Appendix B

Calculation of LLW Burial/Disposition Cost Estimation Factors

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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 = 1.0/1.0 (for PWR/BWR) for 1986. For 1998, B_x = 3.165/14.403. These B_x values reflect the adjustment in waste burial costs at the Washington LLW disposal site since 1986.

The 1998 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.9 provide summaries of the waste burial costs at the Washington LLW disposal site for 1997, 1996, 1995, 1994, 1993, 1991, 1988, and 1986, respectively. These estimates were originally reported in previous issues of NUREG-1307.

B.2 South Carolina LLW Disposal Site

The 1998 waste burial costs for the South Carolina LLW disposal site were developed using the rate schedule provided in Exhibit A.2. The spreadsheet calculations, which are too voluminous to present here, are summarized in Table B.10. For 1998, B_x = 15.886/13.948. These B_x values reflect the 1998 burial cost estimates for the South Carolina LLW disposal site normalized to the 1986 Washington LLW disposal site burial costs.

Tables B.11 through B.18 provide summaries of the waste burial costs at the South Carolina LLW disposal site for 1997, 1996, 1995, 1994, 1993, 1991, 1988, and 1986, respectively. These estimates were originally reported in previous issues of NUREG-1307.

B.3 LLW Disposition by Waste Vendors

The 1998 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 1998 waste burial costs for activated metal and liquid radioactive waste at the Washington and South Carolina LLW disposal sites were developed using the rate schedules provided in Exhibits A.1 and A.2, respectively. The spreadsheet calculations, which are too voluminous to present here, are summarized in Tables B.19 and B.20. For 1998, B_x = 4.538/15.203 for the Washington LLW disposal site and B_x = 7.173/6.968 for the South Carolina disposal site. These B_x values reflect the 1998 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.

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 Nevada LLW Disposal Site

No 1998 waste burial costs are provided for the Nevada LLW disposal site since this site closed on December 31, 1992.

Tables B.21 through B.23 provide summaries of the waste burial costs at the Nevada LLW disposal site for 1991, 1988, and 1986, respectively. These estimates were originally reported in previous issues of NUREG-1307.

B.5 Other

Appendix D, Table D.1, includes historical values of B_x for waste generators required to pay surcharges (with/without penalties) mandated by the Low-Level Radioactive Waste Policy Amendments Act of 1985 (LLRWPAA). Effective January 1, 1993, no LLRWPAA surcharges or penalties are assessed.

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 overestimated by factors ranging from about 1.6 to more than 80, depending upon the disposal site, compared with high-density packaging and geologic repository disposal. Evidence of this can be seen in the dramatic cost increase (compared to 1996) in the "Liner Dose Rate Charge" column for the reference BWR (See Tables B.1, B.2, and B.3).

Table B.1 Burial Costs at the Washington Site
Reference PWR (1998 dollars)

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	0	0	419,920
UPPER CORE SUPPORT ASSN	12,240	25,120	4,632	151,200	0	193,192
UPPER SUPPORT COLUMN	12,240	25,120	4,632	151,200	0	193,192
UPPER CORE BARREL	6,120	12,560	2,316	113,000	0	133,996
UPPER CORE GRID PLATE	15,300	31,400	5,790	282,500	0	334,990
GUIDE TUBES	18,360	37,680	6,948	226,800	0	289,788
LOWER CORE BARREL[a]	97,920	200,960	37,056	1,808,000	0	2,143,936
THERMAL SHIELDS[a]	18,360	37,680	6,948	339,000	0	401,988
CORE SHROUD[a]	12,240	25,120	4,632	226,000	0	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	763,776	307,720	225,810	0	0	1,297,306
REACTOR CAVITY LINER	15,667	6,280	4,632	0	0	26,579
REACTOR COOLANT PUMPS	128,520	75,360	13,896	0	0	217,776
PRESSURIZER	110,160	50,240	9,264	0	0	169,664
R.Hx,EHx,SUMP PUMP,CAVITY PUMP	12,240	6,280	3,474	0	0	21,994
PRESSURIZER RELIEF TANK	36,720	12,560	2,316	0	0	51,596
SAFETY INJECTION ACCUM TANKS	122,400	50,240	9,264	0	0	181,904
STEAM GENERATORS	653,677	200,960	37,056	0	0	891,693
REACTOR COOLANT PIPING	100,980	43,960	8,106	0	0	153,046
REMAINING CONTAM. MATLS	1,609,805	634,280	475,938	0	0	2,720,023
CONTAMINATED MATRL OTHR BLD	14,599,321	4,998,880	4,295,022	0	0	23,893,223
FILTER CARTRIDGES	9,639	37,680	6,948	1,587,600	0	1,641,867
SPENT RESINS	61,200	125,600	23,160	1,130,000	0	1,339,960
COMBUSTIBLE WASTES	309,825	376,800	69,480	0	0	756,105
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						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)						1,962,397
TAXES & FEES ($/CU.FT.)						9,223,270
ANNUAL PERMIT FEES (3 YRS)						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 and geologic repository disposal could reduce disposal costs.

Table B.1 Burial Costs at the Washington Site
Reference BWR (1998 dollars)

COMPONENT	VOLUME CHARGE	SHIPMENT CHARGE	CONTAINER CHARGE	LINER DOSE RATE CHARGE	BENTON COUNTY TAX SURCHARGE	DISPOSAL 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[a]	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	0	1,402,736
SAC SHIELD	97,247	87,920	16,212	0	0	201,379
REACT. WATER REC	95,105	31,400	6,948	0	0	133,453
SAC SHIELD	335,009	230,640	46,004	0	0	617,653
OTHER PRIMARY CONTAINMENT	3,821,022	1,067,600	1,073,466	0	0	5,962,088
CONTAINM. ATMOSPHERIC	51,867	6,280	2,316	0	0	60,463
HIGH PRESSURE CORE SPRAY	18,360	12,560	2,316	0	0	33,236
LOW PRESSURE CORE SPRAY	10,802	6,280	1,158	0	0	18,240
REACTOR BLDG CLOSED COOLING	34,578	12,560	6,948	0	0	54,086
REACTOR CORE ISO COOLING	14,045	6,280	3,474	0	0	23,799
RESIDUAL HEAT REMOVAL	67,014	31,400	8,106	0	0	106,520
POOL LINER & RACKS	411,723	113,040	42,846	0	0	567,609
CONTAMINATED CONCRETE	469,006	175,840	125,064	0	0	769,910
OTHER REACTOR BUILDING	1,533,366	288,880	451,620	0	0	2,273,866
TURBINE	1,519,351	514,960	321,924	0	0	2,356,235
NUCLEAR STEAM CONDENSATE	392,261	81,640	50,952	0	0	524,853
LOW PRESSURE FEEDWATER HEATERS	796,396	263,760	50,952	0	0	1,111,108
MAIN STEAM	76,745	12,560	3,474	0	0	92,779
MOISTURE SEPARATOR REHEATERS	772,650	163,280	30,108	0	0	966,038
REACTOR FEEDWATER PUMPS	209,641	37,680	23,160	0	0	270,481
HIGH PRESSURE FEEDWATER HEATERS	130,754	50,240	9,264	0	0	190,258
OTHER TG BLDG	5,248,512	1,494,640	1,486,872	0	0	8,230,024
RAD WASTE BLDG	2,598,889	452,160	743,436	0	0	3,794,485
REACTOR BLDG	327,726	238,640	1,653,624	0	0	2,219,990
TG BLDG	221,238	157,000	1,116,312	0	0	1,494,550
RAD WASTE & CONTROL	190,944	144,440	963,456	0	0	1,298,840
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						193,388
SITE AVAILABILITY CHARGES, (3.5 YRS)						551,256
SUBTOTAL BWR COSTS	20,507,539	9,388,600	8,994,186	282,228,581	0	321,863,549
TAXES & FEES (% OF CHARGES)						13,840,133
TAXES & FEES ($/CU.FT.)						9,550,079
ANNUAL PERMIT FEES (3.5 YRS)						140,000
TOTAL BWR COSTS						345,393,761

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

Table B.2 Burial Costs at the Washington Site
Reference PWR (1997 dollars)

COMPONENT	VOLUME CHARGE	SHIPMENT CHARGE	CONTAINER CHARGE	LINER DOSE RATE CHARGE	BENTON COUNTY TAX SURCHARGE	DISPOSAL COST
VESSEL WALL	145,920	106,324	22,610	703,000	21,585	999,439
VESSEL HEAD & BOTTOM	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[a]	122,880	89,536	19,040	592,000	18,177	841,633
THERMAL SHIELDS[a]	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[a]	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	0	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	0	20,366	949,243
REACTOR COOLANT PIPING	126,720	19,586	4,165	0	3,288	153,759
REMAINING CONTAM. MATLS	2,020,347	1,149,978	244,545	0	55,377	3,470,047
CONTAMINATED MATRL OTHR BLD	18,320,717	10,377,782	2,206,855	0	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	526,020
COMBUSTIBLE WASTES	388,800	167,880	35,700	0	12,747	605,127
EVAPORATOR BOTTOMS	360,960	263,012	55,930	547,031	23,586	1,250,519
POST-TMI-2 ADDITIONS	597,619	0	0	0	13,229	610,848
HEAVY OBJECT CHARGE						120,875
SITE AVAILABILITY CHARGES, (3 YRS)						265,092
SUBTOTAL PWR COSTS	24,854,285	13,254,126	2,818,515	3,671,671	763,654	45,748,238
TAXES & FEES (% OF CHARGES)						2,001,813
TAXES & FEES ($/CU.FT.)						8,122,950
ANNUAL PERMIT FEES (3 YRS)						112,500
TOTAL PWR COSTS						55,985,481

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

Table B.2 Burial Costs at the Washington Site
Reference BWR (1997 dollars)

COMPONENT	VOLUME CHARGE	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[(a)]	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	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	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	1,924,226	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	0	23,257	1,081,075
REACTOR FEEDWATER PUMPS	263,078	27,980	5,950	0	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	921,068	0	252,635	12,091,367
RAD WASTE BLDG	3,261,350	201,456	381,990	0	83,944	3,928,740
REACTOR BLDG	411,264	89,536	38,080	0	11,693	550,573
TG BLDG	277,632	58,758	24,990	0	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	170,878	36,295	60,440	10,725	512,378
POST-TMI-2 ADDITIONS	48,845	0	0	0	1,081	49,926
HEAVY OBJECT CHARGE						190,500
SITE AVAILABILITY CHARGES, (3.5 YRS)						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 ($/CU.FT.)						8,410,772
ANNUAL PERMIT FEES (3.5 YRS)						131,250
TOTAL BWR COSTS						150,217,453

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

Table B.3 Burial Costs at the Washington Site
Reference PWR (1996 dollars)

COMPONENT	VOLUME CHARGE	SHIPMENT CHARGE	CONTAINER CHARGE	LINER DOSE RATE CHARGE	BENTON COUNTY TAX SURCHARGE	DISPOSAL COST
VESSEL WALL	207,860	32,034	5,989	196,270	11,795	453,948
VESSEL HEAD & BOTTOM	218,800	33,720	6,304	0	5,576	264,400
UPPER CORE SUPPORT ASSM	21,880	3,372	630	13,828	1,014	40,724
UPPER SUPPORT COLUMN	21,880	3,372	630	13,828	1,014	40,724
UPPER CORE BARREL	10,940	1,686	315	10,330	621	23,892
UPPER CORE GRID PLATE	27,350	4,215	788	25,825	1,552	59,730
GUIDE TUBES	32,820	5,058	946	20,742	1,520	61,086
LOWER CORE BARREL[a]	175,040	26,976	5,043	165,280	9,933	382,272
THERMAL SHIELDS[a]	32,820	5,058	946	30,990	1,862	71,676
CORE SHROUD[a]	21,880	3,372	630	20,660	1,242	47,784
LOWER GRID PLATE[a]	27,350	4,215	788	25,825	1,552	59,730
LOWER SUPPORT COLUMN	5,470	843	158	5,165	310	11,946
LOWER CORE FORGING	60,170	9,273	1,734	56,815	3,414	131,406
MISC INTERNALS	43,760	6,744	1,261	41,320	2,483	95,568
BIO SHIELD CONCRETE	1,365,312	164,385	30,732	0	30,998	1,591,427
REACTOR CAVITY LINER	28,006	3,372	630	0	636	32,645
REACTOR COOLANT PUMPS	229,740	10,116	1,891	0	5,213	246,960
PRESSURIZER	196,920	6,744	1,261	0	4,419	209,344
R.Hx,EHx,SUMP PUMP,CAVITY PUMP	21,880	2,529	473	0	518	25,400
PRESSURIZER RELIEF TANK	65,640	1,686	315	0	1,459	69,100
SAFETY INJECTION ACCUM TANKS	218,800	6,744	1,261	0	4,891	231,696
STEAM GENERATORS	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	0	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	14,816	152,744	16,866	777,846
POST-TMI-2 ADDITIONS	851,296	0	0	0	0	851,296
HEAVY OBJECT CHARGE						120,875
SITE AVAILABILITY CHARGES, (3 YRS)						125,214
SUBTOTAL PWR COSTS	35,404,411	3,993,291	746,551	1,028,116	818,763	42,237,221
TAXES & FEES (% OF CHARGES)						1,843,121
TAXES & FEES ($/CU.FT.)						6,990,268
ANNUAL PERMIT FEES (3 YRS)						112,500
TOTAL PWR COSTS						51,183,110

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

Table B.3 Burial Costs at the Washington Site
Reference BWR (1996 dollars)

COMPONENT	VOLUME CHARGE	SHIPMENT CHARGE	CONTAINER CHARGE	LINER DOSE RATE CHARGE	BENTON COUNTY TAX SURCHARGE	DISPOSAL COST
STEAM SEPARATOR	19,309	11,802	4,413	2,425,752	81,068	2,542,344
FUEL SUPPORT & PIECES	9,682	5,901	2,206	72,310	2,776	92,876
CONTROL RODS/INCORES	28,991	6,744	1,261	693,072	23,741	753,808
CONTROL RODS GUIDES	7,713	5,058	1,891	61,980	2,367	79,009
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[a]	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	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	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
LOW PRESSURE CORE SPRAY	19,309	843	158	0	438	20,748
REACTOR BLDG CLOSED COOLING	61,811	2,529	473	0	1,398	66,210
REACTOR CORE ISO COOLING	25,107	843	158	0	563	26,671
RESIDUAL HEAT REMOVAL	119,793	4,215	1,103	0	2,698	127,809
POOL LINER & RACKS	735,989	15,174	2,837	0	16,262	770,261
CONTAMINATED CONCRETE	838,387	23,604	4,413	0	18,685	885,089
OTHER REACTOR BUILDING	2,741,017	429,087	80,218	0	70,022	3,320,345
TURBINE	2,715,964	48,894	9,141	0	59,831	2,833,830
NUCLEAR STEAM CONDENSATE	701,199	10,116	1,891	0	15,383	728,590
LOW PRESSURE FEEDWATER HEATERS	1,423,622	35,406	6,619	0	31,609	1,497,257
MAIN STEAM	137,188	2,529	473	0	3,024	143,213
MOISTURE SEPARATOR REHEATERS	1,381,175	21,918	4,098	0	30,351	1,437,542
REACTOR FEEDWATER PUMPS	374,750	8,430	1,576	0	8,298	393,054
HIGH PRESSURE FEEDWATER HEATERS	233,733	6,744	1,261	0	5,213	246,951
OTHER TG BLDG	9,382,144	1,304,964	243,965	0	235,521	11,166,594
RAD WASTE BLDG	4,645,726	60,696	101,179	0	103,697	4,911,298
REACTOR BLDG	585,837	26,976	10,086	0	13,431	636,331
TG BLDG	395,481	17,703	6,619	0	9,052	428,855
RAD WASTE & CONTROL	341,328	16,017	5,989	0	7,834	371,168
CONCENTRATOR BOTTOMS	1,230,750	189,675	35,460	362,456	43,389	1,861,730
OTHER	333,670	51,423	9,614	16,882	9,054	420,643
POST-TMI-2 ADDITIONS	69,578	0	0	0	69,578	69,578
HEAVY OBJECT CHARGE						190,500
SITE AVAILABILITY CHARGE (3.5 YRS)						166,952
SUBTOTAL BWR COSTS	36,658,901	3,403,191	747,812	25,737,965	1,730,180	68,635,500
TAXES & FEES (% OF CHARGES)						2,977,287
TAXES & FEES ($/CU.FT.)						7,237,955
ANNUAL PERMIT FEES (3.5 YRS)						131,250
TOTAL BWR COSTS						78,981,992

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

Table B.4 Burial Costs at the Washington Site
Reference PWR (1995 dollars)

COMPONENT	CRANE SURCHARGE	CASK HANDLING	CURIE SURCHARGE	LINER DOSE RATE	BURIAL CHARGE	DISPOSAL COST
VESSEL WALL	0	49,780	108,285	139,570	141,702	439,337
VESSEL HEAD & BOTTOM	0	40,000	0	0	149,160	189,160
UPPER CORE SUPPORT ASSM	0	4,000	0	6,611	14,916	25,527
UPPER SUPPORT COLUMN	0	4,000	0	6,611	14,916	25,527
UPPER CORE BARREL	0	2,620	5,699	8,299	7,458	24,077
UPPER CORE GRID PLATE	0	6,550	19,947	20,749	18,645	65,891
GUIDE TUBES	0	6,000	0	6,224	22,374	34,598
LOWER CORE BARREL[a]	0	41,920	344,594	132,790	119,328	638,632
THERMAL SHIELDS[a]	0	7,860	73,525	24,898	22,374	128,658
CORE SHROUD[a]	0	5,240	1,519,808	16,599	14,916	1,556,562
LOWER GRID PLATE[a]	0	6,550	245,312	20,749	18,645	291,256
LOWER SUPPORT COLUMN	0	1,310	5,813	4,150	3,729	15,002
LOWER CORE FORGING	0	14,410	25,076	45,647	41,019	126,151
MISC INTERNALS	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,ERX,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	0	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 ($/CU.FT.)						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 and geologic repository disposal could reduce disposal costs.

Table B.4 Burial Costs at the Washington Site
Reference BWR (1995 dollars)

COMPONENT	CRANE SURCHARGE	CASK HANDLING	CURIE SURCHARGE	LINER DOSE RATE	BURIAL CHARGE	DISPOSAL COST
STEAM SEPARATOR	0	36,680	67,873	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[a]	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	0	0	0	0	118,508	118,508
REACT. WATER REC	0	0	0	0	115,897	115,897
SAC SHIELD	0	0	0	0	408,251	408,251
OTHER PRIMARY CONTAINMENT	0	0	0	0	4,656,402	4,656,402
CONTAINM. ATMOSPHERIC	0	0	0	0	63,207	63,207
HIGH PRESSURE CORE SPRAY	0	0	0	0	22,374	22,374
LOW PRESSURE CORE SPRAY	0	0	0	0	13,163	13,163
REACTOR BLDG CLOSED COOLING	0	0	0	0	42,138	42,138
REACTOR CORE ISO COOLING	0	0	0	0	17,116	17,116
RESIDUAL HEAT REMOVAL	0	0	0	0	81,665	81,665
POOL LINER & RACKS	0	0	0	0	501,737	501,737
CONTAMINATED CONCRETE	0	0	0	0	571,544	571,544
OTHER REACTOR BUILDING	0	0	0	0	1,868,602	1,868,602
TURBINE	0	0	0	0	1,851,523	1,851,523
NUCLEAR STEAM CONDENSATE	0	0	0	0	478,021	478,021
LOW PRESSURE FEEDWATER HEATERS	0	0	0	0	970,510	970,510
MAIN STEAM	0	0	0	0	93,523	93,523
MOISTURE SEPARATOR REHEATERS	0	0	0	0	941,573	941,573
REACTOR FEEDWATER PUMPS	0	0	0	0	255,474	255,474
HIGH PRESSURE FEEDWATER HEATERS	0	0	0	0	159,340	159,340
OTHER TG BLDG	0	0	0	0	6,395,981	6,395,981
RAD WASTE BLDG	0	0	0	0	3,167,077	3,167,077
REACTOR BLDG	0	64,000	0	0	281,593	345,593
TG BLDG	0	42,000	0	0	190,110	232,110
RAD WASTE & CONTROL	0	38,000	0	0	164,094	202,094
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 BUR 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 ($/CU.FT.)						7,237,955
ANNUAL PERMIT FEES (3.5 YRS)						131,250
TOTAL BUR COSTS						45,039,919

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

Table B.5 Burial Costs at the Washington Site
Reference PWR (1994 dollars)

COMPONENT	CRANE SURCHARGE	CASK HANDLING	CURIE SURCHARGE	LINER DOSE RATE CHARGE	BURIAL CHARGE	DISPOSAL COST
VESSEL WALL	0	49,780	146,585	188,932	191,824	577,121
VESSEL HEAD & BOTTOM	0	40,000	0	0	201,920	241,920
UPPER CORE SUPPORT ASSM	0	4,000	0	8,950	20,192	33,142
UPPER SUPPORT COLUMN	0	4,000	0	8,950	20,192	33,142
UPPER CORE BARREL	0	2,620	7,715	11,235	10,096	31,666
UPPER CORE GRID PLATE	0	6,550	27,003	28,087	25,240	86,879
GUIDE TUBES	0	6,000	0	8,425	30,288	44,713
LOWER CORE BARREL[a]	0	41,920	466,406	179,754	161,536	849,616
THERMAL SHIELDS[a]	0	7,860	99,504	33,704	30,288	171,356
CORE SHROUD[a]	0	5,240	2,055,886	22,469	20,192	2,103,787
LOWER GRID PLATE[a]	0	6,550	331,843	28,087	25,240	391,720
LOWER SUPPORT COLUMN	0	1,310	7,869	5,617	5,048	19,845
LOWER CORE FORGING	0	14,410	33,945	61,790	55,528	165,673
MISC INTERNALS	0	10,480	24,687	44,938	40,384	120,490
BIO SHIELD CONCRETE	0	0	0	0	1,259,981	1,259,981
REACTOR CAVITY LINER	0	0	0	0	25,846	25,846
REACTOR COOLANT PUMPS	0	0	0	0	212,016	212,016
PRESSURIZER	0	0	0	0	181,728	181,728
R.Hx,EHx,SUMP PUMP,CAVITY PUMP	0	0	0	0	20,192	20,192
PRESSURIZER RELIEF TANK	0	0	0	0	60,576	60,576
SAFETY INJECTION ACCUM TANKS	0	0	0	0	201,920	201,920
STEAM GENERATORS	0	0	98,749	0	1,078,354	1,177,103
REACTOR COOLANT PIPING	0	0	0	0	166,584	166,584
REMAINING CONTAM. MATLS	0	0	0	0	2,655,652	2,655,652
CONTAMINATED MATRL OTHR BLD	0	0	0	0	24,084,109	24,084,109
FILTER CARTRIDGES	0	6,000	27,774	34,994	15,901	84,670
SPENT RESINS	0	26,200	108,010	86,530	100,960	321,700
COMBUSTIBLE WASTES	0	60,000	0	0	511,110	571,110
EVAPORATOR BOTTOMS	0	94,000	118,811	104,747	474,512	792,070
POST-TMI-2 ADDITIONS	0	0	0	0	785,620	785,620
HEAVY OBJECT CHARGE	102,800	0	0	0	0	102,800
SUBTOTAL PWR COSTS	102,800	386,920	3,554,787	857,208	32,673,029	37,574,744
ANNUAL PERMIT FEES (3 YRS)						105,000
TAXES & FEES (% OF CHARGES)						1,690,863
TAXES & FEES ($/CU.FT.)						5,987,035
TOTAL PWR COSTS						45,357,642

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

Table B.5 Burial Costs at the Washington Site
Reference BWR (1994 dollars)

COMPONENT	CRANE SURCHARGE	CASK HANDLING	CURIE SURCHARGE	LINER DOSE RATE CHARGE	BURIAL CHARGE	DISPOSAL COST
STEAM SEPARATOR	0	36,680	64,806	482,566	17,819	601,871
FUEL SUPPORT & PIECES	0	18,340	0	69,607	8,935	96,882
CONTROL RODS/INCORES	0	10,480	142,057	1,309,922	26,754	1,489,213
CONTROL RODS GUIDES	0	12,000	0	35,179	7,118	54,297
JET PUMPS	0	52,400	92,580	1,179,884	24,988	1,349,852
TOP FUEL GUIDES	0	94,320	277,740	2,123,791	42,807	2,538,658
CORE SUPPORT PLATE	0	31,000	0	90,880	19,637	143,516
CORE SHROUD[a]	0	183,400	4,278,498	3,090,500	83,797	7,636,195
REACTOR VESSEL WALL	0	22,000	33,944	64,495	14,286	134,725
SAC SHIELD	0	0	0	0	160,425	160,425
REACT. WATER REC	0	0	0	0	156,892	156,892
SAC SHIELD	0	0	0	0	552,655	552,655
OTHER PRIMARY CONTAINMENT	0	0	0	0	6,303,438	6,303,438
CONTAINM. ATMOSPHERIC	0	0	0	0	85,564	85,564
HIGH PRESSURE CORE SPRAY	0	0	0	0	30,288	30,288
LOW PRESSURE CORE SPRAY	0	0	0	0	17,819	17,819
REACTOR BLDG CLOSED COOLING	0	0	0	0	57,042	57,042
REACTOR CORE ISO COOLING	0	0	0	0	23,170	23,170
RESIDUAL HEAT REMOVAL	0	0	0	0	110,551	110,551
POOL LINER & RACKS	0	0	0	0	679,208	679,208
CONTAMINATED CONCRETE	0	0	0	0	773,707	773,707
OTHER REACTOR BUILDING	0	0	0	0	2,529,553	2,529,553
TURBINE	0	0	0	0	2,506,433	2,506,433
NUCLEAR STEAM CONDENSATE	0	0	0	0	647,103	647,103
LOW PRESSURE FEEDWATER HEATERS	0	0	0	0	1,313,792	1,313,792
MAIN STEAM	0	0	0	0	126,604	126,604
MOISTURE SEPARATOR REHEATERS	0	0	0	0	1,274,620	1,274,620
REACTOR FEEDWATER PUMPS	0	0	0	0	345,838	345,838
HIGH PRESSURE FEEDWATER HEATERS	0	0	0	0	215,701	215,701
OTHER TG BLDG	0	0	0	0	8,658,330	8,658,330
RAD WASTE BLDG	0	0	0	0	4,287,317	4,287,317
REACTOR BLDG	0	64,000	0	0	381,227	445,227
TG BLDG	0	42,000	0	0	257,375	299,375
RAD WASTE & CONTROL	0	38,000	0	0	222,154	260,154
CONCENTRATOR BOTTOMS	0	225,000	280,826	248,190	1,135,800	1,889,816
OTHER	0	61,000	0	7,036	307,928	375,964
POST-TMI-2 ADDITIONS	0	0	0	0	64,211	64,211
HEAVY OBJECT CHARGE	177,200	0	0	0	0	177,200
SUBTOTAL BWR COSTS	177,200	890,620	5,170,450	8,702,050	33,470,887	48,411,207
ANNUAL PERMIT FEES (3.5 YRS)						122,508
TAXES & FEES (% OF CHARGES)						2,178,504
TAXES & FEES ($/CU.FT.)						6,199,174
TOTAL BWR COSTS						56,911,386

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

Table B.6 Burial Costs at the Washington Site
Reference PWR (1993 dollars)

COMPONENT	CRANE SURCHARGE	CASK HANDLING	CURIE SURCHARGE	LINER DOSE RATE CHARGE	BURIAL CHARGE	DISPOSAL COST
VESSEL WALL	95,000	49,780	104,306	134,436	136,496	520,019
VESSEL HEAD & BOTTOM	0	40,000	0	0	143,680	183,680
UPPER CORE SUPPORT ASSM	0	4,000	0	6,368	14,368	24,736
UPPER SUPPORT COLUMN	0	4,000	0	6,368	14,368	24,736
UPPER CORE BARREL	0	2,620	5,490	7,994	7,184	23,288
UPPER CORE GRID PLATE	0	6,550	19,214	19,985	17,960	63,709
GUIDE TUBES	0	6,000	0	5,995	21,552	33,547
LOWER CORE BARREL[a]	0	41,920	331,857	127,904	114,944	616,625
THERMAL SHIELDS[a]	0	7,860	70,795	23,982	21,552	124,189
CORE SHROUD[a]	0	5,240	1,462,414	15,988	14,368	1,498,010
LOWER GRID PLATE[a]	0	6,550	236,051	19,985	17,960	280,546
LOWER SUPPORT COLUMN	0	1,310	5,600	3,997	3,592	14,499
LOWER CORE FORGING	0	14,410	24,154	43,967	39,512	122,043
MISC INTERNALS	0	10,480	17,566	31,976	28,736	88,758
BIO SHIELD CONCRETE	0	0	0	0	896,563	896,563
REACTOR CAVITY LINER	0	0	0	0	18,391	18,391
REACTOR COOLANT PUMPS	120,000	0	0	0	150,864	270,864
PRESSURIZER	40,000	0	0	0	129,312	169,312
R.Rx,EHx,SUMP PUMP,CAVITY PUMP	0	0	0	0	14,368	14,368
PRESSURIZER RELIEF TANK	2,000	0	0	0	43,104	45,104
SAFETY INJECTION ACCUM TANKS	80,000	0	0	0	143,680	223,680
STEAM GENERATORS	320,000	0	70,266	0	767,323	1,157,589
REACTOR COOLANT PIPING	70,000	0	0	0	118,536	188,536
REMAINING CONTAM. MATLS	0	0	0	0	1,889,679	1,889,679
CONTAMINATED MATRL OTHR BLD	0	0	0	0	17,137,504	17,137,504
FILTER CARTRIDGES	0	6,000	19,763	24,902	11,315	61,980
SPENT RESINS	0	26,200	76,856	61,572	71,840	236,468
COMBUSTIBLE WASTES	0	60,000	0	0	363,690	423,690
EVAPORATOR BOTTOMS	0	94,000	84,542	74,536	337,648	590,725
POST-TMI-2 ADDITIONS	0	0	0	0	559,023	559,023
SUBTOTAL PWR COSTS	727,000	386,920	2,528,873	609,955	23,249,112	27,501,860
ANNUAL PERMIT FEES (3 YRS)						105,000
TAXES & FEES (% OF CHARGES)						1,787,621
TAXES & FEES ($/CU.FT.)						6,627,809
TOTAL PWR COSTS						36,022,291

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

Table B.6 Burial Costs at the Washington Site
Reference BWR (1993 dollars)

COMPONENT	CRANE SURCHARGE	CASK HANDLING	CURIE SURCHARGE	LINER DOSE RATE CHARGE	BURIAL CHARGE	DISPOSAL COST
STEAM SEPARATOR	0	36,680	46,115	343,353	12,680	438,827
FUEL SUPPORT & PIECES	0	18,340	0	49,529	6,358	74,227
CONTROL RODS/INCORES	4,000	10,480	101,068	932,008	19,038	1,066,593
CONTROL RODS GUIDES	0	12,000	0	25,032	5,065	42,097
JET PUMPS	0	52,400	65,878	839,496	17,780	975,554
TOP FUEL GUIDES	0	94,320	197,633	1,511,093	30,460	1,833,506
CORE SUPPORT PLATE	0	31,000	0	64,666	13,973	109,639
CORE SHROUD[a]	0	183,400	3,043,488	2,198,924	59,627	5,485,439
REACTOR VESSEL WALL	55,000	22,000	24,154	45,892	10,165	157,211
SAC SHIELD	140,000	0	0	0	114,154	254,154
REACT. WATER REC	50,000	0	0	0	111,639	161,639
SAC SHIELD	380,000	0	0	0	393,252	773,252
OTHER PRIMARY CONTAINMENT	0	0	0	0	4,485,330	4,485,330
CONTAINM. ATMOSPHERIC	2,000	0	0	0	60,884	62,884
HIGH PRESSURE CORE SPRAY	20,000	0	0	0	21,552	41,552
LOW PRESSURE CORE SPRAY	5,000	0	0	0	12,680	17,680
REACTOR BLDG CLOSED COOLING	7,500	0	0	0	40,590	48,090
REACTOR CORE ISO COOLING	1,000	0	0	0	16,487	17,487
RESIDUAL HEAT REMOVAL	70,000	0	0	0	78,665	148,665
POOL LINER & RACKS	150,000	0	0	0	483,304	633,304
CONTAMINATED CONCRETE	16,000	0	0	0	550,546	566,546
OTHER REACTOR BUILDING	0	0	0	0	1,799,951	1,799,951
TURBINE	580,000	0	0	0	1,783,500	2,363,500
NUCLEAR STEAM CONDENSATE	60,000	0	0	0	460,458	520,458
LOW PRESSURE FEEDWATER HEATERS	420,000	0	0	0	934,854	1,354,854
MAIN STEAM	15,000	0	0	0	90,087	105,087
MOISTURE SEPARATOR REHEATERS	260,000	0	0	0	906,980	1,166,980
REACTOR FEEDWATER PUMPS	25,000	0	0	0	246,088	271,088
HIGH PRESSURE FEEDWATER HEATERS	80,000	0	0	0	153,486	233,486
OTHER TG BLDG	0	0	0	0	6,160,998	6,160,998
RAD WASTE BLDG	0	0	0	0	3,050,722	3,050,722
REACTOR BLDG	0	64,000	0	0	390,617	454,617
TG BLDG	0	42,000	0	0	263,693	305,693
RAD WASTE & CONTROL	0	38,000	0	0	227,585	265,585
CONCENTRATOR BOTTOMS	0	225,000	199,826	176,606	808,200	1,409,632
OTHER	0	61,000	0	5,007	219,112	285,119
POST-TMI-2 ADDITIONS	0	0	0	0	45,690	45,690
SUBTOTAL BWR COSTS	2,340,500	890,620	3,678,160	6,191,605	24,086,252	37,187,137
ANNUAL PERMIT FEES (3.5 YRS)						122,500
TAXES & FEES (% OF CHARGES)						2,417,164
TAXES & FEES ($/CU.FT.)						6,862,653
TOTAL BWR COSTS						46,589,455

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

Table B.7 Burial Costs at the Washington Site
Reference PWR (1991 dollars)

COMPONENT	CRANE SURCHARGE	CASK HANDLING	CURIE SURCHARGE	LINER DOSE RATE	BURIAL CHARGE	DISPOSAL COST
VESSEL WALL	30,411	69,780	67,982	129,200	122,018	399,392
VESSEL HEAD & BOTTOM	0	24,000	0	0	128,440	152,440
UPPER CORE SUPPORT ASSM	0	2,400	0	5,176	12,844	20,420
UPPER SUPPORT COLUMN	0	2,400	0	5,176	12,844	20,420
UPPER CORE BARREL	0	2,620	3,584	8,200	6,422	20,826
UPPER CORE GRID PLATE	0	6,550	13,374	20,500	16,055	56,479
GUIDE TUBES	0	3,600	0	4,866	19,266	27,732
LOWER CORE BARREL[a]	0	41,920	188,448	131,200	102,752	464,320
THERMAL SHIELDS[a]	0	7,860	37,662	24,600	19,266	89,388
CORE SHROUD[a]	0	5,240	807,248	16,400	12,844	841,732
LOWER GRID PLATE[a]	0	6,550	130,344	20,500	16,055	173,449
LOWER SUPPORT COLUMN	0	1,310	3,724	4,100	3,211	12,345
LOWER CORE FORGING	0	14,410	18,958	45,100	35,321	113,789
MISC INTERNALS	0	10,480	13,826	32,800	25,688	82,794
BIO SHIELD CONCRETE	0	0	0	0	801,466	801,466
REACTOR CAVITY LINER	0	0	0	0	16,440	16,440
REACTOR COOLANT PUMPS	168,000	0	0	0	134,862	302,862
PRESSURIZER	13,380	0	0	0	115,596	128,976
R.Hx,EHx,SUMP PUMP,CAVITY PUMP	0	0	0	0	12,844	12,844
PRESSURIZER RELIEF TANK	1,190	0	0	0	38,532	39,722
SAFETY INJECTION ACCUM TANKS	24,480	0	0	0	128,440	152,920
STEAM GENERATORS	582,400	0	0	0	685,934	1,268,334
REACTOR COOLANT PIPING	16,845	0	0	0	105,963	122,808
REMAINING CONTAM. MATLS	0	0	0	0	1,689,243	1,689,243
CONTAMINATED MATRL OTHR BLD	0	0	0	0	15,319,745	15,319,745
FILTER CARTRIDGES	0	3,600	11,212	20,076	10,115	45,002
SPENT RESINS	0	26,200	43,200	54,000	64,220	187,620
COMBUSTIBLE WASTES	0	36,000	0	0	325,114	361,114
EVAPORATOR BOTTOMS	0	56,400	0	68,850	301,834	427,084
POST-TMI-2 ADDITIONS	0	0	0	0	499,728	499,728
SUBTOTAL PWR COSTS	836,706	301,320	1,339,562	590,744	20,783,101	23,851,433
TOTAL PWR COSTS						23,851,433

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

Table B.7 Burial Costs at the Washington Site
Reference BWR (1991 dollars)

COMPONENT	CRANE SURCHARGE	CASK HANDLING	CURIE SURCHARGE	LINER DOSE RATE	BURIAL CHARGE	DISPOSAL COST
STEAM SEPARATOR	0	36,680	25,687	196,000	11,335	269,702
FUEL SUPPORT & PIECES	0	18,340	0	47,600	5,683	71,623
CONTROL RODS/INCORES	0	10,480	56,886	144,000	17,018	228,384
CONTROL RODS GUIDES	0	7,200	0	20,400	4,528	32,128
JET PUMPS	0	52,400	38,140	440,000	15,894	546,434
TOP FUEL GUIDES	0	94,320	127,666	792,000	27,229	1,041,215
CORE SUPPORT PLATE	0	18,600	0	52,700	12,491	83,791
CORE SHROUD[a]	0	183,400	1,683,780	1,540,000	53,303	3,460,483
REACTOR VESSEL WALL	17,864	13,200	0	37,400	9,087	77,551
SAC SHIELD	49,130	0	0	0	102,046	151,176
REACT. WATER REC	84,800	0	0	0	99,798	184,598
SAC SHIELD	139,528	0	0	0	351,540	491,069
OTHER PRIMARY CONTAINMENT	0	0	0	0	4,009,576	4,009,576
CONTAINM. ATMOSPHERIC	970	0	0	0	54,426	55,396
HIGH PRESSURE CORE SPRAY	4,570	0	0	0	19,266	23,836
LOW PRESSURE CORE SPRAY	1,435	0	0	0	11,335	12,770
REACTOR BLDG CLOSED COOLING	2,805	0	0	0	36,284	39,089
REACTOR CORE ISO COOLING	735	0	0	0	14,738	15,473
RESIDUAL HEAT REMOVAL	13,045	0	0	0	70,321	83,366
POOL LINES & RACKS	52,125	0	0	0	432,040	484,165
CONTAMINATED CONCRETE	10,160	0	0	0	492,150	502,310
OTHER REACTOR BUILDING	0	0	0	0	1,609,032	1,609,032
TURBINE	129,433	0	0	0	1,594,326	1,723,759
NUCLEAR STEAM CONDENSATE	18,920	0	0	0	411,618	430,538
LOW PRESSURE FEEDWATER HEATERS	141,569	0	0	0	835,695	977,264
MAIN STEAM	4,805	0	0	0	80,532	85,337
MOISTURE SEPARATOR REHEATERS	86,710	0	0	0	810,778	897,488
REACTOR FEEDWATER PUMPS	9,350	0	0	0	219,986	229,336
HIGH PRESSURE FEEDWATER HEATERS	27,880	0	0	0	137,206	165,086
OTHER TG BLDG	0	0	0	0	5,507,507	5,507,507
RAD WASTE BLDG	0	0	0	0	2,727,134	2,727,134
REACTOR BLDG	0	38,400	0	0	349,314	387,714
TG BLDG	0	25,200	0	0	235,811	261,011
RAD WASTE & CONTROL	0	22,800	0	0	203,520	226,320
CONCENTRATOR BOTTOMS	0	135,000	0	163,080	722,475	1,020,555
OTHER	0	36,600	0	3,990	195,871	236,461
POST-TMI-2 ADDITIONS	0	0	0	0	40,864	40,864
SUBTOTAL BWR COSTS	795,836	692,620	1,932,159	3,437,170	21,531,737	28,389,521
TOTAL BWR COSTS						28,389,521

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

Table B.8 Burial Costs at the Washington Site
Reference PWR (1988 dollars)

COMPONENT	CRANE SURCHARGE	CASK HANDLING	CURIE SURCHARGE	LINER DOSE RATE	BURIAL CHARGE	DISPOSAL COST
VESSEL WALL	29,671	45,600	62,710	119,320	112,480	369,781
VESSEL HEAD & BOTTOM	0	22,000	0	0	118,400	140,400
UPPER CORE SUPPORT ASSM	0	2,200	0	4,770	11,840	18,810
UPPER SUPPORT COLUMN	0	2,200	0	4,770	11,840	18,810
UPPER CORE BARREL	0	2,400	3,306	7,560	5,920	19,186
UPPER CORE GRID PLATE	0	6,000	12,295	18,900	14,800	51,995
GUIDE TUBES	0	3,300	0	4,482	17,760	25,542
LOWER CORE BARREL[a]	0	38,400	172,599	120,960	94,720	426,679
THERMAL SHIELDS[a]	0	7,200	34,488	22,680	17,760	82,128
CORE SHROUD[a]	0	4,800	738,079	15,120	11,840	769,839
LOWER GRID PLATE[a]	0	6,000	119,178	18,900	14,800	158,878
LOWER SUPPORT COLUMN	0	1,200	3,417	3,780	2,960	11,357
LOWER CORE FORGING	0	13,200	17,495	41,580	32,560	104,835
MISC INTERNALS	0	9,600	12,759	30,240	23,680	76,279
BIO SHIELD CONCRETE	0	0	0	0	738,816	738,816
REACTOR CAVITY LINER	0	0	0	0	15,155	15,155
REACTOR COOLANT PUMPS	154,800	0	0	0	124,320	279,120
PRESSURIZER	13,224	0	0	0	106,560	119,784
R.Hx,EHx,SUMP PUMP,CAVITY PUMP	0	0	0	0	11,840	11,840
PRESSURIZER RELIEF TANK	1,151	0	0	0	35,520	36,671
SAFETY INJECTION ACCUM TANKS	24,324	0	0	0	118,400	142,724
STEAM GENERATORS	547,200	0	0	0	632,315	1,179,515
REACTOR COOLANT PIPING	16,708	0	0	0	97,680	114,388
REMAINING CONTAM. MATLS	0	0	0	0	1,557,197	1,557,197
CONTAMINATED MATRL OTHR BLD	0	0	0	0	14,122,219	14,122,219
FILTER CARTRIDGES	0	3,300	10,338	18,522	9,324	41,484
SPENT RESINS	0	24,000	39,780	49,800	59,200	172,780
COMBUSTIBLE WASTES	0	33,000	0	0	299,700	332,700
EVAPORATOR BOTTOMS	0	51,700	0	63,488	278,240	393,428
POST-TMI-2 ADDITIONS	0	0	0	0	460,665	460,665
SUBTOTAL PWR COSTS	787,079	276,100	1,226,444	544,872	19,158,511	21,993,005
TOTAL PWR COSTS						21,993,005

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

Table B.8 Burial Costs at the Washington Site
Reference BWR (1988 dollars)

COMPONENT	CRANE SURCHARGE	CASK HANDLING	CURIE SURCHARGE	LINER DOSE RATE	BURIAL CHARGE	DISPOSAL COST
STEAM SEPARATOR	0	33,600	23,689	180,880	10,449	248,618
FUEL SUPPORT & PIECES	0	16,800	0	43,960	5,239	65,999
CONTROL RODS/INCORES	0	9,600	52,074	132,720	15,688	210,082
CONTROL RODS GUIDES	0	6,600	0	18,792	4,174	29,566
JET PUMPS	0	48,000	35,160	405,600	14,652	503,412
TOP FUEL GUIDES	0	86,400	117,776	730,080	25,101	959,357
CORE SUPPORT PLATE	0	17,050	0	48,546	11,514	77,110
CORE SHROUD[a]	0	168,000	1,539,720	1,419,600	49,136	3,176,456
REACTOR VESSEL WALL	17,435	12,100	0	34,452	8,377	72,364
SAC SHIELD	48,857	0	0	0	94,069	142,926
REACT. WATER REC	79,300	0	0	0	91,997	171,297
SAC SHIELD	138,788	0	0	0	324,061	462,849
OTHER PRIMARY CONTAINMENT	0	0	0	0	3,696,152	3,696,152
CONTAINM. ATMOSPHERIC	931	0	0	0	50,172	51,103
HIGH PRESSURE CORE SPRAY	4,531	0	0	0	17,760	22,291
LOW PRESSURE CORE SPRAY	1,416	0	0	0	10,449	11,864
REACTOR BLDG CLOSED COOLING	2,747	0	0	0	33,448	36,195
REACTOR CORE ISO COOLING	716	0	0	0	13,586	14,302
RESIDUAL HEAT REMOVAL	12,909	0	0	0	64,824	77,733
POOL LINES & RACKS	51,833	0	0	0	398,268	450,101
CONTAMINATED CONCRETE	9,848	0	0	0	453,679	463,528
OTHER REACTOR BUILDING	0	0	0	0	1,483,256	1,483,256
TURBINE	128,303	0	0	0	1,469,699	1,598,002
NUCLEAR STEAM CONDENSATE	18,687	0	0	0	379,442	398,129
LOW PRESSURE FEEDWATER HEATERS	140,751	0	0	0	770,370	911,121
MAIN STEAM	4,747	0	0	0	74,237	78,983
MOISTURE SEPARATOR REHEATERS	86,204	0	0	0	747,400	833,604
REACTOR FEEDWATER PUMPS	9,155	0	0	0	202,790	211,945
HIGH PRESSURE FEEDWATER HEATERS	27,724	0	0	0	126,481	154,205
OTHER TG BLDG	0	0	0	0	5,076,992	5,076,992
RAD WASTE BLDG	0	0	0	0	2,513,958	2,513,958
REACTOR BLDG	0	35,200	0	0	322,000	357,200
TG BLDG	0	23,100	0	0	217,372	240,472
RAD WASTE & CONTROL	0	20,900	0	0	187,607	208,507
CONCENTRATOR BOTTOMS	0	123,750	0	150,378	666,000	940,128
OTHER	0	33,550	0	3,677	180,560	217,787
POST-TMI-2 ADDITIONS	0	0	0	0	37,651	37,651
SUBTOTAL BWR COSTS	784,881	634,650	1,768,419	3,168,685	19,848,608	26,205,242
TOTAL BWR COSTS						26,205,242

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

Table B.9 Burial Costs at the Washington Site
Reference PWR (1986 dollars)

COMPONENT	CRANE SURCHARGE	CASK HANDLING	CURIE SURCHARGE	LINER DOSE RATE	BURIAL CHARGE	DISPOSAL COST
VESSEL WALL	28,864	27,284	56,544	106,224	94,620	313,536
VESSEL HEAD & BOTTOM	0	28,720	0	0	99,600	128,320
UPPER CORE SUPPORT ASSM	0	2,872	0	5,154	9,960	17,986
UPPER SUPPORT COLUMN	0	2,872	0	5,154	9,960	17,986
UPPER CORE BARREL	0	1,436	2,981	6,351	4,980	15,748
UPPER CORE GRID PLATE	0	3,590	11,098	15,878	12,450	43,016
GUIDE TUBES	0	4,308	0	5,345	14,940	24,593
LOWER CORE BARREL[a]	0	22,976	155,998	101,617	79,680	360,270
THERMAL SHIELDS[a]	0	4,308	31,173	19,053	14,940	69,474
CORE SHROUD[a]	0	2,872	667,474	12,702	9,960	693,008
LOWER GRID PLATE[a]	0	3,590	107,777	15,878	12,450	139,694
LOWER SUPPORT COLUMN	0	718	3,086	3,176	2,490	9,470
LOWER CORE FORGING	0	7,898	15,772	34,931	27,390	85,991
MISC INTERNALS	0	5,744	11,583	25,404	19,920	62,571
BIO SHIELD CONCRETE	0	0	0	0	621,504	621,504
REACTOR CAVITY LINER	0	0	0	0	12,749	12,749
REACTOR COOLANT PUMPS	65,532	0	0	0	104,580	170,112
PRESSURIZER	13,054	0	0	0	89,640	102,694
R.Hx,EHx,SUMP PUMP,CAVITY PUMP	0	0	0	0	9,960	9,960
PRESSURIZER RELIEF TANK	1,109	0	0	0	29,880	30,989
SAFETY INJECTION ACCUM TANKS	24,154	0	0	0	99,600	123,754
STEAM GENERATORS	249,417	0	0	0	531,914	781,331
REACTOR COOLANT PIPING	16,560	0	0	0	82,170	98,730
REMAINING CONTAM. MATLS	0	0	0	0	309,939	1,309,939
CONTAMINATED MATRL OTHR BLD	0	0	0	0	11,879,840	11,879,840
FILTER CARTRIDGES	0	4,308	9,322	26,663	7,844	48,137
SPENT RESINS	0	14,360	35,889	55,907	49,800	155,956
COMBUSTIBLE WASTES	0	43,080	0	0	252,113	295,193
EVAPORATOR BOTTOMS	0	67,492	0	64,931	234,060	366,483
SUBTOTAL PWR COSTS	398,691	248,428	1,108,617	504,366	15,728,932	17,989,034
TOTAL PWR COSTS						17,989,034

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

Table B.9 Burial Costs at the Washington Site
Reference BWR (1986 dollars)

COMPONENT	CRANE SURCHARGE	CASK HANDLING	CURIE SURCHARGE	LINER DOSE RATE	BURIAL CHARGE	DISPOSAL COST
STEAM SEPARATOR	0	20,104	21,361	119,000	8,290	169,255
FUEL SUPPORT & PIECES	0	10,052	0	39,135	4,407	53,594
CONTROL RODS/INCORES	0	5,744	47,074	320,000	13,197	386,015
CONTROL RODS GUIDES	0	8,616	0	19,738	3,511	31,865
JET PUMPS	0	28,720	31,709	670,000	12,326	742,755
TOP FUEL GUIDES	0	51,696	106,191	1,206,000	21,115	1,385,003
CORE SUPPORT PLATE	0	22,258	0	50,990	9,686	82,934
CORE SHROUD[a]	0	100,520	1,392,364	1,785,000	41,334	3,319,218
REACTOR VESSEL WALL	16,968	15,796	0	36,186	7,047	75,998
SAC SHIELD	48,560	0	0	0	79,132	127,692
REACT. WATER REC	35,871	0	0	0	77,389	113,261
SAC SHIELD	137,981	0	0	0	272,605	410,587
OTHER PRIMARY CONTAINMENT	0	0	0	0	3,109,263	3,109,263
CONTAINM. ATMOSPHERIC	889	0	0	0	42,206	43,094
HIGH PRESSURE CORE SPRAY	4,489	0	0	0	14,940	19,429
LOW PRESSURE CORE SPRAY	1,394	0	0	0	8,790	10,184
REACTOR BLDG CLOSED COOLING	2,683	0	0	0	28,137	30,820
REACTOR CORE ISO COOLING	694	0	0	0	11,429	12,123
RESIDUAL HEAT REMOVAL	12,760	0	0	0	54,531	67,291
POOL LINES & RACKS	51,514	0	0	0	335,030	386,544
CONTAMINATED CONCRETE	9,509	0	0	0	381,642	391,151
OTHER REACTOR BUILDING	0	0	0	0	1,247,739	1,247,739
TURBINE	127,072	0	0	0	1,236,335	1,363,406
NUCLEAR STEAM CONDENSATE	18,432	0	0	0	319,193	337,625
LOW PRESSURE FEEDWATER HEATERS	139,860	0	0	0	648,047	787,907
MAIN STEAM	4,683	0	0	0	62,449	67,132
MOISTURE SEPARATOR REHEATERS	85,652	0	0	0	628,725	714,377
REACTOR FEEDWATER PUMPS	8,943	0	0	0	170,590	179,533
HIGH PRESSURE FEEDWATER HEATERS	27,554	0	0	0	106,398	133,952
OTHER TG BLDG	0	0	0	0	4,270,848	4,270,848
RAD WASTE BLDG	0	0	0	0	2,114,782	2,114,782
REACTOR BLDG	0	45,952	0	0	272,859	318,811
TG BLDG	0	30,156	0	0	184,198	214,354
RAD WASTE & CONTROL	0	27,284	0	0	158,975	186,259
CONCENTRATOR BOTTOMS	0	161,550	0	153,896	560,250	875,696
OTHER	0	43,798	0	4,911	151,890	200,599
SUBTOTAL BWR COSTS	735,508	572,246	1,598,700	4,404,856	16,669,784	23,981,094
TOTAL BWR COSTS						23,981,094

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

Table B.10 Burial Costs at the South Carolina Site
Reference PWR (1998 dollars)

COMPONENT	BASE DISPOSAL CHARGE	CASK HANDLING	CURIE SURCHARGE	LINER DOSE RATE	DOSE RATE SURCHARGE	DISPOSAL 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[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[a]	108,400	120,000	7,320,000	0	52,032	7,600,432
LOWER GRID PLATE[a]	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
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
TOTAL PWR COSTS						285,771,187

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

Table B.10 Burial Costs at the South Carolina Site
Reference BWR (1998 dollars)

COMPONENT	BASE DISPOSAL CHARGE	CASK HANDLING	CURIE SURCHARGE	LINER DOSE RATE	DOSE RATE SURCHARGE	DISPOSAL COST
STEAM SEPARATOR	166,216	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[a]	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	2,393,608	0	50,400	0	0	2,444,008
REACT. WATER REC	1,035,698	0	13,184	0	0	1,048,883
SAC SHIELD	6,198,720	0	46,441	0	0	6,245,161
OTHER PRIMARY CONTAINMENT	43,474,200	0	529,699	0	0	44,003,899
CONTAINM. ATMOSPHERIC	533,925	0	7,190	0	0	541,115
HIGH PRESSURE CORE SPRAY	268,400	0	2,545	0	0	270,945
LOW PRESSURE CORE SPRAY	118,800	0	1,497	0	0	120,297
REACTOR BLDG CLOSED COOLING	418,880	0	4,793	0	0	423,673
REACTOR CORE ISO COOLING	144,585	0	1,947	0	0	146,532
RESIDUAL HEAT REMOVAL	809,609	0	9,290	0	0	818,899
POOL LINER & RACKS	5,339,180	0	57,076	0	0	5,396,256
CONTAMINATED CONCRETE	5,888,916	0	65,017	0	0	5,953,933
OTHER REACTOR BUILDING	15,784,650	0	212,567	0	0	15,997,217
TURBINE	19,753,826	0	210,624	0	0	19,964,450
NUCLEAR STEAM CONDENSATE	4,037,985	0	54,378	0	0	4,092,363
LOW PRESSURE FEEDWATER HEATERS	8,767,440	0	110,402	0	0	8,877,842
MAIN STEAM	790,020	0	10,639	0	0	800,659
MOISTURE SEPARATOR REHEATERS	7,953,750	0	107,111	0	0	8,060,861
REACTOR FEEDWATER PUMPS	2,158,065	0	29,062	0	0	2,187,127
HIGH PRESSURE FEEDWATER HEATERS	1,422,573	0	18,126	0	0	1,440,699
OTHER TG BLDG	54,028,800	0	727,588	0	0	54,756,388
RAD WASTE BLDG	26,753,265	0	360,277	0	0	27,113,542
REACTOR BLDG	6,839,437	1,920,000	57,000	0	0	8,816,437
TG BLDG	4,499,629	1,260,000	37,500	0	0	5,797,129
RAD WASTE & CONTROL	4,139,659	1,140,000	34,500	0	0	5,314,159
CONCENTRATOR BOTTOMS	15,297,858	6,750,000	27,000,000	0	2,072,350	51,120,208
OTHER	4,147,419	1,830,000	287,700	0	103,346	6,368,465
POST-TMI-2 ADDITIONS	610,611	0	0	0	0	610,611
SITE ACCESS FEES, (3.5 YRS)						717,500
SUBTOTAL BWR COSTS	245,304,598	23,910,000	61,609,554	0	2,951,196	334,492,848
TAXES AND SURCHARGES						0
TOTAL BWR COSTS						334,492,848

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

Table B.11 Burial Costs at the South Carolina Site
Reference PWR (1997 dollars)

COMPONENT	BASE DISPOSAL CHARGE	CASK HANDLING	CURIE SURCHARGE	LINER DOSE RATE	DOSE RATE SURCHARGE	DISPOSAL 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[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[a]	108,400	120,000	7,320,000	0	52,032	7,600,432
LOWER GRID PLATE[a]	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

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

Table B.11 Burial Costs at the South Carolina Site
Reference BWR (1997 dollars)

COMPONENT	BASE DISPOSAL CHARGE	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[a]	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	2,393,608	0	50,400	0	0	2,444,008
REACT. WATER REC	1,035,698	0	3,300	0	0	1,038,998
SAC SHIELD	6,198,720	0	25,080	0	0	6,223,800
OTHER PRIMARY CONTAINMENT	43,474,200	0	112,200	0	0	43,586,400
CONTAINM. ATMOSPHERIC	533,925	0	1,320	0	0	535,245
HIGH PRESSURE CORE SPRAY	268,400	0	1,320	0	0	269,720
LOW PRESSURE CORE SPRAY	118,800	0	660	0	0	119,460
REACTOR BLDG CLOSED COOLING	418,880	0	1,980	0	0	420,860
REACTOR CORE ISO COOLING	144,585	0	660	0	0	145,245
RESIDUAL HEAT REMOVAL	809,609	0	4,620	0	0	814,229
POOL LINER & RACKS	5,339,180	0	9,900	0	0	5,349,080
CONTAMINATED CONCRETE	5,888,916	0	10,560	0	0	5,899,476
OTHER REACTOR BUILDING	15,784,650	0	37,620	0	0	15,822,270
TURBINE	19,753,826	0	38,280	0	0	19,792,106
NUCLEAR STEAM CONDENSATE	4,037,985	0	7,920	0	0	4,045,905
LOW PRESSURE FEEDWATER HEATERS	8,767,440	0	27,720	0	0	8,795,160
MAIN STEAM	790,020	0	1,980	0	0	792,000
MOISTURE SEPARATOR REHEATERS	7,953,750	0	17,160	0	0	7,970,910
REACTOR FEEDWATER PUMPS	2,158,065	0	6,600	0	0	2,164,665
HIGH PRESSURE FEEDWATER HEATERS	1,422,573	0	5,280	0	0	1,427,853
OTHER TG BLDG	54,028,800	0	170,280	0	0	54,199,080
RAD WASTE BLDG	26,753,265	0	47,520	0	0	26,800,785
REACTOR BLDG	6,839,437	1,920,000	96,000	0	0	8,855,437
TG BLDG	4,499,629	1,260,000	63,000	0	0	5,822,629
RAD WASTE & CONTROL	4,139,659	1,140,000	57,000	0	0	5,336,659
CONCENTRATOR BOTTOMS	15,297,858	6,750,000	27,000,000	0	2,072,350	51,120,208
OTHER	4,167,419	1,830,000	287,700	0	103,346	6,368,465
POST-TMI-2 ADDITIONS	610,611	0	0	0	0	610,611
SUBTOTAL BWR COSTS	246,578,591	23,910,000	59,649,060	0	3,422,573	331,814,854
TAXES AND SURCHARGES						0
TOTAL BWR COSTS						331,814,254

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

Table B.12 Burial Costs at the South Carolina Site
Reference PWR (1996 dollars)

COMPONENT	CRANE SURCHARGE	CASK HANDLING	CURIE SURCHARGE	LINER DOSE RATE	BURIAL CHARGE	DISPOSAL COST
VESSEL WALL	83,220	87,400	1,545,660	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[a]	0	73,600	3,865,600	0	264,864	4,204,064
THERMAL SHIELDS[a]	0	13,800	724,800	0	49,662	788,262
CORE SHROUD[a]	0	9,200	7,368,800	0	33,108	7,411,108
LOWER GRID PLATE[a]	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.Rx,EHx,SUMP PUMP,CAVITY,PUMP	0	0	0	0	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	0	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 TAX (INSIDE SE COMPACT)	152,103,045
SOUTH CAROLINA LLRW DISPOSAL TAX (OUTSIDE SE COMPACT)	152,103,045
TOTAL PWR COSTS (INSIDE SE COMPACT)	229,741,255
TOTAL PWR COSTS (OUTSIDE SE COMPACT)	229,741,255

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