONTROL RODS/INCORES	20,352	22,384	4,760	2,489,600	56,579	2,593,675
CONTROL RODS GUIDES	5,414	16,788	7,140	222,000	5,573	256,916
JET PUMPS	19,008	55,960	23,800	12,448,000	279,919	12,826,687
TOP FUEL GUIDES	32,563	201,456	42,840	22,406,400	505,874	23,189,133
CORE SUPPORT PLATE	14,938	44,768	18,445	573,500	14,447	666,098
CORE SHROUD (*)	63,744	391,720	83,300	43,568,000	983,654	45,090,418
REACTOR VESSEL WALL	10,867	55,960	13,090	407,000	10,753	497,670
SAC SHIELD (NEUTRON ACT. MATL.)	122,035	39,172	8,330	0	3,668	173,205
REACT. WATER REC	119,347	13,990	2,975	0	2,987	139,299
SAC SHIELD (CONTAM. MATL.)	420,403	106, 324	22,610	0	11,929	561,266
OTHER PRIMARY CONTAINMENT	4,795,008	2,716,858	577,745	0	173,158	8,262,769
CONTAINM. ATMOSPHERIC	65,088	5,596	1,190	0	1,579	73,453
HIGH PRESSURE CORE SPRAY	23,040	5,596	1,190	0	648	30,474
LOW PRESSURE CORE SPRAY	13,555	2,798	595	0	369	17,317
REACTOR BLDG CLOSED COOLING	43,392	8,394	1,785	0	1,168	54,739
REACTOR CORE ISO COOLING	17,626	2,798	595	0	459	21,478
RESIDUAL HEAT REMOVAL	84,096	13,990	4,165	0	2,230	104,481
POOL LINER & RACKS	516,672	50,364	10,710	0	12,679	590,425
CONTAMINATED CONCRETE	588,557	78,344	16,660	0	14,961	698,521
OTHER REACTOR BUILDING	1,924,224	1,424,182	302,855	0	77,725	3,728,986
TURBINE	1,906,637	162,284	34,510	0	46,207	2,149,638
NUCLEAR STEAM CONDENSATE	492,250	33,576	7,140	0	11,724	544,690
LOW PRESSURE FEEDWATER HEATERS	999,398	117,516	24,990	0	25,021	1,166,925
MAIN STEAM	96,307	8,394	1,785	0	2,339	108,825
MOISTURE SEPARATOR REHEATERS	969,600	72,748	15,470	Ō	23,257	1,081,075
REACTOR FEEDWATER PUMPS	263,078	27,980	5,950	Ō	6,514	303,522
HIGH PRESSURE FEEDWATER HEATERS	164,083	22,384	4,760	0	4,184	195,411
OTHER TG BLDG	6,586,368	4,331,304	921,060	0	252,635	12,091,367
RAD WASTE BLDG	3,261,350	201,456	381,990	Ō	83,944	3,928,740
REACTOR BLDG	411,264	89,536	38,080	ō	11,693	550,573
TG BLDG	277,632	58,758	24,990	Ō	7,845	369,225
RAD WASTE & CONTROL	239,616	53,162	22,610	0	6,841	322,229
CONCENTRATOR BOTTOMS	864,000	629,550	133,875	1,298,083	63,743	2,989,251
OTHER	234,240	170,678	36,295	60,440	10,725	512,378
POST-TMI-2 ADDITIONS	48,845	0	00,200	0	1,081	49,926
HEAVY OBJECT CHARGE	10,010	5	5	Ŭ	1,001	190,500
SITE AVAILABILITY CHARGES, (3.5	VDCI					353,456
SUBTOTAL BWR COSTS	25,734,950	11,295,526	2,823,275	92,445,623	2,920,573	135,763,903
TAXES & FEES (% OF CHARGES)						5,911,528
TAXES & FEES (\$/UNIT VOL.)						8,410,772
ANNUAL PERMIT FEES (3.5 YRS)						131,250
TOTAL BWR COSTS						150,217,453

### Table B.5 Burial Costs at the Washington Site(1996 dollars)

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REFERENCE PWR COMPONENT	VOLUME CHARGE	SHIPMENT CHARGE	CONTAINER CHARGE	LINER DOSE RATE_CHARGE_	BENTON COUNTY TAX SURCHARGE	DISPOSAL
VESSEL WALL	207,860	32,034	5,989	196,270	11 205	
VESSEL HEAD & BOTTOM	218,800	33,720	6,304	•	11,795	453,948
UPPER CORE SUPPORT ASSM	21,880	3,372	630	0	5,576	264,400
UPPER SUPPORT COLUMN	21,880	3,372	630	13,828	1,014	40,724
UPPER CORE BARREL	10,940	1,686	315	13,828	1,014	40,724
UPPER CORE GRID PLATE	27,350	4,215	788	10,330	621	23,892
GUIDE TUBES	32,820	5,058	946	25,825	1,552	59,730
LOWER CORE BARREL (*)	175,040	26,976		20,742	1,520	61,086
THERMAL SHIELDS (*)	32,820	5,058	5,043	165,280	9,933	382,272
CORE SHROUD(*)	21,880	3,372	946	30,990	1,862	71,676
LOWER GRID PLATE (*)	27,350	-	630	20,660	1,242	47,784
LOWER SUPPORT COLUMN	5,470	4,215	788	25,825	1,552	59,730
LOWER CORE FORGING	- 60,170	843	158	5,165	310	11,946
MISC INTERNALS		9,273	1,734	56,815	3,414	131,406
BIO SHIELD CONCRETE	43,760	6,744	1,261	41,320	2,483	95,568
REACTOR CAVITY LINER	1,365,312	164,385	30,732	0	30,998	1,591,427
REACTOR COOLANT PUMPS	28,006	3,372	630	0	636	32,645
PRESSURIZER	229,740	10,116	1,891	0	5,213	246,960
	196,920	6,744	1,261	0	4,419	209,344
R.Hx, EHx, SUMP PUMP, CAVITY PUMP		2,529	473	0	518	25,400
PRESSURIZER RELIEF TANK	65,640	1,686	315	0	1,459	69,100
SAFETY INJECTION ACCUM TANKS STEAM GENERATORS	218,800	6,744	1,261	0	4,891	231,696
	1,168,501	26,976	5,043	0	25,892	1,226,413
REACTOR COOLANT PIPING	180,510	5,901	1,103	0	4,044	191,558
REMAINING CONTAM. MATLS	2,877,658	346,473	64,774	0	65,293	3,354,197
CONTAMINATED MATRL OTHR BLD	26,097,479	3,126,687	584,538	ō	589,919	30,398,624
FILTER CARTRIDGES	17,231	5,058	946	145,194	5,288	173,716
SPENT RESINS	109,400	16,860	3,152	103,300	6,208	238,920
COMBUSTIBLE WASTES	553,838	50,580	9,456	0	13,232	627,105
EVAPORATOR BOTTOMS	514,180	79,242	14,814	152,744	16,866	•
POST-TMI-2 ADDITIONS	851,296	0	0	0	10,000	777,846
HEAVY OBJECT CHARGE			-	v	0	851,296
SITE AVAILABILITY CHARGES, (3	YR <u>S)</u>					120,875
SUBTOTAL PWR COSTS	35,404,411	3,993,291	746,551	1,028,116	818,763	$\frac{125,214}{42,237,221}$
TAXES & FEES (% OF CHARGES)	•					
TAXES & FEES (\$/UNIT VOL.)	•					1,843,121
ANNUAL PERMIT FEES (3 YRS)						6,990,268
TOTAL PWR COSTS						112,500
						51,183,110

(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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### Table B.5 Burial Costs at the Washington Site(1996 dollars)

	VOLUME	SHIPMENT	CONTAINER	LINER DOSE	BENTON COUNTY	DISPOSAL COST
REFERENCE BWR COMPONENT	CHARGE	CHARGE	CHARGE	RATE CHARGE	TAX SURCHARGE	2,542,344
STEAM SEPARATOR	19,309	11,802	4,413	2,425,752	81,068	92,876
FUEL SUPPORT & PIECES	9,682	5,901	2,206	72,310	2,776	753,808
CONTROL RODS/INCORES	28,991	6,744	1,261	693,072	23,741	79,009
CONTROL RODS GUIDES	7,713	5,058	1,891	61,980	2,367	
JET PUMPS	27,077	16,860	6,304	3,465,360	115,800	3,631,401
TOP FUEL GUIDES	46,386	60,696	11,347	6,237,648	209,037	6,565,114
CORE SUPPORT PLATE	21,278	13,488	4,886	160,115	6,153	205,920
CORE SHROUD(*)	90,802	118,020	22,064	12,128,760	406,475	12,766,121
REACTOR VESSEL WALL	15,480	16,860	3,467	113,630	4,531	153,968
SAC SHIELD (NEUTRON ACT. MATL.)	173,837	11,802	2,206	0	4,050	191,895
REACT, WATER REC	170,008	4,215	788	0	3,774	178,785
SAC SHIELD (CONTAM. MATL.)	598,856	32,034	5,989	0	13,732	650,610
OTHER PRIMARY CONTAINMENT	6,830,389	818,553	153,030	0	168,126	7,970,098
CONTAINM. ATMOSPHERIC	92,717	1,686	315	0	2,043	96,761
HIGH PRESSURE CORE SPRAY	32,820	1,686	315	0	751	35,572
	19,309	843	158	0	438	20,748
LOW PRESSURE CORE SPRAY REACTOR BLDG CLOSED COOLING	61,811	2,529	473	0	1,398	66,210
	25,107	843	158	0	563	26,671
REACTOR CORE ISO COOLING	119,793	4,215	1,103	0	2,698	127,809
RESIDUAL HEAT REMOVAL	735,989	15,174	2,837	0	16,262	770,261
POOL LINER & RACKS	838,387	23,604	4,413	0	18,685	885,089
CONTAMINATED CONCRETE	2,741,017	429,087	80,218	0	70,022	3,320,345
OTHER REACTOR BUILDING	2,715,964	48,894	9,141	0	59,831	2,833,830
TURBINE	701,199	10,116	1,891	0	15,383	728,590
NUCLEAR STEAM CONDENSATE	•	35,406	6,619	0	31,609	1,497,257
LOW PRESSURE FEEDWATER HEATERS	1,423,622	2,529	473	Q	3,024	143,213
MAIN STEAM	137,188	21,918	4,098	Ō	30,351	1,437,542
MOISTURE SEPARATOR REHEATERS	1,381,175	8,430	1,576	0	8,298	393,054
REACTOR FEEDWATER PUMPS	374,750		1,261	0	5,213	246,951
HIGH PRESSURE FEEDWATER HEATERS	233,733	6,744	243,965	õ	235, 521	11,166,594
OTHER TG BLDG	9,382,144	1,304,964	101,179	0	103,697	4,911,298
RAD WASTE BLDG	4,645,726	60,696	10,086	ő	13,431	636,331
REACTOR BLDG	585,837	26,976	6,619	ő	9,052	428,855
TG BLDG	395,481	17,703	•	ő	7,834	371,168
RAD WASTE & CONTROL	341,328	16,017	5,989	362,456	43,389	1,861,730
CONCENTRATOR BOTTOMS	1,230,750	189,675	35,460	16,882	9,054	420,643
OTHER	333,670	51,423	9,614	10,002	69,578	69,578
POST-TMI-2 ADDITIONS	69,578	0	0	v	0,000	190,500
HEAVY OBJECT CHARGE						166,952
SITE AVAILABILITY CHARGE (3.5 YF	R <u>S)</u>			25,737,965	1,730,180	68,635,500
SUBTOTAL BWR COSTS	36,658,901	3,403,191	747,812	25,131,965	1,750,100	00,000,000
TAXES & FEES (% OF CHARGES)						2,977,287
TAXES & FEES (\$ UNIT VOL.)						7,237,955
ANNUAL PERMIT FEES (3.5 YRS)						131,250
						78,981,992

(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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### Table B.6 Burial Costs at the Washington Site(1995 dollars)

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REFERENCE PWR COMPONENT	CRANE <u>SURCHARGE</u>	CASK _HANDLING_	CURIE _ <u>SURCHARGE</u>	LINER DOSE	BURIAL CHARGE	DISPOSAL COST
VESSEL WALL	0	(0. 200				
VESSEL HEAD & BOTTOM	0	49,780	108,285	139,570	141,702	439,337
UPPER CORE SUPPORT ASSM	0	40,000	U	0	149,160	189,160
UPPER SUPPORT COLUMN	ů č	4,000	U	6,611	14,916	25,527
UPPER CORE BARREL	0	4,000	5 500	6,611	14,916	25,527
UPPER CORE GRID PLATE	0	2,620	5,699	8,299	7,458	24,077
GUIDE TUBES	0	6,550	19,947	20,749	18,645	65,891
LOWER CORE BARREL(*)	0	6,000	0	6,224	22,374	34,598
THERMAL SHIELDS <sup>(a)</sup>	0	41,920	344,594	132,790	119,328	638,632
CORE SHROUD(*)	0	7,860	73,525	24,898	22,374	128,658
LOWER GRID PLATE (*)	0	5,240	1,519,808	16,599	14,916	1,556,562
LOWER SUPPORT COLUMN	U	6,550	245,312	20,749	18,645	291,256
LOWER CORE FORGING	0	1,310	5,813	4,150	3,729	15,002
MISC INTERNALS	0	14,410	25,076	45,647	41,019	126,151
	0	10,480	18,237	33,198	29,832	91,746
BIO SHIELD CONCRETE	0	0	0	0	930,758	930,758
REACTOR CAVITY LINER	0	0	0	0	19,092	19,092
REACTOR COOLANT PUMPS	0	0	0	0	156,618	156,618
PRESSURIZER	0	0	0	0	134,244	134,244
R.Hx, EHx, SUMP PUMP, CAVITY PUMP	0	0	0	0	14,916	14,916
PRESSURIZER RELIEF TANK	0	0	0	0	44,748	44,748
SAFETY INJECTION ACCUM TANKS	0	0	0	0	149,160	149,160
STEAM GENERATORS	0	0	72,947	0	796,589	869,536
REACTOR COOLANT PIPING	0	0	0	0	123,057	123,057
REMAINING CONTAM. MATLS	0	0	0	0	1,961,752	1,961,752
CONTAMINATED MATRL OTHR BLD	0	0	0	0	17,791,134	17,791,134
FILTER CARTRIDGES	0	6,000	20,517	25,851	11,746	64,114
SPENT RESINS	0	26,200	79,788	63,922	74,580	244,490
COMBUSTIBLE WASTES	0	60,000	0	0	377,561	437,561
EVAPORATOR BOTTOMS	0	94,000	87,767	77,377	350,526	609,670
POST-TMI-2 ADDITIONS	0	0	0	0	580,344	580,344
HEAVY OBJECT CHARGE	102,800	0	0	õ	0	102,800
SUBTOTAL PWR COSTS	102,800	386,920	2,627,315	633,244	24,135,841	27,886,119
TAXES & FEES (% OF CHARGES)						1,259,058
TAXES & FEES (\$/UNIT VOL.)						6,990,268
ANNUAL PERMIT FEES (3 YRS)						112,500
TOTAL PWR COSTS						36,247,945

(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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### Table B.6 Burial Costs at the Washington Site(1995 dollars)

	CRANE	CASK	CURIE	LINER DOSE	BURIAL	DISPOSAL
REFERENCE BWR COMPONENT	SURCHARGE	HANDLING	SURCHARGE	RATE	CHARGE	COST
STEAM SEPARATOR	0	36,680	47,873	356,499	13,163	454,215
FUEL SUPPORT & PIECES	0	18,340	0	51,421	6,600	76,361
CONTROL RODS/INCORES	0	10,480	104,974	967,726	19,764	1,102,944
CONTROL RODS GUIDES	0	12,000	0	25,987	5,258	43,245
JET PUMPS	0	52,400	68,390	871,652	18,459	1,010,901
TOP FUEL GUIDES	0	94,320	205,171	1,568,974	31,622	1,900,087
CORE SUPPORT PLATE	0	31,000	0	67,134	14,506	112,639
CORE SHROUD(+)	0	183,400	3,162,726	2,283,134	61,901	5,691,161
REACTOR VESSEL WALL	0	22,000	25,076	47,643	10,553	105,272
SAC SHIELD (NEUTRON ACT. MATL.)	0	0	0	0	118,508	118,508
REACT. WATER REC	Ó	0	0	0	115,897	115,897
SAC SHIELD (CONTAM. MATL.)	Ō	o	0	0	408,251	408,251
OTHER PRIMARY CONTAINMENT	Ő	0	Ō	0	4,656,402	4,656,402
CONTAINM. ATMOSPHERIC	ů.	0	0	0	63,207	63,207
HIGH PRESSURE CORE SPRAY	ő	Ő	0	0	22,374	22,374
LOW PRESSURE CORE SPRAY	õ	õ	0	Ō	13,163	13,163
REACTOR BLDG CLOSED COOLING	0	ő	Ő	ō	42,138	42,138
REACTOR CORE ISO COOLING	õ	0	õ	0	17,116	17,116
	ő	0	Ő	0	81,665	81,665
RESIDUAL HEAT REMOVAL	0	ŏ	ő	0	501,737	501,737
POOL LINER & RACKS	0	0	ů	0	571,544	571,544
CONTAMINATED CONCRETE	0	0	ő	ő	1,868,602	1,868,602
OTHER REACTOR BUILDING	0	0	ő	ů	1,851,523	1,851,523
TURBINE	0	0	0	Ő	478,021	478,021
NUCLEAR STEAM CONDENSATE	U	0	ů Ú	0	970,510	970,510
LOW PRESSURE FEEDWATER HEATERS	0	0	0	0	93,523	93, 523
MAIN STEAM	0	0	0	0	941,573	941,573
MOISTURE SEPARATOR REHEATERS	0	0	0	0	255,474	255,474
REACTOR FEEDWATER PUMPS	0	•	Û	0	159,340	159,340
HIGH PRESSURE FEEDWATER HEATERS	0	0	U	0	6,395,981	6,395,981
OTHER TG BLDG	0	0	U	0		3,167,077
RAD WASTE BLDG	0	0	U	0	3,167,077	345,593
REACTOR BLDG	0	64,000	0	•	281,593	232,110
TG BLDG	0	42,000	0	0	190,110	202,094
RAD WASTE & CONTROL	0	38,000	0	0	164,094	
CONCENTRATOR BOTTOMS	0	225,000	207,449	183,338	839,025	1,454,812
OTHER	0	61,000	0	5,197	227,469	293,666
POST-TMI-2 ADDITIONS	0	0	0	0	47,433	47,433
HEAVY OBJECT CHARGE	177,200	0_	0	0	0	177,200
SUBTOTAL BWR COSTS	177,200	890,620	3,821,659	6,428,704	24,725,174	36,043,357
TAXES & FEES (% OF CHARGES)						1,627,358
TAXES & FEES (& OF CHARGES)						7,237,955
						131,250
ANNUAL PERMIT FEES (3.5 YRS)						45,039,919
TOTAL BWR COSTS						,,

(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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Table B.7 Burial Costs at the South Carolina Site
Atlantic Compact (2002 dollars)

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REFERENCE PWR COMPONENT	BASE DISPOSAL CHARGE	CASK <u>HANDLING</u>	CURIE <u>SURCHARGE</u>	LINER DOSE	DOSE RATE SURCHARGE	DISPOSAL
VESSEL WALL	2,617,120	1,900,304	5,016,760	0	1,256,218	10,790,402
VESSEL HEAD & BOTTOM	1,667,358	2,000,320	6,600	õ	1,230,210	3,674,278
UPPER CORE SUPPORT ASSM	157,410	200,032	3,300	ő	50,371	411,113
UPPER SUPPORT COLUMN	145,530	200,032	33,000	ő	46,570	425,132
UPPER CORE BARREL	69,300	100,016	264,040	ő	33,264	466,620
UPPER CORE GRID PLATE	173,250	250,040	660,100	Ő	83,160	1,166,550
GUIDE TUBES	256,410	300,048	33,000	õ	69,231	658,689
LOWER CORE BARREL(*)	1,108,800	1,600,256	4,224,640	õ	532,224	7,465,920
THERMAL SHIELDS(*)	207,900	300,048	792,120	ŏ	99,792	1,399,860
CORE SHROUD(*)	160,974	200,032	8,053,220	õ	77,268	8,491,494
LOWER GRID PLATE(*)	173,250	250,040	1,320,200	ő	83,160	1,826,650
LOWER SUPPORT COLUMN	43,956	50,008	132,020	ň	21,099	247,083
LOWER CORE FORGING	477,576	550,088	825,000	ő	229,236	2,081,900
MISC INTERNALS	387,200	400,064	660,000	ů	185,856	1,633,120
BIO SHIELD CONCRETE	9,438,000	0	396,000	0	105,050	9,834,000
REACTOR CAVITY LINER	190,080	Ő	3,300	0	ů 0	193,380
REACTOR COOLANT PUMPS	3,308,800	0	25,628	ů	0	3,334,428
PRESSURIZER	1,501,500	õ	1,673	ů	ő	
R.Hx, EHx, SUMP PUMP, CAVITY PUMP	138,600	0	3,891	ő	0	1,503,173
PRESSURIZER RELIEF TANK	415,800	Ŏ	1,333	0	0	142,491
SAFETY INJECTION ACCUM TANKS	1,481,040	õ	26,875	ő	0	417,133
STEAM GENERATORS	12,108,800	ő	1,452,000	0	0	1,507,915
REACTOR COOLANT PIPING	1,318,668	Ő	98,340	0	0	13,560,800
REMAINING CONTAM. MATLS	23,311,530	ň	73,851	0	U	1,417,008
CONTAMINATED MATRL OTHR BLD	179,336,381	ů	60,803	0	0	23, 385, 381
FILTER CARTRIDGES	237,600	300,048	1,650,000	0	0	179,397,184
SPENT RESINS	871,200	1,000,160	2,640,400	0	28,512	2,216,160
COMBUSTIBLE WASTES	4,158,000	3,000,480	99,000	0	418,176	4,929,936
EVAPORATOR BOTTOMS	4,094,640	4,700,752	12,409,880	•	0	7,257,480
POST-TMI-2 ADDITIONS	8,217,949	4,700,752	12,409,880	0	559,310	21,764,582
SITE ACCESS FEES, (3 YRS)	0,217,343	U	U	0	0	8,217,949
SUBTOTAL PWR COSTS	257,774,622	17,302,768	40,966,973			0
	2317114,022	17,502,700	40,900,973	0	3,773,446	319,817,810
BARNWELL COUNTY BUSINESS TAX ATLANTIC COMPACT SURCHARGE (INSIDE	COMPACTI					0
	contact j					2,588,988
TOTAL PWR COSTS (INSIDE COMPACT)						322,406,798

(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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### Table B.7 Burial Costs at the South Carolina Site Atlantic Compact (2002 dollars)

REFERENCE BWR COMPONENT	BASE DISPOSAL CHARGE	CASK HANDLING	CURIE <u>SURCHARGE</u>	LINER DOSE RATE	DOSE RATE SURCHARGE	DISPOS COS
	160,838	1,400,224	1,848,280	0	77,202	3,486,5
STEAM SEPARATOR		700,112	231,000	0	34,009	1,035,9
TUEL SUPPORT & PIECES	70,852		1,056,160	0	101,254	1,768,4
CONTROL RODS/INCORES	210,947	400,064	33,000	0	21,937	714,3
CONTROL RODS GUIDES	59,290	600,096	•	0	82,328	4,894,5
JET PUMPS	171,518	2,000,320	2,640,400	0	141,039	13,540,8
TOP FUEL GUIDES	293,832	3,600,576	9,505,440	0 0	72,886	2,034,6
CORE SUPPORT PLATE	196,988	1,550,248	214,500	0	276,091	26,335,2
CORE SHROUD(*)	575,190	7,001,120	18,482,800	-		
REACTOR VESSEL WALL	125,144	1,100,176	712,800	0	46,303	1,984,4
SAC SHIELD (NEUTRON ACT. MATL.)	2,632,969	0	55,440	0	0	2,688,4
REACT. WATER REC	1,139,268	0	14,503	0	0	1,153,7
SAC SHIELD (CONTAM. MATL.)	6,818,592	0	51,086	0	U	6,869,0
THER PRIMARY CONTAINMENT	47,821,620	0	582,668	0	0	48,404,2
CONTAINM. ATMOSPHERIC	587,318	0	7,909	0	0	595,2
IGH PRESSURE CORE SPRAY	295,240	0	2,800	0	0	298,0
OW PRESSURE CORE SPRAY	130,680	0	1,647	0	0	132,
REACTOR BLDG CLOSED COOLING	460,768	0	5,273	0	0	466,0
REACTOR CORE ISO COOLING	159,044	0	2,142	0	0	161,
RESIDUAL HEAT REMOVAL	890,570	0	10,219	0	0	900,
POOL LINER & RACKS	5,873,098	0	62,784	0	0	5,935,
CONTAMINATED CONCRETE	6,477,808	0	71,519	0	0	6,549,
THER REACTOR BUILDING	17,363,115	0	233,823	0	0	17,596,
URBINE	21,729,209	0	231,686	0	0	21,960,
UCLEAR STEAM CONDENSATE	4,441,784	0	59,816	0	0	4,501,
OW PRESSURE FEEDWATER HEATERS	9,644,184	0	121,443	0	0	9,765,
AIN STEAM	869,022	0	11,703	0	0	880,
DISTURE SEPARATOR REHEATERS	8,749,125	0	117,822	0	0	8,866,
REACTOR FEEDWATER PUMPS	2,373,872	0	31,968	0	0	2,405,
IIGH PRESSURE FEEDWATER HEATERS	1,564,830	0	19,939	0	0	1,584,
THER TG BLDG	59,431,680	0	800,347	0	0	60,232,
AD WASTE BLDG	29,428,592	0	396,305	0	0	29,824,
EACTOR BLDG	7,523,380	3,200,512	62,700	0	0	10,786,
TG BLDG	4,949,592	2,100,336	41,250	0	0	7,091,
AD WASTE & CONTROL	4,553,625	1,900,304	37,950	0	0	6,491,
CONCENTRATOR BOTTOMS	16,827,644	11,251,800	29,704,500	0	2,279,585	60,063,
THER	4,562,161	3,050,488	316,470	0	113,680	8,042,
OST-TMI-2 ADDITIONS	671,672	0	0	ů.	0	671,
SITE ACCESS FEES, (3.5 YRS)	0,1,0,2	-		-		,
SUBTOTAL BWR COSTS	269,835,058	39,856,376	67,780,090	0	3,246,316	380,717,1
ARNWELL COUNTY BUSINESS TAX						
ATLANTIC COMPACT SURCHARGE (INSIDE	COMPACT)					2,680,
OTAL BWR COSTS (INSIDE COMPACT)						383,398,

(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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# Table B.8 Burial Costs at the South Carolina Site Non-Atlantic Compact (2002 dollars)

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REFERENCE PWR COMPONENT	BASE DISPOSAL	CASK <u>HANDLING</u>	CURIE SURCHARGE	LINER DOSE RATE	DOSE RATE	DISPOSAL
		<u>Incorporation</u>	DURCHARDE	KATE	SURCHARGE	COST
VESSEL WALL	2,730,132	1,983,600	5,236,704	Ó	1,310,463	11 0.00 000
VESSEL HEAD & BOTTOM	1,740,340	2,088,000	7,600	ŏ	1,510,403	11,260,899
UPPER CORE SUPPORT ASSM	164,300	208,800	3,800	0	50 57C	3,835,940
UPPER SUPPORT COLUMN	151,900	208,800	38,000	0	52,576	429,476
UPPER CORE BARREL	72,360	104,400	275,616	0	48,608	447,308
UPPER CORE GRID PLATE	180,900	261,000	689,040	0	34,733	487,109
GUIDE TUBES	267,732	313,200	38,000	•	86,832	1,217,772
LOWER CORE BARREL (*)	1,157,760	1,670,400		0	72,288	691,220
THERMAL SHIELDS	217,080	313,200	4,409,856	0	555,725	7,793,741
CORE SHROUD (*)	168,020	208,800	826,848	0	104,198	1,461,326
LOWER GRID PLATE (*)	180,900	261,000	8,406,288	0	80,650	8,863,758
LOWER SUPPORT COLUMN	45,880		1,378,080	0	86,832	1,906,812
LOWER CORE FORGING	498,480	52,200	137,808	0	22,022	257,910
MISC INTERNALS	404,000	574,200	950,000	0	239,270	2,261,950
BIO SHIELD CONCRETE	•	417,600	760,000	0	193,920	1,775,520
REACTOR CAVITY LINER	9,847,500	0	456,000	0	0	10,303,500
REACTOR COOLANT PUMPS	198,400	0	3,800	0	0	202,200
PRESSURIZER	3,451,680	0	29,511	0	0	3,481,191
R.HX, EHX, SUMP PUMP, CAVITY PUMP	1,567,800	0	1,927	0	0	1,569,727
PRESSURIZER RELIEF TANK	144,720	0	4,480	0	0	149,200
SAFETY INJECTION ACCUM TANKS	434,160	0	1,535	0	0	435,695
STEAM GENERATORS	1,545,300	0	30,947	0	Ó	1,576,247
REACTOR COOLANT PIPING	12,631,680	0	1,672,000	0	Ő	14,303,680
	1,376,388	0	113,240	0	Ó	1,489,628
REMAINING CONTAM. MATLS	24,331,900	0	85,040	0	ñ	24,416,940
CONTAMINATED MATRL OTHR BLD	187,186,122	0	70,015	Ō	ň	187,256,137
FILTER CARTRIDGES	247,860	313,200	1,900,000	ò	29,743	2,490,803
SPENT RESINS	909,000	1,044,000	2,756,160	0	436,320	
COMBUSTIBLE WASTES	4,341,600	3,132,000	114,000	õ	430,320	5,145,480
EVAPORATOR BOTTOMS	4,272,300	4,906,800	12,953,952	ő	583,578	7,587,600
POST-TMI-2 ADDITIONS	8,572,815	0	0	õ	203,378	22,716,630
SITE ACCESS FEES, (3 YRS)			•	9	U	8,572,815
SUBTOTAL PWR COSTS	269,039,008	18,061,200	43,350,247	0	3,937,759	<u>0</u> 334,388,214
BARNWELL COUNTY BUSINESS TAX						
ATLANTIC COMPACT SURCHARGE (OUTSIDE	E COMPACT)					0 <u>2,588,988</u>
TOTAL PWR COSTS (OUTSIDE COMPACT)						
						336,977,202

(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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B.17

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#### Table B.8 Burial Costs at the South Carolina Site Non-Atlantic Compact (2002 dollars)

STEAM SEPARATOR       167,340       1,40,100       1,264,000       0       35,498       1,105,498         DUEL SUPFORT 4 FIECES       220,099       417,600       1,102,464       0       105,648       1,845,         CONTROL RODS/INCORES       220,099       417,600       1,102,464       0       05,648       1,845,         CONTROL RODS/INCORES       220,095       417,600       1,202,464       0       05,648       1,43,54         JET FUMPS       179,091       2,086,000       2,756,160       0       147,267       14,134         CORE SUPFORT FLATE       205,335       1,616,200       247,000       0       76,048       2,146,         CORE SUPFORT FLATE       100,622       1,144,400       820,800       0       2,860,00       2,880,00 <th></th> <th>BASE DISPOSAL</th> <th>CASK</th> <th>CURIE</th> <th>LINER DOSE</th> <th>DOSE RATE</th> <th>DISPOSAL</th>		BASE DISPOSAL	CASK	CURIE	LINER DOSE	DOSE RATE	DISPOSAL
STEM         167,30         1,40,00         7,26,00         0         35,498         1,105,490           TUEL SUPFORT & FIECES         73,354         73,600         1,102,464         0         105,648         1,485,           CONTROL RODS/INCORES         220,069         417,600         1,102,464         0         105,648         1,485,           CONTROL RODS/INCORES         220,069         417,600         1,27,660         0         22,906         748,           JET FUMPS         175,031         2,086,000         2,756,160         0         147,267         14,134,           ORE SHOUDH         600,289         7,308,000         19,233,120         0         288,282         27,488,           REACTOR VESSEL ANLL         130,622         1,164,400         820,800         0         0         2,816,           REACTOR VESSEL ANLL         130,622         1,484,400         820,800         0         0         2,816,           REACTOR WATCH REC         1,165,400         0         0,544         0         0         5,644,           SCONTEDI CONTAR MALL         131,620         0         0         0         1,205,         0         1,205,           SCONTEDI CONTAR MALL         1,165,700         0	REFERENCE BWR COMPONENT	CHARGE	HANDLING	SURCHARGE	RATE	SURCHARGE	COST
TUEL SUPPORT * FIECES         73,954         730,800         266,000         0         35,498         1,108,498           CONTEOL FORDS (JUCDES         220,099         417,600         1,102,464         0         105,648         1,484,           CONTEOL FORDS GUIDES         61,908         626,400         38,000         0         22,906         748,           DEF FUNSE         179,091         2,068,000         2,756,160         0         85,964         5,109,           DEF SUPEROT FLATE         220,535         1,618,200         247,000         76,048         2,146,           CORE SUPPORT FLATE         205,535         1,618,200         247,000         76,048         2,146,           CORE SUPPORT PLATE         130,622         1,148,400         620,800         48,330         2,148,           SAC SHIELD (NEUTEN ACT. WATL.)         2,746,665         0         16,700         0         1,205,604           SAC SHIELD (ONTAW, MATL.)         7,113,031         0         58,266         0         7,717,1           SAC SHIELD (CONTAW, MATL.)         7,113,031         0         3,224         0         63,12,0           CONTAINM. ATMOSPHERIC CONE SPRAY         136,400         1,220,0         0         487,0	STEAM SEPARATOR	167,940	1,461,600	1,929,312	0		3,639,462
CONTROL RODE/INCORES         220,099         417,600         1,102,664         0         105,648         1,940,7           CONTROL RODES         173,091         2,086,000         2,755,160         0         85,964         5,109           DOF FUEL GUIDES         105,648         37,901         2,086,000         2,755,160         0         85,964         5,109           DOF FUEL GUIDES         206,830         39,922,176         147,267         14,134           CORE SHENDU <sup>14</sup> 600,588         7,308,000         19,233,120         288,282         27,489           CORE SHENDU <sup>14</sup> 130,622         1,148,400         82,800         0         45,330         2,489           SAC SHILL (NUTRON ACT. MATL.)         7,113,031         0         16,700         0         1,202,717           SAC SHILL (NUTRON ACT. MATL.)         7,113,312         0         670,951         0         0         50,604           CONTRATE, ROSE SPRAY         136,600         0         1,224         0         0         313,80           CONTRATE, REACTOR CORE SPRAY         136,606         0         2,246         0         0         134,80           LW RESSURE COLES SPRAY         136,000         1,497         0         0				266,000	0		1,106,251
CONTROL RODS GUIDES       1908       626,400       38,000       0       22,906       749.         JET FUNS       306,806       3,758,400       9,221,76       0       147,267       14,134.         CORE SHOUDD*       205,555       1,616,200       247,000       0       76.048       2,146.         CORE SHOUDD*       100,622       1,168,400       20,800       0       288,282       27,489.         CORE SHOUDD*       100,622       1,148,400       620,800       0       46,330       2,146.         REACTOR VESSEL WALL       100,622       1,148,400       620,800       0       0       1,205.         REACT NATER REC       1,189,135       0       16,700       0       0       1,205.         CONTAIN MARKY CONTAINMENT       49,933,224       0       67,951       0       0       311.         CONTAIN MARKY CONTAINMENT       49,933,224       0       6,072       0       0       3134.         CONTAIN MARKY CONTAINMENT       49,33,224       0       7,244       0       0       3134.         CONTAIN MARKY CONTAINMENT       49,33,224       0       7,244       0       0       314.         LOW RESENER CORE SPRAY       136,6400			417,600	1,102,464	0		1,845,811
Diff PENNS         179,091         2,088,000         2,758,100         0         85,964         5,109,           DOP FUEL GUIDES         306,806         3,758,400         9,922,176         0         147,267         14,134,           DOR SUMPORT FLATE         205,535         1,618,200         247,000         76,048         2,146,           DORE SUMPORT FLATE         205,535         1,618,200         247,000         0         48,330         2,148,           DAR SUMDOD <sup>14</sup> 130,622         1,148,400         820,800         0         48,330         2,148,           SAC SHIELD (NEUTRON ACT. MATL.)         7,113,031         0         56,826         0         7,771,           SAC SHIELD (NEUTRON ACT. MATL.)         7,113,031         0         56,826         0         7,711,           SAC SHIELD (NEUTRON ACT. MATL.)         7,113,031         0         56,826         0         7,711,           SAC SHIELD (NEUTRON ACT. MATL.)         7,113,031         0         58,826         0         0         50,604,           CONTRAIN. ATROSPHERIC         613,840         0         3,224         0         0         131,           LWG RESSUME CORE SPAX         308,050         0         1,897         0         0 </td <td></td> <td></td> <td>•</td> <td>38,000</td> <td>0</td> <td>22,906</td> <td>749,214</td>			•	38,000	0	22,906	749,214
Dip FUEL         006,806         3,758,400         9,22,176         0         147,267         14,134, 14,134,000           CORE SUPCORT PLATE         205,535         1,616,200         247,000         0         76,048         2,146, 000           CORE SUPCORT PLATE         600,588         7,308,000         19,233,120         0         288,282         27,489, 27,489, 000         0         48,330         2,146, 2,810, 0         2,810, 0         0         2,810, 0         0         2,810, 0         0         1,205, 0         1,10,31         0         58,826         0         0         1,205, 7,171, 0         0         50,604, 0         0         50,604, 0         0         50,604, 0         0         1,205, 0         0         50,604, 0         0         1,205, 0         0         50,604, 0         0         1,205, 0         0         0         50,604, 0         0         1,205, 0         0         0         50,604, 0         0         1,205, 0         0         0         0         0         1,205, 0         0         0         1,205, 0         0         0         1,205, 0         0         0         1,205, 0         0         0         0         0         0         0         0         0         0				2,756,160	0	85,964	5,109,219
IDF PULL BULL BULL       205,535       1,618,200       274,000       0       76,048       2,146,         CORE SUPPORT FLATE       60,588       7,306,000       19,233,120       0       286,282       27,489,         CORE SUPPORT FLATE       130,622       1,148,400       820,800       0       48,330       2,146,         SAC SHIELD (NEUTEN ACT. WATL.)       2,746,665       0       63,840       0       0       1,205,         SAC SHIELD (NEUTEN ACT. WATL.)       7,113,031       0       58,226       0       0       7,717,         SAC SHIELD (CONTAM. MATL.)       7,113,031       0       58,226       0       0       50,664         CONTAINM. ATMOSHHERIC       613,251       0       9,100       0       6622,         CONTAINM. ATMOSHHERIC       613,251       0       9,100       0       622,         CONTAINM. ATMOSHHERIC       613,251       0       9,100       0       136,         LOW PRESSURE CORE SPRAY       136,400       0       1,897       0       0       311,         LOW FRESSURE CORE SPRAY       136,400       2,2460       0       138,       0       6,622,         CONTAINART ELCONE LINCE CONSE SPRAY       136,400       2,2460,				9,922,176	0	147,267	14,134,649
COME STRUCT         COD_SEC         7,305,000         19,293,120         0         286,282         27,469, 27,469, REACTOR VESSEL KALL         130,622         1,148,400         620,600         0         48,330         2,148, 2,148, REACTOR VESSEL KALL         130,622         1,148,400         620,600         0         48,330         2,148, 2,148, REACTOR VESSEL KALL         130,622         1,148,400         620,600         0         48,330         2,148, 2,140, 2,140, 2,140, 2,140, 2,140, 2,141,111,111,111,111,111,111,111,111,11					0	76,048	2,146,78
DARE SHOLD         130.622         1,148,400         820,800         0         48,330         2,148, 2,480, SAC SHIELD (NEUTRON ACT. MATL.)         2,746,665         0         63,840         0         0         2,810, 2,810, SAC SHIELD (NEUTRON ACT. MATL.)         2,746,665         0         63,840         0         0         2,810, 2,810, SAC SHIELD (NEUTRON ACT. MATL.)         7,113,031         0         58,826         0         0         1,800, 7,171, SAC SHIELD (CONTAM. MATL.)         7,113,031         0         58,826         0         0         7,171, 3,000         0         0         2,246, 0         0         0         0         2,240, 0         0         0         2,240, 0         0         0         2,240, 0         0         0         0         2,240, 0         0         0         2,240, 0         0         0         0         2,240, 0         0         0         2,240, 0         0         0         2,240, 0         0         0         0         2,240, 0         0         1,36,400         0         2,246,00         0         1,36,400         0         2,246,00         0         1,36,400         0         2,246,00         0         1,36,400         0         2,246,00         0         1,36,400         0         0,26,51,00 <t< td=""><td></td><td></td><td></td><td></td><td>0</td><td>288,282</td><td>27,489,99</td></t<>					0	288,282	27,489,99
CARL TOR VEDED         NATL         2,746,665         0         63,840         0         0         2,810, 1,205, 1,205, NEACT. WATER REC         1,199,135         0         16,700         0         1,205, 1,					0	48,330	2,148,153
AC SHILD (LINK ACT FREC       1.189,135       0       16,700       0       1,205,         SAC SHILD (CONTAM, MATL.)       7,113,031       0       58,426       0       0       7,171,         SAC SHILD (CONTAM, MATL.)       7,113,031       0       58,426       0       0       7,171,         SAC SHILD (CONTAM, MATL.)       7,113,031       0       58,426       0       0       7,171,         SAC SHILD (CONTAM, MATL.)       7,113,031       0       58,426       0       0       7,171,         SAC SHILD (CONTAM, MATL.)       7,113,031       0       9,108       0       622,       0       311,         CONTAINM, ATMOSPHERIC       613,251       0       3,224       0       0       313,         LOW PRESSURE CORE SPRAY       136,400       1,897       0       0       487,         REACTOR CORE ISO COOLING       166,666       0       2,466       0       6,640,         CONTAMINATED CONCRETE       6,751,348       0       22,555       0       6,643,         OTHER REACTOR BUILDING       18,793       0       26,790       0       24,706,         OUCLEAR STEAM CONDENSATE       4,67,914       0       68,879       0       10,206,					0	0	2,810,50
REACT       1,189,133       0       22,903       0       7,171,         SAC SHIELD (CONTAIN MATL.)       7,113,031       0       56,226       0       0       50,604,         OTHER PRIMARY CONTAINMENT       49,933,224       0       670,951       0       0       622,00         OTHER PRIMARY CONTAINMENT       49,933,224       0       9,108       0       0       622,00         OTHER PRESSURE CORE SPRAY       306,050       0       3,224       0       0       131,         LOW PRESSURE CORE SPRAY       136,400       0       1,897       0       0       138,         LOW PRESSURE CORE SPRAY       136,400       0       4,977       0       0       138,         REACTOR BLG CLOSED COOLING       481,114       0       6,072       0       0       6,204,         RESIDUAL HEAT REMOVAL       929,210       0       1,167       0       0       6,204,         ROOL LINER & RACKS       6,132,430       0       2,295       0       16,813,       0       12,947,         ROTHER REACTOR BUILDING       18,129,798       0       266,730       0       22,940,       10,206,         ONTERER REACTOR BUILDING       18,129,794       0					0	0	1,205,83
SAC SHELD (CONTAR, MATL.)       1,113,131       0       0       50,604, 0         OTHER PRIMARY CONTAINMENT       49,333,224       0       670,951       0       0       622, 0         CONTAINM. ATMOSPHERIC       613,251       0       3,108       0       0       311, 1108         LOW PRESSURE CORE SPRAY       136,400       0       1,897       0       0       131, 136,400         LOW PRESSURE CORE SPRAY       136,606       0       2,466       0       0       487, 166,006         REACTOR CORE ISO COOLING       166,066       0       2,466       0       0       940, 82,000         REACTOR CORE ISO COOLING       166,066       0       2,466       0       0       6,043, 0         CONTAINATED CONCRETE       6,132,430       0       72,296       0       0       6,433, 19,399, 0       0       2,66,730       0       4,06, 4,06, 10,007,394       0       13,476       0       18,399, 0       2,66,790       0       4,06, 9,201, MAIN STEAM       0       66,879       0       4,06, 0       0       22,947, 0       0       13,476       0       2,947, 0       0       2,947, 0       0       2,947, 0       0       2,947, 0       0       2,947, 0       0 <td></td> <td></td> <td>•</td> <td>•</td> <td></td> <td>Ō</td> <td>7,171,85</td>			•	•		Ō	7,171,85
OTHER PRIMARY CONTAINMENT       49,933,224       0       0       622,         CONTAINN, ATMOSPHERIC       613,251       0       3,109       0       0       311,         HIGH PRESSURE CORE SPRAY       306,600       0       3,224       0       0       138,         ILGW PRESSURE CORE SPRAY       136,400       0       4,897       0       0       497,         REACTOR BLDG CLOSED COOLING       481,114       0       6,072       0       0       497,         REACTOR CORE ISO COOLING       166,666       0       2,466       0       0       940,         RESIDUAL HEAT REMOVAL       929,210       0       11,767       0       0       943,         CONTAMINATED CONCRETE       6,761,348       0       82,335       0       6,843,         OTHER REACTOR BUILDING       18,129,798       0       266,790       0       22,947,         TURBINE       22,680,319       0       266,770       0       10,206,         LOW PRESSURE FEEDWATER HEATERS       10,066,320       0       13,643       0       10,206,         INSTEAM       907,334       0       13,643       0       0       2,318,         NECCOR REDEMATER HEATERS			-		-	-	50,604,17
CONTAINM. ATMOSPHERIC         613,251         0         3,100         0         3,100           CONTAINM. ATMOSPHERIC         613,251         0         3,224         0         0         131,           LOW PRESSURE CORE SPRAY         136,000         0         1,897         0         0         138,           LOW PRESSURE CORE SPRAY         136,000         0         2,466         0         0         487,           REACTOR CORE ISO COOLING         166,066         0         2,466         0         0         940,           RESIDUAL HEAT REMOVAL         929,210         0         11,767         0         0         940,           CONTAMINATED CONCRETE         6,761,348         0         82,355         0         6,683,           CONTAMINATED CONCRETE         6,761,348         0         266,790         0         22,941,           NUCLEAR STEAM CONDENSATE         4,637,914         0         66,879         0         4,706,           NUCLEAR STEAM CONDENSATE         10,066,320         0         135,673         0         922,941,           MAIN STEAM         907,334         0         135,673         0         9,211,           MASTE BLM         SEPANATOR REHEATERS         1,63	OTHER PRIMARY CONTAINMENT		U			-	622,35
HIGH PRESSURE CORE SPRAY       306,030       0       1,897       0       0       138,         REACTOR BLDG CLOSED COOLING       481,114       0       6,072       0       0       487,         REACTOR CORE ISO COOLING       481,114       0       6,072       0       0       487,         REACTOR CORE ISO COOLING       481,114       0       6,072       0       0       940,         RESIDUAL HEAT REMOVAL       929,210       0       11,767       0       0       940,         ROOL LINER 4 RACKS       6,132,430       0       72,296       0       0       6,843,         OTHER REACTOR BUILDING       18,129,798       0       266,790       0       0       4,706,         NUCLEAR STEAM CONDENSATE       4,637,914       0       68,879       0       0       10,206,         NUCLEAR STEAM CONDENSATE       907,394       0       13,476       0       920,       920,         MOISTURE SEPARATOR REHEATERS       9,135,450       0       35,673       0       0       2,515,         RACTOR FEDWATER HEATERS       9,03,726,021       0       22,960       0       1,625,91,91,91,91,91,91,91,91,91,91,91,91,91,	CONTAINM. ATMOSPHERIC		U			•	311,27
LOW PRESSURE CORE SPRAY       166,400       0       7,057       0       487,         REACTOR BLDG CLOSED COOLING       481,114       0       6,072       0       0       166,         REACTOR BLDG CLOSED COOLING       161,164       0       2,466       0       0       166,         REACTOR BLDG CLOSED COOLING       929,210       0       11,767       0       0       940,         RESIDUAL HEAT REMOVAL       929,210       0       12,296       0       0       6,204,         CONTAMINATED CONCRETE       6,761,248       0       82,355       0       0       6,843,         OTHER REACTOR BULLDING       16,129,798       0       269,251       0       0       4,706,         NUCLEAR STEAM CONDENSATE       4,637,914       0       68,879       0       0       4,706,         NUCLEAR STEAM CONDENSATE       4,637,914       0       68,873       0       920,       920,         MAIN STEAM       907,394       0       134,476       0       920,       921,       920,         MOISTURE SEPARATOR REHEATERS       9,135,450       0       313,476       0       2,515,       921,611       0       2,971,       921,611       0       2,97		•	•				138,29
REACTOR BLDG CLOSED COOLING       481,114       0       6,072       0       0       160,         REACTOR CORE ISO COOLING       166,066       0       2,466       0       0       168,         RESIDUAL HEAT REMOVAL       929,210       0       11,767       0       0       940,         POOL LINER & RACKS       6,132,430       0       72,296       0       0       6,843,         ONTAMINATED CONCRETE       6,761,340       0       269,251       0       0       18,399,         OTHER REACTOR BUILDING       18,129,798       0       266,790       0       4,706,         UCLEAR STEAM CONDENSATE       4,637,914       0       66,879       0       4,706,         LOW PRESSURE FEEDWATER HEATERS       10,666,320       0       133,643       0       10,206,         NGISTURE SEPARATOR REHEATERS       9,135,450       0       135,673       0       9,221,         MAIN STEAM       907,394       0       136,673       0       0       2,915,         OTHER TEBWATER PLAYERS       2,478,692       0       36,812       0       0       2,915,         OTHER TG BLDG       30,728,036       0       921,611       0       0       2,977,	LOW PRESSURE CORE SPRAY		-			-	
REACTOR CORE ISO COOLING       166,066       0       2,466       0       0       140,         RESIDUAL HEAT RENOVAL       929,210       0       11,767       0       0       940,         RESIDUAL HEAT RENOVAL       929,210       0       11,767       0       0       940,         CONTAMINATED CONCRETE       6,761,348       0       82,355       0       0       6,843,         OTHER REACTOR BUILDING       18,129,798       0       266,790       0       0       22,947,         NUCLEAR STEAM CONDENSATE       4,637,914       0       66,879       0       0       10,206,         LOW PRESSURE FEEDWATER HEATERS       10,066,320       139,843       0       10,206,       9271,         MAIN STEAM       907,334       0       13,476       0       0       2,515,         REACTOR FEEDWATER HEATERS       9,135,450       0       36,812       0       2,515,         HIGH PRESSURE FEEDWATER HEATERS       1,632,726       0       22,960       0       1,655,         NOTER TO BLDG       30,728,036       0       456,351       0       0       1,262,         REACTOR FEEDWATER HEATERS       1,633,2726       0       2,378,001       0	REACTOR BLDG CLOSED COOLING	481,114	-		-		
RESIDUAL HEAT REMOVAL       9/3/210       0       12/23       0       12/23       0       6,204,         CONL LINEA & RACKS       6,132,430       0       72,296       0       0       6,843,         CONTAMINATED CONCRETE       6,761,348       0       82,355       0       0       6,843,         CONTAMINATED CONCRETE       6,761,348       0       82,355       0       0       18,399,         OTHER REACTOR BUILDING       18,129,798       0       266,790       0       0       22,947,         NUCLEAR STEAM CONDENSATE       4,637,914       0       66,879       0       0       4,706,         LOW PRESSURE FEEDWATER HEATERS       10.066,320       0       13,673       0       0       920,         MAIN STEAM       907,394       0       13,673       0       2,515,       0       2,510,         MOISTURE SEPARATOR REHEATERS       9,135,450       0       136,612       0       2,515,       0       2,510,         OTHER TG BLDG       30,728,036       0       32,960       0       1,655,       0       2,161       0       0       2,971,         OTHER TG BLDG       30,728,036       0       426,3351       0       0<		166,066	0		•	•	
POOL LINER & RACKS       6,132,430       0       12,295       0       0       6,843,         CONTAMINATED CONCRETE       6,761,348       0       82,355       0       0       6,843,         CONTAMINATED CONCRETE       6,761,348       0       22,355       0       0       28,399,         TURBINE       22,680,319       0       266,790       0       0       22,947,         NUCLEAR STEAM CONDENSATE       4,637,914       0       66,879       0       4,706,         LOW PRESSURE FEEDWATER HEATERS       10,066,320       0       139,843       0       0       920,         MAIN STEAM       907,334       0       13,476       0       9,221,         MOISTURE SEPARATOR REHEATERS       9,135,450       0       35,673       0       9,215,         NCEACTOR FEEDWATER HEATERS       1,632,726       0       22,960       0       1,655,         ATH OR PRESSURE FEEDWATER HEATERS       1,632,726       0       22,960       0       1,241,         REACTOR BLDG       30,728,036       0       921,611       0       062,971,       1,261,         REACTOR BLDG       5,163,325       2,192,400       47,500       0       0       7,403, <td>RESIDUAL HEAT REMOVAL</td> <td>929,210</td> <td>0</td> <td></td> <td>=</td> <td>-</td> <td></td>	RESIDUAL HEAT REMOVAL	929,210	0		=	-	
CONTAMINATED CONCRETE         6,761,348         0         82,355         0         0         6,839, 0           OTHER REACTOR BUILDING         18,129,798         0         269,251         0         0         18,399, 0           OTHER REACTOR BUILDING         18,129,798         0         266,790         0         0         22,947, 0           NUCLEAR STEAM CONDENSATE         4,637,914         0         68,879         0         0         4,706, 0           LOW PRESSURE FEEDWATER HEATERS         10,066,320         0         139,843         0         0         2,2947, 0           MAIN STEAM         907,394         0         13,476         0         0         2,21, 0           MOISTURE SEPARATOR REHEATERS         9,135,450         0         135,673         0         0         2,515, 0         0         2,71, 0           REACTOR FEEDWATER HEATERS         1,436,476         0         0         2,910, 156,673         0         2,71, 0         2,920, 0         0,611,261, 0         0         2,911, 455, 164         0         2,927, 0         0         1,655, 0         1,1,84, 0         0         1,1,261, 1655, 021         1,765, 0         0         0         1,247, 0         0         7,403, 17,403, 0         2,376,021 </td <td></td> <td>6,132,430</td> <td>0</td> <td></td> <td></td> <td>•</td> <td>• •</td>		6,132,430	0			•	• •
OTHER REACTOR BUILDING       18,129,798       0       269,251       0       0       10,337         TURBINE       22,680,319       0       266,790       0       0       22,947         TURBINE       22,680,319       0       266,790       0       0       4,706         LOW PRESSURE FEEDWATER HEATERS       10,066,320       0       139,643       0       0       10,206         MAIN STEAM       907,334       0       13,476       0       0       920,         MAIN STEAM       907,394       0       135,673       0       0       9,271,         REACTOR FEEDWATER PLEATERS       9,135,450       0       135,673       0       0       2,515,         REACTOR FEEDWATER PUMPS       2,478,692       0       36,612       0       0       1,655,         OTHER TG BLDG       7,840,254       3,40,800       72,200       0       11,261,       0       12,297,00       0       11,261,         RAD WASTE & LDG       7,840,254       3,40,800       72,200       0       0       1,261,       0       62,977,       0       62,057,916       0       11,261,       0       6,777,       0       7,403,       7,00,       0 <td< td=""><td></td><td>6,761,348</td><td>0</td><td></td><td>-</td><td>•</td><td>• •</td></td<>		6,761,348	0		-	•	• •
TURBINE       22,680,319       0       2266,790       0       0       22,700         NUCLEAR STEAM CONDENSATE       4,637,914       0       68,879       0       0       10,206,         LOW PRESSURE FEEDWATER HEATERS       10,066,320       0       139,643       0       0       9221,         ANN STEAM       907,394       0       13,476       0       0       9221,         MOISTURE SEPARATOR REHEATERS       9,135,450       0       135,673       0       9,271,         REACTOR FEEDWATER PUMPS       2,478,692       0       36,812       0       2,515,         OTHER TG BLDG       62,055,936       0       921,611       0       0       62,973,         RAD WASTE BLDG       30,728,036       0       456,351       0       31,184,         RAD WASTE & CONTROL       4,750,229       1,983,600       72,200       0       11,261,         RAD WASTE & CONTROL       4,759,164       3,184,200       364,420       0       118,589       8,426,         CONCENTRATOR BOTOMS       17,554,292       11,745,000       31,006,800       0       2,378,021       62,684,         CONCENTRATOR BOTOMS       17,554,292       11,41,603,400       71,240,801       0		18,129,798	0		-		
NUCLEAR STEAM CONDENSATE       4,637,914       0       66,879       0       0       4,765,         LOW PRESSURE FEEDWATER HEATERS       10,066,320       0       139,843       0       0       10,206,         LOW PRESSURE FEEDWATER HEATERS       10,066,320       0       13,476       0       920,         MAIN STEAM       907,334       0       13,476       0       920,         MOISTURE SEPARATOR REHEATERS       9,135,450       0       135,673       0       9,271,         REACTOR FEEDWATER PUMPS       2,478,692       0       36,812       0       0       1,655,         REACTOR FEEDWATER HEATERS       1,632,726       0       22,960       0       1,655,       0       21,161       0       62,977,         OTHER TG BLDG       62,055,936       0       921,611       0       0       31,164,         REACTOR BLDG       7,648,254       3,340,800       72,200       0       0       1,461,         REACTOR BLDG       5,163,325       2,192,400       47,500       0       0       7,403,         RAD WASTE & CONTROL       4,759,164       3,184,200       364,420       0       118,589       8,426,         OTHER       700,676		22,680,319	0	266,790		-	• •
LOW PRESSURE FEEDWATER HEATERS       10,066,320       0       139,643       0       0       10,206, 920, MAIN STEAM         MAIN STEAM       907,334       0       13,476       0       0       920, 920, 0         MOISTURE SEPARATOR REHEATERS       9,135,450       0       135,673       0       0       9,271, 0         MOISTURE SEPARATOR REHEATERS       9,135,450       0       36,612       0       0       2,515, 0         HIGH PRESSURE FEEDWATER HEATERS       1,632,726       0       22,960       0       0       62,977, 0         OTHER TG BLDG       62,055,936       0       921,611       0       0       62,977, 0         RAD WASTE BLDG       7,848,254       3,340,800       72,200       0       0       11,261, 0         RAD WASTE 4 CONTROL       4,750,259       1,983,600       43,700       0       0       6,777, 0         RAD WASTE 4 CONTROL       4,759,164       3,164,200       364,420       0       118,589       8,426, 0       0         OTHER       400,5921       41,603,400       71,240,801       0       3,307,164       397,916, 397,916,         SUBTOTAL EWR COSTS       281,685,021       41,603,400       71,240,801       0       3,307,164			0	68,879	-	-	• •
MAIN STEAM       907,394       0       13,476       0       0       920,         MOISTURE SEPARATOR REHEATERS       9,135,450       0       135,673       0       0       9,271,         REACTOR FEEDWATER PUMPS       2,478,692       0       36,812       0       0       2,515,         HIGH PRESSURE FEEDWATER HEATERS       1,632,726       0       22,960       0       0       1,655,         OTHER TG BLDG       62,055,936       0       921,611       0       0       62,977,         RAD WASTE BLDG       30,728,036       0       456,351       0       0       11,261,         REACTOR BLDG       7,848,254       3,340,800       72,200       0       0       11,261,         RAD WASTE BLDG       5,163,325       2,192,400       47,500       0       0       7,403,         RAD WASTE & CONTROL       4,750,259       1,983,600       43,700       0       2,378,021       62,684,         OTHER       4,759,164       3,184,200       364,420       0       118,589       8,426,         POST-TMI-2 ADDITIONS       700,676       0       0       0       700,       0       700,         SUBTOTAL BWR COSTS       281,685,021       <			0	139,843		-	
MOISTURE SEPARATOR REHEATERS       9,135,450       0       135,673       0       0       9,271,         REACTOR FEEDWATER PUMPS       2,478,692       0       36,812       0       0       2,515,         REACTOR FEEDWATER PUMPS       2,478,692       0       36,812       0       0       2,515,         NIGH PRESSURE FEEDWATER HEATERS       1,632,726       0       22,960       0       0       1,655,         OTHER TG BLDG       62,055,936       0       921,611       0       0       62,977,         OTHER TG BLDG       30,728,036       0       456,351       0       0       11,164,         REACTOR BLDG       7,848,254       3,340,800       72,200       0       0       11,261,         TG BLDG       5,163,325       2,192,400       47,500       0       0       6,777,         RAD WASTE 4 CONTROL       4,750,259       1,983,600       43,700       0       0       62,071,021       62,684,         CONCENTRATOR BOTTOMS       17,554,292       11,745,000       31,006,800       0       2,378,021       62,684,         OTHER       9057-TMI-2 ADDITIONS       700,676       0       0       700,       700,         SUBTOTAL BWR COSTS <td></td> <td></td> <td>0</td> <td>13,476</td> <td>•</td> <td>•</td> <td>920,87</td>			0	13,476	•	•	920,87
REACTOR FEEDWATER PUMPS       2,478,692       0       36,612       0       0       2,515,         HIGH PRESSURE FEEDWATER HEATERS       1,632,726       0       22,960       0       0       1,655,         OTHER TG BLDG       62,055,936       0       921,611       0       0       62,977,         RAD WASTE BLDG       30,728,036       0       456,351       0       0       11,261,         REACTOR BLDG       7,848,254       3,340,800       72,200       0       0       7,403,         REACTOR BLDG       5,163,325       2,192,400       47,500       0       0       7,403,         RAD WASTE & CONTROL       4,750,259       1,983,600       43,700       0       0       7,403,         RAD WASTE & CONTROL       4,759,164       3,184,200       31,006,800       0       2,378,021       62,684,         OTHER       4,759,164       3,184,200       364,420       0       118,589       8,426,         OTHER       700,676       0       0       3,387,164       397,916,         SUBTOTAL BWR COSTS       281,685,021       41,603,400       71,240,801       0       3,387,164       397,916,         BARNWELL COUNTY BUSINESS TAX       2,680,			0	135,673	-	-	9,271,12
NELFOR FEEDWATER HEATERS       1,632,726       0       22,960       0       0       1,655,         HIGH PRESSURE FEEDWATER HEATERS       1,632,726       0       921,611       0       0       62,977,         NIGH PRESSURE FEEDWATER HEATERS       1,632,726       0       921,611       0       0       62,977,         RAD WASTE BLDG       30,728,036       0       456,351       0       0       11,261,         RAD WASTE BLDG       7,848,254       3,340,800       72,200       0       0       11,261,         REACTOR BLDG       7,848,254       3,340,800       72,200       0       0       11,261,         RAD WASTE & CONTROL       4,750,259       1,983,600       43,700       0       0       6,777,         RAD WASTE & CONTROL       4,759,164       3,184,200       31,006,800       0       2,378,021       62,684,         CONCENTRATOR BOTTOMS       17,554,292       11,745,000       31,006,800       0       118,589       8,426,         OTHER       90,57-TMI-2       ADDITIONS       700,676       0       0       3,397,164       397,916,         SUBTOTAL BWR COSTS       281,685,021       41,603,400       71,240,801       0       3,387,164       397,916,<		• •	0	36,812	0	•	2,515,50
OTHER TG BLDG       62,055,936       0       921,611       0       0       62,977,         RAD WASTE BLDG       30,728,036       0       456,351       0       0       31,184,         REACTOR BLDG       7,848,254       3,340,800       72,200       0       0       11,261,         TG BLDG       7,848,254       3,340,800       72,200       0       0       7,403,         TG BLDG       5,163,325       2,192,400       47,500       0       0       6,777,         RAD WASTE & CONTROL       4,750,259       1,983,600       31,006,800       0       2,378,021       62,684,         CONCENTRATOR BOTTOMS       17,554,292       11,745,000       31,006,800       0       2,378,021       62,684,         POST-TMI-2 ADDITIONS       700,676       0       0       0       700,         SUBTOTAL BWR COSTS       281,685,021       41,603,400       71,240,801       0       3,387,164       397,916,         BARNWELL COUNTY BUSINESS TAX ATLANTIC COMPACT SURCHARGE (OUTSIDE COMPACT)       2,680,       22,680,       400,597,		• •	0		0	0	1,655,68
OTHER TS BLOG       30,728,036       0       456,351       0       0       31,164,         RAD WASTE BLDG       30,728,036       0       456,351       0       0       11,261,         REACTOR BLDG       7,848,254       3,340,800       72,200       0       0       11,261,         TG BLDG       5,163,325       2,192,400       47,500       0       0       6,777,         RAD WASTE & CONTROL       4,750,259       1,983,600       43,700       0       0       6,777,         CONCENTRATOR BOTTOMS       17,554,292       11,745,000       31,066,800       0       2,378,021       62,684,         OTHER       4,759,164       3,184,200       364,420       0       118,589       8,426,         OTHER       4,759,164       3,184,200       364,420       0       118,589       8,426,         OTHER       700,676       0       0       0       700,       700,         SUBTOTAL BWR COSTS       281,685,021       41,603,400       71,240,801       0       3,397,164       397,916,         BARNWELL COUNTY BUSINESS TAX       2,680,       2,680,       2,680,       400,597.       400,597.			0	921,611	0	0	62,977,54
REACTOR BLDG       7,848,254       3,340,800       72,200       0       0       11,261,         REACTOR BLDG       5,163,325       2,192,400       47,500       0       0       7,403,         RAD WASTE & CONTROL       4,750,259       1,983,600       43,700       0       0       6,777,         CONCENTRATOR BOTTOMS       17,554,292       11,745,000       31,006,800       0       2,378,021       62,684,         OTHER       4,759,164       3,184,200       364,420       0       118,589       8,426,         POST-TMI-2 ADDITIONS       700,676       0       0       0       700,         SUBTOTAL BWR COSTS       281,685,021       41,603,400       71,240,801       0       3,307,164       397,916,         BARNWELL COUNTY BUSINESS TAX       2.680,       400,597.       400,597.       400,597.			0		0	0	31,184,38
RALACION BUSS       5,163,325       2,192,400       47,500       0       0       7,403,         TG BLDG       5,163,325       2,192,400       47,500       0       0       6,777,         RAD WASTE & CONTROL       4,750,259       1,983,600       43,700       0       0       6,777,         CONCENTRATOR BOTTOMS       17,554,292       11,745,000       31,006,800       0       2,378,021       62,684,         OTHER       4,759,164       3,184,200       364,420       0       118,589       8,426,         POST-TMI-2 ADDITIONS       700,676       0       0       0       700,       700,         SUBTOTAL BWR COSTS       281,685,021       41,603,400       71,240,801       0       3,387,164       397,916,         BARNWELL COUNTY BUSINESS TAX       2,680,       400,597.       400,597.       400,597.       400,597.			3 340.800		0	0	11,261,25
IG BLOS       4,750,259       1,983,600       43,700       0       0       6,777,         RAD WASTE & CONTROL       4,750,259       1,983,600       43,700       0       0       2,378,021       62,684,         CONCENTRATOR BOTTOMS       17,554,292       11,745,000       31,006,800       0       2,378,021       62,684,         OTHER       4,759,164       3,184,200       364,420       0       118,589       8,426,         POST-TMI-2 ADDITIONS       700,676       0       0       0       700,         SITE ACCESS FEES, (3.5 YRS)       281,685,021       41,603,400       71,240,801       0       3,387,164       397,916,         BARNWELL COUNTY BUSINESS TAX       2,680,       41,603,400       71,240,801       0       3,387,164       397,916,         ATLANTIC COMPACT SURCHARGE (OUTSIDE COMPACT)       400,597.       400,597.       400,597.       400,597.					Ō	0	7,403,22
NAD HASTE & CONTROL       17,554,292       11,745,000       31,006,800       0       2,378,021       62,684,         CONCENTRATOR BOTTOMS       17,554,292       11,745,000       31,006,800       0       118,589       8,426,         OTHER       4,759,164       3,184,200       364,420       0       118,589       8,426,         POST-TMI-2 ADDITIONS       700,676       0       0       0       0       700,         SITE ACCESS FEES, (3.5 YRS)       281,685,021       41,603,400       71,240,801       0       3,307,164       397,916,         BARNWELL COUNTY BUSINESS TAX       281,685,021       41,603,400       71,240,801       0       3,307,164       397,916,         ATLANTIC COMPACT SURCHARGE (OUTSIDE COMPACT)       400,597.       400,597.       400,597.       400,597.					0	0	6,777,55
CONCENTRATOR BOTTOMS       17,534,292       11,743,000       51,007,000       0       118,589       8,426,         OTHER       4,759,164       3,184,200       364,420       0       0       0       700,         POST-TMI-2 ADDITIONS       700,676       0       0       0       0       700,         SUBTOTAL BWR COSTS       201,685,021       41,603,400       71,240,801       0       3,307,164       397,916,         BARNWELL COUNTY BUSINESS TAX       2,680,       41,603,400       71,240,801       0       3,307,164       397,916,					-	2.378.021	62,684,11
OTHER       4,759,164       3,164,205       307,105       0       0       700,         POST-TMI-2 ADDITIONS       700,676       0       0       0       0       700,         SUBTOTAL BWR COSTS       201,685,021       41,603,400       71,240,801       0       3,307,164       397,916,         BARNWELL COUNTY BUSINESS TAX ATLANTIC COMPACT SURCHARGE (OUTSIDE COMPACT)       2,680,       2,680,       400,597,					•		8,426,37
POST-TMI-2 ADDITIONS     700,876     0     0     0       SITE ACCESS FEES, (3.5 YRS)     281,685,021     41,603,400     71,240,801     0     3,307,164     397,916,       BARNWELL COUNTY BUSINESS TAX ATLANTIC COMPACT SURCHARGE (OUTSIDE COMPACT)     2,680,     2,680,     400,597,					-	•	700,67
SUBTOTAL BWR COSTS       281,685,021       41,603,400       71,240,801       0       3,387,164       397,916,         BARNWELL COUNTY BUSINESS TAX ATLANTIC COMPACT SURCHARGE (OUTSIDE COMPACT)	POST-TMI-2 ADDITIONS	700,676	U	Ū	U	v	
BARNWELL COUNTY BUSINESS TAX ATLANTIC COMPACT SURCHARGE (OUTSIDE COMPACT)						3 397 164	397,916,38
ATLANTIC COMPACT SURCHARGE (OUTSIDE COMPACT)	SUBTOTAL BWR COSTS	281,685,021	41,603,400	71,240,801	U	5,507,104	
400-597	BARNWELL COUNTY BUSINESS TAX						2,680,72
		D COMPACY					400,597,10

TOTAL BWR COSTS (OUTSIDE COMPACT)

(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

### Table B.9 Burial Costs at the South Carolina Site Atlantic Compact (2000 dollars)

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REFERENCE PWR COMPONENT	BASE DISPOSAL CHARGE	CASK HANDLING	CURIE SURCHARGE	LINER DOSE RATE	DOSE RATE SURCHARGE	DISPOSAL
VESSEL WALL	2,617,120	1,900,000	5,016,000	0	1,256,218	10,789,338
VESSEL HEAD & BOTTOM	1,667,358	2,000,000	6,600	0	0	3,673,958
UPPER CORE SUPPORT ASSM	157,410	200,000	3,300	0	50,371	411,081
UPPER SUPPORT COLUMN	145,530	200,000	33,000	0	46,570	425,100
UPPER CORE BARREL	69,300	100,000	264,000	0	33,264	466,564
UPPER CORE GRID PLATE	173,250	250,000	660,000	0	83,160	1,166,410
GUIDE TUBES	256,410	300,000	33,000	0	69,231	658,641
LOWER CORE BARREL(*)	1,108,800	1,600,000	4,224,000	Ó	532,224	7,465,024
THERMAL SHIELDS(*)	207,900	300,000	792,000	Ó	99,792	1,399,692
CORE SHROUD(*)	160,974	200,000	8,052,000	0	77,268	8,490,242
LOWER GRID PLATE(*)	173,250	250,000	1,320,000	Ō	83,160	1,826,410
LOWER SUPPORT COLUMN	43,956	50,000	132,000	Ó	21,099	247,055
LOWER CORE FORGING	477,576	550,000	825,000	0	229,236	2,081,812
MISC INTERNALS	387,200	400,000	660,000	0	185,856	1,633,056
BIO SHIELD CONCRETE	9,438,000	0	396,000	0	0	9,834,000
REACTOR CAVITY LINER	190,080	0	3,300	0	0	193,380
REACTOR COOLANT PUMPS	3,308,800	0	25,628	0	Ő	3,334,428
PRESSURIZER	1,501,500	0	1,673	0	Ó	1,503,173
R.Hx, EHx, SUMP PUMP, CAVITY PUMP	138,600	0	3,891	0	0	142,491
PRESSURIZER RELIEF TANK	415,800	0	1,333	0	Ō	417,133
SAFETY INJECTION ACCUM TANKS	1,481,040	0	26,875	0	Ō	1,507,915
STEAM GENERATORS	12,108,800	0	1,452,000	Ó	Ő	13,560,800
REACTOR COOLANT PIPING	1,318,668	0	98,340	0	0	1,417,008
REMAINING CONTAM. MATLS	23,311,530	0	73,851	Ó	0	23,385,381
CONTAMINATED MATRL OTHR BLD	179,336,381	0	60,803	ō	ŏ	179,397,184
FILTER CARTRIDGES	237,600	300,000	1,650,000	Ō	28,512	2,216,112
SPENT RESINS	871,200	1,000,000	2,640,000	0	418,176	4,929,376
COMBUSTIBLE WASTES	4,158,000	3,000,000	99,000	Ō	0	7,257,000
EVAPORATOR BOTTOMS	4,094,640	4,700,000	12,408,000	Ō	559,310	21,761,950
POST-TMI-2 ADDITIONS	8,217,949	0	0	0	0	8,217,949
SITE ACCESS FEES, (3 YRS)					•	0,221,019
SUBTOTAL PWR COSTS	257,774,622	17,300,000	40,961,593	0	3,773,446	319,809,662
BARNWELL COUNTY BUSINESS TAX						0
ATLANTIC COMPACT SURCHARGE (INSIDE	COMPACT)					2,588,988
TOTAL FWR COSTS (INSIDE COMPACT)						322,398,650

(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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REFERENCE BWR COMPONENT	BASE DISPOSAL CHARGE	CASK <u>HANDLING</u>	CURIE <u>SURCHARGE</u>	LINER DOSE RATE	DOSE RATE SURCHARGE	DISPOSAL COST
STEAM SEPARATOR	160,838	1,400,000	1,848,000	0	77,202	3,486,040
FUEL SUPPORT & PIECES	70,852	700,000	231,000	0	34,009	1,035,861
CONTROL RODS/INCORES	210,947	400,000	1,056,000	0	101,254	1,768,201
CONTROL RODS GUIDES	59,290	600,000	33,000	0	21,937	714,227
JET PUMPS	171,518	2,000,000	2,640,000	0	82,328	4,893,846
TOP FUEL GUIDES	293,832	3,600,000	9,504,000	0	141,039	13,538,871
CORE SUPPORT PLATE	196,988	1,550,000	214,500	0	72,886	2,034,374
CORE SHROUD(*)	575,190	7,000,000	18,480,000	0	276,091	26,331,281
REACTOR VESSEL WALL	125,144	1,100,000	712,800	0	46,303	1,984,247
SAC SHIELD (NEUTRON ACT. MATL.)	2,632,969	0	55,440	0	0	2,688,409
REACT. WATER REC	1,139,268	0	14,503	0	0	1,153,771
SAC SHIELD (CONTAM. MATL.)	6,818,592	0	51,086	0	0	6,869,678
OTHER PRIMARY CONTAINMENT	47,821,620	0	582,668	0	0	48,404,288
CONTAINM. ATMOSPHERIC	587,318	0	7,909	0	0	595,227
HIGH PRESSURE CORE SPRAY	295,240	0	2,800	0	0	298,040
LOW PRESSURE CORE SPRAY	130,680	0	1,647	0	0	132,327
REACTOR BLDG CLOSED COOLING	460,768	0	5,273	0	0	466,041
REACTOR CORE ISO COOLING	159,044	0	2,142	0	0	161,185
RESIDUAL HEAT REMOVAL	890,570	0	10,219	0	0	900,789
POOL LINER & RACKS	5,873,098	0	62,784	0	0	5,935,882
CONTAMINATED CONCRETE	6,477,808	0	71,519	0	0	6,549,326
OTHER REACTOR BUILDING	17,363,115	0	233,823	0	0	17,596,938
TURBINE	21,729,209	0	231,686	0	0	21,960,895
NUCLEAR STEAM CONDENSATE	4,441,784	0	59,816	0	0	4,501,600
LOW PRESSURE FEEDWATER HEATERS	9,644,184	0	121,443	0	0	9,765,627
MAIN STEAM	869,022	0	11,703	0	0	880,725
MOISTURE SEPARATOR REHEATERS	8,749,125	0	117,822	0	0	8,866,947
REACTOR FEEDWATER PUMPS	2,373,872	0	31,968	0	0	2,405,840
HIGH PRESSURE FEEDWATER HEATERS	1,564,830	0	19,939	0	0	1,584,769
OTHER TG BLDG	59,431,680	0	800,347	0	0	60,232,027
RAD WASTE BLDG	29,428,592	0	396,305	0	0	29,824,897
REACTOR BLDG	7,523,380	3,200,000	62,700	0	0	10,786,080
TG BLDG	4,949,592	2,100,000	41,250	0	0	7,090,842
RAD WASTE & CONTROL	4,553,625	1,900,000	37,950	0	0	6,491,575
CONCENTRATOR BOTTOMS	16,827,644	11,250,000	29,700,000	0	2,279,585	60,057,229
OTHER	4,562,161	3,050,000	316,470	0	113,680	8,042,311
POST-TMI-2 ADDITIONS	671,672	0	0	0	0	671,672
SITE ACCESS FEES, (3.5 YRS)						0
SUBTOTAL BWR COSTS	269,835,058	39,850,000	67,770,510	0	3,246,316	380,701,883
BARNWELL COUNTY BUSINESS TAX						c
ATLANTIC COMPACT SURCHARGE (INSIDE	COMPACT)					2,680,724
TOTAL BWR COSTS (INSIDE COMPACT)						383,382,607

### Table B.10 Burial Costs at the South Carolina Site Non-Atlantic Compact (2000 dollars)

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REFERENCE PWR COMPONENT	BASE DISPOSAL CHARGE	CASK <u>HANDLING</u>	CURIE SURCHARGE	LINER DOSE	DOSE RATE SURCHARGE	DISPOSAL
VESSEL WALL	2,617,120	1,900,000	5,472,000	o	1,256,218	11,245,338
VESSEL HEAD & BOTTOM	1,667,358	2,000,000	7,200	0	0	3,674,558
UPPER CORE SUPPORT ASSM	157,410	200,000	3,600	0	50,371	411,381
UPPER SUPPORT COLUMN	145,530	200,000	36,000	Ō	46,570	428,100
UPPER CORE BARREL	69,300	100,000	288,000	õ	33,264	490,564
UPPER CORE GRID PLATE	173,250	250,000	720,000	Ō	83,160	1,226,410
GUIDE TUBES	256,410	300,000	36,000	Ó	69,231	661,641
LOWER CORE BARREL(*)	1,108,800	1,600,000	4,608,000	Ő	532,224	7,849,024
THERMAL SHIELDS(*)	207,900	300,000	864,000	õ	99,792	1,471,692
CORE SHROUD (*)	160,974	200,000	8,784,000	0	77,268	9,222,242
LOWER GRID PLATE(*)	173,250	250,000	1,440,000	ů	83,160	1,946,410
LOWER SUPPORT COLUMN	43,956	50,000	144,000	õ	21,099	259,055
LOWER CORE FORGING	477,576	550,000	900,000	ő	229,236	2,156,812
MISC INTERNALS	387,200	400,000	720,000	õ	185,856	1,693,056
BIO SHIELD CONCRETE	9,438,000	. 0	432,000	õ	100,000	9,870,000
REACTOR CAVITY LINER	190,080	Ó	3,600	õ	ŏ	193,680
REACTOR COOLANT PUMPS	3,308,800	0	27,958	õ	0	3,336,758
PRESSURIZER	1,501,500	0	1,825	ŏ	0	1,503,325
R.Hx, EHx, SUMP PUMP, CAVITY PUMP	138,600	Ō	4,244	Ő	0	142,844
PRESSURIZER RELIEF TANK	415,800	Ő	1,454	õ	0	417,254
SAFETY INJECTION ACCUM TANKS	1,481,040	ò	29,318	õ	0	1,510,358
STEAM GENERATORS	12,108,800	Ő	1,584,000	ŏ	0	13,692,800
REACTOR COOLANT PIPING	1,318,668	0	107,280	ň	0	• •
REMAINING CONTAM. MATLS	23, 311, 530	Ő	80,564	õ	0	1,425,948
CONTAMINATED MATRL OTHR BLD	179,336,381	ŏ	66,330	0	0	23,392,094
FILTER CARTRIDGES	237,600	300,000	1,800,000	0	28,512	179,402,711
SPENT RESINS	871,200	1,000,000	2,880,000	0	418,176	2,366,112
COMBUSTIBLE WASTES	4,158,000	3,000,000	108,000	ŏ	410,176	5,169,376
EVAPORATOR BOTTOMS	4,094,640	4,700,000	13,536,000	0	-	7,266,000
POST-TMI-2 ADDITIONS	8,217,949	0	13,330,000	0	559,310 0	22,889,950
SITE ACCESS FEES, (3 YRS)		Ũ	v	U	U	8,217,949
SUBTOTAL PWR COSTS	257,774,622	17,300,000	44,685,374	0	3,773,446	323, 533, 443
BARNWELL COUNTY BUSINESS TAX ATLANTIC COMPACT SURCHARGE (OUTSIDE	() () () () () () () () () () () () () (					0
	COMPACT)					2,588,988
TOTAL PWR COSTS (OUTSIDE COMPACT)						326,122,431

(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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#### Table B.10 Burial Costs at the South Carolina Site Non-Atlantic Compact (2000 dollars)

REFERENCE BWR COMPONENT	BASE DISPOSAL CHARGE	CASK <u>HANDLING</u>	CURIE SURCHARGE	LINER DOSE RATE	DOSE RATE SURCHARGE	DISPOSAL COST
STEAM SEPARATOR	160,838	1,400,000	2,016,000	0	77,202	3,654,040
FUEL SUPPORT & PIECES	70,852	700,000	252,000	0	34,009	1,056,863
CONTROL RODS/INCORES	210,947	400,000	1,152,000	0	101,254	1,864,203
CONTROL RODS GUIDES	59,290	600,000	36,000	0	21,937	717,22
JET PUMPS	171,518	2,000,000	2,880,000	0	82,328	5,133,84
TOP FUEL GUIDES	293,832	3,600,000	10,368,000	0	141,039	14,402,87
CORE SUPPORT PLATE	196,988	1,550,000	234,000	0	72,886	2,053,87
CORE SHROUD <sup>(a)</sup>	575,190	7,000,000	20,160,000	0	276,091	28,011,28
REACTOR VESSEL WALL	125,144	1,100,000	777,600	0	46,303	2,049,04
SAC SHIELD (NEUTRON ACT. MATL.)	2,632,969	0	60,480	0	0	2,693,44
REACT. WATER REC	1,139,268	Ō	15,821	0	0	1,155,08
SAC SHIELD (CONTAM. MATL.)	6,818,592	õ	55,730	Ō	0	6,874,32
OTHER PRIMARY CONTAINMENT	47,821,620	õ	635,638	ů.	0	48,457,25
CONTAINM. ATMOSPHERIC	587,318	õ	8,628	0	0	595,94
HIGH PRESSURE CORE SPRAY	295,240	ŏ	3,054	0	Ō	298,29
	130,680	Ő	1,797	õ	õ	132,47
LOW PRESSURE CORE SPRAY REACTOR BLDG CLOSED COOLING	460,768	0	5,752	ő	õ	466,52
	159,044	0	2,336	õ	õ	161,38
REACTOR CORE ISO COOLING	890,570	0	11,148	Ő	õ	901,71
RESIDUAL HEAT REMOVAL		0	68,491	õ	ō	5,941,58
POOL LINER & RACKS	5,873,098	0	78,021	0	ő	6,555,82
CONTAMINATED CONCRETE	6,477,808	0	255,080	0	0	17,618,19
OTHER REACTOR BUILDING	17,363,115	0		ŏ	õ	21,981,95
TURBINE	21,729,209	0	252,749	0	0	4,507,03
NUCLEAR STEAM CONDENSATE	4,441,784	0	65,254	0	0	9,776,66
LOW PRESSURE FEEDWATER HEATERS	9,644,184	•	132,483	0	0	881,78
MAIN STEAM	869,022	0	12,767	0	0	8,877,65
MOISTURE SEPARATOR REHEATERS	8,749,125	0	128,533	0	0	2,408,74
REACTOR FEEDWATER PUMPS	2,373,872	0	34,874	0	0	• •
HIGH PRESSURE FEEDWATER HEATERS	1,564,830	0	21,751		•	1,586,58
OTHER TG BLDG	59,431,680	0	873,105	0	0	60,304,78
RAD WASTE BLDG	29,428,592	0	432,333	0	0	29,860,92
REACTOR BLDG	7,523,380	3,200,000	68,400	0	0	10,791,78
TG BLDG	4,949,592	2,100,000	45,000	0	0	7,094,59
RAD WASTE & CONTROL	4,553,625	1,900,000	41,400	0	0	6,495,02
CONCENTRATOR BOTTOMS	16,827,644	11,250,000	32,400,000	0	2,279,585	62,757,22
OTHER	4,562,161	3,050,000	345,240	0	113,680	8,071,08
POST-TMI-2 ADDITIONS	671,672	0	0	0	0	671 <b>,</b> 67
SITE ACCESS FEES, (3.5 YRS)						
SUBTOTAL BWR COSTS	269,835,058	39,850,000	73,931,465	0	3,246,316	386,862,83
BARNWELL COUNTY BUSINESS TAX						
ATLANTIC COMPACT SURCHARGE (OUTSID	E COMPACT)					2,680,72
TOTAL BWR COSTS (OUTSIDE COMPACT)						389, 543, 56

(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

### Table B.11 Burial Costs at the South Carolina Site(1998 dollars)

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REFERENCE PWR COMPONENT	BASE DISPOSAL CHARGE	CASK HANDLING	CURIE SURCHARGE	LINER DOSE RATE	DOSE RATE SURCHARGE	DISPOSAL <u>COST</u>
VESSEL WALL	2,379,200	1,140,000	4,560,000	0	1,142,016	9,221,216
VESSEL HEAD & BOTTOM	1,515,780	1,200,000	6,000	0	0	2,721,780
UPPER CORE SUPPORT ASSM	143,100	120,000	3,000	0	45,792	311,892
UPPER SUPPORT COLUMN	132,300	120,000	30,000	0	42,336	324,636
UPPER CORE BARREL	63,000	60,000	240,000	0	30,240	393,240
UPPER CORE GRID PLATE	157,500	150,000	600,000	0	75,600	983,100
GUIDE TUBES	233,100	180,000	30,000	0	62,937	506,037
LOWER CORE BARREL (a)	1,008,000	960,000	3,840,000	0	483,840	6,291,840
THERMAL SHIELDS (a)	189,000	180,000	720,000	0	90,720	1,179,720
CORE SHROUD(*)	108,400	120,000	7,320,000	0	52,032	7,600,432
LOWER GRID PLATE (*)	38,280	150,000	1,200,000	0	18,374	1,406,654
LOWER SUPPORT COLUMN	39,960	30,000	120,000	0	19,181	209,141
LOWER CORE FORGING	434,160	330,000	750,000	0	208,397	1,722,557
MISC INTERNALS	352,000	240,000	600,000	0	168,960	1,360,960
BIO SHIELD CONCRETE	8,580,000	0	360,000	0	0	8,940,000
REACTOR CAVITY LINER	172,800	0	3,000	0	0	175,800
REACTOR COOLANT PUMPS	3,008,000	0	23,298	0	0	3,031,298
PRESSURIZER	1,365,000	0	1,521	0	0	1,366,521
R.Hx, EHx, SUMP PUMP, CAVITY PUMP	126,000	0	3,537	Ó	0	129,537
PRESSURIZER RELIEF TANK	378,000	0	1,212	0	0	379,212
SAFETY INJECTION ACCUM TANKS	1,346,400	0	24,432	0	0	1,370,832
STEAM GENERATORS	11,008,000	0	1,320,000	0	0	12,328,000
REACTOR COOLANT PIPING	1,198,789	0	89,400	0	0	1,288,189
REMAINING CONTAM. MATLS	21,192,300	0	67,137	0	0	21,259,437
CONTAMINATED MATRL OTHR BLD	163,033,074	0	55,275	0	0	163,088,349
FILTER CARTRIDGES	216,000	180,000	1,500,000	0	25,920	1,921,920
SPENT RESINS	792,000	600,000	2,400,000	0	380,160	4,172,160
COMBUSTIBLE WASTES	3,780,000	1,800,000	90,000	0	0	5,670,000
EVAPORATOR BOTTOMS	3,722,400	2,820,000	11,280,000	0	508,464	18,330,864
POST-TMI-2 ADDITIONS	7,470,863	0	0	0	0	7,470,863
SITE ACCESS FEES, (3 YRS)					·······	615,000
SUBTOTAL PWR COSTS	234,183,406	10,380,000	37,237,812	0	3,354,969	285,771,187
TAXES AND SURCHARGES						0

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285,771,187

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(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

TOTAL PWR COSTS

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### Table B.11 Burial Costs at the South Carolina Site(1998 dollars)

REFERENCE_BWR_COMPONENT	BASE DISPOSAL	CASK HANDLING	CURIE SURCHARGE	LINER DOSE RATE	DOSE RATE SURCHARGE	DISPOSAL COST
				,		
STEAM SEPARATOR	146,216	840,000	1,680,000	0	70,184	2,736,400
FUEL SUPPORT & PIECES	64,411	420,000	210,000	0	30,917	725,329
CONTROL RODS/INCORES	191,770	240,000	960,000	0	92,049	1,483,819
CONTROL RODS GUIDES	53,900	360,000	30,000	0	19,943	463,843
JET PUMPS	155,925	1,200,000	2,400,000	0	74,844	3,830,769
TOP FUEL GUIDES	267,120	2,160,000	8,640,000	0	128,218	11,195,338
CORE SUPPORT PLATE	179,080	930,000	195,000	0	66,260	1,370,340
CORE SHROUD(*)	522,900	4,200,000	16,800,000	0	250,992	21,773,892
REACTOR VESSEL WALL	113,767	660,000	648,000	0	42,094	1,463,861
SAC SHIELD (NEUTRON ACT. MATL.)	2,393,608	0	50,400	0	. 0	2,444,008
REACT. WATER REC	1,035,698	0	13,184	Ō	Ō	1,048,883
SAC SHIELD (CONTAM. MATL.)	6,198,720	Ō	46,441	ů.	0	6,245,161
OTHER PRIMARY CONTAINMENT	43,474,200	0	529,699	Ō	Ő	44,003,899
CONTAINM. ATMOSPHERIC	533, 925	Ó	7,190	Ō	Ō	541,115
HIGH PRESSURE CORE SPRAY	268,400	ō	2,545	0	Ô	270,945
LOW PRESSURE CORE SPRAY	118,800	Ó	1,497	0	0	120,297
REACTOR BLDG CLOSED COOLING	418,880	0	4,793	Ó	Ő	423,673
REACTOR CORE ISO COOLING	144,585	Ō	1,947	Ō	ō	146,532
RESIDUAL HEAT REMOVAL	809,609	Ō	9,290	0 0	Ō	818,899
POOL LINER & RACKS	5,339,180	0	57,076	0	Ó	5,396,256
CONTAMINATED CONCRETE	5,888,916	Ó	65,017	Ō	Ō	5,953,933
OTHER REACTOR BUILDING	15,784,650	0	212,567	Ó	Ō	15,997,217
TURBINE	19,753,826	Ō	210,624	ů 0	Ő	19,964,450
UCLEAR STEAM CONDENSATE	4,037,985	Ó	54,378	0	0	4,092,363
LOW PRESSURE FEEDWATER HEATERS	8,767,440	0	110,402	0	0	8,877,842
AIN STEAM	790,020	Ō	10,639	0	ů.	800,659
OISTURE SEPARATOR REHEATERS	7,953,750	0	107,111	õ	0 0	8,060,861
REACTOR FEEDWATER PUMPS	2,158,065	Ō	29,062	0	õ	2,187,127
IGH PRESSURE FEEDWATER HEATERS	1,422,573	Ő	18,126	ò	ů	1,440,699
THER TG BLDG	54,028,800	õ	727,588	ů	ő	54,756,388
RAD WASTE BLDG	26,753,265	õ	360,277	ů	0	27,113,542
REACTOR BLDG	6,839,437	1,920,000	57,000	ŏ	0	8,816,437
rg BLDG	4,499,629	1,260,000	37,500	0	ő	5,797,129
AD WASTE & CONTROL	4,139,659	1,140,000	34,500	ŏ	0	5,314,159
ONCENTRATOR BOTTOMS	15,297,858	6,750,000	27,000,000	ů	2,072,350	51,120,208
THER	4,147,419	1,830,000	287,700	ő	103,346	6,368,465
OST-TMI-2 ADDITIONS	610,611	0	0	ő	105,540	610,611
ITE ACCESS FEES, (3.5 YRS)	010,011	U	Ŷ	v	v	717,500
SUBTOTAL BWR COSTS	245, 304, 598	23,910,000	61,609,554	0	2,951,196	334,492,848

TOTAL BWR COSTS

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334,492,848

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### Table B.12 Burial Costs at the South Carolina Site(1997 dollars)

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	BASE DISPOSAL	CASK	CURIE	LINER DOSE	DOSE RATE	DISPOSAL
REFERENCE PWR COMPONENT	CHARGE	HANDLING	SURCHARGE	RATE	SURCHARGE	COST
VESSEL WALL	2,379,200	1,140,000	4,560,000	0	1,142,016	9,221,216
VESSEL HEAD & BOTTOM	1,515,780	1,200,000	6,000	0	0	2,721,780
UPPER CORE SUPPORT ASSM	143,100	120,000	3,000	0	45,792	311,892
UPPER SUPPORT COLUMN	132,300	120,000	30,000	0	42,336	324,636
UPPER CORE BARREL	63,000	60,000	240,000	0	30,240	393,240
UPPER CORE GRID PLATE	157,500	150,000	600,000	0	75,600	983,100
GUIDE TUBES	233,100	180,000	30,000	0	62,937	506,037
LOWER CORE BARREL <sup>(*)</sup>	1,008,000	960,000	3,840,000	0	483,840	6,291,840
THERMAL SHIELDS(*)	189,000	180,000	720,000	Ó	90,720	1,179,720
CORE SHROUD(=)	108,400	120,000	7,320,000	0	52,032	7,600,432
LOWER GRID PLATE(*)	38,280	150,000	1,200,000	0	18,374	1,406,654
LOWER SUPPORT COLUMN	39,960	30,000	120,000	0	19,181	209,141
LOWER CORE FORGING	434,160	330,000	750,000	0	208,397	1,722,557
MISC INTERNALS	352,000	240,000	600,000	0	168,960	1,360,960
BIO SHIELD CONCRETE	8,580,000	0	360,000	0	0	8,940,000
REACTOR CAVITY LINER	172,800	0	3,000	0	0	175,800
REACTOR COOLANT PUMPS	3,008,000	0	23,298	0	0	3,031,298
PRESSURIZER	1,365,000	0	1,521	0	0	1,366,521
R.Hx, EHx, SUMP PUMP, CAVITY PUMP	126,000	0	3,537	0	0	129, 537
PRESSURIZER RELIEF TANK	378,000	0	1,212	0	0	379,212
SAFETY INJECTION ACCUM TANKS	1,346,400	0	24,432	0	0	1,370,832
STEAM GENERATORS	11,008,000	0	1,320,000	0	0	12,328,000
REACTOR COOLANT PIPING	1,198,789	0	89,400	0	0	1,288,189
REMAINING CONTAM, MATLS	21,192,300	0	67,137	0	0	21,259,437
CONTAMINATED MATRL OTHR BLD	163,033,074	0	55,275	0	0	163,088,349
FILTER CARTRIDGES	216,000	180,000	1,500,000	0	25,920	1,921,920
SPENT RESINS	792,000	600,000	2,400,000	0	380,160	4,172,160
COMBUSTIBLE WASTES	3,780,000	1,800,000	90,000	0	0	5,670,000
EVAPORATOR BOTTOMS	3,722,400	2,820,000	11,280,000	0	508,464	18,330,864
POST-TMI-2 ADDITIONS	7,470,863	0	0	0	0	7,470,863
SUBTOTAL PWR COSTS	234,183,406	10,380,000	37,237,812	0	3,354,969	285,156,187
TAXES AND SURCHARGES						0
TOTAL PWR COSTS						285,156,187

REFERENCE BWR COMPONENT	BASE DISPOSAL CHARGE	CASK HANDLING	CURIE SURCHARGE	LINER DOSE RATE	DOSE RATE SURCHARGE	DISPOSA COST
STEAM SEPARATOR	146,216	840,000	1,680,000	0	70,184	2,736,4
FUEL SUPPORT & PIECES	64,411	420,000	210,000	õ	30,917	725,3
CONTROL RODS/INCORES	191,770	240,000	960,000	Ŏ	92,049	1,483,8
CONTROL RODS GUIDES	53,900	360,000	30,000	0	19,943	463,8
JET PUMPS	155,925	1,200,000	2,400,000	Ō	74,844	3,830,7
TOP FUEL GUIDES	267,120	2,160,000	8,640,000	ō	128,218	11,195,3
ORE SUPPORT PLATE	179,080	930,000	195,000	ŏ	66,260	1,370,3
CORE SHROUD (*)	522,900	4,200,000	16,800,000	0	250,992	21,773,8
REACTOR VESSEL WALL	113,767	660,000	648,000	ů.	42,094	1,463,8
SAC SHIELD (NEUTRON ACT. MATL.)	2,393,608	0	50,400	Ő	0	2,444,0
REACT. WATER REC	1,035,698	Ō	3,300	ů	Ő	1,038,9
SAC SHIELD (CONTAM. MATL.)	6,198,720	0	25,080	ů	ő	6,223,8
THER PRIMARY CONTAINMENT	43,474,200	Ő	112,200	0	0	43,586,
CONTAINM. ATMOSPHERIC	533,925	Õ	1,320	ő	0	535,
IGH PRESSURE CORE SPRAY	268,400	õ	1,320	õ	ŏ	269,
OW PRESSURE CORE SPRAY	118,800	0	660	ů 0	ů	119,
EACTOR BLDG CLOSED COOLING	418,880	õ	1,980	õ	ů	420,
EACTOR CORE ISO COOLING	144,585	Ő	660	õ	Ő	145,3
RESIDUAL HEAT REMOVAL	809,609	0	4,620	õ	ŏ	814,
OOL LINER & RACKS	5,339,180	Ő	9,900	ñ	ŏ	5,349,
ONTAMINATED CONCRETE	5,888,916	ů.	10,560	ő	ů	5,899,
THER REACTOR BUILDING	15,784,650	0	37,620	Ő	ő	15,822,
URBINE	19,753,826	õ	38,280	ŏ	ő	19,792,2
UCLEAR STEAM CONDENSATE	4,037,985	0	7,920	0	ŏ	4,045,
OW PRESSURE FEEDWATER HEATERS	8,767,440	ò	27,720	ő	õ	8,795,
AIN STEAM	790,020	Ō	1,980	ŏ	ő	792,
DISTURE SEPARATOR REHEATERS	7,953,750	0	17,160	ů.	ő	7,970,
EACTOR FEEDWATER PUMPS	2,158,065	0	6,600	Ő	ŏ	2,164,
IGH PRESSURE FEEDWATER HEATERS	1,422,573	0	5,280	0	0	1,427,1
THER TG BLDG	54,028,800	Ő	170,280	Ő	ŏ	54,199,0
AD WASTE BLDG	26,753,265	0 0	47,520	ň	0	26,800,
EACTOR BLDG	6,839,437	1,920,000	96,000	Ő	ő	8,855,4
G BLDG	4,499,629	1,260,000	63,000	ō	Ő	5,822,
AD WASTE & CONTROL	4,139,659	1,140,000	57,000	õ	ő	5,336,6
ONCENTRATOR BOTTOMS	15,297,858	6,750,000	27,000,000	õ	2,072,350	51,120,2
THER	4,147,419	1,830,000	287,700	õ	103,346	6,368,4
OST-TMI-2 ADDITIONS	610,611	0	201,100	õ	105,540	610,6
UBTOTAL BWR COSTS	246,578,591	23,910,000	59,649,060	0	3,422,573	331,814,8

TOTAL BWR COSTS

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331,814,254

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(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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### Table B.13 Burial Costs at the South Carolina Site(1996 dollars)

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REFERENCE PWR COMPONENT	CRANE SURCHARGE	CASK HANDLING	CURIE SURCHARGE	LINER DOSE RATE	BURIAL CHARGE	DISPOSAL COST
VESSEL WALL	83,220	87,400	1,545,460	0	314,526	2,030,606
VESSEL HEAD & BOTTOM	0	92,000	214,000	0	331,080	637,080
UPPER CORE SUPPORT ASSM	0	9,200	21,400	0	33,108	63,708
UPPER SUPPORT COLUMN	0	9,200	32,400	0	33,108	74,708
UPPER CORE BARREL	0	4,600	81,340	0	16,554	102,494
UPPER CORE GRID PLATE	0	11,500	373,750	0	41,385	426,635
GUIDE TUBES	0	13,800	48,600	0	49,662	112,062
LOWER CORE BARREL (*)	0	73,600	3,865,600	0	264,864	4,204,064
THERMAL SHIELDS(*)	0	13,800	724,800	0	49,662	788,262
CORE SHROUD(*)	0	9,200	7,368,800	0	33,108	7,411,108
LOWER GRID PLATE (*)	0	11,500	1,208,000	0	41,385	1,260,885
LOWER SUPPORT COLUMN	0	2,300	93,470	0	8,277	104,047
LOWER CORE FORGING	0	25,300	356,840	0	91,047	473,187
MISC INTERNALS	0	18,400	259, 520	0	66,216	344,136
BIO SHIELD CONCRETE	0	0	0	0	2,065,939	2,065,939
REACTOR CAVITY LINER	0	0	0	0	42,378	42,378
REACTOR COOLANT PUMPS	139,200	0	0	0	347,634	486,834
PRESSURIZER	22,560	0	0	0	297, 972	320, 532
R.Hx, EHx, SUMP PUMP, CAVITY, PUMP	0	0	0	Ó	33,108	33,108
PRESSURIZER RELIEF TANK	4,380	0	0	0	99, 324	103,704
SAFETY INJECTION ACCUM TANKS	33,200	0	0	0	331,080	364,280
STEAM GENERATORS	480,000	0	0	0	1,768,133	2,248,133
REACTOR COOLANT PIPING	29,050	0	0	0	273,141	302,191
REMAINING CONTAM. MATLS	0	0	0	0	4,354,364	4,354,364
CONTAMINATED MATRL OTHR BLD	0	0	0	0	39,489,733	39,489,733
FILTER CARTRIDGES	0	13,800	291,600	0	26,073	331,473
SPENT RESINS	Ô	46,000	1,495,000	0	165,540	1,706,540
COMBUSTIBLE WASTES	0	138,000	321,000	0	838,046	1,297,046
EVAPORATOR BOTTOMS	0	216,200	2,356,940	0	778,038	3,351,178
POST-TMI-2 ADDITIONS	0	0_	0	0	1,288,150	1,288,150
SUBTOTAL PWR COSTS	791,610	795,800	20,658,520	0	53, 572, 634	75,818,564
BARNWELL COUNTY BUSINESS TAX						1,819,646
SOUTH CAROLINA LLRW DISPOSAL TA						152,103,045
SOUTH CAROLINA LLRW DISPOSAL TA	X (OUTSIDE SE CO	MPACT)				152,103,045
TOTAL PWR COSTS (INSIDE SE COM						229,741,255
TOTAL PWR COSTS (OUTSIDE SE CON	(PACT)					229,741,255

### Table B.13 Burial Costs at the South Carolina Site(1996 dollars)

	CRANE	CASK	CURIE	LINER DOSE	BURIAL	DISPOS
EFERENCE BWR COMPONENT	SURCHARGE	HANDLING	SURCHARGE	RATE	CHARGE	COST
TEAM SEPARATOR	0	64,400	680,400	0	29,218	774,0
UEL SUPPORT & PIECES	0	32,200	680,400	0	14,650	727,2
ONTROL RODS/INCORES	12,480	18,400	966,400	0	43,868	1,041,1
ONTROL RODS GUIDES	0	27,600	72,240	0	11,671	111,5
ET PUMPS	0	92,000	972,000	0	40,971	1,104,9
OP FUEL GUIDES	0	165,600	2,928,240	0	70,189	3,164,0
ORE SUPPORT PLATE	0	71,300	251,100	0	32,198	354,5
ORE SHROUD (*)	0	322,000	16,912,000	0	137,398	17,371,3
EACTOR VESSEL WALL	48,180	50,600	444,400	0	23,424	566,6
AC SHIELD (NEUTRON ACT. MATL.)	75,600	0	0	Ó	263,043	338,6
EACT. WATER REC	58,000	0	0	0	257,249	315,2
AC SHIELD (CONTAM. MATL.)	205,200	0	0	0	906,166	1,111,3
THER PRIMARY CONTAINMENT	0	0	Ō	Ō	10,335,490	10,335,4
ONTAINM. ATMOSPHERIC	4,380	0	Ō	0	140,295	144,6
IGH PRESSURE CORE SPRAY	8,300	ō	ō	ō	49,662	57,9
OW PRESSURE CORE SPRAY	2,820	õ	Ő	ů.	29,218	32,0
EACTOR BLDG CLOSED COOLING	6,570	0	0	0	93,530	100,1
EACTOR CORE ISO COOLING	2,190	0	0	0	37,991	40,1
ESIDUAL HEAT REMOVAL	19,740	ů.	0	õ	181,266	201,0
OOL LINER & RACKS	81,000	0	Ő	0	1,113,670	1,194,6
ONTAMINATED CONCRETE	35,040	0	0	ő	1,268,616	1,303,6
THER REACTOR BUILDING	0	ů	0	0	4,147,605	4,147,6
URBINE	163,560	0	Ő	õ	4,109,696	4,273,2
UCLEAR STEAM CONDENSATE	33,840	0	ő	ő	1,061,029	1,094,8
OW PRESSURE FEEDWATER HEATERS	226,800	ů	õ	ŏ	2,154,172	2,380,9
AIN STEAM	8,460	0	0	õ	207,587	2,500,2
OISTURE SEPARATOR REHEATERS	140,400	0	ŏ	ő	2,089,943	2,230,3
EACTOR FEEDWATER PUMPS	21,900	ů.	0	0	567,057	588,9
IGH PRESSURE FEEDWATER HEATERS	43,200	0	ŏ	ů ů	353,676	396,8
THER TG BLDG	43,200	0	0	0		
AD WASTE BLDG	ő	0	0	0	14,196,710	14,196,7
EACTOR BLDG	0	147,200	342,400	0	7,029,739	7,029,7
G BLDG	0	•	•	0	886,467	1,376,0
AD WASTE & CONTROL	0	96,600	224,700	0	598,427	919,7
	•	87,400	203,300	0	516,485	807,1
ONCENTRATOR BOTTOMS	0	517,500	5,598,060	0	1,862,325	7,977,8
THER	0	140,300	485,020	0	504,897	1,130,2
OST-TMI-2 ADDITIONS	0	0	0		105,283	105,2
OTAL BWR COSTS 1	,197,660	1,833,100	30,760,660	0	55,470,881	89,262,3
ARNWELL COUNTY BUSINESS TAX						2,142,2
OUTH CAROLINA LLRW DISPOSAL TAX	(INSIDE SE CO	OMPACT)				157,492,5
OUTH CAROLINA LLRW DISPOSAL TAX						157,492,5
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(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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### Table B.14 Burial Costs at the South Carolina Site(1995 dollars)

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REFERENCE PWR COMPONENT	CRANE SURCHARGE	CASK HANDLING	CURIE SURCHARGE	LINER DOSE	BURIAL CHARGE	DISPOSAL COST
VESSEL WALL	83,220	87,400	1,545,460	0	319,960	2,036,040
VESSEL HEAD & BOTTOM	0	92,000	214,000	0	336,800	642,800
UPPER CORE SUPPORT ASSM	0	9,200	21,400	0	33,680	64,280
UPPER SUPPORT COLUMN	0	9,200	32,400	0	33,680	75,280
UPPER CORE BARREL	0	4,600	81,340	0	16,840	102,780
UPPER CORE GRID PLATE	0	11,500	373,750	0	42,100	427,350
GUIDE TUBES	0	13,800	48,600	0	50,520	112,920
LOWER CORE BARREL(a)	0	73,600	3,865,600	0	269,440	4,208,640
THERMAL SHIELDS(*)	0	13,800	724,800	0	50,520	789,120
CORE SHROUD(*)	0	9,200	7,368,800	0	33,680	7,411,680
LOWER GRID PLATE (*)	0	11,500	1,208,000	0	42,100	1,261,600
LOWER SUPPORT COLUMN	0	2,300	93,470	0	8,420	104,190
LOWER CORE FORGING	0	25,300	356,840	0	92,620	474,760
MISC INTERNALS	0	18,400	259,520	0	67,360	345,280
BIO SHIELD CONCRETE	0	0	0	0	2,101,632	2,101,632
REACTOR CAVITY LINER	0	0	0	0	43,110	43,110
REACTOR COOLANT PUMPS	139,200	0	0	0	353,640	492,840
PRESSURIZER	22,560	0	0	0	303,120	325,680
R.Hx, EHx, SUMP PUMP, CAVITY PUMP	0	0	0	0	33,680	33,680
PRESSURIZER RELIEF TANK	4,380	0	0	0	101,040	105,420
SAFETY INJECTION ACCUM TANKS	33,200	0	0	0	336,800	370,000
STEAM GENERATORS	480,000	0	0	0	1,798,680	2,278,680
REACTOR COOLANT PIPING	29,050	0	0	0	277,860	306,910
REMAINING CONTAM. MATLS	0	0	0	0	4,429,594	4,429,594
CONTAMINATED MATRL OTHR BLD	0	0	0	0	40,171,988	40,171,988
FILTER CARTRIDGES	0	13,800	291,600	0	26,523	331,923
SPENT RESINS	0	46,000	1,495,000	0	168,400	1,709,400
COMBUSTIBLE WASTES	0	138,000	321,000	0	852,525	1,311,525
EVAPORATOR BOTTOMS	0-;	216,200	2,356,940	0	791,480	3,364,620
POST-TMI-2 ADDITIONS	0	0_	0	0	1,310,405	1,310,405
SUBTOTAL PWR COSTS	791,610	795,800	20,658,520	0	54,498,197	76,744,127
BARNWELL COUNTY BUSINESS TAX						1,841,859
SOUTH CAROLINA LLRW DISPOSAL T	AX (INSIDE SE COM	IPACT)				152,103,045
SOUTH CAROLINA LLRW DISPOSAL T	AX (OUTSIDE SE CO	MPACT)				152,103,045
TOTAL PWR COSTS (INSIDE SE COM	PACT)					230,689,031
TOTAL PWR COSTS (OUTSIDE SE CO	MPACT)					230,689,031

### Table B.14 Burial Costs at the South Carolina Site(1995 dollars)

PERENCE BUD CONDONENT	CRANE	CASK	CURIE	LINER DOSE	BURIAL	DISPOSA
REFERENCE BWR COMPONENT	SURCHARGE 0	HANDLING	SURCHARGE	RATE	CHARGE	COST
STEAM SEPARATOR	-	64,400	680,400	0	29,723	774,52
FUEL SUPPORT & PIECES	0	32,200	680,400	0	14,903	727,50
CONTROL RODS/INCORES	12,480	18,400	966,400	0	44,626	1,041,90
CONTROL RODS GUIDES	0	27,600	72,240	0	11,872	111,71
JET PUMPS	0	92,000	972,000	0	41,679	1,105,6
TOP FUEL GUIDES	0	165,600	2,928,240	0	71,402	3,165,24
ORE SUPPORT PLATE	0	71,300	251,100	0	32,754	355,1
ORE SHROUD(*)	0	322,000	16,912,000	0	139,772	17,373,77
EACTOR VESSEL WALL	48,180	50,600	444,400	0	23,829	567,00
AC SHIELD (NEUTRON ACT. MATL.)	•	0	0	0	267,588	343,1
EACT. WATER REC	58,000	0	0	0	261,694	319,6
SAC SHIELD (CONTAM. MATL.)	205,200	0	0	0	921,822	1,127,02
THER PRIMARY CONTAINMENT	0	0	0	0	10,514,054	10,514,0
ONTAINM. ATMOSPHERIC	4,380	0	0	0	142,719	147,0
IGH PRESSURE CORE SPRAY	8,300	0	0	0	50,520	58,8
OW PRESSURE CORE SPRAY	2,820	0	0	0	29,723	32,5
EACTOR BLDG CLOSED COOLING	6,570	0	0	0	95,146	101,7
EACTOR CORE ISO COOLING	2,190	0	0	0	38,648	40,8
ESIDUAL HEAT REMOVAL	19,740	0	0	0	184,398	204,1
OOL LINER & RACKS	81,000	0	0	0	1,132,911	1,213,9
ONTAMINATED CONCRETE	35,040	0	0	0	1,290,533	1,325,5
THER REACTOR BUILDING	0	0	0	0	4,219,262	4,219,2
URBINE	163,560	0	0	0	4,180,698	4,344,2
UCLEAR STEAM CONDENSATE	33,840	0	0	0	1,079,360	1,113,2
OW PRESSURE FEEDWATER HEATERS	226,800	0	0	0	2,191,389	2,418,1
IAIN STEAM	8,460	0	0	0	211,174	219,6
DISTURE SEPARATOR REHEATERS	140,400	0	0	0	2,126,050	2,266,4
EACTOR FEEDWATER PUMPS	21,900	0	0	0	576,854	598,7
IGH PRESSURE FEEDWATER HEATERS	43,200	0	0	0	359,787	402,9
THER TG BLDG	0	0	0	0	14,441,984	14,441,9
AD WASTE BLDG	0	0	0	0	7,151,190	7,151,19
EACTOR BLDG	0	147,200	342,400	0	901,782	1,391,3
G BLDG	0	96,600	224,700	0	608,766	930,0
AD WASTE & CONTROL	0	87,400	203,300	Ō	525,408	816,10
ONCENTRATOR BOTTOMS	Ō	517,500	5,598,060	õ	1,894,500	8,010,0
THER	Ō	140,300	485,020	Ŏ	513,620	1,138,94
OST-TMI-2 ADDITIONS	ŏ	0	0	Ō	107,102	107,10
	1,197,660	1,833,100	30,760,660	<u>0</u>	56,429,240	90,220,66
ARNWELL COUNTY BUSINESS TAX						2 165 20
OUTH CAROLINA LLRW DISPOSAL TA	V /INCIDE CE O					2,165,2
						157,492,53
OUTH CAROLINA LLRW DISPOSAL TA	V (OUISIDE SE (	LUMPALT)				157,492,53
DTAL BWR COSTS (INSIDE SE COMP.	• • •					249,878,4
OTAL BWR COSTS (OUTSIDE SE COM	PACT)					249,878,4

(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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Table B.15 Disposition Costs using Waste Vendors with Burial Costs at the Washington Site
(2002 dollars)

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REFERENCE PWR COMPONENT	VOLUME CHARGE	SHIPMENT CHARGE	CONTAINER CHARGE	LINER DOSE RATE CHARGE	WASTE VENDOR CHARGE	DISPOSAL COST
VESSEL WALL	144,020	228,342	78,280	2,101,400	0	2,552,042
VESSEL HEAD & BOTTOM	151,600	240,360	82,400	5,200	0	479,560
UPPER CORE SUPPORT ASSM	15,160	24,036	8,240	147,200	0	194,636
UPPER SUPPORT COLUMN	15,160	24,036	8,240	147,200	0	194,636
UPPER CORE BARREL	7,580	12,018	4,120	110,600	0	134,318
UPPER CORE GRID PLATE	18,950	30,045	10,300	276,500	0	335,795
GUIDE TUBES	22,740	36,054	12,360	220,800	0	291,954
LOWER CORE BARREL(*)	121,280	192,288	65,920	1,769,600	0	2,149,088
THERMAL SHIELDS(*)	22,740	36,054	12,360	331,800	0	402,954
CORE SHROUD(*)	15,160	24,036	8,240	221,200	0	268,636
LOWER GRID PLATE (*)	18,950	30,045	10,300	276,500	· 0	335,795
LOWER SUPPORT COLUMN	3,790	6,009	2,060	55,300	0	67,159
LOWER CORE FORGING	41,690	66,099	22,660	608,300	0	738,749
MISC INTERNALS	30,320	48,072	16,480	442,400	0	537,272
BIO SHIELD CONCRETE	0	0	0	0	4,210,923	4,210,923
REACTOR CAVITY LINER	19,405	6,009	8,240	0	0	33,654
REACTOR COOLANT PUMPS	0	0	0	0	1,623,905	1,623,905
PRESSURIZER	0	0	0	0	421,092	421,092
R.Hx, EHx, SUMP PUMP, CAVITY PUMP	0	0	0	0	25,481	25,481
PRESSURIZER RELIEF TANK	0	0	0	0	58,737	58,737
SAFETY INJECTION ACCUM TANKS	0	0	0	0	660,791	660,791
STEAM GENERATORS	0	0	0	0	5,942,800	5,942,800
REACTOR COOLANT PIPING	0	0	0	0	479,393	479,393
REMAINING CONTAM. MATLS	0	0	0	0	8,474,753	8,474,753
CONTAMINATED MATRL OTHR BLD	0	0	0	0	65,196,558	65,196,558
FILTER CARTRIDGES	0	0	0	0	116,610	116,610
SPENT RESINS	75,800	120,180	41,200	1,106,000	0	1,343,180
COMBUSTIBLE WASTES	0	0	0	0	1,166,102	1,166,102
EVAPORATOR BOTTOMS	356,260	564,846	193,640	1,635,910	0	2,750,656
POST-TMI-2 ADDITIONS	589,838	0	0	0	0	589,838
HEAVY OBJECT SURCHARGE						0
SITE AVAILABILITY CHARGES, (3 YRS)				<del> </del>		372,474
SUBTOTAL PWR COSTS	1,670,443	688,529	585,040	9,455,910	88,377,147	102,149,542
TAXES & FEES (% OF CHARGES)						523,351
TAXES & FEES (\$/UNIT VOL.)					1	599,569
ANNUAL PERMIT FEES (3 YRS)						123,300
TOTAL PWR COSTS						103,395,762

# Table B.15 Disposition Costs using Waste Vendors with Burial Costs at the Washington Site(2002 dollars)

REFERENCE BWR COMPONENT	VOLUME CHARGE	SHIPMENT CHARGE	CONTAINER CHARGE	LINER DOSE <u>RATE CHARGE</u>	WASTE VENDOR CHARGE	DISPOSAL COST
STEAM SEPARATOR	13,379	84,126	57,680	25,984,000	0	26,139,185
FUEL SUPPORT & PIECES	6,708	42,063	28,840	774,200	ů 0	851,811
CONTROL RODS/INCORES	20,087	48,072	16,480	7,424,000	0	7,508,639
CONTROL RODS GUIDES	5,344	36,054	24,720	663,600	0	• •
JET PUMPS	18,761	120,180	82,400	37,120,000	0	729,718
TOP FUEL GUIDES	32,139	432,648	148,320	66,816,000	0	37,341,341
CORE SUPPORT PLATE	14,743	96,144	63,860	1,714,300	0	67,429,107
CORE SHROUD <sup>(a)</sup>	62,914	841,260	288,400		0	1,889,047
REACTOR VESSEL WALL	10,726	120,180		129,920,000	0	131,112,574
SAC SHIELD (NEUTRON ACT. MATL.)	10,720	120,180	45,320	1,216,600	•	1,392,826
REACT. WATER REC	0	0	0	0	1,455,351	1,455,351
SAC SHIELD (CONTAM. MATL.)	0	0	-	•	466,460	466,460
OTHER PRIMARY CONTAINMENT	0	0	0	0	3,768,918	3,768,918
CONTAINM. ATMOSPHERIC	0	0	0	•	15,104,565	15,104,565
HIGH PRESSURE CORE SPRAY	0	0	0	0	60,802	60,802
LOW PRESSURE CORE SPRAY	Ű	0	0	0	148,356	148,356
REACTOR BLDG CLOSED COOLING	0	0	0	0	53,505	53,505
REACTOR CORE ISO COOLING	0	0		0	145,535	145,535
RESIDUAL HEAT REMOVAL	U	•	0	0	47,245	47,245
	0	0	0	0	447,504	447,504
POOL LINER & RACKS	U	0	0	0	1,855,031	1,855,031
CONTAMINATED CONCRETE	0	0	0	0	2,652,261	2,652,261
OTHER REACTOR BUILDING	0	0	0	0	3,305,518	3,305,518
TURBINE	0	0	0	Q	8,896,765	8,896,765
NUCLEAR STEAM CONDENSATE	0	0	0	0	1,175,887	1,175,887
LOW PRESSURE FEEDWATER HEATERS	0	0	0	0	3,948,696	3,948,696
MAIN STEAM	0	0	0	0	172,679	172,679
MOISTURE SEPARATOR REHEATERS	0	0	0	0	2,232,832	2,232,832
REACTOR FEEDWATER PUMPS	0	0	0	0	587,328	587,328
HIGH PRESSURE FEEDWATER HEATERS	0	0	0	0	786,315	786,315
OTHER TG BLDG	0	0	0	0	17,066,857	17,066,857
RAD WASTE BLDG	0	0	0	0	5,829,410	5,829,410
REACTOR BLDG	0	0	0	0	4,158,484	4,158,484
TG BLDG	0	0	0	0	2,735,844	2,735,844
RAD WASTE & CONTROL	0	0	0	0	2,516,977	2,516,977
CONCENTRATOR BOTTOMS	852,750	1,352,025	463,500	3,881,970	0	6,550,245
OTHER	231,190	366,549	125,660	181,020	0	904,419
POST-TMI-2 ADDITIONS	48,209	0	0	0	0	48,209
HEAVY OBJECT SURCHARGE						0
SITE AVAILABILITY CHARGES, (3.5 YRS)	<u> </u>					496,632
SUBTOTAL BWR COSTS	1,316,949	3,539,301	1,345,180	275,695,690	79,619,124	362,012,876
TAXES & FEES (% OF CHARGES)						10,730,963
TAXES & FEES (\$/UNIT VOL.)						495,159
ANNUAL PERMIT FEES (3.5 YRS)						164,400
TOTAL BWR COSTS						373,403,397

(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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Table B.16 Disposition Costs using Waste Vendors with Burial Costs at the South Carolina Site
Atlantic Compact (2002 dollars)

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REFERENCE PWR COMPONENT	BASE DISPOSAL	CASK HANDLING	CURIE SURCHARGE	DOSE RATE SURCHARGE	WASTE VENDOR	DISPOSAL COST
VESSEL WALL	2,617,120	1,900,304	5,016,760	1,256,218	0	10,790,402
VESSEL HEAD & BOTTOM	1,667,358	2,000,320	6,600	0	0	3,674,278
UPPER CORE SUPPORT ASSM	157,410	200,032	3,300	50,371	ő	411,113
UPPER SUPPORT COLUMN	145,530	200,032	33,000	46,570	ő	425,132
UPPER CORE BARREL	69,300	100,016	264,040	33,264	Ő	466,620
UPPER CORE GRID PLATE	173,250	250,040	660,100	83,160	Ő	1,166,550
GUIDE TUBES	256,410	300,048	33,000	69,231	' 0	658,689
LOWER CORE BARREL(a)	1,108,800	1,600,256	4,224,640	532,224	ő	7,465,920
THERMAL SHIELDS (*)	207,900	300,048	792,120	99,792	ő	1,399,860
CORE SHROUD(*)	160,974	200,032	8,053,220	77,268	Ő	8,491,494
LOWER GRID PLATE (*)	173,250	250,040	1,320,200	83,160	Ő	1,826,650
LOWER SUPPORT COLUMN	43,956	50,008	132,020	21,099	Ő	247,083
LOWER CORE FORGING	477,576	550,088	825,000	229,236	Ő	2,081,900
MISC INTERNALS	387,200	400,064	660,000	185,856	Ő	1,633,120
BIO SHIELD CONCRETE	0	0	0	0	4,210,923	4,210,923
REACTOR CAVITY LINER	190,080	õ	3,300	õ	0	193,380
REACTOR COOLANT PUMPS	0	Ō	0	ō	1,623,905	1,623,905
PRESSURIZER	Ō	ò	ō	ò	421,092	421,092
R.Hx, EHx, SUMP PUMP, CAVITY PUMP	0	0	Ō	0	25,481	25,481
PRESSURIZER RELIEF TANK	0	0	0	0	58,737	58,737
SAFETY INJECTION ACCUM TANKS	0	Ó	Ō	Ō	660,791	660,791
STEAM GENERATORS	0	0	Ó	0	5,942,800	5,942,800
REACTOR COOLANT PIPING	0	0	0	0	479,393	479,393
REMAINING CONTAM. MATLS	0	0	0	Ő	8,474,753	8,474,753
CONTAMINATED MATRL OTHR BLD	0	0	Ō	Ó	65,196,558	65,196,558
FILTER CARTRIDGES	0	0	0	0	116,610	116,610
SPENT RESINS	871,200	1,000,160	2,640,400	418,176	0	4,929,936
COMBUSTIBLE WASTES	0	0	0	0	1,166,102	1,166,102
EVAPORATOR BOTTOMS	4,094,640	4,700,752	12,409,880	559,310	0	21,764,582
POST-TMI-2 ADDITIONS	8,217,949	0	0	. 0	0	8,217,949
SITE ACCESS FEES, (3 YRS)						0
SUBTOTAL PWR COSTS	21,019,903	14,002,240	37,077,580	3,744,934	88,377,147	164,221,804
BARNWELL COUNTY BUSINESS TAX	,				1	0
ATLANTIC COMPACT SURCHARGE (INSIE	E COMPACT)					2,588,988
TOTAL PWR COSTS (INSIDE COMPACT)						166,810,792

(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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#### Table B.16 Disposition Costs using Waste Vendors with Burial Costs at the South Carolina Site Atlantic Compact (2002 dollars)

REFERENCE BWR COMPONENT	BASE DISPOSAL CHARGE	CASK HANDLING	CURIE SURCHARGE	DOSE RATE SURCHARGE	WASTE VENDOR CHARGE	DISPOSAL <u>COST</u>
STEAM SEPARATOR	160,838	1,400,224	1,848,280	77,202	0	3,486,54
FUEL SUPPORT & PIECES	70,852	700,112	231,000	34,009	0	1,035,97
CONTROL RODS/INCORES	210,947	400,064	1,056,160	101,254	0	1,768,42
CONTROL RODS GUIDES	59,290	600,096	33,000	21,937	0	714,32
JET PUMPS	171,518	2,000,320	2,640,400	82,328	0	4,894,56
TOP FUEL GUIDES	293,832	3,600,576	9,505,440	141,039	0	13,540,88
CORE SUPPORT PLATE	196,988	1,550,248	214,500	72,886	Û	2,034,62
CORE SHROUD(a)	575,190	7,001,120	18,482,800	276,091	Ō	26,335,20
REACTOR VESSEL WALL	125,144	1,100,176	712,800	46,303	0 0	1,984,42
SAC SHIELD (NEUTRON ACT. MATL.)	0	0	0	0	1,455,351	1,455,35
REACT. WATER REC	0	ŏ	ŏ	ů	466,460	466,460
SAC SHIELD (CONTAM. MATL.)	0 0	Ő	õ	ů	3,768,918	3,768,910
OTHER PRIMARY CONTAINMENT	ő	0	Ő	õ	15,104,565	
CONTAINM. ATMOSPHERIC	ŏ	0	0	0	60,802	15,104,56
HIGH PRESSURE CORE SPRAY	ő	ŏ	0	0	148,356	
LOW PRESSURE CORE SPRAY	0	0	0	0	-	148,35
REACTOR BLDG CLOSED COOLING	0	0	0	0	53,505	53,50
REACTOR CORE ISO COOLING	0	0	0	-	145,535	145,53
	0	0	•	0	47,245	47,24
RESIDUAL HEAT REMOVAL	0		0	0	447,504	447,50
POOL LINER & RACKS	U	0	0	0	1,855,031	1,855,03
CONTAMINATED CONCRETE	0	0	0	0	2,652,261	2,652,26
OTHER REACTOR BUILDING	0	0	0	0	3,305,518	3,305,51
TURBINE	0	0	0	0	8,896,765	8,896,76
NUCLEAR STEAM CONDENSATE	0	0	0	0	1,175,887	1,175,88
LOW PRESSURE FEEDWATER HEATERS	0	0	0	0	3,948,696	3,948,69
MAIN STEAM	0	0	Q	0	172,679	172,67
MOISTURE SEPARATOR REHEATERS	0	0	0	0	2,232,832	2,232,832
REACTOR FEEDWATER PUMPS	0	0	0	0	587,328	587,321
HIGH PRESSURE FEEDWATER HEATERS	0	0	0	0	786,315	786,31
OTHER TG BLDG	0	0	0	0	17,066,857	17,066,85
RAD WASTE BLDG	0	0	0	0	5,829,410	5,829,410
REACTOR BLDG	0	0	0	0	4,158,484	4,158,484
TG BLDG	0	0	0	0	2,735,844	2,735,844
RAD WASTE & CONTROL	0	0	0	0	2,516,977	2,516,97
CONCENTRATOR BOTTOMS	16,827,644	11,251,800	29,704,500	2,279,585	0	60,063,529
OTHER	4,562,161	3,050,488	316,470	113,680	0	8,042,799
POST-TMI-2 ADDITIONS	671,672	0	0	0	0	671,672
SITE ACCESS FEES, (3.5 YRS)	-					
SUBTOTAL BWR COSTS	23,926,075	32,655,224	64,745,350	3,246,316	79,619,124	204,192,089
BARNWELL COUNTY BUSINESS TAX			÷,			C
ATLANTIC COMPACT SURCHARGE (INSIDE	COMPACT)		-4 '			2,680,724
TOTAL BWR COSTS (INSIDE COMPACT)						206,872,813

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(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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REFERENCE PWR COMPONENT	BASE DISPOSAL CHARGE	CASK HANDLING	CURIE SURCHARGE	DOSE RATE SURCHARGE	WASTE VENDOR CHARGE	DISPOSAL COST
VESSEL WALL	2,730,132	1,983,600	5,236,704	1,310,463	0	11,260,899
VESSEL HEAD & BOTTOM	1,740,340	2,088,000	7,600	0	0	3,835,940
UPPER CORE SUPPORT ASSM	164,300	208,800	3,800	52,576	Ō	429,476
UPPER SUPPORT COLUMN	151,900	208,800	38,000	48,608	Ō	447,308
UPPER CORE BARREL	72,360	104,400	275,616	34,733	0	487,109
UPPER CORE GRID PLATE	180,900	261,000	689,040	86,832	Ő	1,217,772
GUIDE TUBES	267,732	313,200	38,000	72,288	0	691,220
LOWER CORE BARREL (*)	1,157,760	1,670,400	4,409,856	555,725	Ő	7,793,741
THERMAL SHIELDS (*)	217,080	313,200	826,848	104,198	ő	1,461,326
CORE SHROUD(=)	168,020	208,800	8,406,288	80,650	õ	8,863,758
LOWER GRID PLATE (=)	180,900	261,000	1,378,080	86,832	ň	1,906,812
LOWER SUPPORT COLUMN	45,880	52,200	137,808	22,022	ő	257,910
LOWER CORE FORGING	498,480	574,200	950,000	239,270	ŏ	2,261,950
MISC INTERNALS	404,000	417,600	760,000	193,920	ŏ	1,775,520
BIO SHIELD CONCRETE	101,000	0	,00,000	195,920	4,210,923	4,210,923
REACTOR CAVITY LINER	198,400	0	3,800	0	4,210,525	202,200
REACTOR COOLANT PUMPS	150,400	0	5,000	ŏ	1,623,905	1,623,905
PRESSURIZER	0	0	0	0	421,092	421,092
R.HX, EHX, SUMP PUMP, CAVITY PUMP	ŏ	õ	0	0	25,481	25,481
PRESSURIZER RELIEF TANK	0	0	Ů	0	58,737	58,737
SAFETY INJECTION ACCUM TANKS	0	0	0	0	•	
STEAM GENERATORS	0	0,	0	0	660,791	660,791
REACTOR COOLANT PIPING	0	U	U	0	5,942,800	5,942,800
REMAINING CONTAM. MATLS	0	0	0	U	479,393	479,393
CONTAMINATED MATRI OTHR BLD	0,	U	U	Ű	8,474,753	8,474,753
FILTER CARTRIDGES	0	0	U	0	65,196,558	65,196,558
SPENT RESINS	000 000	1 044 000		426.200	116,610	116,610
	909,000	1,044,000	2,756,160	436,320	0	5,145,480
COMBUSTIBLE WASTES	0		0	0	1,166,102	1,166,102
EVAPORATOR BOTTOMS	4,272,300	4,906,800	12,953,952	583,578	0	22,716,630
POST-TMI-2 ADDITIONS	8,572,815	0	0	0	0	8,572,815
SITE ACCESS FEES, (3 YRS)						0
SUBTOTAL PWR COSTS	21,932,299	14,616,000	38,871,552	3,908,015	88,377,147	167,705,013
BARNWELL COUNTY BUSINESS TAX					r -	0
ATLANTIC COMPACT SURCHARGE (OUTSI	DE COMPACT)					2,588,988
TOTAL PWR COSTS (OUTSIDE COMPACT)						170,294,001

# Table B.17 Disposition Costs Using Waste Vendors with Burial Costs at the South Carolina Site Non-Atlantic Compact (2002 dollars)

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#### Table B.17 Disposition Costs Using Waste Vendors with Burial Costs at the South Carolina Site Non-Atlantic Compact (2002 dollars)

STEM SEPARATOR       167,940       1,461,600       1,929,312       80,611       0       3,639,46         TUEL SUFFORT 4 PIECES       73,954       730,800       226,000       35,498       0       1,106,25         CONTROL KODS GUIDES       61,905       226,400       38,000       2,755,160       85,564       0       748,72         CONTROL KODS GUIDES       325,535       175,940       9,227,156       85,564       0       1,134,64         CONTROL KODS GUIDES       325,535       1,75,400       9,227,156       147,266       0       1,134,64         CORE SHOUDD <sup>14</sup> 600,5535       1,600,600       19,293,120       268,222       0       2,148,13         CORE SHOUDD <sup>14</sup> 600,566       1,000,600       0       0       1,455,351       1,455,353         REACTOR VESSEL KALL       130,622       1,146,400       60,800       0       0       1,455,351         REACTOR VESSEL KALL       0       0       0       0       1,455,351       1,455,353         REACTOR VESSEL KALL       0       0       0       0       1,455,351       1,455,353         CONTAIN, KNDSPHERIC       0       0       0       0       1,455,535       1,104,555 <tr< th=""><th>REFERENCE BWR COMPONENT</th><th>BASE DISPOSAL</th><th>CASK <u>HANDLING</u></th><th>CURIE <u>SURCHARGE</u></th><th>DOSE RATE SURCHARGE</th><th>WASTE VENDOR CHARGE</th><th>DISPOSAL COST</th></tr<>	REFERENCE BWR COMPONENT	BASE DISPOSAL	CASK <u>HANDLING</u>	CURIE <u>SURCHARGE</u>	DOSE RATE SURCHARGE	WASTE VENDOR CHARGE	DISPOSAL COST
TPUEL SUPPORT & FIECES       73,954       730,800       166,000       35,498       0       1,106,25         CONTROL RODS GUIDES       61,908       626,400       38,000       22,906       0       749,21         CONTROL RODS GUIDES       61,908       626,400       38,000       22,906       0       749,21         CONTROL RODS GUIDES       306,806       3,758,400       9,922,176       147,267       0       14,134,46         CORE SUPRORT FLATE       205,535       1,618,200       247,000       76,046       0       27,469,99         CORE SUPRORT PLATE       205,535       1,618,200       247,000       76,046       0       27,469,99         CORE SUPRORT PLATE       130,622       1,146,78       0       0       1,455,331       1,455,353         SAC SHIELD (NEUTRON ACT. MATL.)       0       0       0       0       1,5104,565       15,104,565         SAC SHIELD (CONTAM, MATL.)       0       0       0       0       146,155       15,104,565       15,104,565       15,104,565       15,104,565       15,104,565       15,104,565       15,104,565       15,104,565       15,104,565       148,355       148,355       148,355       148,355       148,355       148,355       148,355       <	STEAM SEPARATOR	167,940	1,461,600	1,929,312	80,611	0	3,639,46
CONTROL RODS/INCORES         220,099         417,600         1,102,464         105,648         0         1,445,61           CONTROL RODS GUIDES         61,908         62,6400         38,000         22,906         0         749,21           JET FUMPS         179,091         2,088,000         2,756,160         85,964         0         5,109,21           JET FUMPS         205,935         1,618,200         241,000         16,048         0         2,146,73           CORE SHOUDD <sup>141</sup> 600,588         7,309,000         19,231,120         288,282         0         27,463,93           REACTOR VESSEL WALL         130,622         1,146,400         0         0         14,55,353         1,518,232           REACTOR VESSEL WALL         0         0         0         0         1455,353         1,768,918           REACTOR VESSEL WALL         0         0         0         0         15,104,555         15,104,555           REACTOR VESSEL WALL         0         0         0         0         15,104,555         15,104,555           REACTOR VESSEL WALL         0         0         0         0         146,356         146,356           OTHER MESSUBE ODES SPRAY         0         0         0	FUEL SUPPORT & PIECES					ō	
CONTROL RODS GUIDES         61,908         626,400         38,000         22,306         0         143,11           IDF FUMS         179,01         2,088,000         2,756,160         85,564         0         5,109,21           IDF FULL GUIDES         306,806         3,758,400         5,227,176         147,267         0         14,134,64           CORE SUPPORT FLATE         205,553         1,618,200         247,000         76,048         0         2,146,78           CORE SUPPORT FLATE         205,553         1,618,200         247,000         76,048         0         2,146,78           CORE SUPPORT FLATE         205,553         1,618,200         247,000         0         2,146,78           CORE SUPPORT FLATE         00         0         0         1,455,351         1,455,351           SAC SHIELD (NUUTRON ACT. MATL.)         0         0         0         0         3,768,918         3,768,918           SAC SHIELD (NUUTRAN ATL.)         0         0         0         0         15,104,555         51,014,555         51,014,555           CORE SHEAUL         0         0         0         0         0         0,64,600         60,600         60,600         60,600         60,600         60,600         <	CONTROL RODS/INCORES		417,600	•		0	
JET FUMPS       179,091       2,088,000       2,755,160       85,964       0       5,102,21         OOR E SUPPORT FLATE       205,535       1,618,200       247,000       76,048       0       2,146,78         CORE SUPPORT FLATE       205,535       1,618,200       247,000       76,048       0       2,146,78         CORE SUPPORT FLATE       205,535       1,618,200       19,233,120       288,282       0       2,148,15         SCA SHIED (DWTM ACT. MATL.)       0       0       0       1,455,551       1,455,551       1,455,551         REACTOR VESSEL NULL       130,622       1,148,400       820,800       48,330       0       2,148,15         SCA SHIED (DWTM, MATL.)       0       0       0       0       466,460       1,455,551         REACTOR MUSTRON ACT. MATL.)       0       0       0       1,418,464       47,424         OWTAINA, ANDSHIELC       0       0       0       1,51,511,51,511,51,513       1,553,511,510,553       146,153         OWTAINA, ANDSHIELC       0       0       0       0       143,153,114,155,033       145,353       145,353       145,353       145,353       145,353       145,55,333       145,55,333       145,55,333       145,55,333       145,5		•	•		•	0	
TOP FUEL GUIDES         306,806         3,759,400         9,322,176         147,267         0         14,134,67           CORE SUPROT FLATE         205,555         1,618,200         247,000         76,048         0         2,146,78           CORE SUPROT FLATE         205,555         1,618,200         247,000         76,048         0         2,146,78           CORE SUPROT FLATE         130,622         1,148,400         820,800         48,330         0         2,148,15           SAC SHIELD (NUTION ACT. MATL.)         0         0         0         0         1,455,351         1,455,35           REACTOR VESSEL WALL         130,622         1,148,400         820,800         48,330         0         2,148,15           SAC SHIELD (NUTION ACT. MATL.)         0         0         0         0         3,766,911         3,766,911           REACTOR VESSEL WALL         0         0         0         0         3,766,911         3,766,911           OTHER PRIMARY CONTAINMENT         0         0         0         0         146,355         146,355           ORALDIAL MEAT REMOVAL         0         0         0         0         145,513         146,553           ORALDIAL MEAT REMOVAL         0         0						0	
CORE SUPPORT PLATE         205,535         1,618,200         247,000         7,6,648         0         2,146,75           CORE SHROUD <sup>11</sup> 600,588         7,308,000         19,23,120         288,222         0         27,489,99           REDCTOR VESSEL WALL         130,622         1,148,400         822,800         46,330         0         2,146,15           SAC SHILD (NEUTRON ACT. MATL.)         0         0         0         0         1,455,351         1,455,351           SAC SHILD (NEUTRON ACT. MATL.)         0         0         0         0         1,465,460         466,460           SAC SHILD (NEUTRON ACT. MATL.)         0         0         0         0         1,455,351         1,455,355           SAC SHILD (NEUTRON ACT. MATL.)         0         0         0         0         1,465,455         15,104,565           SAC SHILD (CONTAM. MATL.)         0         0         0         0         15,145,535         15,104,565         15,104,565           CONTAINN. ATMOSPHERIC CONE SPRAY         0         0         0         0         146,355         146,355           LOW FRESSURE CORE SPRAY         0         0         0         0         147,564         447,504           CONTAGINART REBACKS						-	
CORE SHROUD <sup>141</sup> 600,588         7,306,000         19,239,120         286,282         0         27,485,39           REACTOR VESSL WALL         130,622         1,146,400         920,800         48,330         0         2,148,15           SAC SHIELD (NEUTRON ACT. WATL.)         0         0         0         0         1,455,351         1,455,351           SAC SHIELD (NEUTRON ACT. WATL.)         0         0         0         3,768,918         3,765,918         3,600         60,600						-	
REACTOR VESSEL WALL       130,622       1,148,400       920,800       46,330       0       2,148,53         SAC SHIELD (NEUTRON ACT. HATL.)       0       0       0       0       1,455,351       1,455,351         REACT. WATER REC       0       0       0       0       3,766,918       3,766,918         SAC SHIELD (CONTAM. MATL.)       0       0       0       0       3,766,918       3,766,918         OITHER PRIMARY CONTAINMENT       0       0       0       0       1,145,53       51,104,565         CONTAINN. ATMOSPHENIC       0       0       0       0       60,802       60,802         CONTAINN. ATMOSPHENIC       0       0       0       146,735       51,505       53,505         LOW PRESSURE CORE SPRAY       0       0       0       0       145,535       145,535         LOW PRESSURE CORE SPRAY       0       0       0       0       145,535       145,535         CONTAINNATED CONCERTS       0       0       0       0       145,535       145,535         CONTAININATEL CONCERTS       0       0       0       0       146,56       146,56         CONTAININATED CONCERTS       0       0       0       0<				•		0	
SAC SHIELD (NEUTRON ACT. MATL.)       0       0       0       0       1,455,351       1,455,351         ERACT. WATER REC       0       0       0       0       466,460       466,460         SAC SHIELD (CONTAM. MATL.)       0       0       0       0       3,768,918       447,55       14,553       14,553       14,553       55,55       14,553       14,553       14,553       14,553       14,553       14,553       14,553       14,553       14,553       14,553       14,553       14,55						0	
REACT. WATER REC       0       0       0       0       466,460       466,460         SAC SHIELD (CONTAM. NATL.)       0       0       0       3,766,918       3,616,910       60,902       60,902       60,902       60,902       60,902       60,902       60,902       60,902       60,902       60,902       60,902       60,902       60,902       146,535       145,535       145,535       145,535       145,535       145,535       145,55,031       1,655,031       1,655,031       1,655,031       1,655,031       1,655,031       1,655,031       1,655,031       1,655,031       1,655,031       1,655,031       1,755,807       1,75,807       1,175,807       1,175,807       1,175,807       1,175,807       1,175,807       1,175,807       1,175,807       1,175,807       1,175,807       1,175,80				•		•	
SAC SHIELD (CONTAM. MATL.)       0       0       0       0       3,766,518       3,505       53,505 <td></td> <td></td> <td>-</td> <td>-</td> <td>-</td> <td></td> <td></td>			-	-	-		
OTHER PRIMARY CONTAINMENT         0         0         0         0         15,104,565         15,104,565         15,104,565         15,104,565         15,104,565         15,104,565         15,104,565         15,104,565         15,104,565         16,66         60,802         60,803         81,815,533         145,533         145,533         145,533         145,533         145,533         145,533         145,533         145,533         145,533         145,533         145,533         145,533         145,533         15,104,56         17,104,64         15,104,165         15,104,165         15,104,165         15,104,165         15,104,155         15,104,155,108         15,104,155,108         15,154,153		-	0		-		
CONTAINM. ATMOSPHERIC       0       0       10,802       60,802       60,002         INGR PRESSURE CORE SPRAY       0       0       0       148,356       148,356         ILGW PRESSURE CORE SPRAY       0       0       0       148,356       148,356         REACTOR DELC CLOSED COOLING       0       0       0       145,535       145,53         REACTOR CORE ISO COOLING       0       0       0       147,245       47,24         RESTUDAL HEAT REPOVAL       0       0       0       147,554       47,24         RESTUDAL HEAT REPOVAL       0       0       0       1,655,031       1,655,031         FOOL LINER 4 RACKS       0       0       0       2,652,26       2,652,26         ONTAHINATED CONCRETE       0       0       0       3,305,518       3,305,518       3,305,518       3,305,518       3,305,518       3,305,518       3,305,518       3,305,518       3,305,518       3,248,696       3,948,696       3,948,696       3,948,696       3,948,696       3,948,696       3,948,696       3,948,696       3,948,696       3,948,697,503,22       2,232,832       2,232,832       2,232,832       2,232,832       5,232,507,32       5,67,32       5,67,32       5,73,284       4,759,35			0	-	•		
HIGH PRESSURE CORE SPRAY       0       0       0       148,356       148,356         LOW PRESSURE CORE SPRAY       0       0       0       0       33,505       33,505         LOW PRESSURE CORE SPRAY       0       0       0       0       146,356       146,355         LOW PRESSURE CORE SPRAY       0       0       0       0       145,355       145,35         REACTOR ELEX CENDE COLLING       0       0       0       0       447,554       47,245         RESIDUAL HEAT REMOVAL       0       0       0       0       447,554       447,55         FOOL LINER & RACKS       0       0       0       0       3,305,518       3,305,518       3,305,518       3,305,518       3,305,518       3,305,518       3,305,518       3,305,518       3,946,765       8,986,765       8,986,765       8,986,765       8,986,765       8,986,765       8,986,765       1,175,887       1,175,887       1,175,887       1,175,887       1,175,887       1,175,887       1,175,887       1,175,887       1,175,887       1,22,679       172,679       172,679       172,679       172,679       172,679       172,679       172,679       172,679       172,679       172,679       172,679       172,679       1		0	0	-	-		
LOW PRESSURE CORE SPRAY         0         0         0         0         53,505 <td></td> <td>0</td> <td>0</td> <td>•</td> <td>•</td> <td></td> <td></td>		0	0	•	•		
REACTOR BLDG CLOSED COOLING       0       0       0       145,535       145,535         REACTOR CORE ISO COOLING       0       0       0       0       47,245       47,245         RESIDUAL HEAT REMOVAL       0       0       0       0       47,255       47,245         RESIDUAL HEAT REMOVAL       0       0       0       0       47,255       47,245         ROOL LINER & RACKS       0       0       0       0       47,265       47,245         ONTAMINARED CONCRETE       0       0       0       1,855,031       1,855,031       1,855,035         ONTAMINARED CONCRETE       0       0       0       3,305,518       3,305,51       8,896,765       8,896,765         JUCLEAR STEAM CONDENSATE       0       0       0       1,175,887       1,175,887       1,175,887         LOW PRESSURE FEEDWATER HEATERS       0       0       0       2,232,033       12,679       112,679 </td <td></td> <td>0</td> <td>0</td> <td>-</td> <td>•</td> <td>148,356</td> <td></td>		0	0	-	•	148,356	
REACTOR CORE ISO COOLING       0       0       0       0       47,245       47,245         RESTOR CORE ISO COOLING       0       0       0       0       447,504       447,504         RESTOR CORE ISO COOLING       0       0       0       0       447,504       447,504         RESTOR CORE ISO CONCRETE       0       0       0       0       1,855,031       1,855,033         CONTARTREACTOR BUILDING       0       0       0       0       3,305,518       56,312       7,66,557       1,72,679       172,67       172,667       56,239,410       56,239,41       56,329,410 <td< td=""><td></td><td>0</td><td>0</td><td>-</td><td>•</td><td>53,505</td><td></td></td<>		0	0	-	•	53,505	
RESIDUAL HEAT REMOVAL       0       0       0       0       447,504       447,504         POOL LINER & RACKS       0       0       0       0       1,855,031       1,855,031         POOL LINER & RACKS       0       0       0       0       2,652,261       1,75,687       1,175,687       1,175,687       1,175,687       1,175,687       1,175,687       1,175,687       1,175,687       1,175,687       1,23,631       7,835       7,328       587,328       587,328       587,328       587,328       587,328       587,328       587,328       587,328       587,328       587,328       587,328       587,328       587,328       587,328       587,328       1,666,655 <td>REACTOR BLDG CLOSED COOLING</td> <td>0</td> <td>0</td> <td>•</td> <td>0</td> <td>145,535</td> <td>145,53</td>	REACTOR BLDG CLOSED COOLING	0	0	•	0	145,535	145,53
PROL LINER & RACKS         0         0         0         0         1,855,031         1,955,031         1,955,031         1,955,031         1,955,031         1,955,031         1,955,031         1,955,031         1,955,031         1,955,031         1,955,031         1,955,031         1,955,031         1,955,031         1,955,031         1,956,953         1,926,953         1,926,953         1,926,953	REACTOR CORE ISO COOLING	0	•		0	47,245	47,24
CONTAMINATED CONCRETE         O         O         O         O         O         Conternation         Conternation <th< td=""><td>RESIDUAL HEAT REMOVAL</td><td>0</td><td>0</td><td>0</td><td>0</td><td>447,504</td><td>447,50</td></th<>	RESIDUAL HEAT REMOVAL	0	0	0	0	447,504	447,50
OTHER REACTOR BUILDING         0         0         0         0         0         0         3,305,518         3,305,	POOL LINER & RACKS	0	0	0	0	1,855,031	1,855,03
OTHER REACTOR BUILDING         0         0         0         0         0         0         3,305,518         17,175,687         1,175,687         1,175,687         1,175,687         1,175,687         1,175,687         1,172,679         1,172	CONTAMINATED CONCRETE	0	0	0	0	2,652,261	2,652,26
TURBINE       0       0       0       0       8,896,765       8,896,765       8,896,765         NUCLEAR STEAM CONDENSATE       0       0       0       0       1,175,887       1,175,887         NUCLEAR STEAM CONDENSATE       0       0       0       0       3,948,695       3,948,695         MAIN STEAM       0       0       0       0       172,679       172,679         MOISTURE SEPARATOR REHEATERS       0       0       0       0       2,232,832       2,232,832         REACTOR FEEDWATER HEATERS       0       0       0       0       587,328       587,328         REACTOR FEEDWATER HEATERS       0       0       0       17,066,857       17,066,857       17,066,857         RAD WASTE BLDG       0       0       0       0       5,829,410       5,829,410       5,829,410         REACTOR BLDG       0       0       0       0       2,735,844       2,735,844         TG BLDG       0       0       0       0       2,516,977       2,516,977         CONCENTRATOR BOTOMS       17,554,292       11,745,000       31,006,800       2,378,021       0       62,684,11         OTHER       4,759,164       3,184,200 </td <td>OTHER REACTOR BUILDING</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td></td> <td></td>	OTHER REACTOR BUILDING	0	0	0	0		
NUCLEAR STEAM CONDENSATE       0       0       0       1,175,887       1,175,887       1,175,887         LOW PRESSURE FEEDWATER HEATERS       0       0       0       0       3,948,696       3,948,696         LOW PRESSURE FEEDWATER HEATERS       0       0       0       0       172,679       172,679         MAIN STEAM       0       0       0       0       2,232,832       2,328,941       5,829,410       5,829,410       5,829,410       5,829,410       5,829,410       5,829,410       5,829,410 <td< td=""><td>TURBINE</td><td>0</td><td>0</td><td>0</td><td>0</td><td></td><td></td></td<>	TURBINE	0	0	0	0		
LOW PRESSURE FEEDWATER HEATERS         0         0         0         0         3,948,696         3,222,832         2,232,832         2,232,832         2,232,832         2,232,832         587,325	NUCLEAR STEAM CONDENSATE	0	0	Ó	Ō		
MAIN STEAM       0       0       0       0       172,679       172,679       172,679         MOISTURE SEPARATOR REHEATERS       0       0       0       0       2,232,832       2,232,832         REACTOR FEEDWATER PUMPS       0       0       0       0       2,232,832       2,232,832         REACTOR FEEDWATER PUMPS       0       0       0       0       587,328       587,328         NIGH FRESSURE FEEDWATER HEATERS       0       0       0       0       587,328       587,328         OTHER TG BLDG       0       0       0       0       17,066,657       17,066,657       17,066,657         RAD WASTE BLDG       0       0       0       0       5,829,410       5,829,410         REACTOR BLDG       0       0       0       0       2,735,844       2,735,844         RAD WASTE & CONTROL       0       0       0       2,516,977       2,516,977       2,516,977         CONCENTRATOR BOTTOMS       17,554,292       11,745,000       31,006,800       2,378,021       0       62,684,11         OTHER       4,759,164       3,184,200       364,420       118,589       0       8,426,37         ROST-TMI-2 ADDITIONS       700,6	LOW PRESSURE FEEDWATER HEATERS	Ó	0	Ō	0		
MOISTURE SEPARATOR REHEATERS       0       0       0       0       2,232,832       2,232,83         REACTOR FEEDWATER PUMPS       0       0       0       0       587,328       587,328         HIGH PRESSURE FEEDWATER HEATERS       0       0       0       0       786,315       786,315         OTHER TG BLDG       0       0       0       0       786,315       786,315         OTHER TG BLDG       0       0       0       0       7066,857       17,066,857         RAD WASTE BLDG       0       0       0       0       5,829,410       5,829,410         REACTOR BLDG       0       0       0       0       2,735,844       4,7158,484         RAD WASTE & CONTROL       0       0       0       0       2,516,977       2,516,977         CONCENTRATOR BOTTOMS       17,554,292       11,745,000       31,006,800       2,378,021       0       62,684,11         OTHER       4,759,164       3,184,200       364,420       118,589       0       8,26,37         OST-TMI-2 ADDITIONS       700,676       0       0       0       79,619,124       209,799,81         SUBTOTAL BWR COSTS       24,960,674       34,086,600       67,746,2		0	Ő	Ő	ň		
REACTOR FEEDWATER PUMPS       0       0       0       587,322       587,322         HIGH PRESSURE FEEDWATER HEATERS       0       0       0       0       786,315       786,315         OTHER TG BLDG       0       0       0       0       17,066,857       17,066,857         RAD WASTE BLDG       0       0       0       0       17,066,857       17,066,857         REACTOR BLDG       0       0       0       0       5829,410       5829,410         REACTOR BLDG       0       0       0       0       4,158,484       4,158,484         TG BLDG       0       0       0       0       2,735,844       2,735,844         RAD WASTE & CONTROL       0       0       0       2,516,977       2,516,977         CONCENTRATOR BOTTOMS       17,554,292       11,745,000       31,006,800       2,378,021       0       62,684,11         OTHER       4,759,164       3,184,200       364,420       118,589       0       8,426,37         SUBTOTAL BWR COSTS       700,676       0       0       0       79,619,124       209,799,81         BARNWELL COUNTY BUSINESS TAX       24,960,674       34,086,600       67,746,252       3,387,164       <		0	-	-	•		
HIGH PRESSURE FEEDWATER HEATERS       0       0       0       0       786,315       786,315         OTHER TG BLDG       0       0       0       0       17,066,857       17,066,857       17,066,857         RAD WASTE BLDG       0       0       0       0       5,829,410       5,829,410         REACTOR BLDG       0       0       0       0       5,829,410       5,829,410         REACTOR BLDG       0       0       0       0       4,158,484       4,158,484         RAD WASTE & CONTROL       0       0       0       2,735,844       2,735,844         RAD WASTE & CONTROL       0       0       0       2,516,977       2,516,977         CONCENTRATOR BOTTOMS       17,554,292       11,745,000       31,006,800       2,378,021       0       62,684,11         OTHER       4,759,164       3,184,200       364,420       118,589       0       8,426,372         POST-TMI-2 ADDITIONS       700,676       0       0       0       79,619,124       209,799,814         SUBTOTAL BWR COSTS       24,960,674       34,086,600       67,746,252       3,387,164       79,619,124       209,799,814         BARNWELL COUNTY BUSINESS TAX       ATLANTIC COMPACT SURC		•	•	•	•		
OTHER TG BLDG       0       0       0       17,066,857       17,066,857         RAD WASTE BLDG       0       0       0       0       5,829,410       5,829,410         REACTOR BLDG       0       0       0       0       5,829,410       5,829,410         REACTOR BLDG       0       0       0       0       4,158,484       4,158,484         TG BLDG       0       0       0       0       2,735,844       2,735,844         RAD WASTE & CONTROL       0       0       0       2,735,844       2,735,844         RAD WASTE & CONTROL       0       0       0       2,735,844       2,735,844         CONCENTRATOR BOTTOMS       17,554,292       11,745,000       31,006,800       2,378,021       0       62,684,11         OTHER       4,759,164       3,184,200       364,420       118,589       0       8,426,372         ROST-TMI-2       ADDITIONS       700,676       0       0       0       700,676         SUBTOTAL BWR COSTS       24,960,674       34,086,600       67,746,252       3,387,164       79,619,124       209,799,814         BARNWELL COUNTY BUSINESS TAX       2,680,724       24,960,674       34,086,600       67,746,252		•	•	•	-	-	•
RAD WASTE BLDG       0       0       0       0       1,803,037		0	•	•	-	-	
REACTOR BLDG       0       0       0       0       4,159,484       4,159,484         TG BLDG       0       0       0       0       2,735,844       2,735,844         RAD WASTE & CONTROL       0       0       0       0       2,516,977       2,516,977         CONCENTRATOR BOTTOMS       17,554,292       11,745,000       31,006,800       2,378,021       0       62,684,11         OTHER       4,759,164       3,184,200       364,420       118,589       0       8,426,37         POST-TMI-2 ADDITIONS       700,676       0       0       0       0       700,677         SUBTOTAL BWR COSTS       24,960,674       34,086,600       67,746,252       3,387,164       79,619,124       209,799,81         BARNWELL COUNTY BUSINESS TAX       ATLANTIC COMPACT SURCHARGE (OUTSIDE COMPACT)       2,680,72       2,680,72		0	•	•	•		
TG BLDG       0       0       0       0       2,733,844       2,733,844         RAD WASTE & CONTROL       0       0       0       0       0       2,733,844       2,733,844         RAD WASTE & CONTROL       0       0       0       0       0       2,516,977       2,516,977         CONCENTRATOR BOTTOMS       17,554,292       11,745,000       31,006,800       2,378,021       0       62,684,11         OTHER       4,759,164       3,184,200       364,420       118,589       0       8,426,37         POST-TMI-2 ADDITIONS       700,676       0       0       0       0       700,67         SUBTOTAL BWR COSTS       24,960,674       34,086,600       67,746,252       3,387,164       79,619,124       209,799,81         BARNWELL COUNTY BUSINESS TAX       ATLANTIC COMPACT SURCHARGE (OUTSIDE COMPACT)       2,680,72       2,680,72		0		-	0		
RAD WASTE & CONTROL       0       0       0       0       2,516,977       2,516,977         CONCENTRATOR BOTTOMS       17,554,292       11,745,000       31,006,800       2,378,021       0       62,684,11.         OTHER       4,759,164       3,184,200       364,420       118,589       0       8,426,37.         POST-TMI-2 ADDITIONS       700,676       0       0       0       700,67.         SUBTOTAL BWR COSTS       24,960,674       34,086,600       67,746,252       3,387,164       79,619,124       209,799,81.         BARNWELL COUNTY BUSINESS TAX       ATLANTIC COMPACT SURCHARGE (OUTSIDE COMPACT)       2,680,72.       2,680,72.		U	-	•	0		
CONCENTRATOR BOTTOMS         17,554,292         11,745,000         31,006,800         2,378,021         0         62,664,11           OTHER         4,759,164         3,184,200         364,420         118,589         0         8,426,37           POST-TMI-2 ADDITIONS         700,676         0         0         0         0         700,67           SUBTOTAL BWR COSTS         24,960,674         34,086,600         67,746,252         3,387,164         79,619,124         209,799,81           BARNWELL COUNTY BUSINESS TAX         ATLANTIC COMPACT SURCHARGE (OUTSIDE COMPACT)         2,680,724         2,680,724		•	U	•	0		
OTHER         4,759,164         3,184,200         364,420         118,589         0         8,426,37           POST-TMI-2 ADDITIONS         700,676         0         0         0         0         700,676           SITE ACCESS FEES, (3.5 YRS)         24,960,674         34,086,600         67,746,252         3,387,164         79,619,124         209,799,814           BARNWELL COUNTY BUSINESS TAX         ATLANTIC COMPACT SURCHARGE (OUTSIDE COMPACT)         2,680,724         2,680,724         2,680,724		-	0	•	0		
POST-TMI-2 ADDITIONS         700,676         0         0         0         0         700,676           SITE ACCESS FEES, (3.5 YRS)						-	
SITE ACCESS FEES, (3.5 YRS)       24,960,674       34,086,600       67,746,252       3,387,164       79,619,124       209,799,814         BARNWELL COUNTY BUSINESS TAX       ATLANTIC COMPACT SURCHARGE (OUTSIDE COMPACT)       2,680,724					118,589	0	
SUBTOTAL BWR COSTS         24,960,674         34,086,600         67,746,252         3,387,164         79,619,124         209,799,81           BARNWELL COUNTY BUSINESS TAX         ATLANTIC COMPACT SURCHARGE (OUTSIDE COMPACT)         2,680,72		700,676	0	0	0	0	700,67
BARNWELL COUNTY BUSINESS TAX ATLANTIC COMPACT SURCHARGE (OUTSIDE COMPACT)	SITE ACCESS FEES, (3.5 YRS)				<u> </u>		
ATLANTIC COMPACT SURCHARGE (OUTSIDE COMPACT)	SUBTOTAL BWR COSTS	24,960,674	34,086,600	67,746,252	3,387,164	79,619,124	209,799,814
		COMPACT)					
	TOTAL BWR COSTS (OUTSIDE COMPACT)						212,480,538

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(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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2. S. A.	VOLUME	SHIPMENT	CONTAINER	LINER DOSE	WASTE VENDOR	DISPOSAL
REFERENCE PWR COMPONENT	CHARGE	_CHARGE_	CHARGE	RATE CHARGE	CHARGE	<u> </u>
VESSEL WALL	87,020	160,664	55,062	264,100	0	566,846
VESSEL HEAD & BOTTOM	91,600	169,120	57,960	640	0	319,320
UPPER CORE SUPPORT ASSM	9,160	16,912	5,796	18,200	ő	50,068
UPPER SUPPORT COLUMN	9,160	16,912	5,796	18,200	ů	50,068
UPPER CORE BARREL	4,580	8,456	2,898	13,900	ů	29,834
UPPER CORE GRID PLATE	11,450	21,140	7,245	34,750	0	74,585
GUIDE TUBES	13,740	25,368	8,694	27,300	ő	75,102
LOWER CORE BARREL (*)	73,280	135,296	46,368	222,400	ő	477,344
THERMAL SHIELDS(*)	13,740	25,368	8,694	41,700	Ő	89,502
CORE SHROUD <sup>(a)</sup>	9,160	16,912	5,796	27,800	ů	59,668
LOWER GRID PLATE (*)	11,450	21,140	7,245	34,750	ů	74,585
LOWER SUPPORT COLUMN	2,290	4,228	1,449	6,950	ő	14,917
LOWER CORE FORGING	25,190	46,508	15,939	76,450	ŏ	164,087
MISC INTERNALS	18,320	33,824	11,592	55,600	ō	119,336
BIO SHIELD CONCRETE	0	0	0	0	3,235,923	3,235,923
REACTOR CAVITY LINER	11,725	4,228	5,796	ò	0	21,749
REACTOR COOLANT PUMPS	0	0	0	Ó	1,247,905	1,247,905
PRESSURIZER	0	0	0	Ó	323, 592	323, 592
R.Hx, EHx, SUMP PUMP, CAVITY PUMP	0	0	0	0	19,581	19,581
PRESSURIZER RELIEF TANK	0	0	0	0	45,137	45,137
SAFETY INJECTION ACCUM TANKS	0	0	0	0	507,791	507,791 <sup>,</sup>
STEAM GENERATORS	0	0	0	0	4,566,800	4,566,800
REACTOR COOLANT PIPING	0	0	0	0	368,394	368, 394
REMAINING CONTAM. MATLS	0	0	0	0	6,512,503	6,512,503
CONTAMINATED MATRL OTHR BLD	0	0	0	0	50,100,903	50,100,903
FILTER CARTRIDGES	0	0	0	0	89,610	89,610
SPENT RESINS	0	0	0	0	298,701	298,701
COMBUSTIBLE WASTES	0	0	0	0	896,102	896,102
EVAPORATOR BOTTOMS	215,260	397,432	136,206	205,082	0	953,980
POST-TMI-2 ADDITIONS	356,393	0	0	0	0	356, 393
HEAVY OBJECT SURCHARGE						0
SITE AVAILABILITY CHARGES, (3 YRS)				<u></u>		429,702
SUBTOTAL PWR COSTS	963,518	1,103,508	382,536	1,047,822	68,212,943	72,140,029
TAXES & FEES (% OF CHARGES)						168,865
TAXES & FEES (\$/UNIT VOL.)						599,569
ANNUAL PERMIT FEES (3 YRS)						120,000
TOTAL PWR COSTS				<b>′</b> 1		73,028,462

# Table B.18 Disposition Costs Using Waste Vendors with Burial Costs at the Washington Site(2000 dollars)

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(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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#### Table B.18 Disposition Costs Using Waste Vendors with Burial Costs at the Washington Site (2000 dollars)

		CHARGE	CHARGE	RATE CHARGE	CHARGE	COST
STEAM SEPARATOR	8,084	59,192	40,572	3,262,000	0	3,369,848
FUEL SUPPORT & PIECES	4,053	29,596	20,286	97,300	Ó	151,235
CONTROL RODS/INCORES	12,137	33,824	11,592	932,000	0	989,553
CONTROL RODS GUIDES	3,229	25,368	17,388	83,400	0	129,385
JET PUMPS	11,336	84,560	57,960	4,660,000	ů.	4,813,856
TOP FUEL GUIDES	19,419	304,416	104,328	8,388,000	ů.	8,816,163
CORE SUPPORT PLATE	8,908	67,648	44,919	215,450	õ	336,925
CORE SHROUD <sup>(a)</sup>	38,014	591,920	202,860	16,310,000	ů	17,142,794
REACTOR VESSEL WALL	6,481	84,560	31,878	152,900	0	275,819
SAC SHIELD (NEUTRON ACT. MATL.)	0	0	0	0	1,156,150	1,156,150
REACT. WATER REC	0	ů 0	ů	0 0	370,562	370,562
SAC SHIELD (CONTAM. MATL.)	ő	ő	ő	ő	2,994,078	2,994,078
OTHER PRIMARY CONTAINMENT	õ	ő	ŏ	ŏ	11,999,265	11,999,265
CONTAINM. ATMOSPHERIC	ő	0 0	ŏ	0	48,302	48,302
HIGH PRESSURE CORE SPRAY	ő	ů	õ	ů	117,856	117,856
LOW PRESSURE CORE SPRAY	õ	ŏ	ŏ	õ	42,505	42,505
REACTOR BLDG CLOSED COOLING	ů	ő	ő	ů 0	115,615	115,615
REACTOR CORE ISO COOLING	ů	ů O	ŏ	0	37,532	37,532
RESIDUAL HEAT REMOVAL	ő	0	ő	0	355,503	355,503
POOL LINER & RACKS	õ	ő	ŏ	ů	1,473,661	1,473,661
CONTAMINATED CONCRETE	0	0	ŏ	0	2,106,991	2,106,991
OTHER REACTOR BUILDING	õ	ů	ŏ	ŏ	2,625,947	2,625,947
TURBINE	0	0	ő	0	7,067,707	7,067,707
NUCLEAR STEAM CONDENSATE	ů	0	ŏ	0	934,140	934,140
LOW PRESSURE FEEDWATER HEATERS	0	0	ő	0	3,136,896	3,136,896
MAIN STEAM	0	ŏ	ŏ	0	137,178	137,178
MOISTURE SEPARATOR REHEATERS	0	0	0	0	1,773,791	1,773,791
REACTOR FEEDWATER PUMPS	0	0	0	0	466,581	466,581
HIGH PRESSURE FEEDWATER HEATERS	0	0	0	0	•	
OTHER TG BLDG	0	0	0	0	624,659	624,659
RAD WASTE BLDG	0	ů l	0	0	13,558,135	13,558,135
REACTOR BLDG	0	0	0	0	4,630,960 3,303,554	4,630,960 3,303,554
TG BLDG	0	0	0	0		
RAD WASTE & CONTROL	0	0	0	0	2,173,391	2,173,391
CONCENTRATOR BOTTOMS	515,250	-	•	196 640	1,999,520 0	1,999,520
OTHER		951,300	326,025	486,640	0	2,279,215
POST-TMI-2 ADDITIONS	139,690 29,129	257,908 0	88,389 0	22,522 0	0	508,509
HEAVY OBJECT SURCHARGE	29,129	0	0	U	0	29,129 0
SITE AVAILABILITY CHARGES, (3.5 YRS) SUBTOTAL EWR COSTS	795,729	2,490,292	946,197	34,610,212	63,250,478	<u>572,936</u> 102,665,844
TAXES & FEES (% OF CHARGES)						1,694,861
TAXES & FEES (\$/UNIT VOL.)						495,159
ANNUAL PERMIT FEES (3.5 YRS)						160,000
TOTAL BWR COSTS						105,015,864

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(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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REFERENCE PWR COMPONENT	BASE DISPOSAL	CASK HANDLING	CURIE SURCHARGE	DOSE RATE SURCHARGE	WASTE VENDOR CHARGE	DISPOSAL COST
VESSEL WALL	2,617,120	1,900,000	5,016,000	1,256,218	0	10,789,338
VESSEL HEAD & BOTTOM	1,667,358	2,000,000	6,600	0	ů	3,673,958
UPPER CORE SUPPORT ASSM	157,410	200,000	3,300	50,371	ő	411,081
UPPER SUPPORT COLUMN	145,530	200,000	33,000	46,570	Ő	425,100
UPPER CORE BARREL	69,300	100,000	264,000	33,264	ő	466,564
UPPER CORE GRID PLATE	173,250	250,000	660,000	83,160	ů	1,166,410
GUIDE TUBES	256,410	300,000	33,000	69,231	ő	658,641
LOWER CORE BARREL (*)	1,108,800	1,600,000	4,224,000	532,224	ů n	7,465,024
THERMAL SHIELDS <sup>(a)</sup>	207,900	300,000	792,000	99,792	0	1,399,692
CORE SHROUD <sup>(a)</sup>	160,974	200,000	8,052,000	77,268	0	8,490,242
LOWER GRID PLATE (*)	173,250	250,000	1,320,000	83,160	0	1,826,410
LOWER SUPPORT COLUMN	43,956	50,000	132,000	21,099	0	247,055
LOWER CORE FORGING	•	550,000	825,000	229,236	0	2,081,812
MISC INTERNALS	477,576	•			0	1,633,056
BIO SHIELD CONCRETE	387,200	400,000	660,000	185,856	2 225 022	• •
REACTOR CAVITY LINER	-	0	2 200	U	3,235,923	3,235,923
	190,080	0	3,300	0	1,247,905	193,380
REACTOR COOLANT PUMPS PRESSURIZER	0	0	0	0	323,592	1,247,905 323,592
	0	0	0	0	•	19,581
R.Hx, EHx, SUMP PUMP, CAVITY PUMP	0	0	U	U	19,581	•
PRESSURIZER RELIEF TANK	0	0	U	0	45,137	45,137
SAFETY INJECTION ACCUM TANKS	0	0	0	0	507,791	507,791
STEAM GENERATORS	0	0	U	0	4,566,800	4,566,800
REACTOR COOLANT PIPING	0	0	0	0	368,394	368,394
REMAINING CONTAM. MATLS	0	0	0	0	6,512,503	6,512,503
CONTAMINATED MATRL OTHR BLD	Q	0	0	0	50,100,903	50,100,903
FILTER CARTRIDGES	0	0	0	0	89,610	89,610
SPENT RESINS	0	0	0	0	298,701	298,701
COMBUSTIBLE WASTES	0	0	0	0	896,102	896,102
EVAPORATOR BOTTOMS	4,094,640	4,700,000	12,408,000	559,310	0	21,761,950
POST-TMI-2 ADDITIONS	8,217,949	0	0	0	0	8,217,949
SITE ACCESS FEES, (3 YRS)			······			· 0
SUBTOTAL PWR COSTS .	20,148,703	13,000,000	34,432,200	3,326,758	68,212,943	139,120,604
BARNWELL COUNTY BUSINESS TAX						0
ATLANTIC COMPACT SURCHARGE (INSIDE C	COMPACT)				· ,	2,588,988
TOTAL PWR COSTS (INSIDE COMPACT)						141,709,592

# Table B.19 Disposition Costs Using Waste Vendors with Burial Costs at the South Carolina Site Atlantic Compact (2000 dollars)

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(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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### Table B.19 Disposition Costs Using Waste Vendors with Burial Costs at the South Carolina Site Atlantic Compact (2000 dollars)

REFERENCE BWR COMPONENT	BASE DISPOSAL CHARGE	CASK HANDLING	CURIE SURCHARGE	DOSE RATE SURCHARGE	WASTE VENDOR CHARGE	DISPOSAL COST
STEAM SEPARATOR	160,838	1,400,000	1,848,000	77,202	0	3,486,04
FUEL SUPPORT & PIECES	70,852	700,000	231,000	34,009	0	1,035,86
CONTROL RODS/INCORES	210,947	400,000	1,056,000	101,254	0	1,768,20
CONTROL RODS GUIDES	59,290	600,000	33,000	21,937	0	714,22
JET PUMPS	171, 518	2,000,000	2,640,000	82,328	0	4,893,84
TOP FUEL GUIDES	293,832	3,600,000	9,504,000	141,039	ò	13,538,87
CORE SUPPORT PLATE	196,988	1,550,000	214,500	72,886	0	2,034,37
CORE SHROUD(*)	575,190	7,000,000	18,480,000	276,091	ů	26,331,28
REACTOR VESSEL WALL	125,144	1,100,000	712,800	46,303	0	1,984,24
SAC SHIELD (NEUTRON ACT. MATL.)	0	0	0	40,505	1,156,150	1,156,15
REACT. WATER REC	ŏ	Ő	ő	ŏ	370,562	
SAC SHIELD (CONTAM. MATL.)	0	0	0	0	•	370,56
OTHER PRIMARY CONTAINMENT	0	0	0	0	2,994,078	2,994,07
CONTAINM. ATMOSPHERIC	0	0	0	0	11,999,265	11,999,26
	U O	0	0	0	48,302	48,30
HIGH PRESSURE CORE SPRAY	U	U	U	•	117,856	117,85
LOW PRESSURE CORE SPRAY	U	0	U	0	42,505	42,50
REACTOR BLDG CLOSED COOLING	0	0	U	0	115,615	115,61
REACTOR CORE ISO COOLING	0	0	O	0	37,532	37,53
RESIDUAL HEAT REMOVAL	0	0	0	0	355,503	355,50
POOL LINER & RACKS	0	0	0	0	1,473,661	1,473,66
CONTAMINATED CONCRETE	0	0	0	0	2,106,991	2,106,99
OTHER REACTOR BUILDING	0	0	0	0	2,625,947	2,625,94
TURBINE	0	0	0	0	7,067,707	7,067,70
NUCLEAR STEAM CONDENSATE	0	0	0	0	934,140	934,14
LOW PRESSURE FEEDWATER HEATERS	0	0	0	0	3,136,896	3,136,89
MAIN STEAM	0	0	0	0	137,178	137,17
MOISTURE SEPARATOR REHEATERS	0	0	0	0	1,773,791	1,773,79
REACTOR FEEDWATER PUMPS	0	0	0	0	466,581	466,58
HIGH PRESSURE FEEDWATER HEATERS	0	0	0	0	624,659	624,65
OTHER TG BLDG	0	0	0	0	13,558,135	13,558,13
RAD WASTE BLDG	0	0	0	0	4,630,960	4,630,96
REACTOR BLDG	0	0	0	0	3,303,554	3,303,55
TG BLDG	0	0	0	0	2,173,391	2,173,39
RAD WASTE & CONTROL	0	Ó	0	0	1,999,520	1,999,52
CONCENTRATOR BOTTOMS	16,827,644	11,250,000	29,700,000	2,279,585	0	60,057,22
OTHER	4,562,161	3,050,000	316,470	113,680	ŏ	8,042,31
POST-TMI-2 ADDITIONS	671,672	0	0	0	ő	671,67
SITE ACCESS FEES, (3.5 YRS)	,	•	0	•	5	011,01
SUBTOTAL BWR COSTS	23,926,075	32,650,000	64,735,770	3,246,316	63,250,478	187,808,63
BARNWELL COUNTY BUSINESS TAX						1
ATLANTIC COMPACT SURCHARGE (INSIDE	COMPACT)					2,680,72
TOTAL BWR COSTS (INSIDE COMPACT)						190,489,36

Appendix B

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(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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REFERENCE PWR_COMPONENT	BASE DISPOSAL CHARGE	CASK <u>HANDLING</u>	CURIE <u>SURCHARGE</u>	DOSE RATE SURCHARGE	WASTE VENDOR CHARGE	DISPOSAL COST
VESSEL WALL	2,617,120	1,900,000	5,472,000	1,256,218	0	11,245,338
VESSEL HEAD & BOTTOM	1,667,358	2,000,000	7,200	0	0	3,674,558
UPPER CORE SUPPORT ASSM	157,410	200,000	3,600	50,371	ō	411,381
UPPER SUPPORT COLUMN	145,530	200,000	36,000	46,570	0	428,100
UPPER CORE BARREL	69,300	100,000	288,000	33,264	Ō	490,564
UPPER CORE GRID PLATE	173,250	250,000	720,000	83,160	0	1,226,410
GUIDE TUBES	256,410	300,000	36,000	69,231	0	661,641
LOWER CORE BARREL(*)	1,108,800	1,600,000	4,608,000	532,224	0	7,849,024
THERMAL SHIELDS (a)	207,900	300,000	864,000	99,792	0	1,471,692
CORE SHROUD(*)	160,974	200,000	8,784,000	77,268	0	9,222,242
LOWER GRID PLATE(*)	173,250	250,000	1,440,000	83,160	. 0	1,946,410
LOWER SUPPORT COLUMN	43,956	50,000	144,000	21,099	0	259,055
LOWER CORE FORGING	477,576	550,000	900,000	229,236	0	2,156,812
MISC INTERNALS	387,200	400,000	720,000	185,856	0	1,693,056
BIO SHIELD CONCRETE	0	0	0	0	3,235,923	3,235,923
REACTOR CAVITY LINER	190,080	0	3,600	0	0	193,680
REACTOR COOLANT PUMPS	0	0	0	0	1,247,905	1,247,905
PRESSURIZER	0	0	0	0	323,592	323, 592
R.Hx, EHx, SUMP PUMP, CAVITY PUMP	0	0	0	0	19,581	19,581
PRESSURIZER RELIEF TANK	0	0	0	0	45,137	45,137
SAFETY INJECTION ACCUM TANKS	0	0	0	0	507,791	507,791
STEAM GENERATORS	0	0	0	0	4,566,800	4,566,800
REACTOR COOLANT PIPING	0	0	0	0	368,394	368,394
REMAINING CONTAM. MATLS	0	0	0	0	6,512,503	6,512,503
CONTAMINATED MATRL OTHR BLD	0	0	0	0	50,100,903	50,100,903
FILTER CARTRIDGES	0	0	0	0	89,610	89,610
SPENT RESINS	0	0	0	0	298,701	298,701
COMBUSTIBLE WASTES	0	0	0	0	896,102	896,102
EVAPORATOR BOTTOMS	4,094,640	4,700,000	13,536,000	559,310	0	22,889,950
POST-TMI-2 ADDITIONS	8,217,949	0	0	0	0	8,217,949
SITE ACCESS FEES, (3 YRS)	·······		<u> </u>			0
SUBTOTAL PWR COSTS	20,148,703	13,000,000	37,562,400	3,326,758	68,212,943	142,250,804
BARNWELL COUNTY BUSINESS TAX						0
ATLANTIC COMPACT SURCHARGE (OUTSI	DE COMPACT)					2,588,988
TOTAL PWR COSTS (OUTSIDE COMPACT)					·	144,839,792

# Table B.20 Disposition Costs Using Waste Vendors with Burial Costs at the South Carolina Site Non-Atlantic Compact (2000 dollars)

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(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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### Table B.20 Disposition Costs Using Waste Vendors with Burial Costs at the South Carolina Site Non-Atlantic Compact (2000 dollars)

FUEL SUPPORT & FIECES         70,852         700,000         252,000         34,009         0         1           CONTROL RODS/INCORES         210,947         400,000         1,152,000         101,254         0         1           CONTROL RODS GUIDES         59,230         600,000         2,860,000         82,328         0         5           JET PUMPS         111,518         2,000,000         2,860,000         82,328         0         5           CORT GLE SUPPORT FLATE         136,988         1,550,000         14,103         0         14           CORE SHRODD <sup>141</sup> 55,130         7,000,000         20,160,000         27,866         0         2           CORE SHRODD <sup>141</sup> 125,144         1,100,000         777,600         46,303         0         2           REACTOR VESSEL WALL         125,144         1,100,000         777,600         46,303         0         2           SAC SHIELD (NUTKIN MACT. MATL.)         0         0         0         0         370,552         5           SAC SHIELD (NUTKIN MACT. MATL.)         0         0         0         0         11,999,265         11           CONTAINA ATMOSHEREIC         0         0         0         0         11	REFERENCE BWR COMPONENT	BASE DISPOSAL CHARGE	CASK <u>HANDLING</u>	CURIE SURCHARGE	DOSE RATE <u>SURCHARGE</u>	WASTE VENDOR CHARGE	DISPOSAL COST
CONTROL RODS/INCORES         210,947         400,000         1,152,000         101,254         0         1           CONTROL RODS GUIDES         59,230         600,000         36,000         21,937         0           JET PUMPS         171,518         2,000,000         2,880,000         82,328         0         5           TOP FUEL GUIDES         239,832         3,600,000         14,039         0         14           CORE SURPORT FLATE         196,988         1,550,000         234,000         72,886         0         2           CORE SURPORT FLATE         125,144         1,100,000         777,600         46,303         0         2           SAC SHIELD (NEUTRON ACT. MATL.)         0         0         0         0         370,562         3           SAC SHIELD (NEUTRON AMATER REC         0         0         0         0         11,999,265         11           CONTRIN RAVER REC         0         0         0         0         10,7552         3           SAC SHIELD (NEUTRAN AMATL.)         0         0         0         0         14,999,265         11           CONTAINMAY CONTAINMENT         0         0         0         0         1,77,572         3	STEAM SEPARATOR	160,838	1,400,000	2,016,000	77,202	0	3,654,04
CONTROL RODS/INCORES         210,947         400,000         1,152,000         101,254         0         1           CONTROL RODS GUIDES         59,290         600,000         36,000         21,337         0           JET PUMPS         171,518         2,000,000         2,880,000         82,328         0         5           TOP FUEL GUIDES         293,832         3,600,000         10,366,000         144,039         0         14           CORE SURPORT PLATE         196,998         1,550,000         234,000         72,886         0         2           CORE SURPORT PLATE         125,144         1,100,000         777,600         46,303         0         2           SAC SHIELD (NEUTRON ACT. MATL.)         0         0         0         0         370,562         38         38         39,02         11           CONTRINE REC C         0         0         0         0         11,999,265         11         39,25         11           CONTAINMAY CONTAINMENT         0         0         0         0         11,7,955         12           CONTAINMAY CONCINTAINMENT         0         0         0         0         11,7,553         12           CONTAINMAY CONCINTAINMENT         0 <td>FUEL SUPPORT &amp; PIECES</td> <td>70,852</td> <td>700,000</td> <td>252,000</td> <td>34,009</td> <td>0</td> <td>1,056,86</td>	FUEL SUPPORT & PIECES	70,852	700,000	252,000	34,009	0	1,056,86
JET FUMPS       171,518       2,000,000       2,880,000       82,328       0       5.         TOP FUEL GUIDES       233,832       3,600,000       10,368,000       141,033       0       14         CORE SUPFORT PLATE       196,968       1,550,000       234,000       72,886       0       22         CORE SUPFORT PLATE       196,968       1,550,000       234,000       72,886       0       28         CORE SUPCORT PLATE       196,968       1,550,000       234,000       72,886       0       28         CORE SUPCORT PLATE       196,968       1,150,000       276,091       0       28         REACTOR VESSEL WALL       125,144       1,100,000       777,600       46,303       0       28         SAC SHIELD (NEUTRON ACT. MATL.)       0       0       0       0       31,156,150       1       1         CONTAINN. ATMONTAINMENT       0       0       0       0       11,99,265       11       100       117,518       2,001       116,615       11       100       117,618       100       117,618       100       117,656       10       117,618       117,618       117,618       117,618       113,661       1,       1,       116,18       116,18 <td>CONTROL RODS/INCORES</td> <td>210,947</td> <td>400,000</td> <td>1,152,000</td> <td>101,254</td> <td>0</td> <td>1,864,20</td>	CONTROL RODS/INCORES	210,947	400,000	1,152,000	101,254	0	1,864,20
TOP FULL GUIDES       293,832       3,600,000       14,039       0       14         CORE SUPPORT PLATE       196,988       1,550,000       234,000       72,866       0       2         CORE SUPPORT PLATE       196,988       1,550,000       234,000       72,866       0       2         CORE SUPPORT PLATE       125,114       1,100,000       276,091       0       28,       0       28,         SAC SHIELD (NEUTRON ACT. MATL.)       0       0       0       0       1,156,150       1,         REACTOR VESSEL WALL       125,114       1,100,000       777,600       46,303       0       28,         SAC SHIELD (NEUTRON ACT. MATL.)       0       0       0       0       1,156,150       1,         REACTOR NED (CONTAN. MATL.)       0       0       0       0       11,999,265       11,         CONTAINM. ATMOSPHERIC       0       0       0       0       11,999,265       11,         CONTAINM. ATMOSPHERIC       0       0       0       0       14,302       11,         LOW PRESSURE CORE SPRAY       0       0       0       0       17,532       12,         REACTOR BLOC CLOSED COLLING       0       0       0       <	CONTROL RODS GUIDES	59,290	600,000	36,000	21,937	0	717,22
CORE SUPPORT PLATE         196,998         1,550,000         234,000         72,886         0         2           CORE SUPPORT PLATE         196,998         1,550,000         20,160,000         276,091         0         28,           CORE SUPPORT PLATE         125,144         1,100,000         777,600         26,091         0         28,           CORE SUPPORT NAT.         NATL.)         0         0         0         0         1,156,150         1,           SAC SHIELD (NEUTRON ACT. MATL.)         0         0         0         0         370,552           SAC SHIELD (CONTAM. MATL.)         0         0         0         0         2,994,078         2,           COTHER RELACTOR VEXENCE ORE SPRAY         0         0         0         0         11,999,265         11,           CONTAINN. ATMOSPHERIC         0         0         0         0         11,999,265         11,           CORE SPRAY         0         0         0         0         148,302         11,999,265         11,           CONTAINNA ATMOSPHERIC         0         0         0         0         15,615         REACTOR REDACTOR BUDG CLOSED COOLING         0         0         147,3661         1,         1,         15,61	JET PUMPS	171,518	2,000,000	2,880,000	82,328	0	5,133,84
CORE SHROUD <sup>141</sup> 575,190         7,000,000         20,160,000         276,091         0         20, REACTOR VESSEL WALL         125,144         1,100,000         777,600         46,303         0         22, SAC SHELD (NEUTKON ACT. MATL.)         0         0         0         1,156,150         1, SAC SHELD (NEUTKON ACT. MATL.)         0         0         0         0         1,156,150         1, SAC SHELD (CONTAM. MATL.)         0         0         0         0         29,4078         2, SAC SHELD (CONTAM. MATL.)         0         0         0         0         29,94,078         2, SAC SHELD (CONTAM. MATL.)         0         0         0         0         1,156,150         I, SAC SHEDE CORE SPRAY         0         0         0         0         1,199,265         11, SAC SHEDE CORE SPRAY         0         0         0         0         1,7856           IGW PRESSURE CORE SPRAY         0         0         0         0         0         117,856         100         117,856         100         117,856         100         117,856         100         117,856         100         112,615         113,461         11,201,200         113,512         113,512         113,512         113,512         113,512         113,512         113,512         113,515         113,512	TOP FUEL GUIDES	293,832	3,600,000	10,368,000	141,039	0	14,402,87
REACTOR VESSEL WALL       125,144       1,100,000       777,600       46,303       0       2         SAC SHIELD (NEUTRON ACT. MATL.)       0       0       0       0       370,562       370,562         SAC SHIELD (CONTAM. MATL.)       0       0       0       0       370,562       370,562         SAC SHIELD (CONTAM. MATL.)       0       0       0       0       2,994,078       2,         SAC SHIELD (CONTAM. MATL.)       0       0       0       0       11,999,265       11,         CONTAINN. ATMOSPHERTC       0       0       0       0       117,856       12,         CONTRINN. ATMOSPHERTC       0       0       0       0       12,505       14,505       12,         REACTOR RUC CORE SPRAY       0       0       0       0       117,856       12,       12,         REACTOR RUC COSE SPRAY       0       0       0       0       37,552       23,       24,505       25,503       2001 LINER & RACKS       0       0       0       1,473,661       1,       2,       2,166,991       2,       2,       2,166,991       2,       2,       2,166,991       2,       2,       2,166,991       2,       2,176,707       7, <td>CORE SUPPORT PLATE</td> <td>196,988</td> <td>1,550,000</td> <td>234,000</td> <td>72,886</td> <td>0</td> <td>2,053,87</td>	CORE SUPPORT PLATE	196,988	1,550,000	234,000	72,886	0	2,053,87
SAC SHIELD (NEUTRON ACT. MATL.)       0       0       0       1,156,150       1,         REACT. WATE REC       0       0       0       370,562       370,562         SAC SHIELD (CONTAM. MATL.)       0       0       0       2,994,078       2,         OTHER PRIMARY CONTAINMENT       0       0       0       1,1999,265       11,         OCNTAINA. ATMOSPHERIC       0       0       0       48,002       117,856         LOW PRESSURE CORE SPRAY       0       0       0       117,856       100         LOW PRESSURE CORE SPRAY       0       0       0       117,856       100         REACTOR ELDG CLOSED COOLING       0       0       0       117,856       117,856         LOW PRESSURE CORE SPRAY       0       0       0       117,856       117,856         CONTAINA. HEAT REMOVAL       0       0       0       117,856       11,937,932         FRACTOR BULDING       0       0       0       1,473,661       1,         CONTAINAL EAT REMOVAL       0       0       0       2,106,991       2,         FRESIDUAL HEAT REMOVAL       0       0       0       1,473,661       1,         CONTAINALEAT REACTOR BULDIN	CORE SHROUD <sup>(a)</sup>	575,190	7,000,000	20,160,000	276,091	0	28,011,28
SAC SHIELD (NEUTRON ACT. MATL.)       0       0       0       1,156,150       1,         REACT. WATE REC       0       0       0       370,562       370,562         SAC SHIELD (CONTAM. MATL.)       0       0       0       2,994,078       2,         OTHER PRIMARY CONTAINMENT       0       0       0       1,1999,265       11,         OCNTAINA. ATMOSPHERIC       0       0       0       48,002       117,856         LOW PRESSURE CORE SPRAY       0       0       0       117,856       100         LOW PRESSURE CORE SPRAY       0       0       0       117,856       100         REACTOR ELDG CLOSED COOLING       0       0       0       117,856       117,856         LOW PRESSURE CORE SPRAY       0       0       0       117,856       117,856         CONTAINA. HEAT REMOVAL       0       0       0       117,856       11,937,932         FRACTOR BULDING       0       0       0       1,473,661       1,         CONTAINAL EAT REMOVAL       0       0       0       2,106,991       2,         FRESIDUAL HEAT REMOVAL       0       0       0       1,473,661       1,         CONTAINALEAT REACTOR BULDIN	REACTOR VESSEL WALL	125,144	1,100,000	777,600	46,303	0	2,049,04
SAC SHIELD (CONTAM, MATL.)       0       0       0       2,994,078       2,         OTHER PRIMARY CONTAINMENT       0       0       0       11,999,265       11,         OTHER PRIMARY CONTAINMENT       0       0       0       0       14,302         HIGH PRESSURE CORE SPRAY       0       0       0       117,656         IGW PRESSURE CORE SPRAY       0       0       0       42,505         REACTOR BLDG CLOSED COOLING       0       0       0       37,532         RESIDUAL HEAT REMOVAL       0       0       0       37,533         FOOL LINER & RACKS       0       0       0       1,413,661       1,         CONTAMINATED CONCRETE       0       0       0       2,106,991       2,         OTHER REACTOR BULLING       0       0       0       3,136,896       3,         MOLLEAR STEAM CONDENSATE       0       0       0       137,178       1,         NUCLEAR STEAM CONDENSATE       0       0       0       137,178       3,         MOISTURE SEPARATOR REHEATERS       0       0       0       137,178       1,         REACTOR FEDMATER HEATERS       0       0       0       137,179       1,	SAC SHIELD (NEUTRON ACT. MATL.)	0		0	0	1,156,150	1,156,15
OTHER PRIMARY CONTAINMENT         0         0         0         11,999,265         11, 00NTAINM. ATMOSPHERIC         0         0         0         48,302           CONTAINM. ATMOSPHERIC         0         0         0         0         48,302           IGH PRESSURE CORE SPRAY         0         0         0         11,999,265         11,           IGM PRESSURE CORE SPRAY         0         0         0         42,505         11,           REACTOR CORE ISO COOLING         0         0         0         315,615         11,           REACTOR CORE ISO COOLING         0         0         0         335,503         11,           POOL LINER & RACKS         0         0         0         315,615         11,           CONTAMINATED CONCRETE         0         0         0         2,106,991         2,           OTHER REACTOR BUILDING         0         0         0         0         3,136,996         3,           NUCLEAR STEAM CONDENSATE         0         0         0         0         1,773,791         1,           MAIN STEAM         0         0         0         0         0         1,305,966         3,           MOISTURE SEPARATOR REHEATERS         0 <t< td=""><td>REACT. WATER REC</td><td>0</td><td>0</td><td>0</td><td>0</td><td>370,562</td><td>370,56</td></t<>	REACT. WATER REC	0	0	0	0	370,562	370,56
CONTAINM. ATMOSPHERIC         0         0         0         0         46,302           HIGH PRESSURE CORE SPRAY         0         0         0         0         117,656           HIGH PRESSURE CORE SPRAY         0         0         0         0         42,505           REACTOR BLDG CLOSED COOLING         0         0         0         0         42,505           REACTOR BLDG CLOSED COOLING         0         0         0         37,532           RESIDUAL HEAT REMOVAL         0         0         0         37,532           FOOL LINER 4 RACKS         0         0         0         315,661         1,           CONTAMINATED CONCRETE         0         0         0         2,625,947         2,           TURBINE         0         0         0         0         3136,696         3,           NUCLEAR STEAM CONDENSATE         0         0         0         3137,178         1,           MAIN STEAM         0         0         0         0         137,178         1,           REACTOR FEDWATER HEATERS         0         0         0         137,178         1,         1,           MAIN STEAM         0         0         0         0	SAC SHIELD (CONTAM. MATL.)	0	0	0	0	2,994,078	2,994,07
HIGH PRESSURE CORE SPRAY       0       0       0       0       117,656         LOW PRESSURE CORE SPRAY       0       0       0       0       42,505         LOW PRESSURE CORE SPRAY       0       0       0       0       115,615         REACTOR DEDC CLOSED COOLING       0       0       0       37,532         RESIDUAL HEAT REMOVAL       0       0       0       355,503         FOOL LINER & REACKS       0       0       0       147,661       1,         CONTAMINATED CONCRETE       0       0       0       2,106,991       2,         OTHER REACTOR BUILDING       0       0       0       2,625,947       2,         OTHER REACTOR BUILDING       0       0       0       3,136,961       3,         NUCLEAR STEAM CONDENSATE       0       0       0       3,136,996       3,         LOW PRESSURE FEEDWATER HEATERS       0       0       0       1,77,791       1,         MIN STEAM       0       0       0       13,556,135       13,         MAIN STEAM       0       0       0       624,659       0         OTHER TG BLDG       0       0       0       3,33,554       3, </td <td>OTHER PRIMARY CONTAINMENT</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>11,999,265</td> <td>11,999,26</td>	OTHER PRIMARY CONTAINMENT	0	0	0	0	11,999,265	11,999,26
IOW PRESSURE CORE SPRAY       0       0       0       42,505         REACTOR DLOG CLOSED COOLING       0       0       0       115,615         REACTOR CORE ISO COOLING       0       0       0       37,532         RESIDUAL HEAT REMOVAL       0       0       0       355,503         POOL LINER & RACKS       0       0       0       2,106,991       2,         CONTAMINATED CONCRETE       0       0       0       2,665,947       2,         OTHER REACTOR BULDING       0       0       0       2,667,947       2,         UNCLEAR STEAM CONDENSATE       0       0       0       2,669,91       2,         NUCLEAR STEAM CONDENSATE       0       0       0       344,140       0         LOW PRESSURE FEEDWATER HEATERS       0       0       0       344,140       0         LOW PRESSURE FEEDWATER HEATERS       0       0       0       137,178       0       0         MAIN STEAM       0       0       0       0       137,178       0       0       146,589         MAINSTURE SEPARATOR REHEATERS       0       0       0       0       137,513,131,13       13,73,911       1,       REACTOR ELDG       0	CONTAINM. ATMOSPHERIC	0	0	0	0	48,302	48,30
REACTOR BLDG CLOSED COOLING       0       0       0       115,615         REACTOR OCRE ISO COOLING       0       0       0       37,532         RESIDUAL HEAT REMOVAL       0       0       0       355,503         PCOL LINER 4 RACKS       0       0       0       113,615         CONTAMINATED CONCRETE       0       0       0       1,473,661       1,         CONTAMINATED CONCRETE       0       0       0       2,625,947       2,         OTHER REACTOR BUILDING       0       0       0       2,625,947       2,         UNBERSURE FEEDWATER HEATERS       0       0       0       3,136,896       3,         MAIN STEAM       0       0       0       137,178       0       0       3,136,896       3,         MAIN STEAM       0       0       0       0       1,773,791       1,       1,         REACTOR FEEDWATER HEATERS       0       0       0       0       1,737,791       1,         REACTOR FEEDWATER PLATERS       0       0       0       0       13,558,135       13,         RAD WASTE BLDG       0       0       0       0       0       3,03,554       3,	HIGH PRESSURE CORE SPRAY	0	0	0	0	117,856	117,85
REACTOR CORE ISO COOLING       0       0       0       37,532         RESIDUAL HEAT REMOVAL       0       0       0       0       355,503         POOL LINER & RACKS       0       0       0       0       1473,661       1,         CONTAMINATED CONCRETE       0       0       0       0       2,106,991       2,         OTHER REACTOR BUILDING       0       0       0       0       2,625,947       2,         OTHER REACTOR BUILDING       0       0       0       0       934,140         LOW PRESSURE FEEDWATER HEATERS       0       0       0       3136,896       3,         MAIN STEAM       0       0       0       0       1,773,791       1,         MOISTURE SEPARATOR REHEATERS       0       0       0       1,773,791       1,         MAIN STEAM       0       0       0       1,773,791       1,         MAIN STEAM       0       0       0       1,773,791       1,         MAIN STEAM       0       0       0       1,773,791       1,         REACTOR FEEDWATER HEATERS       0       0       0       1,733,91       2,         OTHER TG BLDG       0       0 </td <td>LOW PRESSURE CORE SPRAY</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td></td> <td>42,50</td>	LOW PRESSURE CORE SPRAY	0	0	0	0		42,50
RESIDUAL HEAT REMOVAL       0       0       0       355,503         POOL LINER & RACKS       0       0       0       1,473,661       1,         CONTAMINATED CONCRETE       0       0       0       2,106,991       2,         CONTAMINATED CONCRETE       0       0       0       2,625,947       2,         TURBINE       0       0       0       2,625,947       2,         TURBINE       0       0       0       2,625,947       7,         NUCLEAR STEAM CONDENSATE       0       0       0       313,6896       3,         MAIN STEAM       0       0       0       313,6896       3,         MOISTURE SEPARATOR REHEATERS       0       0       0       1,773,791       1,         MOISTURE SEPARATOR REHEATERS       0       0       0       1,773,791       1,         MOISTURE SEPARATOR REHEATERS       0       0       0       13,558,135       13,         MOISTURE SEPARATOR REHEATERS       0       0       0       13,558,135       13,         REACTOR FEEDWATER PUMPS       0       0       0       0       3,03,554       3,         REA WASTE BLDG       0       0       0	REACTOR BLDG CLOSED COOLING	0	0	0	0		115,61
POOL LINER 4 RACKS       0       0       0       1,473,661       1,         CONTAMINATED CONCRETE       0       0       0       0       2,106,991       2,         OTHER REACTOR BUILDING       0       0       0       0       2,625,947       2,         TURBINE       0       0       0       0       2,625,947       2,         TURBINE       0       0       0       0       2,625,947       2,         TURBINE       0       0       0       0       3,4140         LOW PRESSURE FEEDWATER HEATERS       0       0       0       3,136,896       3,         MAIN STEAM       0       0       0       1,773,791       1,       1,         REACTOR FEEDWATER HEATERS       0       0       0       1,773,791       1,         REACTOR FEEDWATER PUMPS       0       0       0       1,3,558,135       13,         OTHER TG BLDG       0       0       0       0       3,03,558,135       13,         RAD WASTE BLDG       0       0       0       0       3,03,53,135       13,         RAD WASTE & CONTROL       0       0       0       0       1,999,520       1, <td>REACTOR CORE ISO COOLING</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>37,532</td> <td>37,53</td>	REACTOR CORE ISO COOLING	0	0	0	0	37,532	37,53
CONTAMINATED CONCRETE         0         0         0         1,105,991         2,           OTHER REACTOR BUILDING         0         0         0         0         2,625,947         2,           OTHER REACTOR BUILDING         0         0         0         0         2,625,947         2,           TURBINE         0         0         0         0         7,067,707         7,           NUCLEAR STEAM CONDENSATE         0         0         0         934,140         0           LOW PRESSURE FEEDWATER HEATERS         0         0         0         3,136,896         3,           MAIN STEAM         0         0         0         137,178         0         0         137,178           MOISTURE SEPARATOR REHEATERS         0         0         0         1,773,791         1,           REACTOR FEEDWATER HEATERS         0         0         0         624,659         0           OTHER TG BLDG         0         0         0         0         3,303,554         3,           RAD WASTE & LDG         0         0         0         0         2,173,391         2,           RAD WASTE & CONTROL         0         0         0         0         2,173,391 <td>RESIDUAL HEAT REMOVAL</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>355,503</td> <td>355, 50</td>	RESIDUAL HEAT REMOVAL	0	0	0	0	355,503	355, 50
OTHER REACTOR BUILDING       0       0       0       2,625,947       2,         TURBINE       0       0       0       0       7,067,707       7,         NUCLEAR STEAM CONDENSATE       0       0       0       934,140         LOW PRESSURE FEEDWATER HEATERS       0       0       0       934,140         LOW PRESSURE FEEDWATER HEATERS       0       0       0       3,136,896       3,         MAIN STEAM       0       0       0       137,178       MOISTURE SEPARATOR REHEATERS       0       0       137,178         MAIN STEAM       0       0       0       0       1,773,791       1,         REACTOR FEEDWATER PUMPS       0       0       0       1,773,791       1,         REACTOR FEEDWATER HEATERS       0       0       0       1,3558,135       13,         RAD WASTE BLDG       0       0       0       0       3,303,554       3,         RAD WASTE & CONTROL       0       0       0       0       2,279,585       0       62,         RAD WASTE & CONTROL       0       0       0       0       2,279,585       0       62,         RAD WASTE & CONTROL       0       0       0	POOL LINER & RACKS	0	0	0	0	1,473,661	1,473,66
TURBINE       0       0       0       7,027,707       7,         NUCLEAR STEAM CONDENSATE       0       0       0       934,140         LOW PRESSURE FEEDWATER HEATERS       0       0       0       3,136,896       3,         MAIN STEAM       0       0       0       0       3,136,896       3,         MAIN STEAM       0       0       0       0       137,178       1,         MOISTURE SEPARATOR REHEATERS       0       0       0       1,773,791       1,         REACTOR FEEDWATER PUMPS       0       0       0       1,773,791       1,         REACTOR FEEDWATER PUMPS       0       0       0       24,659       0         OTHER TG BLDG       0       0       0       13,558,135       13,         RAD WASTE BLDG       0       0       0       3,03,554       3,         TG BLDG       0       0       0       2,173,391       2,         RAD WASTE BLDG       0       0       0       1,999,520       1,         CONCENTRATOR BOTTOMS       16,827,644       11,250,000       32,400,000       2,279,585       0       62,         OTHER       4,562,161       3,050,000	CONTAMINATED CONCRETE	0	0	0	0	2,106,991	2,106,99
NUCLEAR STEAM CONDENSATE       0       0       0       934,140         LOW PRESSURE FEEDWATER HEATERS       0       0       0       3,136,896       3,         MAIN STEAM       0       0       0       0       137,178       140         MOISTURE SEPARATOR REHEATERS       0       0       0       0       137,178       140         MOISTURE SEPARATOR REHEATERS       0       0       0       0       1,773,791       140         REACTOR FEEDWATER PUMPS       0       0       0       0       1,773,791       140         REACTOR FEEDWATER PUMPS       0       0       0       0       166,581       140         OTHER TG BLDG       0       0       0       0       13,558,135       13,         RAD WASTE BLDG       0       0       0       0       13,303,554       3,         RAD WASTE BLDG       0       0       0       0       2,173,391       2,         RAD WASTE BLDG       0       0       0       0       1,999,520       1,         CONCENTRATOR BOTTOMS       16,827,644       11,250,000       32,400,000       2,279,585       0       62,         OTHER       4,562,161	OTHER REACTOR BUILDING	0	0	0	0	2,625,947	2,625,94
NUCLEAR STEAM CONDENSATE       0       0       0       934,140         LOW PRESSURE FEEDWATER HEATERS       0       0       0       3,136,896       3,         MAIN STEAM       0       0       0       0       137,178       1         MOISTURE SEPARATOR REHEATERS       0       0       0       0       137,178       1         REACTOR FEEDWATER PUMPS       0       0       0       0       1,773,791       1         REACTOR FEEDWATER PUMPS       0       0       0       0       466,581         OTHER TG BLDG       0       0       0       0       624,659         OTHER TG BLDG       0       0       0       13,568,135       13,         RAD WASTE BLDG       0       0       0       3,303,554       3,         REACTOR BLDG       0       0       0       2,173,391       2,         RAD WASTE & CONTROL       0       0       0       1,999,520       1,         CONCENTRATOR BOTTOMS       16,827,644       11,250,000       32,400,000       2,279,585       0       62,         OTHER       4,562,161       3,050,000       345,240       113,680       0       8,         PO	TURBINE	0	0	0	0	7,067,707	7,067,70
MAIN STEAM       0       0       0       137,178         MOISTURE SEPARATOR REHEATERS       0       0       0       1,773,791       1,         REACTOR FEEDWATER PUMPS       0       0       0       0       466,581         HIGH PRESSURE FEEDWATER HEATERS       0       0       0       624,659         OTHER TG BLDG       0       0       0       13,558,135       13,         RAD WASTE BLDG       0       0       0       4,630,960       4,         REACTOR BLDG       0       0       0       3,303,554       3,         TG BLDG       0       0       0       2,173,391       2,         RAD WASTE & CONTROL       0       0       0       1,999,520       1,         CONCENTRATOR BOTTOMS       16,827,644       11,250,000       32,400,000       2,279,585       0       62,         OTHER       4,562,161       3,050,000       345,240       113,680       0       8,         POST-TMI-2 ADDITIONS       671,672       0       0       0       0       0       0         SITE ACCESS FEES, (3.5 YRS)	NUCLEAR STEAM CONDENSATE	0	0	0	0		934,140
MAIN STEAM       0       0       0       0       137,178         MOISTURE SEPARATOR REHEATERS       0       0       0       0       1,773,791       1,         REACTOR FEEDWATER PUMPS       0       0       0       0       466,881         HIGH PRESSURE FEEDWATER HEATERS       0       0       0       624,659         OTHER TG BLDG       0       0       0       13,558,135       13,         RAD WASTE BLDG       0       0       0       4,630,960       4,         RAD WASTE BLDG       0       0       0       3,303,554       3,         TG BLDG       0       0       0       0,303,554       3,         TG BLDG       0       0       0       2,173,391       2,         RAD WASTE & CONTROL       0       0       0       1,999,520       1,         CONCENTRATOR BOTTOMS       16,627,644       11,250,000       32,400,000       2,279,585       0       62,         OTHER       4,562,161       3,050,000       345,240       113,680       0       8,         POST-TMI-2 ADDITIONS       671,672       0       0       0       0       0       0         SITE ACCESS FEES, (3.	LOW PRESSURE FEEDWATER HEATERS	0	0	0	0		3,136,89
MOISTURE SEPARATOR REHEATERS       0       0       0       1,773,791       1,         REACTOR FEEDWATER PUMPS       0       0       0       0       466,581         HIGH PRESSURE FEEDWATER HEATERS       0       0       0       624,659         OTHER TG BLDG       0       0       0       13,558,135       13,         RAD WASTE BLDG       0       0       0       4,630,960       4,         RAD WASTE BLDG       0       0       0       3,03,554       3,         TG BLDG       0       0       0       2,173,391       2,         RAD WASTE 4 CONTROL       0       0       0       1,999,520       1,         CONCENTRATOR BOTTOMS       16,827,644       11,250,000       32,400,000       2,279,585       0       62,         OTHER       4,562,161       3,050,000       345,240       113,680       0       8,         POST-TMI-2 ADDITIONS       671,672       0       0       0       0       0       0         SITE ACCESS FEES, (3.5 YRS)	MAIN STEAM	0	0	0	0		137,17
HIGH PRESSURE FEEDWATER HEATERS       0       0       0       0       124,659         OTHER TG BLDG       0       0       0       0       13,558,135       13,         RAD WASTE BLDG       0       0       0       0       4,630,960       4,         REACTOR BLDG       0       0       0       0       3,303,554       3,         TG BLDG       0       0       0       0       2,173,391       2,         RAD WASTE & CONTROL       0       0       0       1,999,520       1,         CONCENTRATOR BOTTOMS       16,827,644       11,250,000       32,400,000       2,279,585       0       62,         OTHER       4,562,161       3,050,000       345,240       113,680       0       8,         POST-TMI-2 ADDITIONS       671,672       0       0       0       0       0       0         SITE ACCESS FEES, (3.5 YRS)	MOISTURE SEPARATOR REHEATERS	0	0	0	0		1,773,79
HIGH PRESSURE FEEDWATER HEATERS       0       0       0       0       624,659         OTHER TG BLDG       0       0       0       0       13,558,135       13,         RAD WASTE BLDG       0       0       0       0       4,630,960       4,         REACTOR BLDG       0       0       0       0       3,303,554       3,         TG BLDG       0       0       0       0       2,173,391       2,         RAD WASTE & CONTROL       0       0       0       1,999,520       1,         CONCENTRATOR BOTTOMS       16,827,644       11,250,000       32,400,000       2,279,585       0       62,         OTHER       4,562,161       3,050,000       345,240       113,680       0       8,         POST-TMI-2 ADDITIONS       671,672       0       0       0       0       0         SITE ACCESS FEES, (3.5 YRS)	REACTOR FEEDWATER PUMPS	0	0	0	0	466,581	466,58
RAD WASTE BLDG       0       0       0       0       4,630,960       4,000       3,000       0       0       1,000       2,173,391       2,000       2,000       1,999,520       1,000       1,000       2,279,585       0       62,000       62,000       345,240       113,680       0       8,000       8,000       8,000       8,000       8,000       8,000       8,000       8,000       0 <td>HIGH PRESSURE FEEDWATER HEATERS</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td></td> <td>624,65</td>	HIGH PRESSURE FEEDWATER HEATERS	0	0	0	0		624,65
RAD WASTE BLDG       0       0       0       0       0       4,630,960       4,000       3,000       0       0       1,000       2,173,391       2,000       2,000       2,279,585       0       62,00       1,000       2,279,585       0       62,00       671,672       0       0       0       8,000       8,000       8,000       0       8,000       0       8,000       0 </td <td>OTHER TG BLDG</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>13,558,135</td> <td>13, 558, 13</td>	OTHER TG BLDG	0	0	0	0	13,558,135	13, 558, 13
REACTOR BLDG         0         0         0         0         0         3,303,554         3, 3, 3,303,554         3, 3, 3,303,554         3, 3,303,554         3, 3,303,554         3, 3,303,554         3, 2, 2, 3,303,554         3, 2, 2, 3,303,554         3, 2, 2, 3,303,554         3, 2, 2, 3,303,554         3, 2, 3,303,554         3, 2, 1, 2, 2,79,585         3, 2,279,585         0         62, 62, 62, 62, 63,57,644         62, 1,672         0         3,45,240         113,680         0         8, 8, 9,520         8, 1,672         0         0         0         0         8, 9,520         113,680         0         8, 8, 9,520         113,680         0         8, 9,520         113,680         0	RAD WASTE BLDG	0	0	0	0		4,630,96
TG BLDG       0       0       0       0       2,173,391       2,         RAD WASTE & CONTROL       0       0       0       0       1,999,520       1,         CONCENTRATOR BOTTOMS       16,827,644       11,250,000       32,400,000       2,279,585       0       62,         OTHER       4,562,161       3,050,000       345,240       113,680       0       8,         POST-TMI-2 ADDITIONS       671,672       0       0       0       0       0         SITE ACCESS FEES, (3.5 YRS)	REACTOR BLDG	0	0	0	0		3, 303, 55
RAD WASTE & CONTROL       0       0       0       0       0       1,999,520       1,         CONCENTRATOR BOTTOMS       16,827,644       11,250,000       32,400,000       2,279,585       0       62,         OTHER       4,562,161       3,050,000       345,240       113,680       0       8,         POST-TMI-2 ADDITIONS       671,672       0       0       0       0       0         SITE ACCESS FEES, (3.5 YRS)	TG BLDG	0	0	0	0		2,173,39
CONCENTRATOR BOTTOMS         16,827,644         11,250,000         32,400,000         2,279,585         0         62, 0           OTHER         4,562,161         3,050,000         345,240         113,680         0         8, 0           POST-TMI-2 ADDITIONS         671,672         0         0         0         0         0           SITE ACCESS FEES, (3.5 YRS)	RAD WASTE & CONTROL	0	0	0	0		1,999,520
OTHER         4,562,161         3,050,000         345,240         113,680         0         8,           POST-TMI-2 ADDITIONS         671,672         0         0         0         0         0         8,           SITE ACCESS FEES, (3.5 YRS)	CONCENTRATOR BOTTOMS	16,827,644	11,250,000	32,400,000	2,279,585		62,757,22
POST-TMI-2 ADDITIONS         671,672         0         0         0         0           SITE ACCESS FEES, (3.5 YRS)						0	8,071,081
SITE ACCESS FEES, (3.5 YRS)	POST-TMI-2 ADDITIONS			-		Ō	671,672
		•					, - (
	• • •	23,926,075	32,650,000	70,620,840	3,246,316	63,250,478	193,693,709
BARNWELL COUNTY BUSINESS TAX ATLANTIC COMPACT SURCHARGE (OUTSIDE COMPACT) 2,							2,680,724

TOTAL BWR COSTS (OUTSIDE COMPACT)

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196,374,433

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### Table B.21 Disposition Costs Using Waste Vendors with Burial Costs at the Washington Site (1998 dollars)

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REFERENCE PWR COMPONENT	VOLUME <u>CHARGE</u>	SHIPMENT CHARGE	CONTAINER CHARGE	LINER DOSE RATE CHARGE	WASTE VENDOR CHARGE	DISPOSAL OST
VESSEL WALL	116,280	238,640	44,004	2,147,000	0	2,545,924
VESSEL HEAD & BOTTOM	122,400	251,200	46,320	0	ů	419,920
UPPER CORE SUPPORT ASSM	12,240	25,120	4,632	151,200	ŏ	193,192
UPPER SUPPORT COLUMN	12,240	25,120	4,632	151,200	Ŏ	193,192
UPPER CORE BARREL	6,120	12,560	2,316	113,000	Ō	133,996
UPPER CORE GRID PLATE	15,300	31,400	5,790	282,500	Ő	334,990
GUIDE TUBES	18,360	37,680	6,948	226,800	Ō	289,788
LOWER CORE BARREL (=)	97,920	200,960	37,056	1,808,000	0	2,143,936
THERMAL SHIELDS (=)	18,360	37,680	6,948	339,000	Ō	401,988
CORE SHROUD(*)	12,240	25,120	4,632	26,000	Ó	267,992
LOWER GRID PLATE(a)	15,300	31,400	5,790	282,500	0	334,990
LOWER SUPPORT COLUMN	3,060	6,280	1,158	56,500	0	66,998
LOWER CORE FORGING	33,660	69,080	12,738	621,500	0	736,978
MISC INTERNALS	24,480	50,240	9,264	452,000	0	535,984
BIO SHIELD CONCRETE	0	0	0	0	3,235,923	3,235,923
REACTOR CAVITY LINER	15,667	6,280	4,632	0	0	26,579
REACTOR COOLANT PUMPS	0	0	0	0	1,247,905	1,247,905
PRESSURIZER	0	0	0	0	323, 592	323, 592
R.Hx, EHx, SUMP PUMP, CAVITY PUMP	0	0	0	0	19,581	19,581
PRESSURIZER RELIEF TANK	0	0	0	0	45,137	45,137
SAFETY INJECTION ACCUM TANKS	0	0	0	0	507,791	507,791
STEAM GENERATORS	0	0	0	0	4,566,800	4,566,800
REACTOR COOLANT PIPING	0	0	0	0	368,394	368,394
REMAINING CONTAM. MATLS	0	0	0	0	6,512,503	6,512,503
CONTAMINATED MATRL OTHR BLD	0	0	0	0	50,100,903	50,100,903
FILTER CARTRIDGES	0	0	0	0	89,610	89,610
SPENT RESINS	0	0	0	0	298,701	298,701
COMBUSTIBLE WASTES	0	0	0	0	896,102	896,102
EVAPORATOR BOTTOMS	287,640	590,320	108,852	1,676,341	0	2,663,153
POST-TMI-2 ADDITIONS	476,228	0	0	0	0	476,228
HEAVY OBJECT CHARGE						0
SITE AVAILABILITY CHARGES, (3 YRS		<u> </u>			<u> </u>	413,442
SUBTOTAL PWR COSTS	1,287,495	1,639,080	305,712	8,533,541	68,212,943	80,392,213
TAXES & FEES (% OF CHARGES)						523,709
TAXES & FEES (\$/UNIT VOL.)						599,569
ANNUAL PERMIT FEES (3 YRS)					,	120,000
TOTAL PWR COSTS						81,635,491

(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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	VOLUME	SHIPMENT	CONTAINER	LINER DOSE	WASTE VENDOR	DISPOSAL
REFERENCE_BWR_COMPONENT	CHARGE	CHARGE	CHARGE	RATE CHARGE	CHARGE	COST
STEAM SEPARATOR	10,802	87,920	32,424	26,600,000	0	26,731,146
FUEL SUPPORT & PIECES	5,416	43,960	16,212	791,000	0	856,588
CONTROL RODS/INCORES	16,218	50,240	9,264	7,600,000	0	7,675,722
CONTROL RODS GUIDES	4,315	37,680	13,896	678,000	0	733,891
JET PUMPS	15,147	125,600	46,320	38,000,000	0	38,187,067
TOP FUEL GUIDES	25,949	452,160	83,376	68,400,000	0	68,961,485
CORE SUPPORT PLATE	11,903	100,480	35,898	1,751,500	0	1,899,781
CORE SHROUD(*)	50,796	879,200	162,120	133,000,000	0	134,092,116
REACTOR VESSEL WALL	8,660	125,600	25,476	1,243,000	Ő	1,402,736
SAC SHIELD (NEUTRON ACT. MATL.)	0	0	0	0	1,156,150	1,156,150
REACT. WATER REC	ő	ŏ	ő	ů	370,562	370,562
SAC SHIELD (CONTAM. MATL.)	0	ő	ů	ŏ	2,994,078	2,994,078
OTHER PRIMARY CONTAINMENT	ő	0	0	ő		
	0	U	0		11,999,265	11,999,265
CONTAINM. ATMOSPHERIC	U	U		0	48,302	48,302
HIGH PRESSURE CORE SPRAY	0	0	0	0	117,856	117,856
LOW PRESSURE CORE SPRAY	0	0	0	0	42,505	42,505
REACTOR BLDG CLOSED COOLING	0	0	0	0	115,615	115,615
REACTOR CORE ISO COOLING	0	0	0	0	37,532	37,532
RESIDUAL HEAT REMOVAL	0	0	0	0	355,503	355,503
POOL LINER & RACKS	0	0	0	0	1,473,661	1,473,661
CONTAMINATED CONCRETE	0	0	0	0	2,106,991	2,106,991
OTHER REACTOR BUILDING	0	0	0	0	2,625,947	2,625,947
TURBINE	0	0	0	0	7,067,707	7,067,707
NUCLEAR STEAM CONDENSATE	0	0	0	0	934,140	934,140
LOW PRESSURE FEEDWATER HEATERS	0	0	0	Ó	3,136,896	3,136,896
MAIN STEAM	0	0	Ó	0	137,178	137,178
MOISTURE SEPARATOR REHEATERS	Ō	ō	ō	ŏ	1,773,791	1,773,791
REACTOR FEEDWATER PUMPS	ō	ő	õ	ŏ	466,581	466,581
HIGH PRESSURE FEEDWATER HEATERS	õ	õ	ŏ	ŏ	624,659	624,659
OTHER TG BLDG	ő	ő	ŏ	ŏ	13,558,135	13,558,135
RAD WASTE BLDG	õ	ő	ŏ	ŏ	4,630,960	4,630,960
REACTOR BLDG	0	ŏ	õ	0		
TG BLDG	0	0	0	0	3,303,554	3,303,554
	0	0	-	-	2,173,391	2,173,391
RAD WASTE & CONTROL	•	v	0	0	1,999,520	1,999,520
CONCENTRATOR BOTTOMS	688,500	1,413,000	260,550	3,978,045	0	6,340,095
OTHER	186,660	383,080	70,638	187,036	0	827,414
POST-TMI-2 ADDITIONS	38,923	0	0	0	0	38,923
HEAVY OBJECT CHARGE						0
SITE AVAILABILITY CHARGES, (3.5 YRS)						551,256
SUBTOTAL BWR COSTS	1,063,289	3,698,920	756,174	282,228,581	63,250,478	351,548,698
TAXES & FEES (% OF CHARGES)						12,396,823
TAXES & FEES (\$/UNIT VOL.)						495,159
ANNUAL PERMIT FEES (3.5 YRS)						140,000
TOTAL BWR COSTS						364,580,680

(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs.

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REFERENCE_ PWR_COMPONENT	BASE DISPOSAL CHARGE	CASK HANDLING	CURIE SURCHARGE	DOSE RATE SURCHARGE	WASTE VENDOR CHARGE	DISPOSAL COST
				<u></u>	<u></u>	
VESSEL WALL	2,379,200	1,140,000	4,560,000	1,142,016	0	9,221,216
VESSEL HEAD & BOTTOM	1,515,780	1,200,000	6,000	0	0	2,721,780
UPPER CORE SUPPORT ASSM	143,100	120,000	3,000	45,792	0	311,892
UPPER SUPPORT COLUMN	132,300	120,000	30,000	42,336	0	324,636
UPPER CORE BARREL	63,000	60,000	240,000	30,240	0	393,240
UPPER CORE GRID PLATE	157,500	150,000	600,000	75,600	0	983,100
GUIDE TUBES	233,100	180,000	30,000	62,937	0	506,037
LOWER CORE BARREL(*)	1,008,000	960,000	3,840,000	483,840	0	6,291,840
THERMAL SHIELDS(*)	189,000	180,000	720,000	90,720	0	1,179,720
CORE SHROUD(=)	108,400	120,000	7,320,000	52,032	0	7,600,432
LOWER GRID PLATE <sup>(a)</sup>	38,280	150,000	1,200,000	18,374	0	1,406,654
LOWER SUPPORT COLUMN	39,960	30,000	120,000	19,181	0	209,141
LOWER CORE FORGING	434,160	330,000	750,000	208, 397	0	1,722,557
MISC INTERNALS	352,000	240,000	600,000	168,960	0	1,360,960
BIO SHIELD CONCRETE	0	0	0	0	3,235,923	3,235,923
REACTOR CAVITY LINER	172,800	0	3,000	0	0	175,800
REACTOR COOLANT PUMPS	0	0	0	0	1,247,905	1,247,905
PRESSURIZER	0	0	0	0	323, 592	323, 592
R.Hx, EHx, SUMP PUMP, CAVITY PUMP	0	0	. 0	0	19,581	19,581
PRESSURIZER RELIEF TANK	0	0	0	0	45,137	45,137
SAFETY INJECTION ACCUM TANKS	0	0	0	, 0	507,791	507,791
STEAM GENERATORS	0	0	0	0	4,566,800	4,566,800
REACTOR COOLANT PIPING	0	0	0	0	368,394	368,394
REMAINING CONTAM. MATLS	0	0	0	0	6,512,503	6,512,503
CONTAMINATED MATRL OTHR BLD	0	0	0	0	50,100,903	50,100,903
FILTER CARTRIDGES	0	0	0	0	89,610	89,610
SPENT RESINS	0	0	0	0	298,701	298,701
COMBUSTIBLE WASTES	0	0	Ō	Ö	896,102	896,102
EVAPORATOR BOTTOMS	3,722,400	2,820,000	11,280,000	508,464	0	18,330,864
POST-TMI-2 ADDITIONS	7,470,863	Ó	0	0	õ	7,470,863
SITE ACCESS FEES, (3 YRS)			-	-	-	615,000
SUBTOTAL PWR COSTS	18,159,843	7,800,000	31,302,000	2,948,889	68,212,943	129,038,675
TAXES AND SURCHARGES					(	0
· · · · · · · · · · · · · · · · · · ·				1		
TOTAL PWR COSTS						120 020 675

#### Table B.22 Disposition Costs Using Waste Vendors with Burial Costs at the South Carolina Site (1998 dollars)

TOTAL PWR COSTS

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(a) GTCC Material: Assumes a low density, distributed packaging scheme and final disposal as LLW. High density packaging, ISFSI storage, and geologic repository disposal could reduce disposal costs. ,

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### Table B.22 Disposition Costs Using Waste Vendors with Burial Costs at the South Carolina Site (1998 dollars)

REFERENCE BWR COMPONENT	BASE DISPOSAL CHARGE	CASK HANDLING	CURIE SURCHARGE	DOSE RATE SURCHARGE	WASTE VENDOR CHARGE	DISPOSAL COST
		1481081110	CONTRACTOR	DUTIONALION		
STEAM SEPARATOR	146,216	840,000	1,680,000	70,184	0	2,736,400
FUEL SUPPORT & PIECES	64,411	420,000	210,000	30,917	0	725,329
CONTROL RODS/INCORES	191,770	240,000	960,000	92,049	0	1,483,819
CONTROL RODS GUIDES	53,900	360,000	30,000	19,943	0	463,843
JET PUMPS	155,925	1,200,000	2,400,000	74,844	0	3,830,769
TOP FUEL GUIDES	267,120	2,160,000	8,640,000	128,218	0	11,195,338
CORE SUPPORT PLATE	179,080	930,000	195,000	66,260	0	1,370,340
CORE SHROUD(*)	522,900	4,200,000	16,800,000	250,992	0	21,773,892
REACTOR VESSEL WALL	113,767	660,000	648,000	42,094	0	1,463,861
SAC SHIELD (NEUTRON ACT. MATL.)	0	0	0	0	1,156,150	1,156,150
REACT. WATER REC	0	0	0	0	370,562	370,562
SAC SHIELD (CONTAM. MATL.)	0	0	0	0	2,994,078	2,994,078
OTHER PRIMARY CONTAINMENT	0	Ó	Ó	Ó	11,999,265	11,999,265
CONTAINM. ATMOSPHERIC	0	0	0	0	48,302	48,302
HIGH PRESSURE CORE SPRAY	0	0	0	0	117,856	117,856
LOW PRESSURE CORE SPRAY	0	0	0	0	42,505	42,505
REACTOR BLDG CLOSED COOLING	0	0	0	0	115,615	115,615
REACTOR CORE ISO COOLING	0	0	0	0	37, 532	37, 532
RESIDUAL HEAT REMOVAL	0	0	0	0	355, 503	355,503
POOL LINER & RACKS	0	0	0	0	1,473,661	1,473,661
CONTAMINATED CONCRETE	0	Ō	Ō	Ō	2,106,991	2,106,991
OTHER REACTOR BUILDING	0	Ó	Ó	Ó	2,625,947	2,625,947
TURBINE	ō	Ō	Ō	Ō	7,067,707	7,067,707
NUCLEAR STEAM CONDENSATE	0	Ō	Ō	Ō	934,140	934,140
LOW PRESSURE FEEDWATER HEATERS	0	0	Ō	Ó	3,136,896	3,136,896
MAIN STEAM	0	Ō	0	0	137,178	137,178
MOISTURE SEPARATOR REHEATERS	0	Ó	0	Ó	1,773,791	1,773,791
REACTOR FEEDWATER PUMPS	0	0	ů.	0	466,581	466,581
HIGH PRESSURE FEEDWATER HEATERS	ō	õ	0	0	624,659	624,659
OTHER TG BLDG	Ō	0	0	0	13,558,135	13, 558, 135
RAD WASTE BLDG	ů	ő	0	Ō	4,630,960	4,630,960
REACTOR BLDG	0	ů.	õ	ŏ	3,303,554	3,303,554
TG BLDG	ō	ő	0	Ō	2,173,391	2,173,391
RAD WASTE & CONTROL	ů	ő	0	ů.	1,999,520	1,999,520
CONCENTRATOR BOTTOMS	15,297,858	6,750,000	27,000,000	2,072,350	0	51,120,208
OTHER	4,147,419	1,830,000	287,700	103,346	ō	6,368,465
POST-TMI-2 ADDITIONS	610,611	0	0	0	ů	610,611
SITE ACCESS FEES, (3.5 YRS)	,	-	ý	v	v	717,500
SUBTOTAL BWR COSTS	21,750,978	19,590,000	58,850,700	2,951,196	63,250,478	167,110,852
TAXES AND SURCHARGES						0

TOTAL BWR COSTS

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167,110,852

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### References

- Konzek, G. J., and R. I. Smith, "Technology, Safety and Costs of Decommissioning a Reference Pressurized Water Reactor Power Station - Technical Support for Decommissioning Matters Related to Preparation of the Final Decommissioning Rule," (Report prepared by Pacific Northwest Laboratory, Richland, Washington), NUREG/CR-0130, Addendum 4, U.S. Nuclear Regulatory Commission, July 1988.
- Konzek, G. J., and R. I. Smith, "Technology, Safety and Costs of Decommissioning a Reference Boiling Water Reactor Power Station - Technical Support for Decommissioning Matters Related to Preparation of the Final Decommissioning Rule," (Report prepared by Pacific Northwest Laboratory, Richland, Washington), NUREG/CR-0672, Addendum 3, U.S. Nuclear Regulatory Commission, July 1988.

Appendix C

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Bureau of Labor Statistics on the Internet

Appendix C

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### Bureau of Labor Statistics on the Internet

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For use in the adjustment formula in Chapter 3, the labor indexes for December 2001 and the producer price indexes for the last quarter of calendar year 2001 were obtained from the Bureau of Labor Statistics (BLS) data on the Internet.

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These dates were chosen to agree with the effective dates of the waste burial rate schedules. Instructions for accessing and obtaining the specific indexes used in this report follow below. Appendix C

### **Bureau of Labor Statistics Internet Data Page**

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To obtain reports of producer price indexes and labor indexes, proceed as follows:

- 1. Enter the URL: http://www.bls.gov/data/
- 2. Click on the item labeled Series Report.

3. In the box labeled Enter series id(s) below, type in the following six series ids, one id per line:

<u>Series ID</u>	<u>Producer Price Indexes</u>
wpu0543	(Industrial electric power used in calculation of $P_x$ , per Section 3.2 )
wpu0573	(Light fuel oils used in calculation of $F_x$ per Section 3.2)
ecu13102i ecu13202i ecu13302i ecu13402i	<u>Labor Indexes (Used in the calculation of L., per Section 3.1)</u> (Total compensation, private industry, Northeast region) (Total compensation, private industry, South region) (Total compensation, private industry, Midwest region) (Total compensation, private industry, West region)

- 4. In the box labeled Year(s) to report for, select the years you want.
- 5. Click on the button labeled Retrieve Data and the six tables of data you requested will be displayed.

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