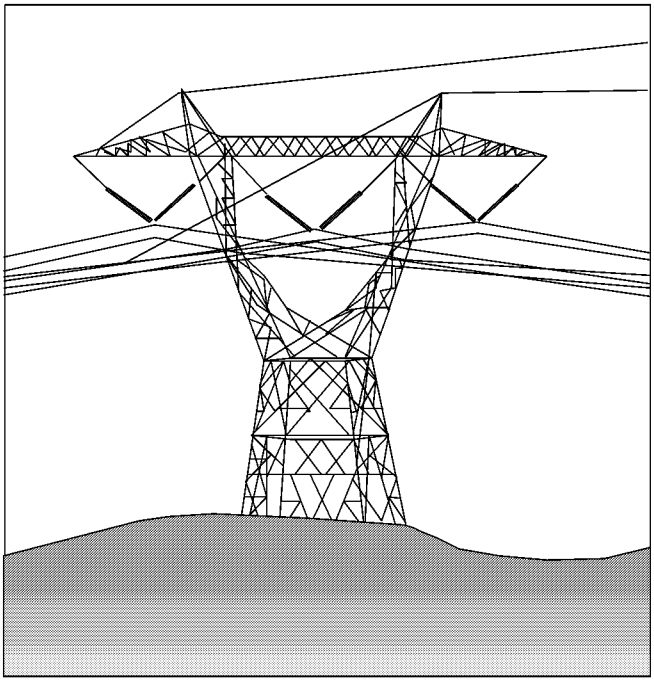
BONNEVILLE POWER ADMINISTRATION
TRANSMISSION BUSINESS LINE

2006 INITIAL TRANSMISSION PROPOSAL

DOCUMENTATION FOR REVENUE REQUIREMENT STUDY

TR-06-E-BPA-01A



FEBRUARY 2005

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CHAPTER 1

TRANSMISSION REVENUE REQUIREMENTS

I. Introduction

This chapter documents how Bonneville Power Administration's (BPA) annual transmission revenue requirements are determined. Two tables are presented showing both years of the rate period (FYs 2006 and 2007). On the first table, revenue requirements for FYs 2006 and 2007 are projected in an income statement format. The second table, a statement of annual cash flows, determines the minimum required net revenues and presents the annual cash flows available for risk mitigation.

II. Income Statement

A more detailed description of the following line items is presented in Chapter 4 of the Revenue Requirement Study (Study), TR-06-E-BPA-01. Operating expenses (lines 1-5) include: BPA's transmission system operation, maintenance and development expenses, environmental remediation, facility leases, non-Federal transmission arrangements, transmission marketing and scheduling, transmission business line support services and overheads, and corporate overheads (line 2); inter-business lines expenses (primarily the generation inputs for ancillary services) (line 3), and annual straight-line depreciation (remaining life technique) for transmission and general plant-in-service (line 4).

Interest expense includes both non-Federal and Federal interest expenses. Debt service reassignment interest consists of the interest component of the debt service reassigned to TBL through the Debt Optimization Program (line 7). Federal interest expense is calculated in transmission repayment studies on appropriations granted by Congress for BPA capital investments prior to the Transmission Systems Act (line 9) and on bonds that BPA issues to the U.S. Treasury (line 10). Amortization of capitalized bond premiums (line 12) is the annual amortization of call premiums resulting from early retirement of

bonds that have been refinanced. The call premiums are capitalized and included in the principal of the replacement bonds. They are then amortized over the term of the respective replacement bonds and constitute a non-cash component of interest expense. Bond interest is reduced by interest income from BPA's projected cash reserves (line 11). The capitalization adjustment and the Allowance for Funds Used During Construction (AFUDC) (lines 13-14) further reduce gross interest expense. The capitalization adjustment, a non-cash expense, is the annual recognition of the write-down in principal that resulted from the BPA Refinancing Act.

Planned net revenues (lines 17-18) are included to ensure coverage of planned amortization payments (minimum required net revenues) and to meet the Administrator's risk mitigation policy (planned net revenues for risk). *See* Chapter 9 of this volume and Section 2.2 of the Revenue Requirement Study, TR-06-E-BPA-01.

III. Statement of Cash Flows

- ***Cash from Current Operations***: Minimum required net revenues (line 2) is the amount necessary to ensure that cash from operations is sufficient for planned amortization payments. It is the amount by which these planned payments to the U.S. Treasury exceed the expenses that do not require cash outlays (depreciation (line 4), amortization of capitalized bond premiums (line 5) and the capitalization adjustment (line 6)) and the revenues that do not provide cash in that year (accrual revenues from AC Intertie capacity ownership and fiber optic cable leases (line 7)). As part of the settlement agreement, BPA is drawing on cash reserves (line 8).

- ***Cash Used for Capital Investments***: Investment in utility plant (line 12) is the increase in capital outlays associated with BPA investments for transmission, environment and general plant assets.

- ***Cash from Treasury Borrowing and Appropriations***: Increase in long-term debt (line 15) is the annual increment in bonds that BPA issues to Treasury to fund capital outlays for transmission,

environment and general plant assets. Debt Service Reassignment Principal is the principal component of the debt service obligation reassigned to TBL through the Debt Optimization Program (line 16). Repayment of long-term debt (line 17) is planned amortization of bonds issued to Treasury, as determined in transmission repayment studies. Repayment of capital appropriations (line 18) is planned amortization associated with pre-Transmission System Act appropriations, as determined in transmission repayment studies.

Table 1

TRANSMISSION REVENUE REQUIREMENT
INCOME STATEMENT
($thousands)

		A FY 2006	B FY 2007
1	OPERATING EXPENSES		
2	OPERATION AND MAINTENANCE	254,493	260,584
3	TRANSMISSION ACQUISITION & ANCILLARY SERVICES	82,384	86,057
4	FEDERAL PROJECTS DEPRECIATION	200,301	211,102
5	TOTAL OPERATING EXPENSES	537,178	557,743
6	INTEREST EXPENSE		
7	DEBT SERVICE REASSIGNMENT INTEREST	25,657	25,657
8	INTEREST ON FEDERAL INVESTMENT -		
9	ON APPROPRIATED FUNDS	48,047	43,940
10	ON LONG-TERM DEBT	120,137	141,037
11	INTEREST INCOME	(10,218)	(9,754)
12	AMORTIZATION OF CAPITALIZED BOND PREMIUMS	3,009	2,900
13	CAPITALIZATION ADJUSTMENT	(18,968)	(18,968)
14	AFUDC	(16,018)	(12,830)
15	NET INTEREST EXPENSE	151,646	171,982
16	TOTAL EXPENSES	688,824	729,725
17	MINIMUM REQUIRED NET REVENUES 1/	4,394	0
18	PLANNED NET REVENUES FOR RISK	0	0
19	TOTAL PLANNED NET REVENUES	4,394	0
20	**TOTAL REVENUE REQUIREMENT**	**693,218**	**729,725**

1/ SEE NOTE ON CASH FLOW TABLE.

Table 2

TRANSMISSION REVENUE REQUIREMENT
STATEMENT OF CASH FLOWS
($thousands)

		A FY 2006	B FY 2007
1	CASH FROM CURRENT OPERATIONS:		
2	MINIMUM REQUIRED NET REVENUES 1/	4,394	0
3	EXPENSES NOT REQUIRING CASH:		
4	FEDERAL PROJECTS DEPRECIATION	200,301	211,102
5	AMORTIZATION OF CAPITALIZED BOND PREMIUMS	3,009	2,900
6	CAPITALIZATION ADJUSTMENT	(18,968)	(18,968)
7	ACCRUAL REVENUES (AC INTERTIE/FIBER)	(6,728)	(6,728)
8	DRAWDOWN OF CASH RESERVES FOR CAPITAL FUNDING	15,000	15,000
9	CASH PROVIDED BY CURRENT OPERATIONS	197,008	203,306
10	CASH USED FOR CAPITAL INVESTMENTS:		
11	INVESTMENT IN:		
12	UTILITY PLANT	(275,896)	(280,778)
13	CASH USED FOR CAPITAL INVESTMENTS	(275,896)	(280,778)
14	CASH FROM TREASURY BORROWING AND APPROPRIATIONS:		
15	INCREASE IN LONG-TERM DEBT	260,896	265,778
16	DEBT SERVICE REASSIGNMENT PRINCIPAL		
17	REPAYMENT OF LONG-TERM DEBT	(124,938)	(152,700)
18	REPAYMENT OF CAPITAL APPROPRIATIONS	(57,070)	(26,189)
19	CASH FROM TREASURY BORROWING AND APPROPRIATIONS	78,888	86,889
20	ANNUAL INCREASE (DECREASE) IN CASH	0	9,417
21	PLANNED NET REVENUES FOR RISK	0	0
22	TOTAL ANNUAL INCREASE (DECREASE) IN CASH	0	9,417

1/ Line 20 must be greater than or equal to zero, otherwise net revenues are added so that there are no negative cash flows for the year.

CHAPTER 2

TRANSMISSION EXPENSES

I. Introduction

This chapter compiles the expenses that are the basis for cost recovery in determination of transmission revenue requirements for the rate approval period.

II. Expenses

BPA used O&M expenses reflected in the final spending level process and decisions explained in Chapter 2 of the Study.

Inter-business line expenses, as determined in BPA's 2002 wholesale power rate case, are the generation inputs for ancillary services and the COE and BOR annual costs of network transmission and utility delivery facilities of those agencies. Also included, are costs associated with redispatch.

Depreciation expense, calculated using the straight-line method and remaining life technique is determined for lines, substations, and each of the FERC Accounts in the general plant category. *See* Chapter 3 - FCRTS Investment Base.

Interest expense is calculated in the transmission repayment study, using the capital appropriations and BPA revenue bonds issued to Treasury at individual interest rates.

See **Chapter 4 - Projected Cash Balances / Interest Credit** for calculation of the interest credit on cash reserves.

TBL Expenses ($000) - Programs In Review

Program & Other Operating Costs	FY2006	FY2007
TBL Transmission Acquisition		
Leased Facilities	12,614	12,614
Settlements	912	912
Stability Reserve Payments	310	310
Sub-Total Transmission Acquisition	**13,835**	**13,835**
Transmission System Operations		
Information Technology	10,130	10,230
Power System Dispatching	9,800	9,800
Control Center Support	7,770	7,770
Technical Operations	3,620	3,620
Substation Operations	18,193	18,193
Sub-Total Transmission System Operations	**49,513**	**49,613**
Transmission Scheduling		
Management Supervision & Administration	356	356
Reservations	300	300
Pre-Scheduling	740	740
Real-Time Scheduling	3,206	3,506
Scheduling Technical Support	6,215	6,264
Scheduling After-The-Fact	653	653
Sub-Total Transmission Scheduling	**11,470**	**11,819**
Transmission Marketing		
Transmission Sales	2,243	2,243
Marketing Internal Operations	1,060	1,060
Transmission Finance	760	760
Contract Management	2,007	2,007
Transmission Billing	2,006	2,106
Business Strategy & Assessment	2,192	2,192
Marketing IT Support	2,585	2,585
Meter Data	1,922	1,972
Sub-Total Transmission Marketing	**14,776**	**14,925**
Transmission Business Support		
Executive and Admin Services 1/	9,944	11,718
Staff Management	416	416
TBL Internal G&A 1/	3,098	3,098
Aircraft Services	743	743

Transmission System Development		
Research & Development	3,331	3,328
TSD Planning & Analysis	1,524	1,521
Capital to Expense Transfer	3,000	3,000
Inventory Management	1,000	1,000
Regulatory & Region Association Fees	700	700
Sub-Total Transmission System Development	**9,555**	**9,549**
Transmission System Maintenance		
Non-Electric Maintenance	9,244	8,344
Substation Maintenance	14,810	15,590
Transmission Line Maintenance	16,290	17,140
System Protection Control Maintenance	8,080	8,500
Power System Control Maintenance	8,110	8,540
System Maintenance Management	6,120	6,440
Right Of Way Maintenance	13,465	11,565
Heavy Mobile Equipment Maintenance	1,278	1,278
Technical Training	2,969	2,969
Sub-Total Transmission System Maintenance	**80,366**	**80,366**
Transmission Environmental Operations		
Environmental Policy & Planning	1,286	1,309
Pollution Prevention & Abatement	3,290	3,290
Sub-Total Transmission Environmental Operations	**4,576**	**4,599**
Transmission Other		
Civil Service Retirement System (CSRS)	11,550	10,550
Undistributed Cost Reduction		
Non-Federal Debt Service	(2,680)	
Sub-Total Transmission Other	**8,870**	**10,550**
Sub-Total System Operations & Maintenance	**211,868**	**215,938**

Between Business Line Expenses		
Ancillary Services	64,485	64,485
Corps/Bureau/Network/Delivery Facilities	3,544	3,920
Station Service	3,200	3,816
Sub-Total Between Business Line Expense	**71,229**	**72,221**

Corporate Expenses		
Legal Support - Expense	1,844	1,908
Shared Services Costs	26,221	27,357
Corporate Overhead Distributions	25,715	29,217
Sub-Total Corporate Charges	**53,780**	**58,482**

Total Expense Program Levels	**336,877**	**346,641**

1/ Executive and Admin Services includes expenses for Executive Management, Pay for Performance and Asset Management
Internal G&A includes expenses for General Administration and Relocations

FEDERAL COLUMBIA RIVER TRANSMISSION SYSTEM
CAPITAL-RELATED COSTS
SUMMARY OF TRANSMISSION CURRENT REPAYMENT STUDY DATA
AND OTHER CAPITAL COMPONENTS
($000)

	A 2006	B 2007
1 INTEREST EXPENSE (GROSS)		
2 BPA APPROPRIATIONS	48,047	43,940
3 TRANSMISSION LONG-TERM DEBT	120,137	141,037
4 DEBT SERVICE REASSIGNMENT INTEREST	25,657	25,657
5 TOTAL INTEREST EXPENSE	193,841	210,634
6 PLANNED AMORTIZATION		
7 BPA APPROPRIATIONS	124,938	152,700
8 LONG-TERM DEBT	57,070	26,189
9 TOTAL AMORTIZATION	182,008	178,889

SUMMARY OF TRANSMISSION REVISED REPAYMENT STUDY DATA

10 INTEREST EXPENSE (GROSS)		
11 BPA APPROPRIATIONS	48,047	43,287
12 TRANSMISSION LONG-TERM DEBT	120,137	141,037
13 TOTAL INTEREST EXPENSE	168,184	184,324
14 PLANNED AMORTIZATION		
15 BPA APPROPRIATIONS	124,938	152,700
16 LONG-TERM DEBT	67,070	16,189
17 TOTAL AMORTIZATION	192,008	168,889

SUMMARY OF DEPRECIATION EXPENSE

18 TRANSMISSION PLANT		
19 LINES	52,673	54,509
20 SUBSTATIONS	75,837	82,119
21 GENERAL PLANT	71,791	74,474
22 TOTAL DEPRECIATION	200,301	211,102

AFUDC
BPA Transmission Business Line
($ thousands)

	2003	2004	2005	2006	2007
1 capital expenditures		347,341	247,609	239,981	249,248
2 plant-in-service		270,550	311,751	415,193	269,054
3 SOY CWIP Balance		443,967	541,286	497,064	337,870
4 EOY CWIP Balance	426,495	520,758	477,144	321,852	318,064
5 Average CWIP Balance		482,363	509,215	409,458	327,967
6 Interest Income Rate		5.32%	4.89%	4.89%	4.89%
7 AFUDC	17,472	20,529	19,920	16,018	12,830

Amortization of Premiums on Bond Refinancings

Date of Refinancing	Premium	Proration	No. of Months	Monthly Amortization	Type of Bond	Last Month to Amortize	2006	2007
8/31/1992	$7,760,000.00		180	$43,111.11	Construction	Aug-2007	$517,000	$474,000
10/31/1993	$8,440,000.00		480	$17,583.33	Construction	Oct-2033	pd 9/30/03	$0
8/31/1997	$7,954,100.00		120	$66,284.17	Construction	Aug-2007	$795,000	$729,000
4/30/1998	$4,998,330.00		120	$41,652.75	Construction	Apr-2008	$500,000	$500,000
5/31/1998	$4,827,690.00		132	$36,573.41	Construction	May-2009	$439,000	$439,000
5/31/1998	$2,556,947.00		156	$16,390.69	Construction	May-2011	$197,000	$197,000
5/31/1998	$6,322,053.00		408	$15,495.23	Construction	May-2032	$186,000	$186,000
8/31/1998	$4,684,950.00		360	$13,013.75	Construction	Aug-2028	$156,000	$156,000
8/31/1998	$6,560,000.00		360	$18,222.22	Construction	Aug-2028	$219,000	$219,000
1/31/2000	$3,470,000.00		60	$57,833.33	Construction	Jan-2005	$0	$0
	$57,574,070.00			**$326,159.99**			**$3,009,000**	**$2,900,000**

CHAPTER 3

FCRTS INVESTMENT BASE

I. Introduction

This chapter documents the development of the FCRTS investment for the rate approval period. In this proposal the investment data primarily serve as the source of depreciation calculations.

II. Methodology

The historical investment information is prepared from BPA's plant investment records. The general plant investment is identified according to different types of facilities (communications, supervisory control, buildings, etc.) by FERC Account. The historical plant investment data are from FY 2003.

Forecasted plant additions have been adjusted to take into account the investment associated with Delivery segment facilities projected to be sold prior to the rate approval period.

Depreciation is calculated using the straight-line method, remaining life technique. For general plant categories, annual depreciation rates are used unadjusted. For lines and substations, the annual rate has been weighted by the groups that compose these facilities, e.g., Substations is made up of land and land rights, structures and improvements, and station equipment. Both historical investment and forecasted additions are depreciated according to their group rate.

BPA TRANSMISSION PLANT DEPRECIATION AND ACCUMULATED DEPRECIATION
($ THOUSANDS)

	A 2003 PLANT INVEST	B 2003 ACCUM DEPREC	C 2004 PLANT INVEST	D 2004 DEPREC EXPEN	E 2004 ACCUM DEPREC	F 2005 PLANT INVEST	G 2005 DEPREC EXPEN	H 2005 ACCUM DEPREC	I 2006 PLANT INVEST	J 2006 DEPREC EXPEN	K 2006 ACCUM DEPREC	L 2007 PLANT INVEST	M 2007 DEPREC EXPEN	N 2007 ACCUM DEPREC
1 LINES:														
2 GENER-INTEGRATION	16,788	8,211	16,922	384	8,595	17,039	387	8,982	17,199	390	9,372	17,336	394	9,766
3 NETWORK	1,713,461	838,040	1,807,267	40,136	878,176	1,957,502	42,918	921,094	2,020,656	45,351	966,445	2,110,852	47,099	1,013,544
4 SOUTHERN INTERTIE	196,820	95,883	200,632	4,531	100,414	202,241	4,593	105,007	205,567	4,649	109,656	208,470	4,720	114,376
5 EASTERN INERTIE	98,857	52,738	99,191	2,258	54,996	99,484	2,265	57,261	99,883	2,273	59,534	100,226	2,281	61,815
6 UTILITY DELIVERY	31	15	200	3	18	350	6	24	554	10	34	729	15	49
7 DSI DELIVERY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 PLANT LEASED	185	185	185	0	185	185	0	185	185	0	185	185	0	185
9 TOTAL LINES	2,026,142	995,072	2,124,397	47,312	1,042,384	2,276,801	50,169	1,092,553	2,344,044	52,673	1,145,226	2,437,798	54,509	1,199,735
10 SUBSTATIONS:														
11 GENER-INTEGRATION	42,988	15,662	43,126	1,326	16,988	43,626	1,336	18,324	43,988	1,349	19,673	44,480	1,362	21,035
12 NETWORK	1,444,929	526,439	1,558,502	46,253	572,692	1,658,118	49,536	622,228	1,942,411	55,448	677,676	2,051,607	61,508	739,184
13 SOUTHERN INTERTIE	508,127	168,650	542,392	16,178	184,828	548,008	16,792	201,620	553,023	16,956	218,576	559,978	17,140	235,716
14 EASTERN INERTIE	23,866	18,086	24,212	740	18,826	24,596	752	19,578	24,888	762	20,340	25,279	773	21,113
15 UTILITY DELIVERY	35,103	12,789	31,874	1,031	13,820	22,064	831	14,651	22,462	686	15,337	23,002	700	16,037
16 DSI DELIVERY	83,771	30,521	67,300	2,326	26,389	20,663	1,355	8,518	20,663	636	9,154	20,663	636	9,790
17 PLANT LEASED	4	4	4	0	4	4	0	4	4	0	4	4	0	4
18 TOTAL SUBSTATIONS	2,138,788	772,151	2,267,410	67,854	833,547	2,317,079	70,602	884,923	2,607,439	75,837	960,760	2,725,013	82,119	1,042,879

BONNEVILLE POWER ADMINISTRATION
PROJECTED TRANSMISSION PLANT INVESTMENT
($ IN THOUSANDS)

	A TOTAL 2003 INVEST	B 2004 ADDITIONS	C TOTAL 2004 INVEST	D 2005 ADDITIONS	E TOTAL 2005 INVEST	F 2006 ADDITIONS	G TOTAL 2006 INVEST	H 2007 ADDITIONS	I TOTAL 2007 INVEST
1 GENER-INTEGRATION	59,776	272	60,048	617	60,665	522	61,187	629	61,816
2 NETWORK	3,158,390	207,379	3,365,769	249,851	3,615,620	347,447	3,963,067	199,392	4,162,459
3 SOUTHERN INTERTIE	704,947	38,077	743,024	7,225	750,249	8,341	758,590	9,858	768,448
4 EASTERN INERTIE	122,723	680	123,403	677	124,080	691	124,771	734	125,505
5 UTILITY DELIVERY	35,134	(3,060)	32,074	(9,660)	22,414	602	23,016	715	23,731
6 DSI DELIVERY	83,771	(16,471)	67,300	(46,637)	20,663	0	20,663	0	20,663
7 PLANT HELD	3,245	0	3,245	0	3,245	0	3,245	0	3,245
8 PLANT LEASED	189	0	189	0	189	0	189	0	189
9 GENERAL PLANT	864,069	52,923	916,992	52,688	969,680	57,591	1,027,271	57,730	1,085,001
10 TOTAL BPA	5,032,244	279,800	5,312,044	254,761	5,566,805	415,194	5,981,999	269,058	6,251,057

BONNEVILLE POWER ADMINISTRATION
PLANT INVESTMENT ADDITIONS
($ IN THOUSANDS)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
	LINES	SUBS	GEN PLANT	TOTAL 2004 ADDITIONS	LINES	SUBS	GEN PLANT	TOTAL 2005 ADDITIONS	LINES	SUBS	GEN PLANT	TOTAL 2006 ADDITIONS	LINES	SUBS
1 GENER-INTEGRATION	134	138		272	117	500		617	160	362		522	137	492
2 NETWORK	93,806	113,573		207,379	150,235	99,616		249,851	63,154	284,293		347,447	90,196	109,196
3 SOUTHERN INTERTIE	3,812	34,265		38,077	1,609	5,616		7,225	3,326	5,015		8,341	2,903	6,955
4 EASTERN INERTIE	334	346		680	293	384		677	399	292		691	343	391
5 UTILITY DELIVERY	169	(3,229)		(3,060)	150	(9,810)		(9,660)	204	398		602	175	540
6 DSI DELIVERY	0	(16,471)		(16,471)	0	(46,637)		(46,637)	0	0		0	0	0
7 PLANT HELD				0				0				0		
8 PLANT LEASED				0				0				0		
9 GENERAL PLANT			52,923	52,923			52,688	52,688			57,591	57,591		
10 TOTAL BPA	98,255	128,622	52,923	279,800	152,404	49,669	52,688	254,761	67,243	290,360	57,591	415,194	93,754	117,574

SEGMENTED BPA PLANT INVESTMENT 9/30/03
AND ACCUMULATED DEPRECIATION ALLOCATION
($ IN THOUSANDS)

	A	B	C	E	F	G	H	I	J	K	L
	GENER INTEG	NETWORK	SOUTH INTER	EAST INTER	UTIL DELIV	DSI	MTRNG AND GN PLNT 1/	PLANT LEASED	EMRGCY SPRS & PT SBS	OTHR PLNT 5/	TOTAL 9.30.03
1. SUBSTATIONS	42,921	1,442,661	507,330	23,866	35,048	83,640	67,878	4	3,319	121,625	2,328,292
2. METERING STATIONS							19,838				19,838
3. SUB TOTAL	42,921	1,442,661	507,330	23,866	35,048	83,640	87,716	4	3,319	121,625	2,348,130
4. EMRGNCY SPARES & PORT SUBS 2/	67	2,268	797	0	55	131			(3,319)		(1)
5. TOTAL SUBSTATIONS	42,988	1,444,929	508,127	23,866	35,103	83,771	87,716	4		121,625	2,348,129
6. ACCUMULATED DEPRECIATION	(15,662)	(526,439)	(168,650)	(18,086)	(12,789)	(30,521)	(31,958)	(4)		(43,581)	(847,689)
7. NET SUBSTATIONS	27,326	918,490	339,477	5,780	22,314	53,250	55,758				1,422,395
8. LINES (INCL LEASD/OTHERS)	16,788	1,713,461	196,820	98,857	31	0		185		62,321	2,088,463
9. ACCUMULATED DEPRECIATION	(8,211)	(838,040)	(95,883)	(52,738)	(15)	0		(185)		(30,481)	(1,025,553)
10. NET LINES	8,577	875,421	100,937	46,119	16	0		0			1,031,070
11. GENERAL PLANT							776,164			15,438	791,602
12. ACCUMULATED DEPRECIATION							(268,610)			(5,488)	(274,098)
13. NET GENERAL PLANT							239,268				239,268
14. OTHER PHYSICAL PLANT (LAND) 3/										39	39
15. PLANT FOR FUTURE USE (LAND)										3,245	3,245
16. TOTAL COMPLETED PLANT	59,776	3,158,390	704,947	122,723	35,134	83,771	863,880	189	0	202,668	5,231,478
17. TOTAL BPA COMPLETED PLANT 4/	59,776	3,158,390	704,947	122,723	35,134	83,771	863,880	189		18,683	5,047,493
18. ACCUMULATED DEPRECIATION	(23,873)	(1,364,479)	(264,533)	(70,824)	(12,804)	(30,521)	(300,568)	(189)		(43,581)	(2,111,372)
19. NET COMPLETED PLANT	35,903	1,793,911	440,414	51,899	22,330	53,250	563,312	0		(24,898)	2,936,121

1/ LINE 1 INCLUDES POWER SYSTEM CONTROL EQUIPMENT.
2/ ALLOCATED TO SEGMENTS BY SUBSTATION INVESTMENT.
3/ NON-DEPRECIABLE LAND.
4/ DOES NOT INCLUDE NON-DEPRECIABLE LAND.
5/ PFIA, Other Physical Plant, Future Use, and Plant retired but not yet removed from records.

BPA GENERAL PLANT
CUMULATIVE PLANT INVESTMENT
($THOUSANDS)

		FERC ACCT	FY 2003 TOTAL	2004 TOTAL	2005 TOTAL	2006 TOTAL	2007 TOTAL
1	LAND & LAND RIGHTS	389	8,254	8,254	8,254	8,254	8,254
2	STRUCTURES & IMPROVEMENTS	390	141,085	144,979	153,151	159,664	166,308
3	OFFICE FURNITURE & FIXTURES	391.1	2,370	2,370	2,370	2,370	2,370
4	DATA PROCESSING -EQUIPMENT	391.2	33,640	33,640	33,640	33,640	33,640
5	DATA PROCESSING -SOFTWARE	391.3	66,391	83,236	96,361	108,467	121,032
6	TRANSPORT EQUIPMENT	392.1	24,162	25,332	26,257	27,206	28,158
7	HELICOPTERS	392.2	5,178	5,963	6,584	7,222	7,862
8	AIRPLANES	392.3	4,821	5,606	6,227	6,865	7,505
9	STORES EQUIPMENT	393	1,914	3,084	4,009	4,958	5,910
10	TOOLS, SHOP & GARAGE EQUIPMENT	394	8,651	9,436	10,057	10,695	11,335
11	LAB EQUIPMENT	395	38,744	40,315	41,557	42,833	44,113
12	POWER OPERATED EQUIPMENT	396	25,309	26,880	28,122	29,398	30,678
13	COMMUNICATIONS EQUIPMENT	397	414,140	433,036	448,228	466,478	486,716
14	MISC EQUIPMENT	398	1,198	1,198	1,198	1,198	1,198
15	SUBTOTAL GENERAL PLANT		775,857	823,329	866,015	909,248	955,079
16	STATION EQUIPMENT	353	87,716	93,167	103,169	117,527	129,426
17	TOTAL GENERAL PLANT		863,573	916,496	969,184	1,026,775	1,084,505

BPA GENERAL PLANT
DEPRECIATION EXPENSE
($THOUSANDS)

		FERC ACCT	FY 2004 TOTAL	FY 2005 TOTAL	FY 2006 TOTAL	FY 2007 TOTAL
1	LAND & LAND RIGHTS	389	111	111	111	111
2	STRUCTURES & IMPROVEMENTS	390	2,566	2,136	2,826	2,944
3	OFFICE FURNITURE & FIXTURES	391.1	123	123	123	123
4	DATA PROCESSING -EQUIPMENT	391.2	4,726	4,726	4,726	4,393
5	DATA PROCESSING -SOFTWARE	391.3	14,807	17,142	19,296	21,531
6	TRANSPORT EQUIPMENT	392.1	2,931	3,038	2,686	958
7	HELICOPTERS	392.2	200	221	243	264
8	AIRPLANES	392.3	188	209	231	252
9	STORES EQUIPMENT	393	110	143	177	210
10	TOOLS, SHOP & GARAGE EQUIPMENT	394	381	406	432	458
11	LAB EQUIPMENT	395	2,395	2,468	2,544	2,620
12	POWER OPERATED EQUIPMENT	396	1,857	1,943	2,031	2,120
13	COMMUNICATIONS EQUIPMENT	397	24,856	25,727	26,774	27,936
14	MISC EQUIPMENT	398	84	84	84	84
15	SUBTOTAL GENERAL PLANT		55,335	58,477	62,284	64,004
16	STATION EQUIPMENT	353	7,538	8,347	9,507	10,470
17	TOTAL GENERAL PLANT		62,873	66,824	71,791	74,474

BPA TRANSMISSION GENERAL PLANT
PROJECTED PLANT ADDITIONS
($THOUSANDS)

		FERC ACCT	2004 ADDTNS	2005 ADDTNS	2006 ADDTNS	2007 ADDTNS
1	LAND & LAND RIGHTS	389	0	0	0	0
2	STRUCTURES & IMPROVEMENTS	390	3,894	8,172	6,513	6,644
3	OFFICE FURNITURE & FIXTURES	391.1	0	0	0	0
4	DATA PROCESSING -EQUIPMENT	391.2				
5	DATA PROCESSING -SOFTWARE	391.3	16,845	13,125	12,106	12,565
6	TRANSPORT EQUIPMENT	392.1	1,170	925	949	952
7	HELICOPTERS	392.2	785	621	638	640
8	AIRPLANES	392.3	785	621	638	640
9	STORES EQUIPMENT	393	1,170	925	949	952
10	TOOLS, SHOP & GARAGE EQUIPMENT	394	785	621	638	640
11	LAB EQUIPMENT	395	1,571	1,242	1,276	1,280
12	POWER OPERATED EQUIPMENT	396	1,571	1,242	1,276	1,280
13	COMMUNICATIONS EQUIPMENT	397	18,896	15,192	18,250	20,238
14	MISC EQUIPMENT	398	0	0	0	0
15	SUBTOTAL GENERAL PLANT		47,472	42,686	43,233	45,831
16	STATION EQUIPMENT	353	5,451	10,002	14,358	11,899
17	TOTAL GENERAL PLANT		52,923	52,688	57,591	57,730

CHAPTER 4

PROJECTED CASH BALANCES/INTEREST CREDITS

I. Introduction

This chapter projects BPA-TBL cash balances for the rate period and estimates the interest income (credits) to be earned on of BPA's projected cash balances and on annual funds to be returned to Treasury. Included in BPA-TBL's projected cash balances are proceeds from the sale of Delivery segment facilities projected to be sold prior to the 2006-2007 rate period.

II. Interest credits on BPA's projected cash balances

The beginning rate period cash balance was derived from BPA's business line cash analysis for FY 2004 and from current TBL forecasts of revenues, expenses and cash flows for FY 2005. The annual incremental cash provided from forecasted net revenues are added to this, for revenue requirements and the current and revised revenue tests. Using the existing interest earnings rate, annual interest income is calculated from projected average annual cash balances. In addition, based on an analysis of actual TBL within-year cash flows, thirty-three percent of the repayment study interest income is included in the total credit. The resulting interest income is applied as a credit against interest expense in the transmission revenue requirements and in the income statements of the current and revised revenue tests.

III. Interest income (repayment program calculation)

Separately, interest income rates listed in this chapter are calculated and used within the repayment program to calculate an interest credit based on the average cash necessary to pay the interest, bond call premiums, and amortization payments calculated by the study for return to Treasury in that year. The repayment program assumes the cash accumulates at a uniform rate throughout the year, except for interest paid on bonds issued to Treasury at mid-year. At the end of the year, the cash balance, together with the interest credit earned thereon, is used in the program for payment of interest expense, amortization of the Federal investment, and payment of

bond premiums. For a further explanation of the calculation of the interest credit computed within repayment studies, *see* 2004 Final Transmission Proposal Revenue Requirement Study, TR-04-FS-BPA-01, Appendix A - The Repayment Program.

IV. Proceeds from projected sales of Delivery facilities

TBL has compiled a list of delivery facilities expected to be sold prior to the 2006-2007 rate period at book. The total book value was included in the beginning cash balance for the rate period to provide an interest credit comparable to the reduction in interest expense that would occur from retirement of an equivalent amount of transmission debt. The projected sales proceeds were not available for the risk analysis to use in determining Treasury payment probability.

Interest Income from Projected Cash Balances
Revenue Requirement Development
BPA Transmission Business Line
($ thousands)

	2005	2006	2007
1 Annual Cash Surplus/(Deficit)		-	9,417
2 Adjustments to Cash			
3 SOY Cash Balance	171,563	179,631	164,631
4 EOY Cash Balance	179,631	164,631	159,048
5 Average Cash Balance		172,131	161,840
6 Interest Income Rate		4.75%	4.75%
7 Annual Interest Income *		10,218	9,754
Factors in reserve financing of $15m/year			
* includes 33% from repayment study		6,808	6,889

Interest Income from Projected Cash Balances
Revenues from Current Rates
BPA Transmission Business Line
($ thousands)

		2006	2007
1	Annual Cash Surplus/(Deficit)	(65,837)	(84,755)
2	Adjustments to Cash		
3	SOY Cash Balance	179,631	100,725
4	EOY Cash Balance	98,794	971
5	Average Cash Balance	139,212	50,848
6	Interest Income Rate	4.75%	4.75%
7	Annual Interest Income *	8,954	4,756
	Factors in reserve financing of $15m/year		
	* includes from repayment study	7,022	6,625

Interest Income from Projected Cash Balances
Revenues from Proposed Rates
BPA Transmission Business Line
($ thousands)

		2006	2007
1	Annual Cash Surplus/(Deficit)	(3,083)	399
2	Adjustments to Cash		
3	SOY Cash Balance	179,631	164,969
4	EOY Cash Balance	161,548	150,369
5	Average Cash Balance	170,589	157,669
6	Interest Income Rate	4.75%	4.75%
7	Annual Interest Income *	10,444	9,830
	Factors in reserve financing of $15m/year		
	* includes 33% from repayment study	7,022	6,625

CHAPTER 5

INTEREST RATES FOR TREASURY SOURCES OF CAPITAL AND PRICE DEFLATORS

Introduction

Interest rates on bonds issued by BPA to Treasury are used in development of repayment studies and projections of Federal interest expense in revenue requirements. Price deflators are used for developing spending levels in revenue requirements.

GLOBAL INSIGHTS

The Global Insights Group (GI) provides Treasury yield curve forecasts that BPA uses to project interest rates on bonds issued to Treasury. GI is also the source of price deflators that BPA treats as escalators for purposes of developing spending levels. The price deflators are derived from projections of Gross Domestic Product (GDP). The GDP consists of the sum of consumption, investment, government purchases and net exports, excluding transfers to foreigners.

Interest Rate Projections

Projected interest rates for BPA bonds issued to Treasury are based on GI's yield curve projections of Treasury market rates, plus a markup of 32 to 90 basis points depending on the length of time to maturity. The markup estimate reflects an interagency agreement that Treasury price BPA bonds at a level comparable to securities (bonds) issued by U.S. government corporations. The markup estimate reflects the average basis point markup on recent intermediate and long-term bonds issued by BPA. As noted in the attached transmittal memo documenting the interest rates in this revenue requirement study, for the FY 2006-2007 period the 30-year rate reflects a markup of 90 basis points.

Deflators

The current and cumulative price deflator used to escalate midyear dollars are derived from the fiscal and calendar year price deflators provided by GI. They are calculated as follows:

$$[(FY_1/100) \times 0\ 5] + 1 = \text{Cumulative Price Deflator}_1$$

The fiscal year GDP price deflator for the current year is divided by one hundred and multiplied by one half. The result, when added to one, yields the cumulative price deflator for the first year.

$$[1 + (FY_t/100)] \times \text{Cumulative Price Deflator}_{t-1} = \text{Cumulative Price Deflator}_t, \text{ when } t > 1$$

The fiscal year GDP price deflator for a future year is divided by one hundred and added to one. The result, when multiplied by the cumulative price deflator from the previous year, yields the cumulative price deflator for the each successive year.

To the extent deflators are used in developing the FY 2006-2007 spending levels they are based on the price deflators from the Second Quarter 2002 GI forecast.

DOE F 1325.8a Electronic Form Approved by CILR - 10/08/2002
(08-89)

United States Government **Department of Energy**

memorandum

Bonneville Power Administration

DATE: July 23, 2004

REPLY TO ATTN OF: KFW

SUBJECT: FY 2004.Q3 BPA Borrowing Rate and Inflation Projections

TO: See Attached

Updated BPA inflation and borrowing rate projections for FY 2004 through 2029 are attached. Incorporating these assumptions in capital budgeting, financial, and strategic planning decisions provides an internally consistent basis for BPA decisions. BPA's FY 2004.Q3 (FY 2003) projections differ significantly from its FY 2002.Q3 (FY 2002) forecast.

FY 2004.Q3 Forecast Borrowing Rate and Inflation Reports

The FY 2004 forecast of BPA borrowing rate and inflation projections are based on the Global Insight (GI) CY 2004 Second Quarter Long-Term Economic Outlook. BPA Treasury borrowing rate assumptions are summarized in Tables 1-8. Tables 1-4 provide projections of BPA borrowing rates for selected of 30-year, 20-year, and 15-year terms.

In Table 1, GI CY projections of 30-year U.S. Government bond rates are shown in Column A. Fiscal year projections are shown in Column B. Column C is a projection of BPA's borrowing rate. This rate includes a mark-up over the Treasury yield curve that the Treasury Department assigns to BPA Federal borrowing. The mark-up ranges from 32 bp over the 1-year T-note to 90 bp over the 30-year T-Bond. The estimated Treasury markup is an average value derived from the experience of past BPA Treasury borrowings and BPA Treasury analysts.

Table 2 compares FY 2004 and FY 2002 BPA borrowing rate forecasts for a 30-year term with the FY 2002 forecast. Tables 3 and 4 provide Treasury borrowing rate projections for 20 and 15-year terms. Table 5 provides BPA's borrowing rate curve for 1-year to 50-year terms. Table 6 projects the borrowing rate for BPA appropriations. Municipal taxable and tax-exempt rates are projected in Tables 7 and 8.

BPA inflation assumptions are summarized in tables 9-10. Table 9 shows the change in BPA inflation assumptions. Table 10 summarizes equivalent cumulative discount rates for alternative base years.

BPA inflation assumptions reflect projected changes in the U.S. Gross Domestic Product (GDP) Implicit Price Deflator. This index assumes a base year of 2000. The projected change in the GDP price deflator is summarized in Table 9. Column A shows the projected trend in the GDP inflation rate between 2004-2029 on a calendar year basis and in column B by fiscal year. Column C provides the cumulative price index projections. The forecast expresses fiscal year dollar values as mid-year dollar values.

GDP may be viewed as the goods and services produced by domestic and foreign capital and labor within the United States. Major components of GDP include: total consumption, investment, government purchases, and net exports. The government's method for calculating GDP changed in 1996. Instead of fixed weights the new measure of GDP is now based on a chain-weighted methodology. This means real GDP calculations now reflect both the changing mix of the components in GDP, and the relative price changes in these components.

BPA Treasury Borrowing Rate and Inflation Rate Forecasts

The FY 2004 forecast expects BPA's Treasury borrowing rate to increase significantly over the next 6 years. BPA's 30-year borrowing rate is projected to increase 166 bp from 6.17 percent in FY 2004 to 7.83 percent in FY 2010. From 2011 to 2017, BPA's borrowing rate is projected to decline slightly. Beyond 2018 borrowing rates again trend higher.

Although the FY 2004 borrowing rate forecast is on average only modestly higher than the FY 2002 forecast, the trajectory of the current forecast diverges significantly from it. The current forecast begins in an environment of historically low rates significantly below the FY 2002 forecast. The projected sharp increase in FY 2004.Q3 borrowing rates does not overtake the FY 2002 forecast until FY 2007. It then remains above the prior forecast until FY 2018. In FY 2004 the current 30-year borrowing rate forecast is 86 bp below the FY 2002 forecast. By FY 2007 rising interest rates have eliminated this negative spread, and by FY 2008 the current 30-year borrowing rate projection exceeds the FY 2003 forecast by 34 bp. This positive spread over the FY 2002 forecast widens to 92 bp by 2010, then narrows to only 15 bp by FY 2018.

Source of Change

BPA's previous FY 2002 borrowing rate forecast reflected a compromise between two divergent views of the U.S. economy. In FY 2002 two preeminent national forecasting services, Data Resources Inc (DRI) and The WEFA Group merged to become Global Insight Inc. Within GI there were initially two divergent views concerning the outlook for the U.S. economy, inflation, and the success of future government fiscal and monetary policies. DRI believed monetary policies would be only partially successful in limiting inflationary pressures in the economy. The needs of an older population would require significantly higher levels of government spending. Accommodating fiscal policies would create imbalances in the economy that would raise inflation pressures and push interest rates higher. Conversely, the WEFA Group believed that worker retention, an older more experienced workforce, and higher labor productivity, would moderate inflationary pressures, as well as the social costs associated with the health and retirement needs of an older society. Government policy makers would be successful in managing inflation and the U.S. economy.

Because both views were credible, BPA's FY 2002 forecast reflects the mid-point of these divergent forecasts. Since then a single GI view has evolved that more closely reflects the WEFA FY 2002 forecast. BPA's FY 2004 forecast is a direct reflection of Global Insight's May 2004 25-year economic outlook. GI's current long-term outlook now reflects a more moderate inflationary environment.

The divergence from BPA's FY 2002 borrowing rate forecasts prior to 2009 reflects the impact of a recent multi-year economic recession, and revised GI expectations concerning inflationary

risks and Fed policy. In February 2002 GI expected economic activity to pickup, labor markets to tighten, and the Fed to limit inflationary pressures through restrictive monetary policies. GI believed the Fed Funds rate would increase from 1.75 percent to 5 percent over the following 2 years. However, interest rates continued to fall in the aftermath of the California energy crisis, scandals in corporate America and Wall Street that rocked investor confidence, and terrorist attacks at home. Interest rates did not begin to turn higher until the spring of 2003.

Over the next 6 years, GI expects a rebounding economy and rising inflationary expectations to push interest rates higher. The Fed is now expected to move more gradually in raising the Fed Funds rate from 1 percent to 5 percent over several years. Inflation is expected to remain well behaved, escalating from an annual rate of less than 2 percent to slightly more than 2 percent.

Beyond 2009, the assumptions underlying BPA's FY 2004 borrowing rate forecast parallel the previous forecast. Both forecasts assume that:

- Although the US government could face serious fiscal imbalances and increasing inflationary pressures that are structural and demographic in nature, future fiscal and monetary policies are effective in managing a path of stable economic growth.

- Inflationary pressures remain generally well contained.

If you have questions concerning these forecasts of BPA Treasury borrowing rates and/or inflation rates, please give Robert Mealey a call at (503) 230-5389. Also, please forward this to the appropriate people in your group. Your assistance in identifying addressees for future forecasts is appreciated.

Robert Mealey
Financial Economist

Claudia Andrews
Manager, Capital and Risk Management

cc:
Official File – KFW (FI-21-12)

TABLE 1

30 YEAR TREASURY YIELDS
FY 2004.Q3 FORECAST OF BPA TREASURY BORROWING RATES

Calendar/Fiscal Years 2003 - 2029

YEAR	(A) BOND RATE 1/ Calendar Year	(B) BOND RATE Fiscal Year	(C) BPA RATE Fiscal Year
2003	5.02%	5.12%	6.02%
2004	5.35%	5.27%	6.17%
2005	5.86%	5.73%	6.63%
2006	5.93%	5.92%	6.82%
2007	6.03%	6.00%	6.90%
2008	6.48%	6.36%	7.26%
2009	6.94%	6.82%	7.72%
2010	6.93%	6.93%	7.83%
2011	6.87%	6.89%	7.79%
2012	6.80%	6.82%	7.72%
2013	6.76%	6.77%	7.67%
2014	6.75%	6.75%	7.65%
2015	6.75%	6.75%	7.65%
2016	6.76%	6.76%	7.66%
2017	6.75%	6.76%	7.66%
2018	6.82%	6.81%	7.71%
2019	6.95%	6.92%	7.82%
2020	7.02%	7.01%	7.91%
2021	7.17%	7.14%	8.04%
2022	7.18%	7.18%	8.08%
2023	7.29%	7.26%	8.16%
2024	7.34%	7.33%	8.23%
2025	7.38%	7.37%	8.27%
2026	7.45%	7.43%	8.33%
2027	7.52%	7.50%	8.40%
2028	7.57%	7.56%	8.46%
2029	7.56%	7.56%	8.46%

1/ BPA Forecast June 2004, Global Insight CY 2004.Q2 long-term outlook.
The U.S. Economy: 25-Year Focus, Spring 2004 Core Forecast

TABLE 2

30 YEAR TREASURY YIELDS
FY 2004.Q3 COMPARISON OF BPA BORROWING RATE FORECASTS

Fiscal Years 2003 - 2029

YEAR	(A) FY 2004.Q3 FORECAST BPA RATE 1/	(B) FY 2002.Q3 FORECAST BPA RATE 2/	(C) DIFFERENCE (A-B)
2003	6.02%	7.01%	-0.99%
2004	6.17%	7.18%	-1.02%
2005	6.63%	7.10%	-0.47%
2006	6.82%	7.09%	-0.27%
2007	6.90%	7.10%	-0.19%
2008	7.26%	7.11%	0.16%
2009	7.72%	7.13%	0.60%
2010	7.83%	7.16%	0.67%
2011	7.79%	7.20%	0.59%
2012	7.72%	7.32%	0.41%
2013	7.67%	7.50%	0.17%
2014	7.65%	7.74%	-0.09%
2015	7.65%	7.90%	-0.25%
2016	7.66%	8.11%	-0.45%
2017	7.66%	8.31%	-0.66%
2018	7.71%	8.55%	-0.84%
2019	7.82%	8.70%	-0.88%
2020	7.91%		
2021	8.04%		
2022	8.08%		
2023	8.16%		
2024	8.23%		
2025	8.27%		
2026	8.33%		
2027	8.40%		
2028	8.46%		
2029	8.46%		

1/ BPA Forecast June 2004, Global Insight CY 2004.Q2 long-term outlook.
The U.S. Economy: 25-Year Focus, Spring 2004 Core Forecast

2/ BPA Forecast August 2002, Global Insight CY 2002.Q2 long-term outlook.
The U.S. Economy: 25-Year Focus, Spring 2004 Core Forecast

TABLE 3

20 YEAR TREASURY YIELDS
FY 2004.Q3 FORECAST OF BPA TREASURY BORROWING RATES

Calendar/Fiscal Years 2003 - 2029

YEAR	(A) BOND RATE 1/ Calendar Year	(B) BOND RATE Fiscal Year	(C) BPA RATE Fiscal Year
2003	4.52%	4.64%	5.46%
2004	4.92%	4.82%	5.64%
2005	5.45%	5.32%	6.14%
2006	5.58%	5.55%	6.37%
2007	5.70%	5.67%	6.49%
2008	6.21%	6.09%	6.91%
2009	6.76%	6.62%	7.44%
2010	6.76%	6.76%	7.58%
2011	6.73%	6.73%	7.55%
2012	6.67%	6.68%	7.50%
2013	6.62%	6.64%	7.46%
2014	6.61%	6.62%	7.44%
2015	6.61%	6.61%	7.43%
2016	6.64%	6.63%	7.45%
2017	6.63%	6.63%	7.45%
2018	6.72%	6.69%	7.51%
2019	6.87%	6.83%	7.65%
2020	6.96%	6.94%	7.76%
2021	7.13%	7.09%	7.91%
2022	7.15%	7.14%	7.96%
2023	7.27%	7.24%	8.06%
2024	7.33%	7.31%	8.13%
2025	7.37%	7.36%	8.18%
2026	7.45%	7.43%	8.25%
2027	7.53%	7.51%	8.33%
2028	7.59%	7.57%	8.39%
2029	7.58%	7.58%	8.40%

1/ BPA Forecast June 2004, Global Insight CY 2004.Q2 long-term outlook. The U.S. Economy: 25-Year Focus, Spring 2004 Core Forecast

TABLE 4

15 YEAR TREASURY YIELDS
FY 2004.Q3 FORECAST OF BPA TREASURY BORROWING RATES

Calendar/Fiscal Years 2003 - 2029

YEAR	(A) BOND RATE 1/ Calendar Year	(B) BOND RATE Fiscal Year	(C) BPA RATE Fiscal Year
2003	4.27%	4.40%	5.09%
2004	4.71%	4.60%	5.29%
2005	5.24%	5.11%	5.80%
2006	5.40%	5.36%	6.05%
2007	5.54%	5.50%	6.19%
2008	6.08%	5.95%	6.64%
2009	6.66%	6.52%	7.21%
2010	6.68%	6.68%	7.37%
2011	6.65%	6.66%	7.35%
2012	6.60%	6.61%	7.30%
2013	6.56%	6.57%	7.26%
2014	6.55%	6.55%	7.24%
2015	6.55%	6.55%	7.24%
2016	6.57%	6.57%	7.25%
2017	6.57%	6.57%	7.26%
2018	6.66%	6.64%	7.33%
2019	6.83%	6.79%	7.48%
2020	6.93%	6.90%	7.59%
2021	7.11%	7.07%	7.75%
2022	7.13%	7.12%	7.81%
2023	7.26%	7.23%	7.92%
2024	7.32%	7.31%	8.00%
2025	7.37%	7.36%	8.05%
2026	7.45%	7.43%	8.12%
2027	7.53%	7.51%	8.20%
2028	7.60%	7.58%	8.27%
2029	7.59%	7.60%	8.28%

1/ BPA Forecast June2004, Global Insight CY 2004.Q2 long-term outlook. The U.S. Economy: 25-Year Focus, Spring 2004, Core Forecast

Table 5

FY 2004.Q3 BPA TREASURY BORROWING RATE YIELD CURVE FORECAST 1/

FORECAST PREPARED June 1, 2004

Fiscal Years 1997 - 2029

MATURITY

Year	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year	11 Year	12 Year	13 Year	14 Year	15 Year	16 Year
1997	5.92	6.30	6.41	6.52	6.64	6.70	6.75	6.81	6.87	6.93	6.97	7.01	7.05	7.09	7.13	7.17
1998	5.52	5.69	5.74	5.79	5.84	5.89	5.94	5.99	6.04	6.09	6.13	6.18	6.22	6.26	6.30	6.34
1999	5.39	5.70	5.76	5.81	5.87	5.92	5.96	6.01	6.05	6.10	6.14	6.18	6.22	6.26	6.29	6.33
2000	6.17	6.40	6.41	6.42	6.43	6.44	6.45	6.46	6.48	6.49	6.51	6.54	6.57	6.59	6.62	6.64
2001	4.46	4.78	4.98	5.18	5.38	5.47	5.56	5.65	5.74	5.83	5.87	5.91	5.96	6.00	6.04	6.09
2002	2.69	3.28	3.66	4.04	4.43	4.59	4.76	4.93	5.10	5.27	5.33	5.40	5.46	5.52	5.58	5.65
2003	1.75	2.25	2.70	3.15	3.61	3.83	4.05	4.28	4.50	4.72	4.80	4.87	4.94	5.02	5.09	5.16
2004	1.84	2.44	2.91	3.39	3.86	4.07	4.29	4.50	4.72	4.93	5.01	5.08	5.15	5.22	5.29	5.36
2005	2.80	3.43	3.81	4.19	4.58	4.75	4.93	5.11	5.28	5.46	5.53	5.60	5.66	5.73	5.80	5.87
2006	3.46	4.12	4.42	4.71	5.01	5.16	5.30	5.45	5.59	5.73	5.80	5.86	5.92	5.99	6.05	6.11
2007	3.68	4.34	4.63	4.92	5.20	5.34	5.48	5.62	5.76	5.90	5.96	6.01	6.07	6.13	6.19	6.25
2008	4.34	4.95	5.21	5.47	5.73	5.86	5.99	6.11	6.24	6.37	6.42	6.47	6.53	6.58	6.64	6.69
2009	5.26	5.78	6.00	6.22	6.44	6.54	6.65	6.76	6.87	6.97	7.02	7.07	7.11	7.16	7.21	7.25
2010	5.77	6.17	6.35	6.53	6.70	6.79	6.88	6.97	7.06	7.15	7.19	7.24	7.28	7.32	7.37	7.41
2011	5.86	6.23	6.39	6.55	6.72	6.80	6.89	6.97	7.06	7.14	7.18	7.22	7.26	7.31	7.35	7.39
2012	5.87	6.22	6.38	6.53	6.69	6.77	6.85	6.93	7.02	7.10	7.14	7.18	7.22	7.26	7.30	7.34
2013	5.89	6.22	6.37	6.52	6.66	6.74	6.82	6.90	6.98	7.06	7.10	7.14	7.18	7.22	7.26	7.30
2014	5.89	6.22	6.37	6.51	6.65	6.73	6.81	6.88	6.96	7.04	7.08	7.12	7.16	7.20	7.24	7.28
2015	5.88	6.21	6.35	6.50	6.64	6.72	6.80	6.88	6.96	7.04	7.08	7.12	7.16	7.20	7.24	7.28
2016	5.88	6.22	6.36	6.51	6.66	6.74	6.82	6.90	6.98	7.06	7.10	7.14	7.18	7.21	7.25	7.29
2017	5.89	6.22	6.37	6.52	6.67	6.75	6.83	6.91	6.99	7.07	7.10	7.14	7.18	7.22	7.26	7.30
2018	5.89	6.24	6.40	6.56	6.72	6.81	6.89	6.97	7.06	7.14	7.18	7.22	7.25	7.29	7.33	7.37
2019	5.89	6.28	6.47	6.66	6.84	6.93	7.03	7.12	7.21	7.30	7.34	7.37	7.41	7.44	7.48	7.51
2020	5.89	6.31	6.52	6.73	6.93	7.03	7.13	7.23	7.33	7.43	7.46	7.49	7.53	7.56	7.59	7.63
2021	6.07	6.50	6.70	6.90	7.11	7.21	7.31	7.40	7.50	7.60	7.63	7.66	7.69	7.72	7.75	7.78
2022	6.13	6.55	6.76	6.96	7.17	7.27	7.37	7.47	7.57	7.66	7.69	7.72	7.75	7.78	7.81	7.84
2023	6.26	6.68	6.88	7.09	7.29	7.39	7.48	7.58	7.68	7.78	7.80	7.83	7.86	7.89	7.92	7.95
2024	6.34	6.75	6.96	7.17	7.37	7.47	7.57	7.67	7.76	7.86	7.89	7.92	7.94	7.97	8.00	8.03
2025	6.35	6.77	6.99	7.20	7.41	7.51	7.61	7.71	7.81	7.91	7.94	7.97	7.99	8.02	8.05	8.08
2026	6.35	6.79	7.02	7.24	7.47	7.57	7.68	7.78	7.89	7.99	8.02	8.04	8.07	8.10	8.12	8.15
2027	6.35	6.81	7.05	7.29	7.53	7.64	7.75	7.86	7.96	8.07	8.10	8.12	8.15	8.18	8.20	8.23
2028	6.36	6.83	7.08	7.33	7.58	7.70	7.81	7.92	8.03	8.15	8.17	8.20	8.22	8.25	8.27	8.29
2029	6.36	6.84	7.09	7.34	7.59	7.71	7.82	7.94	8.05	8.16	8.19	8.21	8.24	8.26	8.28	8.31

1/ Global Insight CY 2004.Q2 long-term outlook. The U.S. Economy: 25-Year Focus, Spring 2004 Core Forecast.

18 Year	19 Year	20 Year	21 Year	22 Year	23 Year	24 Year	25 Year	26 Year	27 Year	28 Year	29 Year	30 Year	50 Year	Year
7.24	7.28	7.32	7.34	7.36	7.38	7.40	7.43	7.45	7.47	7.49	7.51	7.53	7.53	**1997**
6.42	6.46	6.51	6.53	6.55	6.57	6.60	6.62	6.64	6.67	6.69	6.71	6.74	6.74	**1998**
6.41	6.45	6.49	6.51	6.53	6.55	6.57	6.59	6.61	6.63	6.65	6.67	6.69	6.69	**1999**
6.70	6.72	6.75	6.75	6.76	6.77	6.78	6.79	6.79	6.80	6.81	6.82	6.82	6.82	**2000**
6.17	6.22	6.26	6.28	6.31	6.33	6.36	6.38	6.41	6.43	6.46	6.48	6.51	6.51	**2001**
5.77	5.83	5.90	5.94	5.98	6.03	6.07	6.12	6.16	6.21	6.25	6.30	6.34	6.34	**2002**
5.31	5.39	5.46	5.52	5.57	5.63	5.68	5.74	5.79	5.85	5.91	5.96	6.02	6.02	**2003**
5.50	5.57	5.64	5.69	5.75	5.80	5.85	5.90	5.96	6.01	6.06	6.11	6.17	6.17	**2004**
6.00	6.07	6.14	6.19	6.23	6.28	6.33	6.38	6.43	6.48	6.53	6.58	6.63	6.63	**2005**
6.24	6.30	6.37	6.41	6.46	6.50	6.55	6.59	6.64	6.68	6.73	6.77	6.82	6.82	**2006**
6.37	6.43	6.49	6.53	6.57	6.62	6.66	6.70	6.74	6.78	6.82	6.86	6.90	6.90	**2007**
6.80	6.85	6.91	6.94	6.98	7.01	7.05	7.09	7.12	7.16	7.19	7.23	7.26	7.26	**2008**
7.35	7.39	7.44	7.47	7.50	7.53	7.55	7.58	7.61	7.64	7.67	7.69	7.72	7.72	**2009**
7.50	7.54	7.58	7.61	7.63	7.66	7.68	7.71	7.73	7.76	7.78	7.80	7.83	7.83	**2010**
7.47	7.51	7.55	7.58	7.60	7.62	7.65	7.67	7.69	7.72	7.74	7.76	7.79	7.79	**2011**
7.42	7.46	7.50	7.52	7.55	7.57	7.59	7.61	7.63	7.66	7.68	7.70	7.72	7.72	**2012**
7.38	7.42	7.46	7.48	7.50	7.52	7.54	7.56	7.58	7.61	7.63	7.65	7.67	7.67	**2013**
7.36	7.40	7.44	7.46	7.48	7.50	7.52	7.54	7.56	7.59	7.61	7.63	7.65	7.65	**2014**
7.35	7.39	7.43	7.46	7.48	7.50	7.52	7.54	7.56	7.58	7.60	7.63	7.65	7.65	**2015**
7.37	7.41	7.45	7.47	7.49	7.51	7.53	7.55	7.58	7.60	7.62	7.64	7.66	7.66	**2016**
7.38	7.41	7.45	7.47	7.49	7.51	7.53	7.55	7.58	7.60	7.62	7.64	7.66	7.66	**2017**
7.44	7.48	7.51	7.53	7.55	7.57	7.59	7.61	7.63	7.65	7.67	7.69	7.71	7.71	**2018**
7.58	7.62	7.65	7.67	7.69	7.70	7.72	7.74	7.75	7.77	7.79	7.80	7.82	7.82	**2019**
7.69	7.73	7.76	7.77	7.79	7.80	7.82	7.83	7.85	7.86	7.88	7.89	7.91	7.91	**2020**
7.85	7.88	7.91	7.92	7.93	7.95	7.96	7.97	7.99	8.00	8.01	8.02	8.04	8.04	**2021**
7.90	7.93	7.96	7.97	7.99	8.00	8.01	8.02	8.03	8.04	8.06	8.07	8.08	8.08	**2022**
8.00	8.03	8.06	8.07	8.08	8.09	8.10	8.11	8.12	8.13	8.14	8.15	8.16	8.16	**2023**
8.08	8.11	8.13	8.14	8.15	8.16	8.17	8.18	8.19	8.20	8.21	8.22	8.23	8.23	**2024**
8.13	8.16	8.18	8.19	8.20	8.21	8.22	8.22	8.23	8.24	8.25	8.26	8.27	8.27	**2025**
8.20	8.23	8.25	8.26	8.27	8.28	8.28	8.29	8.30	8.31	8.32	8.32	8.33	8.33	**2026**
8.28	8.30	8.33	8.33	8.34	8.35	8.36	8.36	8.37	8.38	8.39	8.39	8.40	8.40	**2027**
8.34	8.37	8.39	8.40	8.41	8.41	8.42	8.42	8.43	8.44	8.44	8.45	8.46	8.46	**2028**
8.36	8.38	8.40	8.41	8.42	8.42	8.43	8.43	8.44	8.44	8.45	8.46	8.46	8.46	**2029**

Table 6

2004.Q3 BPA APPROPRIATIONS/TREASURY YIELD CURVE FORECAST 1/

BPA Fiscal Years 2004 - 2029

Year	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year	11 Year	12 Year	13 Year	14 Year	15 Year	16 Year	17 Year	18 Year
2004	1.52	2.09	2.54	2.99	3.43	3.62	3.81	4.00	4.19	4.38	4.42	4.47	4.51	4.55	4.60	4.64	4.69	4.73
2005	2.47	3.08	3.44	3.79	4.15	4.30	4.45	4.60	4.75	4.90	4.94	4.99	5.03	5.07	5.11	5.15	5.19	5.23
2006	3.14	3.77	4.04	4.31	4.59	4.70	4.82	4.94	5.06	5.18	5.21	5.25	5.29	5.32	5.36	5.40	5.43	5.47
2007	3.36	3.99	4.26	4.52	4.78	4.89	5.00	5.11	5.23	5.34	5.37	5.40	5.44	5.47	5.50	5.54	5.57	5.60
2008	4.02	4.60	4.84	5.07	5.31	5.41	5.51	5.61	5.71	5.81	5.84	5.86	5.89	5.92	5.95	5.97	6.00	6.03
2009	4.94	5.43	5.62	5.82	6.01	6.09	6.17	6.25	6.34	6.42	6.44	6.46	6.48	6.50	6.52	6.54	6.56	6.58
2010	5.44	5.83	5.98	6.13	6.28	6.34	6.40	6.47	6.53	6.59	6.61	6.63	6.64	6.66	6.68	6.69	6.71	6.73
2011	5.54	5.88	6.02	6.15	6.29	6.35	6.41	6.47	6.52	6.58	6.60	6.61	6.63	6.64	6.66	6.67	6.69	6.70
2012	5.55	5.87	6.00	6.13	6.26	6.32	6.37	6.43	6.48	6.54	6.55	6.57	6.58	6.60	6.61	6.62	6.64	6.65
2013	5.57	5.88	6.00	6.12	6.23	6.29	6.34	6.39	6.45	6.50	6.51	6.53	6.54	6.55	6.57	6.58	6.59	6.61
2014	5.57	5.88	5.99	6.11	6.22	6.27	6.33	6.38	6.43	6.48	6.50	6.51	6.52	6.54	6.55	6.56	6.58	6.59
2015	5.55	5.86	5.98	6.10	6.22	6.27	6.32	6.38	6.43	6.48	6.49	6.51	6.52	6.53	6.55	6.56	6.57	6.59
2016	5.56	5.87	5.99	6.11	6.23	6.29	6.34	6.39	6.45	6.50	6.51	6.53	6.54	6.55	6.57	6.58	6.59	6.60
2017	5.57	5.88	6.00	6.12	6.24	6.29	6.35	6.40	6.45	6.51	6.52	6.53	6.55	6.56	6.57	6.58	6.60	6.61
2018	5.57	5.90	6.03	6.16	6.30	6.35	6.41	6.47	6.53	6.58	6.59	6.61	6.62	6.63	6.64	6.65	6.66	6.67
2019	5.57	5.94	6.10	6.26	6.41	6.48	6.55	6.61	6.68	6.75	6.75	6.76	6.77	6.78	6.79	6.80	6.81	6.82
2020	5.57	5.97	6.15	6.33	6.51	6.58	6.65	6.72	6.80	6.87	6.88	6.88	6.89	6.90	6.90	6.91	6.92	6.92
2021	5.75	6.15	6.33	6.50	6.68	6.75	6.83	6.90	6.97	7.04	7.05	7.05	7.06	7.06	7.07	7.07	7.07	7.08
2022	5.81	6.20	6.38	6.56	6.74	6.82	6.89	6.96	7.03	7.11	7.11	7.11	7.12	7.12	7.12	7.13	7.13	7.14
2023	5.94	6.33	6.51	6.69	6.86	6.93	7.01	7.08	7.15	7.22	7.22	7.22	7.22	7.23	7.23	7.23	7.23	7.24
2024	6.02	6.41	6.59	6.77	6.95	7.02	7.09	7.16	7.23	7.30	7.30	7.31	7.31	7.31	7.31	7.31	7.31	7.31
2025	6.03	6.42	6.61	6.80	6.99	7.06	7.13	7.21	7.28	7.36	7.36	7.36	7.36	7.36	7.36	7.36	7.36	7.36
2026	6.03	6.44	6.64	6.84	7.04	7.12	7.20	7.28	7.36	7.43	7.43	7.43	7.43	7.43	7.43	7.43	7.43	7.43
2027	6.03	6.46	6.68	6.89	7.10	7.18	7.27	7.35	7.43	7.52	7.51	7.51	7.51	7.51	7.51	7.51	7.51	7.51
2028	6.03	6.48	6.71	6.93	7.16	7.24	7.33	7.42	7.50	7.59	7.59	7.59	7.58	7.58	7.58	7.58	7.58	7.58
2029	6.04	6.49	6.71	6.94	7.17	7.26	7.34	7.43	7.52	7.61	7.60	7.60	7.60	7.60	7.60	7.59	7.59	7.59

1/ Global Insight CY 2004.Q2 long-term outlook. The U.S. Economy: 25-Year Focus, Spring Issue 2004 Core Forecast.

2004.Q3 BPA APPROPRIATIONS/TREASURY YIELD CURVE FORECAST 1/

BPA Fiscal Years 2004 - 2029

20 Year	21 Year	22 Year	23 Year	24 Year	25 Year	26 Year	27 Year	28 Year	29 Year	30 Year	50 Year	Year
4.82	4.87	4.91	4.96	5.00	5.04	5.09	5.13	5.18	5.22	5.27	5.27	**2004**
5.32	5.36	5.40	5.44	5.48	5.52	5.56	5.61	5.65	5.69	5.73	5.73	**2005**
5.55	5.58	5.62	5.66	5.69	5.73	5.77	5.80	5.84	5.88	5.92	5.92	**2006**
5.67	5.70	5.74	5.77	5.80	5.84	5.87	5.90	5.94	5.97	6.00	6.00	**2007**
6.09	6.11	6.14	6.17	6.20	6.23	6.25	6.28	6.31	6.34	6.36	6.36	**2008**
6.62	6.64	6.66	6.68	6.70	6.72	6.74	6.76	6.78	6.80	6.82	6.82	**2009**
6.76	6.78	6.80	6.81	6.83	6.85	6.86	6.88	6.90	6.91	6.93	6.93	**2010**
6.73	6.75	6.77	6.78	6.80	6.81	6.83	6.84	6.86	6.87	6.89	6.89	**2011**
6.68	6.69	6.71	6.72	6.74	6.75	6.77	6.78	6.79	6.81	6.82	6.82	**2012**
6.64	6.65	6.66	6.68	6.69	6.70	6.72	6.73	6.74	6.76	6.77	6.77	**2013**
6.62	6.63	6.64	6.66	6.67	6.68	6.70	6.71	6.72	6.74	6.75	6.75	**2014**
6.61	6.63	6.64	6.65	6.67	6.68	6.69	6.71	6.72	6.73	6.75	6.75	**2015**
6.63	6.64	6.66	6.67	6.68	6.69	6.71	6.72	6.73	6.75	6.76	6.76	**2016**
6.63	6.65	6.66	6.67	6.68	6.69	6.71	6.72	6.73	6.74	6.76	6.76	**2017**
6.69	6.71	6.72	6.73	6.74	6.75	6.76	6.77	6.78	6.79	6.81	6.81	**2018**
6.83	6.84	6.85	6.86	6.87	6.88	6.89	6.89	6.90	6.91	6.92	6.92	**2019**
6.94	6.95	6.95	6.96	6.97	6.97	6.98	6.99	6.99	7.00	7.01	7.01	**2020**
7.09	7.09	7.10	7.10	7.11	7.11	7.12	7.12	7.13	7.13	7.14	7.14	**2021**
7.14	7.15	7.15	7.15	7.16	7.16	7.17	7.17	7.17	7.18	7.18	7.18	**2022**
7.24	7.24	7.25	7.25	7.25	7.25	7.25	7.26	7.26	7.26	7.26	7.26	**2023**
7.31	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.33	7.33	**2024**
7.36	7.36	7.36	7.36	7.36	7.36	7.37	7.37	7.37	7.37	7.37	7.37	**2025**
7.43	7.43	7.43	7.43	7.43	7.43	7.43	7.43	7.43	7.43	7.43	7.43	**2026**
7.51	7.51	7.51	7.51	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	**2027**
7.57	7.57	7.57	7.57	7.57	7.56	7.56	7.56	7.56	7.56	7.56	7.56	**2028**
7.58	7.58	7.58	7.58	7.58	7.57	7.57	7.57	7.57	7.56	7.56	7.56	**2029**

Table 7

FY 2004.Q3 MUNICIPAL TAXABLE ALL-IN RATE CURVE FORECAST 1/

BPA Fiscal Years 2004 - 2029

MATURITY

Year	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year	11 Year	12 Year	13 Year	14 Year	15 Year	16 Year
2004	1.74	2.52	3.05	3.59	4.13	4.37	4.61	4.85	5.10	5.34	5.39	5.45	5.51	5.57	5.62	5.68
2005	2.70	3.60	4.05	4.50	4.95	5.15	5.35	5.55	5.75	5.95	6.01	6.06	6.12	6.17	6.22	6.28
2006	3.38	4.37	4.73	5.09	5.45	5.61	5.78	5.94	6.11	6.28	6.32	6.37	6.42	6.47	6.52	6.57
2007	3.60	4.62	4.97	5.32	5.67	5.83	5.99	6.15	6.31	6.47	6.51	6.56	6.60	6.64	6.69	6.73
2008	4.27	5.29	5.62	5.94	6.27	6.42	6.57	6.72	6.87	7.02	7.06	7.09	7.13	7.17	7.21	7.25
2009	5.20	6.20	6.49	6.79	7.08	7.21	7.34	7.47	7.60	7.73	7.76	7.79	7.82	7.85	7.88	7.91
2010	5.71	6.64	6.89	7.14	7.38	7.49	7.60	7.72	7.83	7.94	7.97	7.99	8.02	8.04	8.07	8.10
2011	5.81	6.70	6.93	7.17	7.40	7.50	7.61	7.71	7.82	7.93	7.95	7.97	8.00	8.02	8.05	8.07
2012	5.82	6.70	6.92	7.14	7.36	7.46	7.57	7.67	7.77	7.88	7.90	7.92	7.94	7.97	7.99	8.01
2013	5.84	6.70	6.91	7.12	7.33	7.43	7.53	7.63	7.73	7.83	7.85	7.87	7.90	7.92	7.94	7.96
2014	5.84	6.70	6.90	7.11	7.32	7.42	7.52	7.61	7.71	7.81	7.83	7.85	7.87	7.90	7.92	7.94
2015	5.82	6.68	6.89	7.10	7.31	7.41	7.51	7.61	7.71	7.81	7.83	7.85	7.87	7.89	7.92	7.94
2016	5.83	6.69	6.90	7.12	7.33	7.43	7.53	7.63	7.73	7.83	7.85	7.87	7.89	7.92	7.94	7.96
2017	5.84	6.70	6.91	7.12	7.34	7.44	7.54	7.64	7.74	7.84	7.86	7.88	7.90	7.92	7.94	7.96
2018	5.84	6.72	6.95	7.17	7.40	7.51	7.61	7.72	7.82	7.93	7.95	7.97	7.99	8.01	8.02	8.04
2019	5.84	6.76	7.02	7.28	7.54	7.65	7.77	7.89	8.00	8.12	8.13	8.15	8.17	8.18	8.20	8.22
2020	5.84	6.80	7.08	7.36	7.64	7.77	7.89	8.02	8.14	8.26	8.28	8.29	8.31	8.32	8.34	8.35
2021	6.02	7.00	7.28	7.56	7.85	7.97	8.09	8.22	8.34	8.46	8.48	8.49	8.50	8.51	8.53	8.54
2022	6.08	7.06	7.34	7.63	7.92	8.04	8.17	8.29	8.42	8.54	8.55	8.56	8.57	8.59	8.60	8.61
2023	6.21	7.20	7.48	7.77	8.05	8.18	8.30	8.42	8.55	8.67	8.68	8.69	8.70	8.71	8.72	8.73
2024	6.30	7.28	7.57	7.86	8.15	8.27	8.40	8.52	8.65	8.77	8.78	8.79	8.80	8.80	8.81	8.82
2025	6.31	7.30	7.60	7.90	8.19	8.32	8.45	8.58	8.71	8.84	8.84	8.85	8.86	8.87	8.87	8.88
2026	6.31	7.32	7.63	7.95	8.26	8.39	8.52	8.66	8.79	8.93	8.93	8.94	8.95	8.95	8.96	8.97
2027	6.31	7.35	7.67	8.00	8.33	8.46	8.60	8.74	8.88	9.02	9.03	9.03	9.04	9.05	9.05	9.06

FY 2004.Q3 MUNICIPAL TAXABLE ALL-IN RATE CURVE FORECAST 1/

BPA Fiscal Years 2004 - 2029

20 Year	21 Year	22 Year	23 Year	24 Year	25 Year	26 Year	27 Year	28 Year	29 Year	30 Year	50 Year	Year
5.91	5.97	6.02	6.08	6.14	6.19	6.25	6.31	6.37	6.42	6.48	6.48	**2004**
6.49	6.55	6.60	6.66	6.71	6.76	6.82	6.87	6.92	6.98	7.03	7.03	**2005**
6.76	6.81	6.86	6.91	6.96	7.01	7.06	7.11	7.16	7.20	7.25	7.25	**2006**
6.91	6.96	7.00	7.05	7.09	7.14	7.18	7.23	7.27	7.32	7.36	7.36	**2007**
7.40	7.44	7.48	7.52	7.56	7.60	7.64	7.67	7.71	7.75	7.79	7.79	**2008**
8.03	8.06	8.09	8.13	8.16	8.19	8.22	8.25	8.28	8.31	8.34	8.34	**2009**
8.20	8.23	8.25	8.28	8.31	8.33	8.36	8.39	8.41	8.44	8.46	8.46	**2010**
8.17	8.19	8.22	8.24	8.27	8.29	8.32	8.34	8.36	8.39	8.41	8.41	**2011**
8.11	8.13	8.15	8.17	8.20	8.22	8.24	8.27	8.29	8.31	8.34	8.34	**2012**
8.05	8.07	8.10	8.12	8.14	8.16	8.19	8.21	8.23	8.25	8.27	8.27	**2013**
8.03	8.05	8.07	8.10	8.12	8.14	8.16	8.18	8.21	8.23	8.25	8.25	**2014**
8.03	8.05	8.07	8.09	8.11	8.14	8.16	8.18	8.20	8.22	8.25	8.25	**2015**
8.05	8.07	8.09	8.11	8.13	8.15	8.17	8.20	8.22	8.24	8.26	8.26	**2016**
8.05	8.07	8.09	8.11	8.13	8.15	8.17	8.20	8.22	8.24	8.26	8.26	**2017**
8.12	8.14	8.16	8.18	8.20	8.22	8.24	8.26	8.28	8.30	8.32	8.32	**2018**
8.29	8.30	8.32	8.34	8.35	8.37	8.39	8.40	8.42	8.44	8.45	8.45	**2019**
8.41	8.42	8.44	8.45	8.47	8.48	8.50	8.51	8.53	8.54	8.56	8.56	**2020**
8.59	8.60	8.61	8.62	8.64	8.65	8.66	8.67	8.69	8.70	8.71	8.71	**2021**
8.65	8.66	8.67	8.68	8.70	8.71	8.72	8.73	8.74	8.75	8.76	8.76	**2022**
8.77	8.78	8.79	8.79	8.80	8.81	8.82	8.83	8.84	8.85	8.86	8.86	**2023**
8.85	8.86	8.87	8.88	8.89	8.90	8.90	8.91	8.92	8.93	8.94	8.94	**2024**
8.91	8.92	8.93	8.93	8.94	8.95	8.96	8.96	8.97	8.98	8.99	8.99	**2025**
8.99	9.00	9.01	9.01	9.02	9.03	9.03	9.04	9.05	9.06	9.06	9.06	**2026**
9.08	9.09	9.09	9.10	9.11	9.11	9.12	9.12	9.13	9.14	9.14	9.14	**2027**
9.16	9.16	9.17	9.18	9.18	9.19	9.19	9.20	9.20	9.21	9.21	9.21	**2028**
9.17	9.18	9.18	9.19	9.19	9.20	9.20	9.20	9.21	9.21	9.22	9.22	**2029**

Table 8

2004.Q3 MUNICIPAL TAX-EXEMPT ALL-IN RATE CURVE FORECAST 1/

BPA Fiscal Years 2004 - 2029

MATURITY

Year	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year	11 Year	12 Year	13 Year	14 Year	15 Year	16 Year	17 Year	18 Year
2004	1.20	1.73	2.11	2.49	2.87	3.07	3.27	3.47	3.67	3.87	3.93	3.98	4.04	4.10	4.15	4.21	4.26	4.32
2005	1.83	2.45	2.78	3.10	3.42	3.60	3.78	3.96	4.13	4.31	4.37	4.42	4.48	4.53	4.59	4.64	4.70	4.75
2006	2.27	2.96	3.23	3.49	3.76	3.92	4.07	4.23	4.39	4.54	4.59	4.65	4.70	4.75	4.80	4.85	4.91	4.96
2007	2.41	3.12	3.39	3.65	3.91	4.06	4.22	4.37	4.52	4.68	4.73	4.78	4.83	4.88	4.93	4.97	5.02	5.07
2008	2.84	3.57	3.82	4.07	4.32	4.47	4.62	4.77	4.92	5.07	5.12	5.16	5.21	5.26	5.30	5.35	5.39	5.44
2009	3.45	4.17	4.41	4.64	4.87	5.01	5.15	5.30	5.44	5.58	5.62	5.67	5.71	5.75	5.79	5.83	5.87	5.91
2010	3.78	4.47	4.67	4.87	5.08	5.21	5.34	5.47	5.60	5.73	5.77	5.81	5.85	5.89	5.93	5.96	6.00	6.04
2011	3.84	4.51	4.70	4.89	5.09	5.21	5.34	5.47	5.59	5.72	5.76	5.80	5.83	5.87	5.91	5.95	5.98	6.02
2012	3.85	4.50	4.69	4.88	5.06	5.19	5.31	5.44	5.56	5.69	5.72	5.76	5.79	5.83	5.87	5.90	5.94	5.98
2013	3.86	4.50	4.68	4.86	5.04	5.16	5.29	5.41	5.53	5.65	5.69	5.72	5.76	5.79	5.83	5.87	5.90	5.94
2014	3.86	4.50	4.68	4.86	5.03	5.15	5.28	5.40	5.52	5.64	5.67	5.71	5.74	5.78	5.81	5.85	5.89	5.92
2015	3.85	4.49	4.67	4.85	5.03	5.15	5.27	5.39	5.51	5.64	5.67	5.71	5.74	5.78	5.81	5.85	5.88	5.92
2016	3.85	4.50	4.68	4.86	5.04	5.16	5.29	5.41	5.53	5.65	5.69	5.72	5.76	5.79	5.83	5.86	5.90	5.93
2017	3.86	4.50	4.68	4.87	5.05	5.17	5.29	5.41	5.54	5.66	5.69	5.73	5.76	5.80	5.83	5.87	5.90	5.94
2018	3.86	4.52	4.71	4.90	5.09	5.22	5.34	5.47	5.60	5.72	5.76	5.79	5.82	5.86	5.89	5.92	5.96	5.99
2019	3.86	4.55	4.76	4.97	5.18	5.32	5.45	5.59	5.72	5.86	5.89	5.92	5.96	5.99	6.02	6.05	6.08	6.12
2020	3.86	4.57	4.80	5.02	5.25	5.40	5.54	5.68	5.82	5.96	5.99	6.02	6.06	6.09	6.12	6.15	6.18	6.21
2021	3.98	4.70	4.93	5.16	5.39	5.53	5.68	5.82	5.96	6.11	6.14	6.17	6.20	6.22	6.25	6.28	6.31	6.34
2022	4.02	4.74	4.97	5.21	5.44	5.58	5.73	5.87	6.02	6.16	6.19	6.22	6.25	6.28	6.31	6.33	6.36	6.39
2023	4.10	4.83	5.07	5.30	5.53	5.68	5.82	5.97	6.11	6.25	6.28	6.31	6.34	6.37	6.39	6.42	6.45	6.48
2024	4.16	4.89	5.13	5.36	5.60	5.74	5.89	6.03	6.18	6.33	6.35	6.38	6.41	6.43	6.46	6.49	6.52	6.54
2025	4.16	4.90	5.14	5.39	5.63	5.78	5.92	6.07	6.22	6.37	6.40	6.43	6.45	6.48	6.51	6.53	6.56	6.59
2026	4.16	4.92	5.17	5.42	5.67	5.82	5.98	6.13	6.28	6.44	6.46	6.49	6.52	6.54	6.57	6.60	6.62	6.65
2027	4.17	4.93	5.19	5.46	5.72	5.87	6.03	6.19	6.35	6.50	6.53	6.56	6.58	6.61	6.64	6.66	6.69	6.71
2028	4.17	4.95	5.22	5.49	5.76	5.92	6.08	6.24	6.40	6.57	6.59	6.62	6.64	6.67	6.69	6.72	6.75	6.77
2029	4.17	4.95	5.22	5.50	5.77	5.93	6.09	6.26	6.42	6.58	6.61	6.63	6.66	6.68	6.71	6.73	6.76	6.78

1/ Global Insight CY 2004.Q2 long-term outlook. The U.S. Economy: 25-Year Focus, Spring Issue 2004 Core Forecast.

2004.Q3 MUNICIPAL TAX-EXEMPT ALL-IN RATE CURVE FORECAST 1/

BPA Fiscal Years 2004 - 2029

20 Year	21 Year	22 Year	23 Year	24 Year	25 Year	26 Year	27 Year	28 Year	29 Year	30 Year	50 Year	Year
4.43	4.49	4.55	4.60	4.66	4.71	4.77	4.83	4.88	4.94	4.99	4.99	**2004**
4.86	4.92	4.97	5.03	5.09	5.14	5.20	5.25	5.31	5.36	5.42	5.42	**2005**
5.06	5.12	5.17	5.22	5.27	5.32	5.38	5.43	5.48	5.53	5.59	5.59	**2006**
5.17	5.22	5.27	5.32	5.37	5.42	5.47	5.52	5.57	5.62	5.67	5.67	**2007**
5.53	5.58	5.63	5.67	5.72	5.76	5.81	5.86	5.90	5.95	5.99	5.99	**2008**
6.00	6.04	6.08	6.12	6.16	6.20	6.25	6.29	6.33	6.37	6.41	6.41	**2009**
6.12	6.16	6.20	6.24	6.28	6.31	6.35	6.39	6.43	6.47	6.51	6.51	**2010**
6.10	6.13	6.17	6.21	6.25	6.28	6.32	6.36	6.40	6.43	6.47	6.47	**2011**
6.05	6.08	6.12	6.16	6.19	6.23	6.27	6.30	6.34	6.37	6.41	6.41	**2012**
6.01	6.04	6.08	6.12	6.15	6.19	6.22	6.26	6.29	6.33	6.36	6.36	**2013**
5.99	6.03	6.06	6.10	6.13	6.17	6.20	6.24	6.28	6.31	6.35	6.35	**2014**
5.99	6.02	6.06	6.10	6.13	6.17	6.20	6.24	6.27	6.31	6.34	6.34	**2015**
6.00	6.04	6.07	6.11	6.14	6.18	6.21	6.25	6.28	6.32	6.35	6.35	**2016**
6.01	6.04	6.07	6.11	6.14	6.18	6.21	6.25	6.28	6.32	6.35	6.35	**2017**
6.06	6.09	6.13	6.16	6.19	6.23	6.26	6.29	6.33	6.36	6.40	6.40	**2018**
6.18	6.21	6.24	6.28	6.31	6.34	6.37	6.41	6.44	6.47	6.50	6.50	**2019**
6.27	6.30	6.33	6.36	6.39	6.42	6.46	6.49	6.52	6.55	6.58	6.58	**2020**
6.40	6.43	6.46	6.49	6.52	6.55	6.58	6.61	6.64	6.67	6.70	6.70	**2021**
6.45	6.48	6.51	6.54	6.56	6.59	6.62	6.65	6.68	6.71	6.74	6.74	**2022**
6.53	6.56	6.59	6.62	6.65	6.67	6.70	6.73	6.76	6.78	6.81	6.81	**2023**
6.60	6.63	6.65	6.68	6.71	6.73	6.76	6.79	6.82	6.84	6.87	6.87	**2024**
6.64	6.67	6.69	6.72	6.75	6.77	6.80	6.83	6.85	6.88	6.91	6.91	**2025**
6.70	6.73	6.75	6.78	6.81	6.83	6.86	6.89	6.91	6.94	6.97	6.97	**2026**
6.77	6.79	6.82	6.84	6.87	6.90	6.92	6.95	6.98	7.00	7.03	7.03	**2027**
6.82	6.85	6.87	6.90	6.93	6.95	6.98	7.00	7.03	7.05	7.08	7.08	**2028**
6.83	6.86	6.88	6.91	6.93	6.96	6.98	7.01	7.03	7.06	7.08	7.08	**2029**

TABLE 9

FY 2004.Q3 FORECAST OF INFLATIONARY TRENDS
CHANGE IN GROSS DOMESTIC PRODUCT PRICE DEFLATOR

Calendar/Fiscal Years 2004.Q3 vs. 2002.Q3

	(A)	(B)	(C)	(D)	(E)	(F)	(G)
	CY 04.Q3 1/ CALENDAR YEAR GDP DEFLATOR (% Change)	FY 04.Q3 1/ FISCAL YEAR GDP DEFLATOR (% Change)	FY 04.Q3 2/ CUMULATIVE GDP DEFLATOR (Base Year 2004)	FY 2002.Q3 3/ FISCAL YEAR GDP DEFLATOR (% Change)	FY 2002.Q3 3/ CUMULATIVE GDP DEFLATOR (Base Year 2004)	CHANGE IN GDP DEFLATOR (% Change)	CHANGE IN GDP DEFLATOR
2004	1.88%	1.83%	1.009	2.46%	1.012	-0.63%	-0.003
2005	1.57%	1.65%	1.026	2.43%	1.037	-0.78%	-0.011
2006	1.55%	1.56%	1.042	2.42%	1.062	-0.86%	-0.020
2007	1.91%	1.82%	1.061	2.44%	1.088	-0.62%	-0.027
2008	2.06%	2.02%	1.082	2.44%	1.114	-0.42%	-0.032
2009	2.09%	2.08%	1.105	2.45%	1.142	-0.37%	-0.037
2010	2.30%	2.25%	1.129	2.47%	1.170	-0.23%	-0.040
2011	2.48%	2.43%	1.157	2.55%	1.200	-0.12%	-0.043
2012	2.39%	2.41%	1.185	2.65%	1.232	-0.24%	-0.047
2013	2.35%	2.36%	1.213	2.71%	1.265	-0.35%	-0.052
2014	2.43%	2.41%	1.242	2.76%	1.300	-0.35%	-0.058
2015	2.46%	2.46%	1.273	2.79%	1.336	-0.33%	-0.064
2016	2.50%	2.49%	1.304	2.83%	1.374	-0.34%	-0.070
2017	2.53%	2.52%	1.337	2.88%	1.413	-0.36%	-0.076
2018	2.57%	2.56%	1.371	2.94%	1.455	-0.38%	-0.084
2019	2.57%	2.57%	1.406	2.96%	1.498	-0.39%	-0.091
2020	2.59%	2.59%	1.443				
2021	2.63%	2.62%	1.481				
2022	2.62%	2.62%	1.520				
2023	2.61%	2.61%	1.559				
2024	2.61%	2.61%	1.600				
2025	2.64%	2.63%	1.642				
2026	2.64%	2.64%	1.685				
2027	2.66%	2.65%	1.730				
2028	2.67%	2.67%	1.776				
2029	2.72%	2.71%	1.824				

1/ Source: Global Insight, Second Quarter 2004 Long Term Economic Outlook, Base Case Forecast

2/ Fiscal Year Cumulative Price Deflator escalates to midyear dollars. The first year, 2004, is determined as follows: 1.009 = [(1.83/100)*.5] + 1. An example of subsequent year cumulative growth such as in 2003 is found as:

TABLE 10

FY 2004.Q3 INFLATION FORECAST COMPARISONS
GROSS DOMESTIC PRODUCT PRICE DEFLATOR INDEXES 1/

BPA Fiscal Year

YEAR	(A) FY 04.Q3 2/ CUMULATIVE PRICE DEFLATOR INDEX (Base Year 2004)	(B) FY 2002.Q3 3/ CUMULATIVE PRICE DEFLATOR INDEX (Base Year 2004)	(C) (A - B) DIFFERENCE
2004	1.009	1.012	-0.003
2005	1.026	1.037	-0.011
2006	1.042	1.062	-0.020
2007	1.061	1.088	-0.027
2008	1.082	1.114	-0.032
2009	1.105	1.142	-0.037
2010	1.129	1.170	-0.040
2011	1.157	1.200	-0.043
2012	1.185	1.232	-0.047
2013	1.213	1.265	-0.052
2014	1.242	1.300	-0.058
2015	1.273	1.336	-0.064
2016	1.304	1.374	-0.070
2017	1.337	1.413	-0.076
2018	1.371	1.455	-0.084
2019	1.406	1.498	-0.091
2020	1.443		
2021	1.481		
2022	1.520		
2023	1.559		
2024	1.600		
2025	1.642		
2026	1.685		
2027	1.730		
2028	1.776		
2029	1.824		

1/ Fiscal Year Cumulative Price Deflator escalates to midyear dollars. The first year, 2004, is determined as follows: 1.009 = [(1.83/100)*.5] + 1. An example of subsequent year cumulative growth such as in 2003 is f 1.026 = [1+ (1.65/100)]*1.009.

2/ Source: Global Insight, Second Quarter 2004 Long Term Economic Outlook, Base Case Forecast

3/ Source: Global Insight, Second Quarter 2002 Long Term Economic Outlook, Trend Forecast

CHAPTER 6

PROJECTED NEW BONDS ISSUED TO TREASURY

Purpose: To provide the projected bonds that BPA plans to issue to the U.S. Treasury to finance BPA capital investments.

Method: New long-term debt consist of bonds issued by BPA to Treasury reflecting projected outlays for BPA Transmission and Environmental programs during the cost evaluation period (FY 2005-2007). All bonds projected for issuance are entered into the projected portions of the repayment study.

Application of Methodology: New bonds for the cost evaluation period are based on Programs in Review capital program outlays.

FY 2005 - FY 2007
$$ Thousands)

Fiscal Year	Description	Interest Rate	Term	Total Borrowing
2005	Construction	5.63	35	217,215 1/
	Environment	5.80	15	11,919 2/
2006	Construction	6.82	35	263,828
	Environment	6.05	15	4,670
2007	Construction	6.90	35	274,718
	Environment	6.19	15	4,836

1/ Capital projection assumes $15,000 of revenue financing and cashing in of $30,200 deferred borrowing from 2004

2/ Capital projection assumes cashing in of $7,800 deferred borrowing from 2004

Table C-2

Association of Transmission Construction
Funded by Bonds [1/]
FY 1977 - 2004
($ Thousands)

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
								Refinancing	
Fiscal Year	Plant in Service [2/]	Amount Funded by Bonds	Amount of Bond Sales	Amount Outstanding	Interest Rate	Term	Year Due	Date	Amount
1977	171,038	100,800 [3/]							
		50,000							
		20,238							
		171,038							
1978	90,494	54,762	50,000	0	8.95	35	2013		
		35,732							
		90,494							
1979	67,649	14,268	75,000	0	9.45	35	2014		
		53,381	50,000	0	9.90	35	2014		
		67,649							
1980	48,043	48,043	115,000	0	13.00	35	2015		
1981	253,151	13,576	175,000	0	16.60	35	2016		
		175,000	50,000	0	14.40	35	2017		
		50,000							
		14,575							
		253,151							
1982	92,111	85,425	100,000	0	14.40	35	2017		
		6,686	85,000	0	14.15	35	2017	7/31/1987	85,000
		92,111							
1983	149,133	78,314	40,000	0	10.85	35	2018	2/29/1988	40,000
		40,000	30,000	0	11.70	35	2018		
		30,000	45,000	0	12.25	35	2018		
		819							
		149,133							
1984	235,214	44,181	30,000	0	12.30	35	2019		
		30,000	60,000	0	13.05	35	2019		
		60,000							
		100,000							
		1,033							
		235,214							
1985	115,901	98,967	100,000	0	11.25	45	2030		
		16,934							
		115,901							

1986	326,694	283,066	100,000	0	8.15	10	1996			
		43,628	300,000	0	8.95	45	2031	8/31/1992	100,000	7/
								8/31/1992	100,000	8/ 22/
								5/31/1994	40,000	11/
		326,694								
1987	167,781	56,372	100,000	0	9.30	45	2032	4/30/1992	100,000	6/
		100,000	100,000	0	8.35	5	1992			
		11,409	50,000	0	9.55	45	2032			
		167,781								
1988	96,878	38,591	150,000	0	9.50	45	2033	10/31/1993	100,000	10/
								5/31/1994	50,000	11/
		58,287	40,000	0	9.90	45	2033			
		96,878								
1989	211,811	91,713	75,000	0	8.95	10	1999	5/31/1999	26,200	25/
		40,000								
		75,000								
		5,098								
		211,811								
1990	88,894	44,902	50,000	0	9.25	40	2030	1/31/2000	50,000	26/
		43,992								
		88,894								
1991	139,891	16,008	60,000	0	7.55	4	1995			
		123,883								
		139,891								
1992	214,883	26,117	150,000	0	8.80	40	2032	8/31/1997	103,300	17/
		50,000	50,000	0	7.00	5	1997			
		80,000	80,000	0	6.20	3	1995			
		58,766	150,000	0	8.13	40	2032	4/30/1998	70,300	18/
		214,883						5/31/1998	67,900	19/ 28/
1993	209,541	91,234	50,000	0	6.05	5	1998			
		50,000	99,962 9/	0	8.35	40	2033			
		68,307	130,000	0	7.80	40	2033	5/31/1998	40,000	20/
									90,000	20/
			100,000	0	7.50	40	2033	8/31/1998	100,000	21/
			110,000	0	6.95	40	2033			
		209,541								
1994	239,060	31,655	50,000	0	6.85	40	2034			
		100,000	50,000	0	7.05	40	2034			
		107,405	50,000	0	8.20	40	2034			

			55,000		0	7.65	5	1999
		239,060						
1995	290,154	2,595	55,000		0	8.35	6	2001
		50,000	49,933	12/	0	7.70	30	2025
		50,000	65,000		0	7.70	30	2025
		50,000						
		55,000						
		55,000						
		27,559						
		290,154						
1996	146,886	22,374	15,000	13/				
		65,000	54,378	14/	0	5.90	7	2003
		15000	70,000		70,000	7.05	10	2006
		44,512						
		146,886						
1997	178,551	9,866	22,600	15/	0	6.80	7	2004
		70,000	80,000		80,000	6.90	8	2005
		22,600	15,000	16/				
		76,085						
		178,551						
1998	149,940	3,915	50,000		50,000	6.65	30	2028
		15,000	36,819	23/	36,819	5.75	10	2008
		50,000	40,000		40,000	6.20	13	2011
		36,819						
		40,000						
		4,206						
		149,940						
1999	126,238	54,844	59,050	24/	59,050	5.90	15	2014
		40,000	40,000		0	6.20	3	2002
		31,394						
		126,238						
2000	104,957	7,658	40,000		0	6.40	3	2002
		39,052	39,052	27/	39,052	7.00	4	2004
		40,000	40,000		40,000	6.75	6	2006
		18,247						
		104,957						
2001	126,298	1,753	20,000		20,000	5.65	4	2005
		59,932	59,932	29/	59,933	6.05	9	2010
		25,000	25,000		25,000	5.95	10	2011
		39,613	50,000		50,000	5.75	10	2011

		126,298						
2002	273,625	10,387	108,010	30/	105,342	4.60	3	2005
		108,010	60,000		60,000	3.75	3	2005
		60,000	100,000		100,000	3.05	4	2006
		95,228						
		273,625						
2003	266,971	4,772	4,938	31/	4,938	3.00	3	2005
		4,938	40,000		40,000	2.80	3	2005
		40,000	40,000		40,000	2.90	4	2007
		40,000	40,000		40,000	5.55	30	2033
		40,000	75,000		75,000	2.30	3	2006
		75,000	25,000		25,000	2.95	4	2007
		25,000	20,000		20,000	2.50	3	2006
		37,261	32/					
		266,971						
2004	270,077	29,382	46,643	33/	46643	2.50	3	2007
		65,000	65,000		65,000	2.95	4	2008
		65,000	65,000		65,000	2.95	3	2007
		50,000	50,000		50,000	3.45	3	2007
		25,000	25,000		25,000	3.80	4	2008
		30,000	30,000		30,000	3.10	3	2007
		5,695	40,000		40,000	3.10	30	2034
		270,077						

1/ These investments have an estimated average service life of 40 years and a maximum repayment period of 40 years

2/ BPA's Summary Financial data, Analysis of Funds Returned to the U.S Treasury and Cash Amortization Table change in Total column from previous year

3/ Funded by appropriations (Reference WP-89-E-BPA-01A1, Documentation for the Revenue Requirement Study - Volume 1, 1989 Rate Proposal, page 195)

4/ Refinanced on 7/31/87 with $ 95,000 issued at 9.55%, 30 year term, due 2017

5/ Refinanced on 2/29/88 with $43,700 issued at 9.50%, 30 year term, due 2018

6/ Refinanced on 4/30/92 with $80,000 issued at 6.20%, 3 year term, due 1995; and $28,300 issued at 7.00%, 5 year term, due 1997

7/ Refinanced on 8/31/92 with $107,800 issued at 6.60%, 8 year term, due 2000

8/ Refinanced on 8/31/92 with $107,700 issued at 7.25%, 15 year term, due 2007

9/ $100,000 bond, $38 functionalized to Generation 1993

10/ Refinanced on 10/31/93 with $108,400 issued at 6.85%, 40 year term, due 2033.

11/ Refinanced on 5/31/94 with $97,100 issued at 7.1%, 4 year term, due 1998 (this new bond also refinanced one other bond

12/ $50,000 bond, $67 functionalized to Generation 1995

13/ As proposed in Revenue Requirements for 1996 in the 1995 Final Rate Proposal $15 million of revenue financing

14/ $60,000 bond, $5,622 functionalized to Generation 1996

15/ $30,000 bond, $7,400 functionalized to Generation 1997

16/ As proposed in Revenue Requirements for 1997 in the 1996 Final Rate Proposal $15 million of revenue financing

17/ Refinanced on 8/31/97 with $111,300 at 6.65% for 10 year term, due 2007.

18/ Refinanced on 4/30/1998 with $75,300 issued at 6.0%, 10 year term, due 2009

19/ Refinanced on 5/31/98 with $72,700 at 6.00% for 11 year term, due 2009 and $40,000 at 6.20% for 13 year term, due 2011.

20/ Refinanced on 5/31/98 with $40,000 issued at 6.20% for 13 year term, due 2011; and refinanced on 5/31/98 with $98,900 issued at 6.70%, 34 year term, due 2032

21/ Refinanced on 8/31/98 with $106,500 at 5.85% for 30 year term, due 2028

22/ Refinanced again on 8/31/98 with $112,300 at 5.85%, 30 year term, due 2028

23/ $40,000 bond, $3,181 functionalized to Generation 1998

24/ $60,000 bond, $950 functionalized to Generation 1999

25/ Refinanced on 5/31/99 with $26,200 issued at 5.95%, 5 year term, due 2004

26/ Refinanced on 1/31/2000 with $53,500 issued at 7.15%, 5 year term, due 2005

27/ $50,000 bond, $10,948 functionalized to Generation 2000

28/ Refinanced on 8/31/00 with $15,300 at 6.85% for 3 year term, due 2003

29/ $60,000 bond, $68 functionalized to Generation 2001

30/ $110,000 bond, $1,990 functionalized to Generation 2002

31/ $50,000 bond, $45,062 functionalized to Generation 2003

32/ This amount only partially financed through long-term bonds at the end of Fiscal Year 2003

33/ $60,000 bond, $13,357 functionalized to Generation 2004

Table C-3

Association of Environment Investment
Funded by Bonds
FY 1995 - 2004
($ Thousands)

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
								Refinancing	
Fiscal Year	Plant in Service 1/	Amount Funded by Bonds	Amount of Bond Sales	Amount Outstanding	Interest Rate	Term	Year Due	Date	Amount
1995	16,014	16,014 2/							
1997	40,000	40,000	40,000	0	6.95	15	2011		
1999	10,517	10,517							
2000	9,394	9,394							
2001	12,091	10,089	30,000	30,000	6.05	9	2010		
		2,002							
		12,091							
2002	8,651	8,651	30,000	30,000	2.05	4	2006		
2003	7,953	7,953							
2004	4,528	4,528							

1/ Data is from Year End Capital Spending Sheet
2/ Funded by construction bond

CHAPTER 7

NON-FEDERAL PAYMENT OBLIGATIONS

I. Introduction

The Transmission Business Line has two forms on non-Federal payment obligations. One form is a lease-purchase arrangement for capitalized asset purchases. The other is the functional reassignment to TBL of debt service payment obligations associated with non-Federal, Energy Northwest (EN) bonds.

II. Lease-Purchase Agreement

BPA entered into a lease-purchase agreement with the Northwest Infrastructure Financing Corporation (NIFC) to provide for the construction of the 500 kV Schultz-Wautoma transmission line. The semi-annual lease payments are treated as fixed obligations in the repayment model around which the amortization of Federal principal is scheduled. Table A displays the payment stream.

Table A

Northwest Infrastructure Financing Corporation
Lease Payment

	Debt Service			NIFC Annual costs						
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
	Prinicpal	Interest	Total DS	Audit (PWC)	Trustee	JH Mgmt Annual Fee	JH Mgmt Maintenance	Potential Legal Exp	Capitalized Interest Fund	Lease Payment
3/25/04										
7/1/04		1,715,327	1,715,327						(1,715,327)	
1/1/05		3,216,239	3,216,239	24,000	2,000	10,000	2,000	3,000	(3,257,239)	
7/1/05		3,216,239	3,216,239						(3,216,239)	41,000
1/1/06		3,216,239	3,216,239	24,960	2,000	10,000	2,080	3,120		3,258,399
7/1/06		3,216,239	3,216,239							3,216,239
1/1/07		3,216,239	3,216,239	25,958	2,000	10,000	2,163	3,245		3,259,605
7/1/07		3,216,239	3,216,239							3,216,239
1/1/08		3,216,239	3,216,239	26,997	2,000	10,000	2,250	3,375		3,260,860
7/1/08		3,216,239	3,216,239							3,216,239
1/1/09		3,216,239	3,216,239	28,077	2,000	10,000	2,340	3,510		3,262,164
7/1/09		3,216,239	3,216,239							3,216,239
1/1/10		3,216,239	3,216,239	29,200	2,000	10,000	2,433	3,650		3,263,522
7/1/10		3,216,239	3,216,239							3,216,239
1/1/11		3,216,239	3,216,239	30,368	2,000	10,000	2,531	3,796		3,264,933
7/1/11		3,216,239	3,216,239							3,216,239
1/1/12		3,216,239	3,216,239	31,582	2,000	10,000	2,632	3,948		3,266,401
7/1/12		3,216,239	3,216,239							3,216,239
1/1/13		3,216,239	3,216,239	32,846	2,000	10,000	2,737	4,106		3,267,927
7/1/13		3,216,239	3,216,239							3,216,239
1/1/14		3,216,239	3,216,239	34,159	2,000	10,000	2,847	4,270		3,269,515
7/1/14		3,216,239	3,216,239							3,216,239
1/1/15		3,216,239	3,216,239	35,526	2,000	10,000	2,960	4,441		3,271,166
7/1/15		3,216,239	3,216,239							3,216,239
1/1/16		3,216,239	3,216,239	36,947	2,000	10,000	3,079	4,618		3,272,883
7/1/16		3,216,239	3,216,239							3,216,239
1/1/17		3,216,239	3,216,239	38,425	2,000	10,000	3,202	4,803		3,274,669
7/1/17		3,216,239	3,216,239							3,216,239
1/1/18		3,216,239	3,216,239	39,962	2,000	10,000	3,330	4,995		3,276,526
7/1/18		3,216,239	3,216,239							3,216,239
1/1/19		3,216,239	3,216,239	41,560	2,000	10,000	3,463	5,195		3,278,457
7/1/19		3,216,239	3,216,239							3,216,239
1/1/20		3,216,239	3,216,239	43,223	2,000	10,000	3,602	5,403		3,280,466
7/1/20		3,216,239	3,216,239							3,216,239
1/1/21		3,216,239	3,216,239	44,952	2,000	10,000	3,746	5,619		3,282,555
7/1/21		3,216,239	3,216,239							3,216,239
1/1/22		3,216,239	3,216,239	46,750	2,000	10,000	3,896	5,844		3,284,728
7/1/22		3,216,239	3,216,239							3,216,239
1/1/23		3,216,239	3,216,239	48,620	2,000	10,000	4,052	6,077		3,286,987
7/1/23		3,216,239	3,216,239							3,216,239
1/1/24		3,216,239	3,216,239	50,564	2,000	10,000	4,214	6,321		3,289,337
7/1/24		3,216,239	3,216,239							3,216,239
1/1/25		3,216,239	3,216,239	52,587	2,000	10,000	4,382	6,573		3,291,781
7/1/25		3,216,239	3,216,239							3,216,239
1/1/26		3,216,239	3,216,239	54,690	2,000	10,000	4,558	6,836		3,294,323
7/1/26		3,216,239	3,216,239							3,216,239
1/1/27		3,216,239	3,216,239	56,878	2,000	10,000	4,740	7,110		3,296,966
7/1/27		3,216,239	3,216,239							3,216,239
1/1/28		3,216,239	3,216,239	59,153	2,000	10,000	4,929	7,394		3,299,715
7/1/28		3,216,239	3,216,239							3,216,239
1/1/29		3,216,239	3,216,239	61,519	2,000	10,000	5,127	7,690		3,302,574
7/1/29		3,216,239	3,216,239							3,216,239
1/1/30		3,216,239	3,216,239	63,980	2,000	10,000	5,332	7,998		3,305,548
7/1/30		3,216,239	3,216,239							3,216,239
1/1/31		3,216,239	3,216,239	66,539	2,000	10,000	5,545	8,317		3,308,640
7/1/31		3,216,239	3,216,239							3,216,239
1/1/32		3,216,239	3,216,239	69,201	2,000	10,000	5,767	8,650		3,311,856
7/1/32		3,216,239	3,216,239							3,216,239
1/1/33		3,216,239	3,216,239	71,969	2,000	10,000	5,997	8,996		3,315,201
7/1/33		3,216,239	3,216,239							3,216,239
1/1/34	119,585,000	3,216,239	122,801,238.58	74,848	2,000	10,000	6,237	9,356		122,903,679
Total	**119,585,000**	**191,473,403**	**311,058,403**	**1,346,039**	**60,000**	**300,000**	**112,170**	**168,255**		**313,044,867**

III. Debt Service Reassignment

Under the Debt Optimization Program (DO), BPA refinances Energy Northwest (EN) bonds and uses the proceeds to pay principal on maturing EN bonds. Since BPA power rates were set to recover the originally-expected EN principal payments and that debt service requirement declined (when the principal was paid from the proceeds of the refinancing bonds), funds became available to BPA for expenditure. The amount made available was equal to the principal amount of the maturing EN bonds. BPA used these funds to amortize Federal obligations associated with generation and transmission assets ahead of schedule, thereby replenishing or creating future opportunities to replenish BPA's available Treasury borrowing authority.

Debt Service Reassignment occurs when BPA uses the funds made available from DO to early-amortize Federal obligations associated with transmission assets. The Transmission Business Line is assigned the annual debt service of the EN refinancing bonds for repayment. Conversely, generation is relieved of the cost of these EN refinancing bonds to the extent that they enabled the early amortization of Federal obligations associated with transmission assets.

The following is a step-by-step description of how the annual debt service associated with Debt Service Reassignment is calculated in order to capture all associated costs. The process used in 2003 differs from that used in 2004. In 2003, all DO actions were applied to Federal obligations associated with transmission assets and were reassigned 100% to TBL through debt service reassignment. In 2004, the DO actions were split between Federal obligations associated with generation and transmission assets, and the debt service reassigned to transmission was proportional to that split.

Step-by-Step Process

FY 2003 DSR Calculation

Request Data:

Step 1: Final pricing numbers from FY 2003 EN refunding used to enter DO bond information.

DSR Calculation:

Step 2: Insert DO bond pricing information into spreadsheet with the corresponding coupon rates. The sections include:

Section A: Extension bonds (Premium bonds issued FY 2004 Refunding)

Section B: Taxable bonds (Cost of Issuance bonds were issued at discount)

Section C: Advance Refundings for FY 2003 included in calculation.

Step 3: Convert total of extension, taxable and carrying charge bonds from EN fiscal year (July – June) to Bonneville fiscal year (October – September) (Section D).

	A	B	C	D	E	F	G	H	I	J	K	L	M
1		**Accrued Debt Service Stream for TBL 2003 DSR**								**DSR Amount**			
2										**315,200,000**			
3		TBL's Debt Service will be cells L38-L52 but the effective rate is equivelant to:						4.831%					
4		PBL's equivelant retired Debt Service will be cells F38-F52								**Effective Rate**			
5										**4.831%**			
6													
7													
8													
9		**a.**		**b.**		**c.**					**d.**		
10	**EN**	**Extension Bonds**		**Taxable Bonds (COI)**		**Advance Refunding**		**Total (a+b+c)**			**BPA FY Conversion**		
11	**Fiscal Year**	**Principal**	**Interest**	**Principal**	**Interest**	**Principal**	**Interest**	**Principal**	**Interest**	**Debt Service**	**Principal**	**Interest**	**Debt Service**
12			5.5006%		4.1137%		5.5759%			5.4704%			
13												4,034,014	
14	**2004**	-	11,495,385	-	389,191		4,251,482	-	16,136,057	16,136,057	-	16,136,057	16,136,057
15	**2005**	-	11,495,385	-	389,191		4,251,482	-	16,136,057	16,136,057	-	16,136,057	16,136,057
16	**2006**	-	11,495,385	-	389,191		4,251,482	-	16,136,057	16,136,057	-	16,136,057	16,136,057
17	**2007**	-	11,495,385	-	389,191		4,251,482	-	16,136,057	16,136,057	-	16,136,057	16,136,057
18	**2008**	-	11,495,385	-	389,191		4,251,482	-	16,136,057	16,136,057	2,365,604	16,136,057	18,501,661
19	**2009**	-	11,495,385	9,462,414	389,191		4,251,482	9,462,414	16,136,057	25,598,471	7,096,811	16,038,760	23,135,570
20	**2010**	-	11,495,385	-			4,251,482	-	15,746,867	15,746,867	-	15,746,867	15,746,867
21	**2011**	-	11,495,385	-			4,251,482	-	15,746,867	15,746,867	-	15,746,867	15,746,867
22	**2012**	-	11,495,385	-			4,251,482	-	15,746,867	15,746,867	13,264,170	15,746,867	29,011,037
23	**2013**	44,388,000	11,495,385	-		8,668,680	4,251,482	53,056,680	15,746,867	68,803,547	56,678,083	15,024,338	71,702,421
24	**2014**	57,892,500	9,054,045	-		9,649,793	3,802,708	67,542,293	12,856,753	80,399,046	65,917,647	11,928,707	77,846,354
25	**2015**	51,077,250	5,869,957	-		9,966,460	3,274,610	61,043,710	9,144,567	70,188,277	54,880,480	8,305,975	63,186,455
26	**2016**	26,091,000	3,060,709	-		10,299,793	2,729,490	36,390,793	5,790,199	42,180,992	38,761,476	5,288,647	44,050,123
27	**2017**	29,558,250	1,625,704	-		16,315,273	2,158,290	45,873,523	3,783,994	49,657,517	39,805,142	3,147,821	42,952,963
28	**2018**			-		21,600,000	1,239,303	21,600,000	1,239,303	22,839,303	16,200,000	929,477	17,129,477
29													
30		**209,007,000**	**134,564,265**	**9,462,414**	**2,335,144**	**76,499,999**	**55,719,216**	**294,969,413**	**192,618,625**	**487,588,037**	**294,969,413**	**188,584,610**	**483,554,023**

TBL Interest "carrying charge" for the period between the DO bond issuance on July 1 until September 30th, which is approximately the date of the early amortization of Federal Transmission obligations. (Use BPA's Weighted Average Cost of Capital).

	A	B	C
33		**e.**	
34	**BPA**	**Carrying Charge (7/1-10/1)**	
35	**Fiscal Year**	**Principal**	**Interest**
36		5,325,000	5.31%
37			
38	**2004**	-	282,758
39	**2005**	-	282,758
40	**2006**	-	282,758
41	**2007**	-	282,758
42	**2008**	-	282,758
43	**2009**	-	282,758
44	**2010**	-	282,758
45	**2011**	-	282,758
46	**2012**	-	282,758
47	**2013**	-	282,758
48	**2014**	1,065,000	282,758
49	**2015**	1,065,000	226,206
50	**2016**	1,065,000	169,655
51	**2017**	1,065,000	113,103
52	**2018**	1,065,000	56,552
53			

Step 4: Convert TBL carrying charge into a bond in Section E with levelized principal through the same years of maturity as the extended bonds.

Step 5: Create table of TBL bonds by adding BPA FY Conversion Section D with the Carrying Charge Section E. (Section F)

Step 6: Proportionately adjust the principal of TBL's Portion of DO to equal TBL's DSR, the actual Federal debt prepaid for TBL. (Section G)

Step 7: Use "Solver" Excel function to calculate new Effective Rate for TBL DSR that produces equivalent total Debt Service (Cells G54 & L54) with an adjusted Principal (Cells E54 & J54) for DSR. This creates differing Interest payments.

	D	E	F	G	H	I	J	K	L
32		f.					g.		
33		DSR Corpt Relief for PBL					TBL DSR (Munex Input)		
34	BPA	Total (d+e)							
35	Fiscal Year	Principal	Interest	Debt Service		Shaped Principal	Total Principal	Total Interest	Total DS
36								4.831%	
37			-						
38	2004	-	16,418,815	16,418,815		-	-	15,227,105	15,227,105
39	2005	-	16,418,815	16,418,815		-	-	15,227,105	15,227,105
40	2006	-	16,418,815	16,418,815		-	-	15,227,105	15,227,105
41	2007	-	16,418,815	16,418,815		-	-	15,227,105	15,227,105
42	2008	2,365,604	16,418,815	18,784,418		2,483,024	2,483,024	15,227,105	17,710,129
43	2009	7,096,811	16,321,517	23,418,328		7,449,072	7,449,072	15,107,152	22,556,223
44	2010	-	16,029,624	16,029,624		-	-	14,747,292	14,747,292
45	2011	-	16,029,624	16,029,624		-	-	14,747,292	14,747,292
46	2012	13,264,170	16,029,624	29,293,794		13,922,558	13,922,558	14,747,292	28,669,850
47	2013	56,678,083	15,307,096	71,985,179		59,491,389	59,491,389	14,074,702	73,566,092
48	2014	66,982,647	12,211,464	79,194,111		70,307,437	70,307,437	11,200,712	81,508,149
49	2015	55,945,480	8,532,181	64,477,661		58,722,423	58,722,423	7,804,206	66,526,629
50	2016	39,826,476	5,458,302	45,284,777		41,803,326	41,803,326	4,967,365	46,770,690
51	2017	40,870,142	3,260,924	44,131,066		42,898,796	42,898,796	2,947,873	45,846,670
52	2018	17,265,000	986,028	18,251,028		18,121,976	18,121,976	875,461	18,997,436
53									
54		300,294,413	192,260,458	492,554,870		315,200,000	315,200,000	177,354,870	492,554,870

FY 2004 DSR Calculation

Request Data:

Step 1: Request final pricing information specific to the DO bonds from the refinanced bond bankers.

Step 2: Request DO PBL/TBL principal split from Bond Analyst. (The Actual Federal early amortization amounts for PBL & TBL)

DSR Calculation:

Step 3: Insert DO bond pricing information into spreadsheet with the corresponding coupon rates. The sections include:

- Section A: Extension bonds (Premium bonds issued in '03 & '04 Refundings)
- Section B: Taxable bonds (Cost of Issuance bonds were issued at discount)
- Section C: Advance Refundings (if TBL early federal amortization is greater than current year extension)

Step 4: Calculate TBL benefit share percentage. See Cell N11 (DSR/DO=TBL Benefit%).

Step 5: Calculate TBL Interest "carrying charge" for the period between the DO bond issuance on July 1 until September 30th, which is approximately the date of the early amortization of Federal Transmission bonds. (Use BPA's Weighted Average Cost of Capital). See cell M23.

Step 6: Convert TBL carrying charge into a bond in Section H with levelized principal through the same years of maturity as the extended bonds.

Step 7: Create table of TBL bonds by multiplying TBL Benefit % by the DO extended and taxable bonds to calculate TBL portion of DO as shown in Sections E through G.

Step 8: Add calculated Carrying Charge to TBL portion of DO bonds (Section I).

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
30		Transmission Benefit:Total Principal Share=				70.542%								
31														
32		E.		F.		G.			H.			I.		
33	EN	TBL Extension Bonds		TBL Taxable Bonds (COI)		Total (e+b)			Carrying Charge (7/1-10/1)			Total (e+f+h)		
34	Fiscal Year	Principal	Interest	Principal	Interest	Principal	Interest		Principal	Interest		Principal	Interest	Debt Service
35			5.2500%		5.5000%				2,618,838	4.99%				
36														
37	2005	-	11,028,118	-	190,332	-	11,218,450		-	130,680		-	11,349,130	11,349,130
38	2006	-	10,205,970	-	176,143	-	10,382,114		-	130,680		-	10,512,794	10,512,794
39	2007	-	10,205,970	-	176,143	-	10,382,114		-	130,680		-	10,512,794	10,512,794
40	2008	-	10,205,970	-	176,143	-	10,382,114		-	130,680		-	10,512,794	10,512,794
41	2009	-	10,205,970	-	176,143	-	10,382,114		-	130,680		-	10,512,794	10,512,794
42	2010	-	10,205,970	-	176,143	-	10,382,114		-	130,680		-	10,512,794	10,512,794
43	2011	-	10,205,970	-	176,143	-	10,382,114		-	130,680		-	10,512,794	10,512,794
44	2012	-	10,205,970	-	176,143	-	10,382,114		-	130,680		-	10,512,794	10,512,794
45	2013	44,078,121	10,205,970	3,202,603	176,143	47,280,725	10,382,114		-	130,680		47,280,725	10,512,794	57,793,518
46	2014	18,686,556	7,891,869	-	-	18,686,556	7,891,869		523,768	130,680		19,210,323	8,022,549	27,232,872
47	2015	18,718,300	6,910,825	-	-	18,718,300	6,910,825		523,768	104,544		19,242,067	7,015,369	26,257,436
48	2016	21,733,967	5,928,114	-	-	21,733,967	5,928,114		523,768	78,408		22,257,734	6,006,522	28,264,257
49	2017	14,372,917	4,787,081	-	-	14,372,917	4,787,081		523,768	52,272		14,896,685	4,839,353	19,736,037
50	2018	76,809,574	4,032,503	-	-	76,809,574	4,032,503		523,768	26,136		77,333,342	4,058,639	81,391,981
51														
52		194,399,435	122,226,272	3,202,603	1,599,478	197,602,039	123,825,750		2,618,838	1,568,160		200,220,877	125,393,910	325,614,787

Step 9: Convert total of extension, taxable and carrying charge bonds from EN fiscal year (defined above) to Bonneville fiscal year (Section J).

Step 10: Proportionately adjust the principal of TBL's Portion of DO to equal TBL's DSR, the actual Federal obligations prepaid for TBL. (Section K)

Step 11: Use "Solver" Excel function by clicking yellow Solver button to calculate new Effective Rate for TBL DSR that produces an equal amount of total Debt Service with an adjusted Principal for DSR. This creates different Interest payments.

Total DSR Calculation

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1		Accrued Debt Service Stream for TBL 2004 DSR												DSR Amount	
2														205,277,000	
3		TBL's Debt Service will be cells I60-I73 but the effective rate is equivelant to: 4.93%													
4		PBL's equivelant retired Debt Service will be cells D60-D73												Effective Rate	
5														4.934%	
6		A.		B.		C.		D.							
7	EN	Extension Bonds		Taxable Bonds (COI)		Advance Refundings		Total (a+b+c)							
8	Fiscal Year	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest						
9															
10			5.2500%		5.5000%				5.2541%						
11															
12	2005	-	15,633,424	-	269,815			-	15,903,238						
13	2006	-	14,467,950	-	249,700			-	14,717,650						
14	2007	-	14,467,950	-	249,700			-	14,717,650						
15	2008	-	14,467,950	-	249,700			-	14,717,650						
16	2009	-	14,467,950	-	249,700			-	14,717,650						
17	2010	-	14,467,950	-	249,700			-	14,717,650						
18	2011	-	14,467,950	-	249,700			-	14,717,650						
19	2012	-	14,467,950	-	249,700			-	14,717,650						
20	2013	62,485,000	14,467,950	4,540,000	249,700			67,025,000	14,717,650						
21	2014	26,490,000	11,187,488	-	-			26,490,000	11,187,488						
22	2015	26,535,000	9,796,763	-	-			26,535,000	9,796,763						
23	2016	30,810,000	8,403,675	-	-			30,810,000	8,403,675						
24	2017	20,375,000	6,786,150	-	-			20,375,000	6,786,150						
25	2018	108,885,000	5,716,463	-	-			108,885,000	5,716,463						
26															
27		275,580,000	173,267,561	4,540,000	2,267,415			280,120,000	175,534,976						

Total Extension Bonds=	291,000,000
Transmission Fed. Early Amo.=	205,277,000
TBL Debt Op. Principal Share=	70.542%
Extension Transmission Benefit=	205,277,000
Taxable Transmission COI=	3,202,603
Total Transmission Benefit=	208,479,603

TBL Interest Calculation

Period	Interest	Benefit+Int.
		208,479,603
1	866,928	209,346,531
2	874,138	210,213,469
3	877,773	211,087,596
Acc. TBL Interest:	2,618,838	

Total of FY 2003 & 04 DSR Corporate Relief for PBL:

BPA FY	FY 2003 PBL DSR Corpt Relief			FY 2004 PBL DSR Corpt Relief			TOTAL PBL DSR Corpt Relief		
	Principal	Interest	Debt Service	Principal	Interest	Debt Service	Principal	Interest	Debt Service
2004	-	16,418,815	16,418,815				-	16,418,815	16,418,815
2005	-	16,418,815	16,418,815	-	11,140,046	11,140,046	-	27,558,861	27,558,861
2006	-	16,418,815	16,418,815	-	10,512,794	10,512,794	-	26,931,608	26,931,608
2007	-	16,418,815	16,418,815	-	10,512,794	10,512,794	-	26,931,608	26,931,608
2008	2,365,604	16,418,815	18,784,418	-	10,512,794	10,512,794	2,365,604	26,931,608	29,297,212
2009	7,096,811	16,321,517	23,418,328	-	10,512,794	10,512,794	7,096,811	26,834,311	33,931,121
2010	-	16,029,624	16,029,624	-	10,512,794	10,512,794	-	26,542,418	26,542,418
2011	-	16,029,624	16,029,624	-	10,512,794	10,512,794	-	26,542,418	26,542,418
2012	13,264,170	16,029,624	29,293,794	11,820,181	10,512,794	22,332,975	25,084,351	26,542,418	51,626,769
2013	56,678,083	15,307,096	71,985,179	40,263,124	9,890,232	50,153,357	96,941,208	25,197,328	122,138,536
2014	66,982,647	12,211,464	79,194,111	19,218,259	7,770,754	26,989,013	86,200,906	19,982,218	106,183,125
2015	55,945,480	8,532,181	64,477,661	19,995,984	6,763,157	26,759,141	75,941,464	15,295,338	91,236,802
2016	39,826,476	5,458,302	45,284,777	20,417,472	5,714,730	26,132,202	60,243,948	11,173,032	71,416,979
2017	40,870,142	3,260,924	44,131,066	30,505,849	4,644,174	35,150,023	71,375,991	7,905,098	79,281,090
2018	17,265,000	986,028	18,251,028	58,000,006	3,043,979	61,043,985	75,265,006	4,030,007	79,295,014
	300,294,413	192,260,458	492,554,870	200,220,877	122,556,628	322,777,504	500,515,289	314,817,085	815,332,375

Total of FY 2003 & 04 TBL DSR (Reflected in Revenue Requirement):

BPA FY	TBL DSR FY 2003			TBL DSR FY 2004			Total DSR		
	Total Principal	Interest	Total DS	Total Principal	Interest	Total DS	Total Principal	Interest	Total DS
		4.9185%			4.9343%				
2004	-	15,227,105	15,227,105				-	15,227,105	15,227,105
2005	-	15,227,105	15,227,105	-	10,128,954	10,128,954	-	25,356,059	25,356,059
2006	-	15,227,105	15,227,105	-	10,128,954	10,128,954	-	25,356,059	25,356,059
2007	-	15,227,105	15,227,105	-	10,128,954	10,128,954	-	25,356,059	25,356,059
2008	2,483,024	15,227,105	17,710,129	-	10,128,954	10,128,954	2,483,024	25,356,059	27,839,083
2009	7,449,072	15,107,152	22,556,223	-	10,128,954	10,128,954	7,449,072	25,236,106	32,685,178
2010	-	14,747,292	14,747,292	-	10,128,954	10,128,954	-	24,876,246	24,876,246
2011	-	14,747,292	14,747,292	-	10,128,954	10,128,954	-	24,876,246	24,876,246
2012	13,922,558	14,747,292	28,669,850	12,118,673	10,128,954	22,247,627	26,041,231	24,876,246	50,917,477
2013	59,491,389	14,074,702	73,566,092	41,279,878	9,530,984	50,810,862	100,771,268	23,605,686	124,376,954
2014	70,307,437	11,200,712	81,508,149	19,703,573	7,494,117	27,197,690	90,011,009	18,694,829	108,705,839
2015	58,722,423	7,804,206	66,526,629	20,500,937	6,521,886	27,022,824	79,223,360	14,326,093	93,549,452
2016	41,803,326	4,967,365	46,770,690	20,933,069	5,510,312	26,443,380	62,736,394	10,477,676	73,214,071
2017	42,898,796	2,947,873	45,846,670	31,276,205	4,477,414	35,753,619	74,175,001	7,425,287	81,600,289
2018	18,121,976	875,461	18,997,436	59,464,665	2,934,157	62,398,822	77,586,640	3,809,617	81,396,258
	315,200,000	177,354,870	492,554,870	205,277,000	117,500,504	322,777,504	520,477,000	294,855,374	815,332,374

CHAPTER 8

REPLACEMENTS PROJECTED AFTER THE COST EVALUATION PERIOD

Purpose: To project the amount of additional capital investment necessary to maintain an existing project at its current operating level after the Cost Evaluation Period.

Method: BPA uses the Iowa Curve Methodology to forecast replacements for the transmission system.

Application of Methodology: The repayment study incorporates a schedule of Federal investment with the replacements that are expected to occur over the repayment period for the existing transmission system. This schedule is expressed in mid-year dollars for FYs 2006 through 2007 and is based on the amount of the plant-in-service in the transmission system for BPA through the end of the cost evaluation period.

Transmission Replacements:

The Iowa Curve methodology is used to calculate future replacements for the transmission system. The Iowa Curves are a set of curves with different shapes corresponding to how much of the initial asset survives as a function of time. They are described in the book Statistical Analyses of Industrial Property Retirements by Robley Winfrey, bulletin 125 revised, Engineering Research Institute, Iowa State University. The Iowa Curves are initially used in BPA's depreciation. BPA's total plant, catalogued by FERC account and in-service date, was analyzed and the various FERC accounts were assigned to various Iowa Curves.

A table from Winfrey's book, TABLE 22 - TOTAL RENEWALS FOR TYPE CURVES, tells what fraction of plant represented by a given curve will have to be replaced each tenth-of-lifetime to maintain the initial plant. A data file with the contents of that table accurate to twelve lifetimes has been created for use in calculating BPA's future transmission replacements. *See* TABLE 22. For each of the Iowa

Curves Table 22 will call for replacements equal to about 50 percent of the initial plant in the first lifetime and approaching 100 percent of initial plant in later lifetimes.

Table 22 gives replacement plant in the same physical units as the initial plant. The net investment in plant of any historical year must first be converted to units of physical plant by dividing the investment by an appropriate historical cost per unit plant. BPA's plant cost is converted to quasi-physical units of plant by use of the Handy-Whitman Index. The Handy-Whitman Index provides cost trends for electric, gas, telephone, and water utilities in geographical regions of generally similar characteristics. The Handy-Whitman Index numbers are widely used in the industry to trend original cost records to estimate reproduction cost at prices prevailing at a later date. The cost trends for each of the utilities are further subdivided by type of plant. In particular, the cost trends for electrical utilities include trends for total transmission plant and trends for the major FERC accounts within transmission plant. *See* table entitled HANDY-WHITMAN INDICES. The trends for individual FERC accounts are used when available. The trends for total transmission plant are used for those accounts for which no specific trend is included.

Surviving transmission plant investment by FERC account and in-service year is obtained from BPA's Plant Investment Section. *See* years 1940 through 2005 of table entitled PLANT INVESTMENT BY YEAR AND ACCOUNT. The plant investment of each year and account is divided by the corresponding Handy-Whitman number to obtain plant in quasi-physical units. The quasi-physical plant is then multiplied by factors obtained by interpolating in the appropriate column of Table 22 to obtain quasi-physical replacements for all years from the last year of the Handy-Whitman index through the last year of the repayment period. The resulting quasi-physical units are multiplied by the Handy-Whitman number for the last year of the index for the corresponding FERC account to yield replacement costs in the dollars of that last year. These replacement costs are accumulated by future year and FERC account. *See* table entitled REPLACEMENTS BY INDIVIDUAL PLANT ACCOUNTS.

Gross plant investment data for the cost evaluation period is obtained from BPA's Budget Support. *See* table entitled COST-EVALUATION PERIOD DATA. This latter plant is first de-escalated to the dollars of the last year of the Handy-Whitman index and then distributed among the various FERC accounts in the same proportions as the total plant of BPA's summary of BPA investment from plant balances as of September 30, 2001. *See* years 1940 through 2005 of table entitled PLANT INVESTMENT BY YEAR AND ACCOUNT. Some of the historical plant obtained from the Plant Investment Section will be retired during the cost evaluation period and be replaced with plant funded by amounts obtained from Budget Support. If future replacements were calculated for both, a double counting would occur. Therefore the amount budgeted for a cost evaluation period year is reduced by the amount calculated for replacements for the same year. Future replacements are then calculated for only the remaining net initial investment of that year. *See* table entitled ADJUSTED PLANT INVESTMENT BY YEAR AND FERC ACCOUNT.

The replacement costs of each future year and FERC account are then accumulated for all FERC accounts and inflated from the dollars of the most recent Handy-Whitman year to the dollars of the rate change year. *See* the table entitled FUTURE REPLACEMENTS.

AC Intertie Replacements:

Future replacements on the AC Intertie Facilities are calculated separately so that the contributions made toward those replacements by Non-Federal Capacity Owners can be properly credited in the repayment studies. For historical plant, the plant investment as of September 30, 2001 in each of the lines and substations composing the AC Intertie System (*see* LINES and SUBSTATIONS) was apportioned among the years on the basis of the same line or substation data in a recent plant investment file. These investments by year were accumulated for all lines and substations to obtain historical plant investment by year. These annual investments were apportioned among land and the major FERC accounts on the same basis as the total lines and substations. *See* table entitled AC INTERTIE PLANT-IN-SERVICE.

The cost-evaluation period data for the AC Intertie was obtained. *See* the table entitled Segmentation Summary. The resulting plant data was then processed by the replacement methodology as described above. Those listings that apply only to the AC Intertie follow those for the transmission system. The results are the future replacements for the total AC Intertie and have to be multiplied by the appropriate fraction, 21 percent, to obtain the future contributions required by new capacity owners. These fractional parts, together with the amounts budgeted for the cost evaluation period, are entered into the Transmission Repayment Studies as negative expenses in the Capital Contract Obligation field. *See* Chapters 10 and 12, Repayment Study Input Data.

TABLE A

SUMMARY OF SEGMENTED INVESTMENT

As of September 30, 2001

($)

Segment	ID	9/30/2001 Lines	9/30/2001 Substations	9/30/2001 Total	9/30/1998 Lines	9/30/1998 Substations	9/30/1998 Total
DSI Delivery	DSI	0	79,408,997	79,408,997	0	88,154,482	88,154,482
Generation integration	GI	16,465,887	43,443,234	59,909,121	15,483,753	43,361,401	58,845,154
Eastern Intertie	IE	98,248,694	23,866,195	122,114,889	97,890,490	23,866,195	121,756,685
Southern AC Intertie	ISAC	167,996,152	154,688,159	322,684,310	168,283,191	160,697,655	328,980,846
Southern DC Intertie	ISDC	29,157,322	308,124,415	337,281,737	29,095,036	309,856,051	338,951,087
Network	N	1,658,195,262	1,332,351,158	2,990,546,420	1,646,973,650	1,292,779,262	2,939,752,912
Utility Delivery	UD	31,479	62,352,720	62,384,199	31,483	88,282,645	88,314,128
Total		1,970,094,796	2,004,234,879	3,974,329,674	1,957,757,603	2,006,997,690	3,964,755,293

The details for line investment are shown in chapter 1.
The details for substation investment are shown in chapter 2.

Plant-In-Service Projection Summary

SUB-LIN-GP Summary

	FY 02	FY 03	FY 04	FY 05	FY 06
TOTAL Plant-In-Service - (SUB'S)	81,858.4	74,834.3	113,194.9	195,645.4	106,967.9
TOTAL Plant-In-Service - (LINES)	30,466.3	32,879.7	50,993.7	220,067.4	161,002.4
TOTAL Plant-In-Service - (GEN PLNT)	63,416.7	53,171.3	60,632.7	63,134.4	58,692.8
Grand Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Substations Summary By Segment - w/ Indirects Rolled Into The Segments

Segment	FY 02	FY 03	FY 04	FY 05	FY 06
DSI Segment	2,081.0	1,439.7	1,704.9	996.6	1,277.9
Generation Integration Segment	971.5	663.7	579.4	456.3	598.3
Montana Intertie Segment	423.1	479.5	387.6	317.0	408.1
Network Segment	72,768.2	67,309.5	105,569.8	138,008.1	99,857.8
Public Utility Segment	1,560.8	1,079.7	1,415.7	747.5	958.4
AC Intertie Segment	2,238.4	2,170.9	1,962.5	1,642.9	2,137.8
DC Intertie Segment	1,815.3	1,691.3	1,574.9	53,477.2	1,729.7
Sub Grand Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Lines Summary By Segment - w/ Indirects Rolled Into The Segments

Segment	FY 02	FY 03	FY 04	FY 05	FY 06
DSI Segment	723.8	680.4	499.8	292.5	289.3
Generation Integration Segment	264.6	269.1	185.4	112.6	118.1
Montana Intertie Segment	661.4	672.8	463.5	281.5	295.3
Network Segment	27,713.5	29,717.9	49,222.8	219,664.9	160,163.3
Public Utility Segment	542.9	510.3	353.5	219.4	217.0
AC Intertie Segment	1,530.8	1,511.2	1,044.0	636.2	669.3
DC Intertie Segment	869.3	838.3	580.6	354.7	374.0
Lines Grand Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

General Plant Summary By Account

Account	FY 02	FY 03	FY 04	FY 05	FY 06
Metering Stations	144.0	112.0	117.8	127.7	103.6
Cntl. Equip.	26,858.8	23,679.0	24,841.8	28,026.2	25,286.9
Comm. Equip.	19,926.8	11,945.5	31,872.3	18,578.7	18,925.2
Structures & Imp.	6,311.5	9,127.2	8,531.8	8,782.4	6,733.3
Data Processing Equip. & Software	1,107.9	1,157.1	1,235.8	1,272.5	1,293.3
Tools, Shop & Garage Equip.	908.0	716.4	682.1	636.2	636.6
Stores Equip.	1,356.0	1,068.1	1,015.8	946.7	947.3
Helicopter	908.0	716.4	682.1	636.2	636.6
Lab Equip.	1,815.9	1,432.7	1,364.1	1,272.4	1,273.1
Test Facilities	0.0	0.0	0.0	0.0	0.0
Land & Land Rights	0.0	0.0	0.0	0.0	0.0
Fixed Wing	908.0	716.4	682.1	636.2	636.6
Office Furn. & Fixtures	0.0	0.0	0.0	0.0	0.0
Rolling Stocks	1,356.0	1,068.1	1,015.8	946.7	947.3
Power Operations Equip.	1,815.9	1,432.7	1,364.1	1,272.4	1,273.1
General Plant Grand Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

BPA REPLACEMENTS

1 TABLE22 FROM 'STATISTICAL ANALYSES OF INDUSTRIAL PROPERTY RETIREMENTS' BY ROBLEY WINFREY, BULLETIN 125, IOWA STATE UNIVERSITY

	L0	L1	L2	L3	L4	L5	S0	S1	S2	S3	S4	S5	S6	R1	R2	R3	R4	R5	O1
1	2.93	.95	.11	.00	.00	.00	1.17	.16	.00	.00	.00	.00	.00	2.78	1.14	.15	.02	.00	2.53
2	4.82	2.09	.68	.08	.00	.00	2.68	.89	.12	.00	.00	.00	.00	3.23	1.57	.40	.06	.00	5.25
3	5.92	3.64	1.60	.47	.00	.00	3.84	2.03	.58	.06	.00	.00	.00	3.69	2.12	.88	.19	.00	5.52
4	6.72	5.35	2.78	1.22	.16	.00	4.83	3.36	1.59	.38	.00	.00	.00	4.18	2.81	1.60	.51	.00	5.80
5	7.32	6.90	4.83	2.40	.95	.01	5.71	4.78	3.16	1.34	.10	.00	.00	4.76	3.67	2.59	1.18	.05	6.10
6	7.77	7.95	7.42	4.63	2.64	.46	6.52	6.17	5.18	3.32	.79	.02	.00	5.47	4.73	3.83	2.45	.46	6.41
7	8.18	8.45	9.50	8.28	5.00	2.64	7.25	7.48	7.39	6.36	3.28	.46	.00	6.31	6.01	5.37	4.53	1.96	6.74
8	8.54	8.82	10.62	12.11	8.66	6.70	7.94	8.63	9.49	10.00	8.66	4.05	.36	7.25	7.50	7.50	7.49	5.59	7.09
9	8.87	9.16	10.85	14.12	16.35	14.73	8.56	9.61	11.20	13.32	15.88	15.63	8.93	8.25	9.17	10.38	11.23	13.40	7.45
10	9.16	9.47	10.58	13.60	20.53	28.50	9.14	10.37	12.30	15.36	21.28	29.85	40.71	9.24	10.85	13.57	17.14	24.92	7.83
11	9.41	9.73	10.20	11.66	16.77	23.71	9.67	10.92	12.71	15.52	21.28	29.85	40.71	10.16	12.32	15.94	21.62	29.98	8.23
12	9.62	9.93	9.93	9.80	11.27	12.45	10.14	11.24	12.45	13.88	15.91	15.63	8.93	10.94	13.23	16.20	18.76	18.70	8.66
13	9.78	10.08	9.86	8.80	7.93	6.23	10.54	11.34	11.68	11.17	8.80	4.05	.36	11.52	13.26	13.79	11.69	4.71	9.10
14	9.92	10.18	9.94	8.70	6.40	3.26	10.86	11.24	10.64	8.49	3.79	.47	.00	11.84	12.34	9.97	5.69	.49	9.57
15	10.01	10.24	10.06	9.14	6.00	2.09	11.08	10.96	9.61	6.79	2.20	.14	.00	11.86	10.85	7.63	3.08	.65	10.06
16	10.08	10.25	10.16	9.76	6.57	2.78	11.20	10.54	8.84	6.50	3.31	.74	.01	11.56	9.54	6.34	3.94	1.78	10.57
17	10.12	10.24	10.19	10.26	8.12	5.42	11.17	10.05	8.52	7.44	6.10	2.95	.30	10.97	8.66	6.31	5.87	4.13	11.11
18	10.15	10.21	10.16	10.48	10.34	9.68	10.95	9.55	8.69	8.99	9.76	8.16	3.18	10.18	8.04	7.68	8.19	8.17	11.68
19	10.15	10.16	10.09	10.42	12.28	14.97	10.48	9.17	9.23	10.50	13.32	15.90	14.83	9.39	8.17	9.13	10.67	13.68	12.28
20	10.14	10.11	10.02	10.18	12.93	18.28	9.55	9.08	9.89	11.51	15.55	22.11	31.68	8.87	8.94	10.46	12.94	18.94	12.91
21	10.12	10.06	9.96	9.94	12.22	16.98	8.86	9.43	10.38	11.87	15.61	22.11	31.68	8.74	9.66	11.48	14.43	20.78	11.01
22	10.10	10.01	9.93	9.80	10.88	12.84	9.22	9.81	10.62	11.60	13.57	15.90	14.83	9.15	10.24	12.00	14.40	17.13	8.76
23	10.08	9.97	9.92	9.80	9.62	8.75	9.51	10.06	10.62	10.91	10.39	8.19	3.18	9.52	10.62	11.92	12.67	10.08	8.93
24	10.05	9.95	9.94	9.89	8.78	5.94	9.73	10.20	10.48	10.07	7.45	3.11	.30	9.84	10.79	11.29	10.00	4.35	9.10
25	10.03	9.94	9.96	10.00	8.47	4.73	9.90	10.26	10.25	9.37	5.82	1.35	.02	10.08	10.77	10.35	7.64	2.27	9.26
26	10.01	9.94	9.99	10.07	8.69	5.25	10.02	10.25	10.02	8.99	5.88	2.06	.15	10.25	10.58	9.44	6.54	3.02	9.41
27	10.00	9.94	10.00	10.10	9.33	7.28	10.10	10.20	9.84	8.99	7.34	4.82	1.23	10.34	10.30	8.84	6.85	5.40	9.56
28	9.98	9.96	10.02	10.07	10.12	10.24	10.15	10.13	9.75	9.31	9.53	9.42	5.79	10.36	10.00	8.70	8.11	8.85	9.69
29	9.98	9.97	10.02	10.03	10.73	13.08	10.17	10.05	9.74	9.78	11.62	14.70	16.08	10.31	9.76	8.97	9.70	12.74	9.82
30	9.98	9.99	10.02	9.98	10.96	14.53	10.16	9.99	9.79	10.23	12.94	18.34	26.73	10.23	9.61	9.49	11.13	15.91	9.93
31	9.98	10.00	10.01	9.96	10.79	13.98	10.14	9.94	9.89	10.52	13.10	18.35	26.73	10.13	9.59	10.06	12.06	16.93	10.03
32	9.98	10.01	10.00	9.96	10.38	11.95	10.10	9.91	9.99	10.59	12.15	14.73	16.08	10.02	9.67	10.50	12.29	15.07	10.11
33	9.98	10.01	10.00	9.98	9.93	9.53	10.06	9.91	10.07	10.47	10.54	9.55	5.79	9.93	9.82	10.73	11.77	11.12	10.17
34	9.99	10.01	10.00	10.00	9.60	7.61	10.02	9.92	10.12	10.22	8.92	5.26	1.24	9.86	9.98	10.71	10.70	7.04	10.21
35	9.99	10.01	10.00	10.01	9.46	6.72	9.98	9.95	10.12	9.96	7.86	3.21	.22	9.84	10.11	10.50	9.49	4.65	10.24
36	10.00	10.01	10.00	10.02	9.52	7.04	9.94	9.98	10.09	9.76	7.67	3.60	.51	9.84	10.19	10.18	8.57	4.54	10.23
37	10.00	10.00	10.00	10.01	9.75	8.36	9.92	10.01	10.04	9.67	8.33	6.01	2.36	9.88	10.20	9.86	8.26	6.24	10.20
38	10.00	10.00	10.00	10.01	10.02	10.19	9.92	10.03	10.00	9.70	9.49	9.73	7.47	9.93	10.17	9.63	8.58	8.94	10.14
39	10.00	10.00	10.00	10.00	10.23	11.82	9.93	10.04	9.96	9.82	10.70	13.56	16.07	9.99	10.10	9.54	9.33	11.83	10.05
40	10.00	10.00	10.00	9.99	10.32	12.63	9.96	10.04	9.95	9.97	11.53	16.02	23.53	10.03	10.03	9.61	10.18	14.02	9.92

1 TABLE22 FROM 'STATISTICAL ANALYSES OF INDUSTRIAL PROPERTY RETIREMENTS' BY ROBLEY WINFREY, BULLETIN 125, IOWA STATE UNIVERSITY

	L0	L1	L2	L3	L4	L5	S0	S1	S2	S3	S4	S5	S6	R1	R2	R3	R4	R5	O1
41	10.00	10.00	10.00	9.99	10.28	12.36	9.99	10.02	9.95	10.10	11.73	16.04	23.53	10.06	9.96	9.77	10.86	14.74	9.78
42	10.00	10.00	10.00	10.00	10.15	11.24	10.02	10.01	9.96	10.17	11.30	13.66	16.07	10.07	9.92	9.97	11.18	13.67	9.80
43	10.00	10.00	10.00	10.00	9.99	9.80	10.03	10.00	9.98	10.18	10.47	10.02	7.48	10.06	9.90	10.15	11.09	11.21	9.85
44	10.00	10.00	10.00	10.00	9.87	8.60	10.03	9.99	10.00	10.13	9.56	6.70	2.39	10.04	9.91	10.25	10.66	8.43	9.89
45	10.00	10.00	10.00	10.00	9.81	8.02	10.03	9.99	10.02	10.05	8.91	4.88	.70	10.02	9.94	10.26	10.06	6.47	9.93
46	10.00	10.00	10.00	10.00	9.83	8.19	10.02	10.00	10.02	9.97	8.71	5.02	1.05	10.00	9.98	10.20	9.51	6.01	9.96
47	10.00	10.00	10.00	10.00	9.90	9.00	10.01	10.00	10.02	9.92	8.99	6.89	3.38	9.99	10.01	10.09	9.18	7.01	9.99
48	10.00	10.00	10.00	10.00	10.00	10.10	10.01	10.00	10.02	9.90	9.59	9.76	8.49	9.98	10.04	9.97	9.16	8.95	10.00
49	10.00	10.00	10.00	10.00	10.07	11.07	10.00	10.00	10.01	9.91	10.26	12.63	15.66	9.97	10.05	9.88	9.42	11.09	10.02
50	10.00	10.00	10.00	10.00	10.11	11.55	9.99	10.00	10.00	9.95	10.77	14.42	21.26	9.97	10.04	9.84	9.84	12.73	10.03
51	10.00	10.00	10.00	10.00	10.10	11.42	9.99	10.00	9.99	10.00	10.95	14.47	21.26	9.98	10.01	9.85	10.26	13.32	10.03
52	10.00	10.00	10.00	10.00	10.06	10.77	9.99	10.00	9.99	10.04	10.78	12.81	15.66	9.98	9.99	9.90	10.54	12.69	10.03
53	10.00	10.00	10.00	10.00	10.00	9.92	9.99	10.00	9.99	10.06	10.35	10.19	8.50	9.99	9.98	9.98	10.61	11.10	10.02
54	10.00	10.00	10.00	10.00	9.96	9.18	10.00	10.00	9.99	10.05	9.85	7.67	3.46	10.00	9.97	10.04	10.47	9.18	10.01
55	10.00	10.00	10.00	10.00	9.94	8.81	10.00	10.00	10.00	10.04	9.46	6.19	1.40	10.01	9.97	10.08	10.20	7.70	10.00
56	10.00	10.00	10.00	10.00	9.94	8.90	10.00	10.00	10.00	10.01	9.30	6.20	1.72	10.01	9.98	10.10	9.90	7.18	9.99
57	10.00	10.00	10.00	10.00	9.96	9.39	10.00	10.00	10.00	9.98	9.40	7.57	4.25	10.01	10.00	10.08	9.66	7.72	9.98
58	10.00	10.00	10.00	10.00	10.00	10.05	10.00	10.00	10.00	9.97	9.70	9.75	9.09	10.01	10.01	10.04	9.53	9.03	9.97
59	10.00	10.00	10.00	10.00	10.02	10.63	10.00	10.00	10.00	9.97	10.08	11.91	15.14	10.00	10.01	10.00	9.62	10.58	9.96
60	10.00	10.00	10.00	10.00	10.04	10.92	10.00	10.00	10.00	9.98	10.38	13.27	19.53	10.00	10.02	9.96	9.79	11.82	9.96
61	10.00	10.00	10.00	10.00	10.04	10.85	10.00	10.00	10.00	9.99	10.52	13.34	19.53	10.00	10.01	9.94	10.02	12.34	9.96
62	10.00	10.00	10.00	10.00	10.02	10.48	10.00	10.00	10.00	10.00	10.46	12.16	15.14	9.99	10.01	9.94	10.20	11.98	9.97
63	10.00	10.00	10.00	10.00	10.00	9.97	10.00	10.00	10.00	10.01	10.24	10.24	9.12	9.99	10.00	9.96	10.30	10.94	9.98
64	10.00	10.00	10.00	10.00	9.99	9.52	10.00	10.00	10.00	10.02	9.97	8.35	4.39	9.99	10.00	9.98	10.29	9.61	9.99
65	10.00	10.00	10.00	10.00	9.98	9.29	10.00	10.00	10.00	10.02	9.74	7.18	2.18	9.99	9.99	10.01	10.18	8.51	9.99
66	10.00	10.00	10.00	10.00	9.98	9.34	10.00	10.00	10.00	10.01	9.62	7.12	2.44	10.00	9.99	10.03	10.03	8.03	9.99
67	10.00	10.00	10.00	10.00	9.99	9.62	10.00	10.00	10.00	10.00	9.65	8.12	4.97	10.00	9.99	10.03	9.88	8.30	9.99
68	10.00	10.00	10.00	10.00	10.00	10.02	10.00	10.00	10.00	9.99	9.80	9.74	9.44	10.00	10.00	10.03	9.79	9.16	9.99
69	10.00	10.00	10.00	10.00	10.01	10.37	10.00	10.00	10.00	9.99	10.00	11.38	14.60	10.00	10.00	10.02	9.78	10.26	9.99
70	10.00	10.00	10.00	10.00	10.01	10.55	10.00	10.00	10.00	9.99	10.18	12.42	18.17	10.00	10.00	10.00	9.84	11.19	9.99
71	10.00	10.00	10.00	10.00	10.01	10.51	10.00	10.00	10.00	9.99	10.28	12.51	18.17	10.00	10.00	9.99	9.94	11.63	9.99
72	10.00	10.00	10.00	10.00	10.01	10.29	10.00	10.00	10.00	10.00	10.26	11.66	14.62	10.00	10.00	9.98	10.05	11.46	9.99
73	10.00	10.00	10.00	10.00	10.00	9.99	10.00	10.00	10.00	10.00	10.16	10.25	9.50	10.00	10.00	9.98	10.13	10.77	9.98
74	10.00	10.00	10.00	10.00	10.00	9.72	10.00	10.00	10.00	10.00	10.01	8.82	5.18	10.00	10.00	9.98	10.16	9.85	9.98
75	10.00	10.00	10.00	10.00	9.99	9.58	10.00	10.00	10.00	10.00	9.88	7.92	2.98	10.00	10.00	9.99	10.13	9.04	9.98
76	10.00	10.00	10.00	10.00	9.99	9.60	10.00	10.00	10.00	10.00	9.80	7.83	3.18	10.00	10.00	10.00	10.06	8.63	9.98
77	10.00	10.00	10.00	10.00	9.99	9.77	10.00	10.00	10.00	10.00	9.80	8.54	5.58	10.00	10.00	10.01	9.98	8.74	9.98
78	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.87	9.75	9.64	10.00	10.00	10.01	9.91	9.30	9.98
79	10.00	10.00	10.00	10.00	10.00	10.22	10.00	10.00	10.00	10.00	9.98	10.99	14.09	10.00	10.00	10.01	9.88	10.08	9.98
80	10.00	10.00	10.00	10.00	10.00	10.33	10.00	10.00	10.00	10.00	10.08	11.79	17.06	10.00	10.00	10.01	9.89	10.76	9.98

1 TABLE22 FROM 'STATISTICAL ANALYSES OF INDUSTRIAL PROPERTY RETIREMENTS' BY ROBLEY WINFREY, BULLETIN 125, IOWA STATE UNIVERSITY

	L0	L1	L2	L3	L4	L5	S0	S1	S2	S3	S4	S5	S6	R1	R2	R3	R4	R5	O1
81	10.00	10.00	10.00	10.00	10.00	10.31	10.00	10.00	10.00	10.00	10.14	11.88	17.06	10.00	10.00	10.00	9.91	11.13	9.98
82	10.00	10.00	10.00	10.00	10.00	10.18	10.00	10.00	10.00	10.00	10.15	11.28	14.12	10.00	10.00	10.00	9.97	11.07	9.99
83	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.10	10.24	11.07	10.00	10.00	10.00	10.03	10.62	9.99
84	10.00	10.00	10.00	10.00	10.00	9.84	10.00	10.00	10.00	10.00	10.02	9.16	4.51	10.00	10.00	10.00	10.08	9.98	9.99
85	10.00	10.00	10.00	10.00	10.00	9.75	10.00	10.00	10.00	10.00	9.94	8.46	3.75	10.00	10.00	10.00	10.09	9.39	9.99
86	10.00	10.00	10.00	10.00	10.00	9.76	10.00	10.00	10.00	10.00	9.90	8.37	3.88	10.00	10.00	10.00	10.07	9.06	9.99
87	10.00	10.00	10.00	10.00	10.00	9.86	10.00	10.00	10.00	10.00	9.89	8.88	6.10	10.00	10.00	10.00	10.02	9.09	9.99
88	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.92	9.77	9.75	10.00	10.00	10.00	9.98	9.44	9.98
89	10.00	10.00	10.00	10.00	10.00	10.12	10.00	10.00	10.00	10.00	9.98	10.70	13.62	10.00	10.00	10.00	9.95	9.98	9.98
90	10.00	10.00	10.00	10.00	10.00	10.19	10.00	10.00	10.00	10.00	10.04	11.32	16.13	10.00	10.00	10.00	9.94	10.48	9.98
91	10.00	10.00	10.00	10.00	10.00	10.19	10.00	10.00	10.00	10.00	10.08	11.42	16.17	10.00	10.00	10.00	9.95	10.78	9.98
92	10.00	10.00	10.00	10.00	10.00	10.11	10.00	10.00	10.00	10.00	10.08	10.98	13.94	10.00	10.00	10.00	9.98	10.78	9.98
93	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.06	10.21	10.23	10.00	10.00	10.00	10.02	10.49	9.98
94	10.00	10.00	10.00	10.00	10.00	9.90	10.00	10.00	10.00	10.00	10.02	9.41	6.06	10.00	10.00	10.00	10.04	10.05	9.98
95	10.00	10.00	10.00	10.00	10.00	9.85	10.00	10.00	10.00	10.00	9.98	8.86	4.18	10.00	10.00	10.00	10.05	9.62	9.98
96	10.00	10.00	10.00	10.00	10.00	9.85	10.00	10.00	10.00	10.00	9.95	8.77	4.52	10.00	10.00	10.00	10.04	9.36	9.98
97	10.00	10.00	10.00	10.00	10.00	9.91	10.00	10.00	10.00	10.00	9.94	9.14	6.55	10.00	10.00	10.00	10.01	9.34	9.98
98	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.95	9.80	9.81	10.00	10.00	10.00	9.98	9.56	9.98
99	10.00	10.00	10.00	10.00	10.00	10.07	10.00	10.00	10.00	10.00	9.98	10.50	13.19	10.00	10.00	10.00	9.99	9.93	9.98
100	10.00	10.00	10.00	10.00	10.00	10.12	10.00	10.00	10.00	10.00	10.01	10.97	15.36	10.00	10.00	10.00	10.01	10.30	9.98
101	10.00	10.00	10.00	10.00	10.00	10.11	10.00	10.00	10.00	10.00	10.04	11.06	15.45	10.00	10.00	10.00	10.01	10.53	9.98
102	10.00	10.00	10.00	10.00	10.00	10.07	10.00	10.00	10.00	10.00	10.05	10.76	13.46	10.00	10.00	10.00	10.02	10.56	9.98
103	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.04	10.19	10.12	10.00	10.00	10.00	10.02	10.38	9.98
104	10.00	10.00	10.00	10.00	10.00	9.94	10.00	10.00	10.00	10.00	10.02	9.57	6.74	10.00	10.00	10.00	10.02	10.08	9.98
105	10.00	10.00	10.00	10.00	10.00	9.91	10.00	10.00	10.00	10.00	9.99	9.16	4.89	10.00	10.00	10.00	10.01	9.77	9.98
106	10.00	10.00	10.00	10.00	10.00	9.91	10.00	10.00	10.00	10.00	9.97	9.08	5.07	10.00	10.00	10.00	10.00	9.56	9.98
107	10.00	10.00	10.00	10.00	10.00	9.95	10.00	10.00	10.00	10.00	9.96	9.34	6.94	10.00	10.00	10.00	9.99	9.53	9.98
108	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.97	9.83	9.85	10.00	10.00	10.00	9.98	9.66	9.98
109	10.00	10.00	10.00	10.00	10.00	10.04	10.00	10.00	10.00	10.00	9.99	10.35	12.81	10.00	10.00	10.00	9.99	9.91	9.98
110	10.00	10.00	10.00	10.00	10.00	10.07	10.00	10.00	10.00	10.00	10.00	10.72	14.70	10.00	10.00	10.00	10.00	10.18	9.98
111	10.00	10.00	10.00	10.00	10.00	10.07	10.00	10.00	10.00	10.00	10.02	10.80	14.79	10.00	10.00	10.00	10.00	10.36	9.98
112	10.00	10.00	10.00	10.00	10.00	10.04	10.00	10.00	10.00	10.00	10.03	10.58	13.04	10.00	10.00	10.00	10.01	10.40	9.98
113	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.02	10.16	10.11	10.00	10.00	10.00	10.01	10.29	9.98
114	10.00	10.00	10.00	10.00	10.00	9.97	10.00	10.00	10.00	10.00	10.01	9.70	7.21	10.00	10.00	10.00	10.01	10.09	9.98
115	10.00	10.00	10.00	10.00	10.00	9.95	10.00	10.00	10.00	10.00	10.00	9.38	5.53	10.00	10.00	10.00	10.00	9.87	9.98
116	10.00	10.00	10.00	10.00	10.00	9.95	10.00	10.00	10.00	10.00	9.99	9.31	5.61	10.00	10.00	10.00	9.99	9.71	9.98
117	10.00	10.00	10.00	10.00	10.00	9.97	10.00	10.00	10.00	10.00	9.98	9.49	7.27	10.00	10.00	10.00	9.99	9.66	9.98
118	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.98	9.85	9.86	10.00	10.00	10.00	9.99	9.74	9.98
119	10.00	10.00	10.00	10.00	10.00	10.02	10.00	10.00	10.00	10.00	9.99	10.25	12.47	10.00	10.00	10.00	10.00	9.91	9.98
120	10.00	10.00	10.00	10.00	10.00	10.04	10.00	10.00	10.00	10.00	10.00	10.53	14.13	10.00	10.00	10.00	10.00	10.10	9.98

C HANDY-WHITMAN INDICES 1/1/01:

C YEAR	TOTAL PLANT	STATN EQPMT #353	TOWRS & FIX #354	POLES & FIX #355	OVRHD CNDCT #356
1940	22	35	17	15	22
1941	23	36	19	17	23
1942	25	37	20	18	25
1943	25	36	20	19	26
1944	25	35	21	21	26
1945	26	35	21	22	26
1946	29	39	24	24	30
1947	34	47	28	29	35
1948	37	49	31	32	39
1949	38	52	32	32	39
1950	40	56	34	33	41
1951	45	63	37	36	47
1952	46	64	39	37	49
1953	49	68	41	39	51
1954	50	69	42	40	52
1955	52	70	43	42	55
1956	56	77	46	44	61
1957	57	81	48	47	63
1958	59	84	51	49	63
1959	60	83	53	50	62
1960	60	77	55	52	63
1961	59	70	57	53	63
1962	59	69	57	54	65
1963	59	65	59	55	61
1964	61	69	61	56	64
1965	64	73	63	58	67
1966	67	75	67	61	70
1967	70	79	71	63	73
1968	73	83	74	65	73
1969	78	85	78	69	80
1970	83	89	82	76	89
1971	89	91	87	81	98
1972	93	94	92	87	99
1973	100	100	100	100	100
1974	124	124	123	126	117
1975	145	148	147	145	146
1976	158	156	150	150	173
1977	172	172	154	160	191
1978	174	182	170	170	176
1979	190	196	186	190	194
1980	211	217	210	210	215
1981	230	235	227	233	237
1982	245	254	229	253	251
1983	254	257	233	257	277
1984	255	261	247	263	265
1985	252	260	254	255	250
1986	256	262	262	258	254
1987	257	270	267	260	234
1988	286	280	280	282	326
1989	296	295	288	301	320
1990	308	315	290	309	333
1991	314	315	281	334	356
1992	310	323	283	353	312
1993	321	335	297	359	325
1994	336	353	314	376	333

1995	353	365	321	391	368	94
1996	358	365	332	410	372	95
1997	363	369	340	419	373	96
1998	375	382	347	428	391	97
1999	369	388	354	419	354	98
2000	373	391	365	413	356	99
2001	401	421	377	432	403	100

COST EVALUATION PERIOD DATA:

YEAR, ESC FACT AND PROJ PLANT

2005	1.03700	311751.0
2006	1.06200	415193.0
2007	1.08800	269054.0

1 PLANT INVESTMENT BY YEAR AND ACCOUNT

YEAR	R2	R3	SQ	S0	R2	R3	R3	R2
	60	60	40	39	34	34	100	50
	1	1	2	2	2	2	3	4
1940	304.	238.	0.	1820.	0.	0.	1165.	22.
1941	750.	466.	0.	1431.	0.	0.	3833.	309.
1942	376.	337.	0.	1475.	0.	0.	68.	303.
1943	439.	297.	0.	1813.	0.	0.	4237.	56.
1944	23.	7.	0.	9.	0.	0.	1.	11.
1945	31.	16.	0.	276.	0.	0.	538.	102.
1946	97.	78.	0.	324.	0.	0.	613.	49.
1947	109.	34.	0.	64.	0.	0.	9.	165.
1948	176.	152.	0.	1473.	0.	0.	325.	273.
1949	44.	44.	0.	2458.	0.	0.	394.	584.
1950	411.	343.	0.	1970.	0.	0.	3994.	487.
1951	283.	215.	0.	2863.	0.	0.	2043.	428.
1952	459.	189.	0.	2722.	0.	0.	7448.	324.
1953	1073.	713.	0.	9480.	0.	0.	9406.	1702.
1954	567.	463.	0.	3913.	0.	0.	13091.	717.
1955	768.	459.	0.	6235.	0.	0.	2126.	217.
1956	526.	361.	0.	7653.	0.	0.	16296.	205.
1957	749.	536.	0.	8310.	0.	0.	1479.	691.
1958	445.	339.	0.	6879.	0.	0.	5519.	954.
1959	320.	160.	0.	7256.	0.	0.	2177.	563.
1960	425.	80.	0.	3000.	0.	0.	770.	186.
1961	666.	195.	0.	4415.	0.	0.	3222.	372.
1962	397.	280.	0.	3463.	0.	0.	11359.	669.
1963	1656.	159.	0.	2994.	0.	0.	1223.	222.
1964	527.	296.	0.	2737.	0.	0.	2201.	105.
1965	803.	91.	0.	3620.	0.	0.	9012.	152.
1966	358.	293.	0.	9080.	0.	0.	4065.	561.
1967	797.	584.	0.	8659.	0.	0.	11304.	404.
1968	1558.	1363.	0.	17090.	0.	0.	34717.	159.
1969	1783.	1061.	0.	18367.	0.	0.	26192.	578.
1970	5896.	5781.	0.	61046.	0.	0.	26607.	583.
1971	932.	689.	0.	0.	5625.	5625.	16012.	319.
1972	3519.	1196.	0.	0.	7369.	7369.	14962.	606.
1973	2613.	1080.	0.	0.	8102.	8102.	28660.	275.
1974	2251.	560.	0.	0.	7723.	7723.	6504.	806.
1975	3193.	1834.	0.	0.	12180.	12180.	20982.	947.
1976	1750.	1073.	0.	0.	12757.	12757.	33087.	1035.
1977	8561.	1319.	0.	0.	15079.	15079.	62116.	747.
1978	2342.	885.	0.	0.	21999.	21999.	7713.	733.
1979	6512.	523.	0.	0.	9757.	9757.	9162.	1047.
1980	1795.	860.	0.	0.	9948.	9948.	14706.	395.
1981	2248.	1215.	0.	0.	21185.	21185.	61361.	629.
1982	2344.	950.	0.	0.	16620.	16620.	3576.	338.
1983	9758.	2629.	0.	0.	19867.	19867.	28605.	1488.
1984	7926.	3632.	0.	0.	33491.	33491.	76261.	1663.
1985	6121.	4147.	0.	0.	37234.	37234.	242.	1048.
1986	4041.	2578.	0.	0.	11533.	11533.	7491.	4252.
1987	5531.	3753.	0.	0.	16801.	16801.	100491.	6967.
1988	5293.	4435.	0.	0.	11525.	11525.	4838.	1331.
1989	17714.	13046.	0.	0.	65285.	65285.	2056.	1855.
1990	5645.	2002.	0.	0.	26852.	26852.	3377.	684.
1991	9276.	3316.	0.	0.	47988.	47988.	1305.	763.
1992	9680.	1579.	0.	0.	60649.	60649.	11016.	1056.
1993	8040.	4187.	0.	0.	40552.	40552.	14158.	1510.
1994	39212.	14191.	0.	0.	117805.	117805.	5807.	1875.
1995	8405.	5854.	0.	0.	35235.	35235.	826.	778.

1996	14498.	3756.	1078.	0.	42922.	42922.	1685.	99.
1997	6187.	3518.	3.	0.	44232.	44232.	16096.	1083.
1998	13668.	5666.	145.	0.	27796.	27796.	8932.	1451.
1999	5253.	2730.	3458.	0.	37001.	37001.	-645.	3753.
2000	1032.	767.	0.	0.	20295.	20295.	96.	1039.
2001	2081.	1273.	0.	0.	27092.	27092.	1404.	1909.
2002	9073.	4187.	177.	7663.	32951.	32951.	29017.	2063.
2003	8306.	3833.	162.	7015.	30166.	30166.	26564.	1889.
2004	11607.	5357.	226.	9803.	42154.	42154.	37120.	2640.
2005	24721.	11409.	482.	20879.	89783.	89783.	79062.	5622.

1 PLANT INVESTMENT BY YEAR AND ACCOUNT

YEAR	R3	R4	S3	R4	SQ	SQ	L3	SQ
	50	100	30	75	20	5	10	15
	4	5	1	1	1	1	1	1
1940	22.	1337.	0.	100.	0.	0.	0.	0.
1941	309.	6813.	0.	145.	0.	0.	0.	0.
1942	303.	1715.	0.	289.	0.	0.	0.	0.
1943	56.	3638.	0.	428.	0.	0.	0.	0.
1944	11.	328.	0.	131.	0.	0.	0.	0.
1945	102.	489.	0.	101.	0.	0.	0.	0.
1946	49.	443.	0.	20.	0.	0.	0.	0.
1947	165.	561.	0.	112.	0.	0.	0.	0.
1948	273.	1928.	0.	177.	0.	0.	0.	0.
1949	584.	1618.	0.	114.	0.	0.	0.	0.
1950	487.	5746.	0.	998.	0.	0.	0.	0.
1951	428.	4309.	0.	12.	0.	0.	0.	0.
1952	324.	7377.	194.	9.	0.	0.	0.	0.
1953	1702.	10975.	0.	231.	0.	0.	0.	0.
1954	717.	12380.	0.	1592.	0.	0.	1.	0.
1955	217.	2606.	0.	50.	0.	0.	0.	0.
1956	205.	12919.	0.	356.	0.	0.	33.	0.
1957	691.	3667.	0.	299.	0.	0.	0.	0.
1958	954.	6998.	0.	740.	0.	0.	0.	0.
1959	563.	3629.	0.	236.	0.	0.	0.	0.
1960	186.	1110.	0.	40.	0.	0.	0.	0.
1961	372.	4187.	0.	286.	0.	0.	0.	0.
1962	669.	9864.	0.	543.	0.	0.	0.	0.
1963	222.	1842.	0.	402.	0.	0.	7.	0.
1964	105.	1508.	0.	53.	0.	0.	19.	0.
1965	152.	11667.	0.	538.	0.	0.	0.	0.
1966	561.	6233.	0.	274.	0.	0.	8.	0.
1967	404.	12198.	1401.	235.	0.	0.	16.	0.
1968	159.	36861.	0.	1036.	0.	0.	32.	0.
1969	578.	27856.	0.	487.	0.	0.	127.	0.
1970	583.	28542.	0.	943.	0.	0.	123.	0.
1971	319.	14207.	0.	328.	0.	0.	250.	0.
1972	606.	18862.	0.	879.	0.	0.	66.	0.
1973	275.	26381.	1494.	1615.	0.	0.	587.	0.
1974	806.	7249.	0.	1121.	0.	0.	437.	0.
1975	947.	15017.	0.	1320.	0.	0.	730.	0.
1976	1035.	29182.	1318.	860.	0.	0.	301.	0.
1977	747.	69004.	65.	1017.	0.	0.	304.	0.
1978	733.	7684.	43.	51.	0.	0.	1018.	0.
1979	1047.	12052.	0.	1337.	0.	0.	245.	0.
1980	395.	16057.	0.	201.	0.	0.	246.	0.
1981	629.	64666.	0.	527.	0.	0.	565.	0.
1982	338.	5060.	0.	356.	0.	0.	781.	0.
1983	1488.	28663.	0.	827.	0.	0.	355.	1562.
1984	1663.	80157.	0.	8400.	0.	0.	59.	0.
1985	1048.	1672.	4573.	59.	0.	0.	240.	0.
1986	4252.	16166.	0.	742.	0.	0.	116.	2102.
1987	6967.	145662.	0.	40293.	0.	0.	57.	6414.
1988	1331.	6827.	0.	309.	0.	0.	350.	6059.
1989	1855.	2294.	0.	141.	0.	0.	1215.	5705.
1990	684.	2590.	0.	0.	0.	0.	358.	20471.
1991	763.	3258.	0.	0.	0.	0.	1232.	11183.
1992	1056.	20042.	0.	2021.	0.	0.	1772.	37791.
1993	1510.	23660.	0.	4254.	0.	0.	976.	29865.
1994	1875.	4879.	0.	118.	0.	0.	805.	34418.

1995	778.	5072.	0.	201.	639.	0.	1076.	22437.
1996	99.	4008.	0.	2.	0.	0.	1267.	45083.
1997	1083.	12459.	14.	2638.	0.	0.	533.	50822.
1998	1451.	12847.	7.	1784.	0.	0.	371.	49740.
1999	3753.	172.	0.	416.	0.	5358.	548.	89999.
2000	1039.	717.	0.	0.	0.	1744.	0.	10063.
2001	1909.	2802.	0.	1193.	0.	6097.	0.	6330.
2002	2063.	33639.	344.	3172.	24.	498.	651.	16241.
2003	1889.	30795.	315.	2904.	22.	456.	596.	14868.
2004	2640.	43034.	440.	4058.	31.	638.	832.	20777.
2005	5622.	91657.	937.	8643.	66.	1358.	1773.	44253.

1 PLANT INVESTMENT BY YEAR AND ACCOUNT

YEAR	SQ	SQ	L2	
	30	25	15	
	1	1	1	
1940	0.	0.	0.	5008.
1941	0.	0.	0.	14056.
1942	0.	0.	0.	4866.
1943	0.	0.	0.	10964.
1944	0.	0.	0.	521.
1945	0.	0.	0.	1655.
1946	0.	0.	0.	1673.
1947	0.	0.	0.	1219.
1948	0.	0.	0.	4777.
1949	0.	0.	0.	5840.
1950	0.	0.	0.	14436.
1951	0.	0.	0.	10581.
1952	0.	0.	0.	19046.
1953	0.	0.	0.	35282.
1954	0.	0.	0.	33441.
1955	0.	0.	0.	12678.
1956	0.	0.	0.	38554.
1957	0.	0.	0.	16422.
1958	0.	0.	0.	22828.
1959	0.	0.	26.	14930.
1960	0.	0.	0.	5797.
1961	0.	0.	0.	13715.
1962	0.	0.	0.	27244.
1963	0.	0.	0.	8727.
1964	0.	0.	22.	7573.
1965	0.	0.	0.	26035.
1966	0.	0.	16.	21449.
1967	0.	0.	7.	36009.
1968	0.	0.	18.	92993.
1969	0.	0.	95.	77124.
1970	0.	0.	36.	130140.
1971	0.	0.	12.	44318.
1972	0.	0.	115.	55549.
1973	0.	0.	167.	79351.
1974	0.	0.	247.	35427.
1975	0.	0.	198.	69528.
1976	0.	0.	841.	95996.
1977	0.	0.	860.	174898.
1978	0.	0.	325.	65525.
1979	0.	0.	615.	52054.
1980	1653.	4054.	-3746.	56512.
1981	44.	68.	598.	174920.
1982	0.	0.	600.	47583.
1983	0.	0.	1155.	116264.
1984	0.	0.	989.	247732.
1985	0.	0.	1047.	94665.
1986	0.	0.	1280.	66086.
1987	0.	0.	593.	350330.
1988	0.	0.	513.	54336.
1989	0.	0.	310.	176761.
1990	0.	0.	981.	90496.
1991	0.	0.	1076.	128148.
1992	0.	0.	3014.	210325.
1993	0.	0.	2357.	171621.
1994	0.	0.	723.	339513.
1995	0.	0.	943.	117479.
1996	2.	0.	1665.	159086.
1997	0.	0.	1.	182901.
1998	0.	0.	395.	152049.
1999	214.	1615.	1329.	191955.
2000	0.	101.	0.	57188.
2001	0.	0.	0.	79182.
2002	72.	220.	734.	175741.
2003	66.	202.	672.	160885.
2004	92.	282.	938.	224821.
2005	197.	601.	1999.	478847

1 ADJUSTED PLANT INVESTMENT BY YEAR AND FERC ACCOUNT

YEAR	R2	R3	SQ	S0	R2	R3	R3	R2
	60	60	40	39	34	34	100	50
	1	1	2	2	2	2	3	4
2002	-3310.	-1702.	0.	-27304.	-15624.	-12866.	-4603.	-3147.
2003	-3434.	-1789.	0.	-27615.	-16732.	-14314.	-4825.	-3232.
2004	-3559.	-1878.	0.	-27869.	-17833.	-15857.	-5053.	-3311.
2005	21039.	9444.	482.	-7205.	70811.	72298.	73777.	2238.

YEAR	R3	R4	S3	R4	SQ	SQ	L3	SQ
	50	100	30	75	20	5	10	15
	4	5	1	1	1	1	1	1
2002	-3512.	-2429.	-965.	-594.	0.	0.	-2991.	0.
2003	-3615.	-2610.	-978.	-636.	0.	0.	-3035.	0.
2004	-3711.	-2802.	-991.	-681.	0.	0.	-3056.	0.
2005	1824.	88654.	-59.	7914.	66.	1358.	-1270.	44253.

YEAR	SQ	SQ	L2				
	30	25	15				
	1	1	1				
2002	0.	0.	-1689.	0.	0.	0.	-80736.
2003	0.	0.	-1771.	0.	0.	0.	-84586.
2004	0.	0.	-1831.	0.	0.	0.	-88432.
2005	197.	601.	131.	0.	0.	0.	386553.

1 2003 REPLACEMENTS BY INDIVIDUAL PLANT ACCOUNTS:

CURVE	R2	R3	SQ	S0	R2	R3	R3	R2
LIFE	60	60	40	39	34	34	100	50
H-W	1	1	2	2	2	2	3	4
2002	3310.	1702.	0.	27304.	15624.	12866.	4603.	3147.
2003	3434.	1789.	0.	27615.	16732.	14314.	4825.	3232.
2004	3564.	1879.	0.	27879.	17892.	15865.	5054.	3313.
2005	3695.	1966.	0.	28147.	19111.	17504.	5287.	3390.
2006	3830.	2053.	0.	28414.	20349.	19204.	5527.	3465.
2007	3963.	2139.	0.	28667.	21632.	20987.	5777.	3535.
2008	4100.	2227.	0.	28901.	22943.	22802.	6034.	3602.
2009	4238.	2317.	0.	29128.	24276.	24621.	6302.	3666.
2010	4380.	2411.	0.	29343.	25638.	26457.	6577.	3726.
2011	4521.	2500.	0.	29542.	27003.	28251.	6857.	3779.
2012	4664.	2585.	0.	29718.	28369.	30001.	7144.	3825.
2013	4808.	2668.	0.	29880.	29728.	31676.	7441.	3865.
2014	4953.	2752.	0.	30022.	31076.	33278.	7745.	3903.
2015	5100.	2837.	0.	30142.	32384.	34775.	8054.	3938.
2016	5249.	2926.	0.	30233.	33659.	36188.	8370.	3966.
2017	5396.	3012.	0.	30314.	34904.	37528.	8699.	3985.
2018	5544.	3094.	0.	30378.	36071.	38732.	9037.	4000.
2019	5692.	3174.	0.	30422.	37184.	39908.	9391.	4013.
2020	5840.	3252.	0.	30443.	38242.	41055.	9755.	4024.
2021	5988.	3329.	0.	30462.	39218.	42097.	10125.	4029.
2022	6137.	3409.	0.	30465.	40109.	43034.	10507.	4028.
2023	6285.	3491.	0.	30450.	40941.	43934.	10899.	4025.
2024	6431.	3574.	0.	30417.	41690.	44756.	11299.	4021.
2025	6577.	3656.	0.	30366.	42329.	45424.	11706.	4014.
2026	6722.	3734.	0.	30285.	42893.	45957.	12121.	4006.
2027	6864.	3809.	0.	30176.	43372.	46341.	12546.	3996.
2028	7006.	3879.	0.	30035.	43749.	46601.	12983.	3986.
2029	7147.	3952.	0.	29881.	43998.	46604.	13436.	3975.
2030	7287.	4026.	0.	29720.	44158.	46458.	13901.	3965.
2031	7425.	4098.	0.	29534.	44201.	46101.	14373.	3955.
2032	7562.	4166.	0.	29333.	44131.	45578.	14859.	3947.
2033	7693.	4231.	0.	29134.	43971.	44864.	15359.	3939.
2034	7821.	4284.	0.	28959.	43677.	43835.	15873.	3930.
2035	7947.	4344.	0.	28763.	43325.	42724.	16396.	3922.
2036	8071.	4404.	0.	28571.	42884.	41552.	16927.	3915.
2037	8192.	4464.	0.	28392.	42358.	40238.	17462.	3910.
2038	8309.	4520.	0.	28221.	41769.	38912.	18008.	3906.

1 2002 REPLACEMENTS BY INDIVIDUAL PLANT ACCOUNTS:

CURVE	R2	R3	SQ	S0	R2	R3	R3	R2
LIFE	60	60	40	39	34	34	100	50
H-W	1	1	2	2	2	2	3	4
2002	3310.	1702.	0.	27304.	15624.	12866.	4603.	3147.
2003	3440.	1790.	0.	27627.	16797.	14322.	4826.	3234.
2004	3573.	1879.	0.	27935.	17980.	15878.	5055.	3318.
2005	3706.	1967.	0.	28241.	19191.	17520.	5288.	3398.
2006	3839.	2053.	0.	28536.	20436.	19224.	5528.	3473.
2007	3973.	2140.	0.	28817.	21727.	21010.	5779.	3544.
2008	4110.	2228.	0.	29078.	23047.	22835.	6035.	3612.
2009	4249.	2319.	0.	29331.	24391.	24662.	6304.	3676.
2010	4391.	2412.	0.	29568.	25761.	26504.	6580.	3737.
2011	4533.	2501.	0.	29789.	27137.	28309.	6859.	3791.
2012	4676.	2587.	0.	29986.	28516.	30071.	7147.	3837.
2013	4821.	2671.	0.	30168.	29887.	31757.	7444.	3878.
2014	4966.	2755.	0.	30329.	31247.	33370.	7748.	3917.
2015	5114.	2840.	0.	30467.	32572.	34885.	8057.	3953.
2016	5264.	2929.	0.	30576.	33861.	36313.	8374.	3981.
2017	5412.	3015.	0.	30674.	35120.	37667.	8703.	4002.
2018	5561.	3098.	0.	30755.	36306.	38892.	9041.	4018.
2019	5709.	3179.	0.	30815.	37437.	40087.	9395.	4032.
2020	5858.	3257.	0.	30852.	38513.	41252.	9760.	4043.
2021	6007.	3334.	0.	30887.	39509.	42315.	10131.	4049.
2022	6157.	3415.	0.	30905.	40423.	43277.	10512.	4050.
2023	6305.	3497.	0.	30905.	41277.	44200.	10905.	4048.
2024	6453.	3580.	0.	30887.	42048.	45045.	11306.	4045.
2025	6600.	3663.	0.	30849.	42714.	45751.	11712.	4039.
2026	6746.	3742.	0.	30783.	43303.	46316.	12128.	4032.
2027	6889.	3818.	0.	30687.	43807.	46732.	12554.	4024.
2028	7032.	3888.	0.	30559.	44212.	47034.	12992.	4015.
2029	7174.	3962.	0.	30418.	44490.	47084.	13445.	4006.
2030	7316.	4036.	0.	30270.	44678.	46982.	13910.	3997.
2031	7455.	4110.	0.	30097.	44750.	46668.	14383.	3990.
2032	7592.	4179.	0.	29908.	44708.	46195.	14870.	3983.
2033	7725.	4244.	0.	29722.	44577.	45529.	15370.	3977.
2034	7854.	4298.	0.	29557.	44311.	44547.	15884.	3969.
2035	7982.	4358.	0.	29373.	43983.	43467.	16408.	3963.
2036	8108.	4419.	0.	29193.	43566.	42327.	16940.	3958.
2037	8229.	4480.	0.	29024.	43065.	41048.	17475.	3955.

1 2002 REPLACEMENTS BY INDIVIDUAL PLANT ACCOUNTS:

CURVE	R3	R4	S3	R4	SQ	SQ	L3	SQ
LIFE	50	100	30	75	20	5	10	15
H-W	4	5	1	1	1	1	1	1
2002	3512.	2429.	965.	594.	0.	0.	2991.	0.
2003	3615.	2610.	978.	636.	0.	0.	3035.	0.
2004	3711.	2803.	991.	681.	0.	0.	3059.	0.
2005	3800.	3004.	996.	729.	0.	0.	3058.	0.
2006	3874.	3217.	995.	779.	0.	0.	3034.	0.
2007	3931.	3449.	993.	836.	0.	0.	2984.	0.
2008	3977.	3696.	987.	896.	0.	0.	2900.	0.
2009	4018.	3960.	976.	959.	0.	0.	2800.	0.
2010	4057.	4236.	965.	1023.	0.	0.	2725.	0.
2011	4079.	4520.	952.	1090.	0.	0.	2707.	0.
2012	4081.	4817.	938.	1160.	0.	0.	2740.	0.
2013	4073.	5130.	924.	1231.	0.	0.	2789.	0.
2014	4062.	5462.	910.	1307.	0.	0.	2826.	0.
2015	4046.	5806.	896.	1387.	0.	0.	2840.	0.
2016	4018.	6167.	883.	1467.	0.	0.	2836.	0.
2017	3980.	6550.	870.	1548.	0.	0.	2822.	0.
2018	3941.	6951.	859.	1633.	0.	0.	2808.	0.
2019	3903.	7373.	848.	1723.	0.	0.	2799.	0.
2020	3864.	7811.	839.	1812.	0.	0.	2797.	0.
2021	3828.	8259.	831.	1900.	0.	0.	2801.	0.
2022	3797.	8724.	824.	1987.	0.	0.	2807.	0.
2023	3768.	9214.	819.	2068.	0.	0.	2811.	0.
2024	3741.	9728.	817.	2149.	0.	0.	2813.	0.
2025	3717.	10258.	814.	2229.	0.	0.	2812.	0.
2026	3703.	10811.	814.	2310.	0.	0.	2809.	0.
2027	3697.	11406.	817.	2389.	0.	0.	2807.	0.
2028	3695.	12026.	820.	2466.	0.	0.	2806.	0.
2029	3692.	12678.	825.	2543.	0.	0.	2806.	0.
2030	3693.	13349.	832.	2609.	0.	0.	2807.	0.
2031	3702.	14034.	839.	2673.	0.	0.	2808.	0.
2032	3720.	14736.	847.	2737.	0.	0.	2809.	0.
2033	3740.	15475.	856.	2797.	0.	0.	2809.	0.
2034	3761.	16242.	865.	2846.	0.	0.	2809.	0.
2035	3783.	17029.	873.	2894.	0.	0.	2808.	0.
2036	3811.	17839.	879.	2943.	0.	0.	2808.	0.
2037	3846.	18657.	886.	2992.	0.	0.	2807.	0.

1 2002 REPLACEMENTS BY INDIVIDUAL PLANT ACCOUNTS:

CURVE	SQ	SQ	L2	
LIFE	30	25	15	
H-W	1	1	1	
FERC ACCT	SQ	SQ	L2	
2002	0.	0.	1689.	80736.
2003	0.	0.	1772.	84682.
2004	0.	0.	1837.	88698.
2005	0.	0.	1882.	92781.
2006	0.	0.	1913.	96902.
2007	0.	0.	1931.	101112.
2008	0.	0.	1934.	105335.
2009	0.	0.	1930.	109573.
2010	0.	0.	1918.	113877.
2011	0.	0.	1906.	118175.
2012	0.	0.	1896.	122452.
2013	0.	0.	1889.	126662.
2014	0.	0.	1886.	130784.
2015	0.	0.	1884.	134746.
2016	0.	0.	1885.	138553.
2017	0.	0.	1887.	142249.
2018	0.	0.	1887.	145748.
2019	0.	0.	1888.	149186.
2020	0.	0.	1887.	152545.
2021	0.	0.	1885.	155736.
2022	0.	0.	1882.	158760.
2023	0.	0.	1880.	161699.
2024	0.	0.	1877.	164488.
2025	0.	0.	1876.	167035.
2026	0.	0.	1875.	169372.
2027	0.	0.	1875.	171502.
2028	0.	0.	1875.	173421.
2029	0.	0.	1876.	175000.
2030	0.	0.	1876.	176356.
2031	0.	0.	1878.	177384.
2032	0.	0.	1878.	178163.
2033	0.	0.	1879.	178699.
2034	0.	0.	1880.	178824.
2035	0.	0.	1881.	178802.
2036	0.	0.	1881.	178672.
2037	0.	0.	1881.	178348.

1 2003 REPLACEMENTS BY INDIVIDUAL PLANT ACCOUNTS:

CURVE	R2	R3	SQ	S0	R2	R3	R3	R2
LIFE	60	60	40	39	34	34	100	50
H-W	1	1	2	2	2	2	3	4
2002	3310.	1702.	0.	27304.	15624.	12866.	4603.	3147.
2003	3434.	1789.	0.	27615.	16732.	14314.	4825.	3232.
2004	3564.	1879.	0.	27879.	17892.	15865.	5054.	3313.
2005	3695.	1966.	0.	28147.	19111.	17504.	5287.	3390.
2006	3830.	2053.	0.	28414.	20349.	19204.	5527.	3465.
2007	3963.	2139.	0.	28667.	21632.	20987.	5777.	3535.
2008	4100.	2227.	0.	28901.	22943.	22802.	6034.	3602.
2009	4238.	2317.	0.	29128.	24276.	24621.	6302.	3666.
2010	4380.	2411.	0.	29343.	25638.	26457.	6577.	3726.
2011	4521.	2500.	0.	29542.	27003.	28251.	6857.	3779.
2012	4664.	2585.	0.	29718.	28369.	30001.	7144.	3825.
2013	4808.	2668.	0.	29880.	29728.	31676.	7441.	3865.
2014	4953.	2752.	0.	30022.	31076.	33278.	7745.	3903.
2015	5100.	2837.	0.	30142.	32384.	34775.	8054.	3938.
2016	5249.	2926.	0.	30233.	33659.	36188.	8370.	3966.
2017	5396.	3012.	0.	30314.	34904.	37528.	8699.	3985.
2018	5544.	3094.	0.	30378.	36071.	38732.	9037.	4000.
2019	5692.	3174.	0.	30422.	37184.	39908.	9391.	4013.
2020	5840.	3252.	0.	30443.	38242.	41055.	9755.	4024.
2021	5988.	3329.	0.	30462.	39218.	42097.	10125.	4029.
2022	6137.	3409.	0.	30465.	40109.	43034.	10507.	4028.
2023	6285.	3491.	0.	30450.	40941.	43934.	10899.	4025.
2024	6431.	3574.	0.	30417.	41690.	44756.	11299.	4021.
2025	6577.	3656.	0.	30366.	42329.	45424.	11706.	4014.
2026	6722.	3734.	0.	30285.	42893.	45957.	12121.	4006.
2027	6864.	3809.	0.	30176.	43372.	46341.	12546.	3996.
2028	7006.	3879.	0.	30035.	43749.	46601.	12983.	3986.
2029	7147.	3952.	0.	29881.	43998.	46604.	13436.	3975.
2030	7287.	4026.	0.	29720.	44158.	46458.	13901.	3965.
2031	7425.	4098.	0.	29534.	44201.	46101.	14373.	3955.
2032	7562.	4166.	0.	29333.	44131.	45578.	14859.	3947.
2033	7693.	4231.	0.	29134.	43971.	44864.	15359.	3939.
2034	7821.	4284.	0.	28959.	43677.	43835.	15873.	3930.
2035	7947.	4344.	0.	28763.	43325.	42724.	16396.	3922.
2036	8071.	4404.	0.	28571.	42884.	41552.	16927.	3915.
2037	8192.	4464.	0.	28392.	42358.	40238.	17462.	3910.
2038	8309.	4520.	0.	28221.	41769.	38912.	18008.	3906.

1 2003 REPLACEMENTS BY INDIVIDUAL PLANT ACCOUNTS:

CURVE	R3	R4	S3	R4	SQ	SQ	L3	SQ
LIFE	50	100	30	75	20	5	10	15
H-W	4	5	1	1	1	1	1	1
2002	3512.	2429.	965.	594.	0.	0.	2991.	0.
2003	3615.	2610.	978.	636.	0.	0.	3035.	0.
2004	3711.	2802.	991.	681.	0.	0.	3056.	0.
2005	3799.	3003.	996.	729.	0.	0.	3046.	0.
2006	3873.	3217.	995.	779.	0.	0.	3002.	0.
2007	3929.	3449.	993.	836.	0.	0.	2917.	0.
2008	3974.	3696.	987.	896.	0.	0.	2772.	0.
2009	4016.	3960.	976.	959.	0.	0.	2576.	0.
2010	4054.	4236.	965.	1023.	0.	0.	2391.	0.
2011	4075.	4520.	952.	1090.	0.	0.	2297.	0.
2012	4076.	4817.	938.	1160.	0.	0.	2319.	0.
2013	4068.	5130.	923.	1231.	0.	0.	2411.	0.
2014	4056.	5461.	908.	1307.	0.	0.	2503.	0.
2015	4040.	5806.	893.	1386.	0.	0.	2556.	0.
2016	4011.	6166.	878.	1467.	0.	0.	2564.	0.
2017	3971.	6549.	864.	1548.	0.	0.	2543.	0.
2018	3931.	6950.	851.	1633.	0.	0.	2512.	0.
2019	3891.	7372.	837.	1723.	0.	0.	2487.	0.
2020	3852.	7810.	825.	1812.	0.	0.	2476.	0.
2021	3815.	8258.	814.	1900.	0.	0.	2479.	0.
2022	3782.	8723.	803.	1986.	0.	0.	2490.	0.
2023	3752.	9213.	794.	2068.	0.	0.	2502.	0.
2024	3722.	9727.	788.	2148.	0.	0.	2509.	0.
2025	3697.	10257.	781.	2229.	0.	0.	2509.	0.
2026	3681.	10809.	778.	2309.	0.	0.	2504.	0.
2027	3674.	11405.	777.	2389.	0.	0.	2499.	0.
2028	3669.	12024.	776.	2465.	0.	0.	2495.	0.
2029	3665.	12676.	779.	2542.	0.	0.	2494.	0.
2030	3663.	13347.	783.	2608.	0.	0.	2495.	0.
2031	3670.	14031.	788.	2672.	0.	0.	2498.	0.
2032	3686.	14733.	795.	2735.	0.	0.	2500.	0.
2033	3704.	15472.	804.	2795.	0.	0.	2501.	0.
2034	3723.	16239.	813.	2844.	0.	0.	2501.	0.
2035	3742.	17025.	822.	2893.	0.	0.	2500.	0.
2036	3767.	17836.	831.	2941.	0.	0.	2499.	0.
2037	3799.	18653.	840.	2990.	0.	0.	2498.	0.
2038	3833.	19494.	848.	3034.	0.	0.	2498.	0.

1 2003 REPLACEMENTS BY INDIVIDUAL PLANT ACCOUNTS:

CURVE	SQ	SQ	L2	
LIFE	30	25	15	
H-W	1	1	1	
FERC ACCT	SQ	SQ	L2	
2002	0.	0.	1689.	80736.
2003	0.	0.	1771.	84586.
2004	0.	0.	1832.	88520.
2005	0.	0.	1873.	92548.
2006	0.	0.	1896.	96602.
2007	0.	0.	1905.	100728.
2008	0.	0.	1897.	104829.
2009	0.	0.	1876.	108911.
2010	0.	0.	1845.	113046.
2011	0.	0.	1814.	117201.
2012	0.	0.	1786.	121402.
2013	0.	0.	1766.	125596.
2014	0.	0.	1757.	129722.
2015	0.	0.	1753.	133663.
2016	0.	0.	1754.	137431.
2017	0.	0.	1758.	141071.
2018	0.	0.	1761.	144494.
2019	0.	0.	1764.	147858.
2020	0.	0.	1765.	151151.
2021	0.	0.	1764.	154278.
2022	0.	0.	1761.	157234.
2023	0.	0.	1758.	160112.
2024	0.	0.	1755.	162837.
2025	0.	0.	1752.	165297.
2026	0.	0.	1751.	167551.
2027	0.	0.	1750.	169598.
2028	0.	0.	1751.	171421.
2029	0.	0.	1752.	172901.
2030	0.	0.	1753.	174165.
2031	0.	0.	1755.	175101.
2032	0.	0.	1756.	175782.
2033	0.	0.	1758.	176225.
2034	0.	0.	1759.	176257.
2035	0.	0.	1759.	176162.
2036	0.	0.	1760.	175958.
2037	0.	0.	1760.	175556.
2038	0.	0.	1759.	175112.

1 2004 REPLACEMENTS BY INDIVIDUAL PLANT ACCOUNTS:

CURVE	R2	R3	SQ	S0	R2	R3	R3	R2
LIFE	60	60	40	39	34	34	100	50
H-W	1	1	2	2	2	2	3	4
2002	3310.	1702.	0.	27304.	15624.	12866.	4603.	3147.
2003	3434.	1789.	0.	27615.	16732.	14314.	4825.	3232.
2004	3559.	1878.	0.	27869.	17833.	15857.	5053.	3311.
2005	3690.	1966.	0.	28098.	19055.	17496.	5286.	3386.
2006	3824.	2052.	0.	28331.	20317.	19196.	5526.	3459.
2007	3962.	2138.	0.	28558.	21599.	20978.	5777.	3529.
2008	4098.	2226.	0.	28767.	22907.	22792.	6033.	3595.
2009	4237.	2317.	0.	28970.	24236.	24605.	6302.	3659.
2010	4378.	2410.	0.	29163.	25594.	26438.	6578.	3718.
2011	4520.	2499.	0.	29343.	26956.	28231.	6858.	3771.
2012	4662.	2584.	0.	29500.	28318.	29976.	7145.	3816.
2013	4806.	2668.	0.	29642.	29672.	31646.	7442.	3856.
2014	4951.	2751.	0.	29767.	31017.	33245.	7746.	3893.
2015	5098.	2836.	0.	29870.	32321.	34739.	8055.	3928.
2016	5246.	2925.	0.	29945.	33588.	36144.	8372.	3955.
2017	5394.	3011.	0.	30010.	34828.	37480.	8701.	3974.
2018	5542.	3093.	0.	30058.	35991.	38681.	9038.	3988.
2019	5689.	3173.	0.	30087.	37096.	39849.	9392.	4000.
2020	5838.	3251.	0.	30094.	38147.	40991.	9757.	4010.
2021	5986.	3328.	0.	30099.	39118.	42029.	10127.	4014.
2022	6134.	3408.	0.	30088.	40002.	42958.	10508.	4013.
2023	6282.	3490.	0.	30060.	40825.	43849.	10900.	4009.
2024	6429.	3572.	0.	30014.	41567.	44665.	11302.	4004.
2025	6574.	3654.	0.	29949.	42199.	45329.	11708.	3996.
2026	6719.	3732.	0.	29856.	42752.	45843.	12124.	3987.
2027	6861.	3807.	0.	29735.	43223.	46218.	12549.	3976.
2028	7002.	3877.	0.	29582.	43593.	46471.	12987.	3965.
2029	7144.	3950.	0.	29416.	43832.	46457.	13438.	3953.
2030	7284.	4023.	0.	29243.	43981.	46293.	13904.	3941.
2031	7421.	4095.	0.	29045.	44016.	45926.	14377.	3931.
2032	7558.	4163.	0.	28833.	43938.	45392.	14863.	3922.
2033	7689.	4228.	0.	28624.	43769.	44662.	15363.	3912.
2034	7816.	4281.	0.	28438.	43466.	43622.	15878.	3902.
2035	7943.	4340.	0.	28231.	43106.	42500.	16402.	3892.
2036	8067.	4401.	0.	28030.	42660.	41333.	16933.	3884.
2037	8187.	4460.	0.	27840.	42128.	40016.	17468.	3878.
2038	8304.	4516.	0.	27660.	41532.	38682.	18014.	3872.
2039	8415.	4568.	0.	27450.	40915.	37466.	18566.	3866.

1 2004 REPLACEMENTS BY INDIVIDUAL PLANT ACCOUNTS:

CURVE	R3	R4	S3	R4	SQ	SQ	L3	SQ
LIFE	50	100	30	75	20	5	10	15
H-W	4	5	1	1	1	1	1	1
2002	3512.	2429.	965.	594.	0.	0.	2991.	0.
2003	3615.	2610.	978.	636.	0.	0.	3035.	0.
2004	3711.	2802.	991.	681.	0.	0.	3056.	0.
2005	3798.	3003.	996.	729.	0.	0.	3043.	0.
2006	3872.	3217.	995.	779.	0.	0.	2991.	0.
2007	3928.	3449.	993.	836.	0.	0.	2887.	0.
2008	3973.	3696.	987.	896.	0.	0.	2711.	0.
2009	4014.	3960.	976.	959.	0.	0.	2459.	0.
2010	4052.	4236.	965.	1023.	0.	0.	2186.	0.
2011	4073.	4520.	952.	1090.	0.	0.	1992.	0.
2012	4073.	4817.	937.	1160.	0.	0.	1945.	0.
2013	4064.	5130.	922.	1231.	0.	0.	2027.	0.
2014	4052.	5462.	907.	1307.	0.	0.	2159.	0.
2015	4035.	5806.	891.	1386.	0.	0.	2262.	0.
2016	4005.	6167.	875.	1467.	0.	0.	2305.	0.
2017	3965.	6549.	860.	1548.	0.	0.	2295.	0.
2018	3924.	6950.	845.	1633.	0.	0.	2257.	0.
2019	3884.	7372.	830.	1723.	0.	0.	2217.	0.
2020	3843.	7810.	815.	1812.	0.	0.	2191.	0.
2021	3805.	8259.	802.	1900.	0.	0.	2186.	0.
2022	3771.	8723.	788.	1986.	0.	0.	2196.	0.
2023	3740.	9213.	776.	2068.	0.	0.	2213.	0.
2024	3709.	9727.	766.	2148.	0.	0.	2226.	0.
2025	3683.	10258.	756.	2229.	0.	0.	2231.	0.
2026	3666.	10811.	749.	2309.	0.	0.	2228.	0.
2027	3657.	11406.	745.	2389.	0.	0.	2221.	0.
2028	3651.	12025.	741.	2465.	0.	0.	2214.	0.
2029	3645.	12677.	741.	2542.	0.	0.	2211.	0.
2030	3642.	13348.	743.	2608.	0.	0.	2211.	0.
2031	3647.	14032.	746.	2672.	0.	0.	2214.	0.
2032	3661.	14735.	752.	2735.	0.	0.	2217.	0.
2033	3678.	15474.	759.	2795.	0.	0.	2219.	0.
2034	3694.	16241.	768.	2844.	0.	0.	2220.	0.
2035	3712.	17028.	778.	2893.	0.	0.	2219.	0.
2036	3735.	17839.	787.	2942.	0.	0.	2218.	0.
2037	3764.	18656.	798.	2990.	0.	0.	2217.	0.
2038	3796.	19497.	808.	3034.	0.	0.	2216.	0.
2039	3826.	20364.	816.	3079.	0.	0.	2216.	0.

1 2004 REPLACEMENTS BY INDIVIDUAL PLANT ACCOUNTS:

CURVE	SQ	SQ	L2	
LIFE	30	25	15	
H-W	1	1	1	
FERC ACCT	SQ	SQ	L2	
2002	0.	0.	1689.	80736.
2003	0.	0.	1771.	84586.
2004	0.	0.	1831.	88432.
2005	0.	0.	1869.	92416.
2006	0.	0.	1888.	96446.
2007	0.	0.	1890.	100523.
2008	0.	0.	1874.	104556.
2009	0.	0.	1844.	108536.
2010	0.	0.	1799.	112541.
2011	0.	0.	1751.	116555.
2012	0.	0.	1707.	120640.
2013	0.	0.	1673.	124780.
2014	0.	0.	1652.	128908.
2015	0.	0.	1642.	132869.
2016	0.	0.	1642.	136635.
2017	0.	0.	1646.	140260.
2018	0.	0.	1652.	143653.
2019	0.	0.	1657.	146969.
2020	0.	0.	1660.	150219.
2021	0.	0.	1660.	153311.
2022	0.	0.	1658.	156235.
2023	0.	0.	1655.	159079.
2024	0.	0.	1651.	161780.
2025	0.	0.	1648.	164213.
2026	0.	0.	1645.	166419.
2027	0.	0.	1644.	168430.
2028	0.	0.	1645.	170218.
2029	0.	0.	1645.	171651.
2030	0.	0.	1647.	172869.
2031	0.	0.	1649.	173772.
2032	0.	0.	1651.	174420.
2033	0.	0.	1653.	174824.
2034	0.	0.	1655.	174825.
2035	0.	0.	1656.	174699.
2036	0.	0.	1656.	174482.
2037	0.	0.	1656.	174058.
2038	0.	0.	1656.	173587.
2039	0.	0.	1655.	173203.

1 2005 REPLACEMENTS BY INDIVIDUAL PLANT ACCOUNTS:

CURVE	R2	R3	SQ	S0	R2	R3	R3	R2
LIFE	60	60	40	39	34	34	100	50
H-W	1	1	2	2	2	2	3	4
2002	3310.	1702.	0.	27304.	15624.	12866.	4603.	3147.
2003	3434.	1789.	0.	27615.	16732.	14314.	4825.	3232.
2004	3559.	1878.	0.	27869.	17833.	15857.	5053.	3311.
2005	3682.	1966.	0.	28083.	18972.	17485.	5285.	3384.
2006	3823.	2052.	0.	28290.	20311.	19193.	5526.	3456.
2007	3967.	2139.	0.	28497.	21682.	20984.	5778.	3527.
2008	4115.	2227.	0.	28689.	23001.	22804.	6036.	3594.
2009	4254.	2318.	0.	28874.	24340.	24624.	6305.	3657.
2010	4397.	2411.	0.	29051.	25706.	26457.	6582.	3717.
2011	4540.	2501.	0.	29216.	27080.	28260.	6863.	3769.
2012	4683.	2586.	0.	29360.	28456.	30017.	7151.	3814.
2013	4828.	2670.	0.	29490.	29822.	31696.	7450.	3854.
2014	4974.	2753.	0.	29602.	31179.	33307.	7754.	3891.
2015	5122.	2839.	0.	29693.	32500.	34819.	8064.	3926.
2016	5272.	2929.	0.	29757.	33783.	36241.	8382.	3953.
2017	5421.	3014.	0.	29811.	35036.	37588.	8712.	3971.
2018	5571.	3097.	0.	29849.	36220.	38816.	9050.	3986.
2019	5719.	3178.	0.	29868.	37346.	40009.	9404.	3998.
2020	5869.	3256.	0.	29865.	38414.	41170.	9770.	4007.
2021	6018.	3333.	0.	29859.	39407.	42236.	10141.	4011.
2022	6169.	3414.	0.	29839.	40317.	43198.	10525.	4010.
2023	6318.	3497.	0.	29802.	41164.	44117.	10919.	4006.
2024	6467.	3580.	0.	29746.	41928.	44961.	11321.	4000.
2025	6614.	3663.	0.	29672.	42593.	45664.	11730.	3993.
2026	6760.	3741.	0.	29571.	43177.	46218.	12147.	3983.
2027	6904.	3817.	0.	29441.	43672.	46615.	12574.	3972.
2028	7048.	3889.	0.	29280.	44078.	46919.	13014.	3961.
2029	7192.	3963.	0.	29106.	44354.	46960.	13467.	3949.
2030	7334.	4037.	0.	28925.	44537.	46839.	13934.	3937.
2031	7474.	4110.	0.	28720.	44608.	46524.	14409.	3926.
2032	7612.	4179.	0.	28500.	44571.	46065.	14898.	3917.
2033	7746.	4246.	0.	28283.	44444.	45408.	15401.	3906.
2034	7876.	4299.	0.	28089.	44182.	44435.	15918.	3896.
2035	8006.	4360.	0.	27876.	43863.	43396.	16444.	3886.
2036	8132.	4422.	0.	27667.	43459.	42312.	16978.	3878.
2037	8255.	4483.	0.	27471.	42974.	41099.	17516.	3871.
2038	8374.	4540.	0.	27284.	42418.	39842.	18065.	3865.
2039	8488.	4594.	0.	27068.	41838.	38688.	18619.	3859.
2040	8596.	4632.	0.	26851.	41231.	37621.	19183.	3852.

1 2005 REPLACEMENTS BY INDIVIDUAL PLANT ACCOUNTS:

CURVE	R3	R4	S3	R4	SQ	SQ	L3	SQ
LIFE	50	100	30	75	20	5	10	15
H-W	4	5	1	1	1	1	1	1
2002	3512.	2429.	965.	594.	0.	0.	2991.	0.
2003	3615.	2610.	978.	636.	0.	0.	3035.	0.
2004	3711.	2802.	991.	681.	0.	0.	3056.	0.
2005	3798.	3003.	996.	729.	0.	0.	3043.	0.
2006	3871.	3217.	995.	779.	0.	0.	2988.	0.
2007	3927.	3449.	993.	836.	0.	0.	2877.	0.
2008	3972.	3696.	987.	896.	0.	0.	2685.	0.
2009	4013.	3960.	976.	959.	0.	0.	2407.	0.
2010	4051.	4237.	965.	1023.	0.	0.	2088.	0.
2011	4072.	4521.	952.	1090.	0.	0.	1825.	0.
2012	4072.	4818.	937.	1160.	0.	0.	1707.	0.
2013	4063.	5131.	922.	1231.	0.	0.	1746.	0.
2014	4051.	5463.	906.	1307.	0.	0.	1877.	0.
2015	4033.	5808.	890.	1387.	0.	0.	2012.	0.
2016	4004.	6168.	874.	1467.	0.	0.	2092.	0.
2017	3963.	6552.	858.	1548.	0.	0.	2104.	0.
2018	3921.	6952.	842.	1633.	0.	0.	2072.	0.
2019	3881.	7375.	826.	1723.	0.	0.	2025.	0.
2020	3840.	7812.	810.	1812.	0.	0.	1988.	0.
2021	3802.	8261.	796.	1900.	0.	0.	1972.	0.
2022	3768.	8727.	780.	1987.	0.	0.	1978.	0.
2023	3736.	9217.	767.	2069.	0.	0.	1994.	0.
2024	3705.	9732.	755.	2149.	0.	0.	2012.	0.
2025	3678.	10263.	743.	2230.	0.	0.	2021.	0.
2026	3661.	10816.	734.	2310.	0.	0.	2021.	0.
2027	3652.	11412.	728.	2390.	0.	0.	2014.	0.
2028	3645.	12032.	722.	2467.	0.	0.	2007.	0.
2029	3639.	12684.	720.	2544.	0.	0.	2001.	0.
2030	3635.	13355.	720.	2610.	0.	0.	2000.	0.
2031	3640.	14041.	722.	2674.	0.	0.	2001.	0.
2032	3654.	14745.	727.	2738.	0.	0.	2005.	0.
2033	3669.	15485.	734.	2798.	0.	0.	2008.	0.
2034	3686.	16254.	743.	2848.	0.	0.	2010.	0.
2035	3703.	17043.	752.	2897.	0.	0.	2009.	0.
2036	3725.	17855.	762.	2946.	0.	0.	2008.	0.
2037	3754.	18674.	773.	2995.	0.	0.	2007.	0.
2038	3785.	19516.	784.	3040.	0.	0.	2006.	0.
2039	3814.	20384.	794.	3085.	0.	0.	2005.	0.
2040	3839.	21286.	804.	3129.	0.	0.	2006.	0.

1 2005 REPLACEMENTS BY INDIVIDUAL PLANT ACCOUNTS:

CURVE	SQ	SQ	L2	
LIFE	30	25	15	
H-W	1	1	1	
FERC ACCT	SQ	SQ	L2	
2002	0.	0.	1689.	80736.
2003	0.	0.	1771.	84586.
2004	0.	0.	1831.	88432.
2005	0.	0.	1867.	92294.
2006	0.	0.	1884.	96385.
2007	0.	0.	1883.	100537.
2008	0.	0.	1864.	104567.
2009	0.	0.	1829.	108518.
2010	0.	0.	1778.	112462.
2011	0.	0.	1721.	116411.
2012	0.	0.	1668.	120430.
2013	0.	0.	1626.	124527.
2014	0.	0.	1599.	128663.
2015	0.	0.	1586.	132678.
2016	0.	0.	1584.	136505.
2017	0.	0.	1588.	140166.
2018	0.	0.	1595.	143604.
2019	0.	0.	1601.	146953.
2020	0.	0.	1606.	150218.
2021	0.	0.	1607.	153345.
2022	0.	0.	1605.	156316.
2023	0.	0.	1602.	159207.
2024	0.	0.	1598.	161954.
2025	0.	0.	1594.	164457.
2026	0.	0.	1591.	166731.
2027	0.	0.	1590.	168783.
2028	0.	0.	1590.	170652.
2029	0.	0.	1591.	172170.
2030	0.	0.	1592.	173457.
2031	0.	0.	1595.	174445.
2032	0.	0.	1597.	175207.
2033	0.	0.	1599.	175727.
2034	0.	0.	1601.	175836.
2035	0.	0.	1602.	175837.
2036	0.	0.	1603.	175747.
2037	0.	0.	1603.	175475.
2038	0.	0.	1602.	175121.
2039	0.	0.	1602.	174838.
2040	0.	0.	1601.	174630.

Future Replacements For Year 2006

62006ZABFX	111518	111518071002041R
62007ZABFX	116070	116070071002042R
62008ZABFX	120232	120232071002043R
62009ZABFX	124203	124203071002044R
62010ZABFX	128137	128137071002045R
62011ZABFX	132012	132012071002046R
62012ZABFX	135979	135979071002047R
62013ZABFX	140126	140126071002048R
62014ZABFX	144430	144430071002049R
62015ZABFX	148671	148671071002050R
62016ZABFX	152808	152808071002051R
62017ZABFX	156817	156817071002052R
62018ZABFX	160595	160595071002053R
62019ZABFX	164361	164361071002054R
62020ZABFX	168116	168116071002055R
62021ZABFX	171721	171721071002056R
62022ZABFX	175133	175133071002057R
62023ZABFX	178400	178400071002058R
62024ZABFX	181444	181444071002059R
62025ZABFX	184179	184179071002060R
62026ZABFX	186618	186618071002061R
62027ZABFX	188805	188805071002062R
62028ZABFX	190793	190793071002063R
62029ZABFX	192432	192432071002064R
62030ZABFX	193838	193838071002065R
62031ZABFX	194952	194952071002066R
62032ZABFX	195869	195869071002067R
62033ZABFX	196542	196542071002068R
62034ZABFX	196771	196771071002069R
62035ZABFX	196870	196870071002070R
62036ZABFX	196879	196879071002071R
62037ZABFX	196657	196657071002072R
62038ZABFX	196297	196297071002073R
62039ZABFX	195944	195944071002074R
62040ZABFX	195652	195652071002075R

Future Replacements For Year 2006

62007ZABFX	118591	118591070902042R
62008ZABFX	122945	122945070902043R
62009ZABFX	127001	127001070902044R
62010ZABFX	130989	130989070902045R
62011ZABFX	134879	134879070902046R
62012ZABFX	138865	138865070902047R
62013ZABFX	143033	143033070902048R
62014ZABFX	147381	147381070902049R
62015ZABFX	151707	151707070902050R
62016ZABFX	155961	155961070902051R
62017ZABFX	160079	160079070902052R
62018ZABFX	163942	163942070902053R
62019ZABFX	167822	167822070902054R
62020ZABFX	171702	171702070902055R
62021ZABFX	175451	175451070902056R
62022ZABFX	179049	179049070902057R
62023ZABFX	182517	182517070902058R
62024ZABFX	185748	185748070902059R
62025ZABFX	188650	188650070902060R
62026ZABFX	191261	191261070902061R
62027ZABFX	193596	193596070902062R
62028ZABFX	195689	195689070902063R
62029ZABFX	197467	197467070902064R
62030ZABFX	199009	199009070902065R
62031ZABFX	200238	200238070902066R
62032ZABFX	201290	201290070902067R
62033ZABFX	202133	202133070902068R
62034ZABFX	202533	202533070902069R
62035ZABFX	202799	202799070902070R
62036ZABFX	202998	202998070902071R
62037ZABFX	202965	202965070902072R
62038ZABFX	202820	202820070902073R
62039ZABFX	202634	202634070902074R
62040ZABFX	202489	202489070902075R
62041ZABFX	202489	202489070902076R

Future Replacements For Year 2007

62008ZABFX	125044	125044071002043R
62009ZABFX	129009	129009071002044R
62010ZABFX	132886	132886071002045R
62011ZABFX	136618	136618071002046R
62012ZABFX	140354	140354071002047R
62013ZABFX	144215	144215071002048R
62014ZABFX	148247	148247071002049R
62015ZABFX	152293	152293071002050R
62016ZABFX	156334	156334071002051R
62017ZABFX	160283	160283071002052R

62018ZABFX	163952	163952071002053R
62019ZABFX	167577	167577071002054R
62020ZABFX	171207	171207071002055R
62021ZABFX	174746	174746071002056R
62022ZABFX	178206	178206071002057R
62023ZABFX	181629	181629071002058R
62024ZABFX	184857	184857071002059R
62025ZABFX	187730	187730071002060R
62026ZABFX	190241	190241071002061R
62027ZABFX	192421	192421071002062R
62028ZABFX	194290	194290071002063R
62029ZABFX	195720	195720071002064R
62030ZABFX	196874	196874071002065R
62031ZABFX	197685	197685071002066R
62032ZABFX	198269	198269071002067R
62033ZABFX	198619	198619071002068R
62034ZABFX	198538	198538071002069R
62035ZABFX	198349	198349071002070R
62036ZABFX	198095	198095071002071R
62037ZABFX	197629	197629071002072R
62038ZABFX	197066	197066071002073R
62039ZABFX	196539	196539071002074R
62040ZABFX	196066	196066071002075R
62041ZABFX	195732	195732071002076R
62042ZABFX	195558	195558071002077R

AC INTERTIE REPLACEMENTS

AC INTERTIE COST-EVALUATION PERIOD DATA:

YEAR	PLANT INVESTMENT	ESCALATION FACTOR
2005	1994.	1.02600
2006	4217.	1.04200
2007	3917.	1.06100

PLANT INVESTMENT BY YEAR AND ACCOUNT

YEAR	R2	R3	SQ	S0	R2	R3	R2	R3
	60	60	40	39	34	34	32	32
	1	1	2	2	2	2	2	2
1951	0.	0.	0.	16.	0.	0.	0.	0.
1952	0.	0.	0.	24.	0.	0.	0.	0.
1953	331.	177.	0.	883.	0.	0.	0.	0.
1954	18.	0.	0.	0.	0.	0.	0.	0.
1955	30.	6.	0.	48.	0.	0.	0.	0.
1956	208.	207.	0.	796.	0.	0.	0.	0.
1957	47.	1.	0.	21.	0.	0.	0.	0.
1958	7.	5.	0.	1430.	0.	0.	0.	0.
1959	28.	0.	0.	288.	0.	0.	0.	0.
1960	0.	0.	0.	24.	0.	0.	0.	0.
1961	0.	0.	0.	6.	0.	0.	0.	0.
1962	98.	0.	0.	5.	0.	0.	0.	0.
1963	0.	0.	0.	68.	0.	0.	0.	0.
1964	0.	0.	0.	25.	0.	0.	0.	0.
1965	0.	0.	0.	7.	0.	0.	0.	0.
1966	11.	8.	0.	333.	0.	0.	0.	0.
1967	26.	0.	0.	1.	0.	0.	0.	0.
1968	336.	211.	0.	1498.	0.	0.	0.	0.
1969	206.	131.	0.	2617.	0.	0.	0.	0.
1970	1.	1.	0.	1460.	0.	0.	0.	0.
1971	0.	0.	0.	0.	323.	323.	0.	0.
1972	238.	193.	0.	0.	2389.	2389.	0.	0.
1973	0.	0.	0.	0.	68.	68.	0.	0.
1974	0.	0.	0.	0.	62.	62.	0.	0.
1975	46.	46.	0.	0.	429.	429.	0.	0.
1976	22.	22.	0.	0.	33.	33.	0.	0.
1977	49.	49.	0.	0.	888.	888.	0.	0.
1978	8.	0.	0.	0.	89.	89.	0.	0.
1979	0.	0.	0.	0.	186.	186.	0.	0.
1980	63.	1.	0.	0.	-2.	-2.	0.	0.
1981	0.	0.	0.	0.	75.	75.	0.	0.
1982	6.	6.	0.	0.	243.	243.	0.	0.
1983	1206.	1203.	0.	0.	5636.	5636.	0.	0.
1984	252.	58.	0.	0.	24.	24.	0.	0.
1985	16.	16.	0.	0.	28.	28.	0.	0.
1986	79.	0.	0.	0.	407.	407.	0.	0.
1987	366.	316.	0.	0.	6.	6.	0.	0.
1988	38.	0.	0.	0.	1834.	1834.	0.	0.
1989	2548.	2548.	0.	0.	2738.	2738.	0.	0.
1990	152.	152.	0.	0.	336.	336.	0.	0.
1991	167.	167.	0.	0.	100.	100.	0.	0.
1992	879.	879.	0.	0.	21296.	21296.	0.	0.
1993	235.	88.	0.	0.	4545.	4545.	0.	0.
1994	3358.	3158.	0.	0.	29122.	29122.	18.	18.
1995	183.	183.	0.	0.	3103.	3103.	34.	34.
1996	133.	85.	0.	0.	2334.	2334.	53.	53.
1997	23.	23.	0.	0.	386.	386.	0.	0.
1998	0.	0.	0.	0.	1479.	1479.	24.	24.
1999	31.	0.	0.	0.	575.	575.	0.	0.
2000	1.	1.	0.	0.	1653.	1653.	0.	0.
2001	2.	2.	0.	0.	3108.	3108.	0.	0.
2002	200.	142.	0.	0.	1846.	1846.	0.	0.
2003	140.	122.	0.	115.	1029.	1029.	2.	2.
2004	115.	99.	0.	94.	840.	840.	1.	1.
2005	74.	64.	0.	60.	540.	540.	1.	1.

PLANT INVESTMENT BY YEAR AND ACCOUNT

YEAR	R2	R3	R3	R2	R3	R4	S3	R4
	13	13	100	50	50	100	30	75
	2	2	3	4	4	5	1	1
1951	0.	0.	0.	0.	0.	0.	0.	0.
1952	0.	0.	0.	0.	0.	0.	0.	0.
1953	0.	0.	0.	0.	0.	0.	0.	0.
1954	0.	0.	0.	0.	0.	0.	0.	0.
1955	0.	0.	0.	0.	0.	0.	0.	0.
1956	0.	0.	0.	0.	0.	0.	0.	0.
1957	0.	0.	0.	0.	0.	0.	0.	0.
1958	0.	0.	0.	0.	0.	0.	0.	0.
1959	0.	0.	0.	0.	0.	0.	0.	0.
1960	0.	0.	0.	0.	0.	0.	0.	0.
1961	0.	0.	0.	0.	0.	0.	0.	0.
1962	0.	0.	0.	0.	0.	0.	0.	0.
1963	0.	0.	0.	0.	0.	0.	0.	0.
1964	0.	0.	0.	0.	0.	0.	0.	0.
1965	0.	0.	0.	0.	0.	0.	0.	0.
1966	0.	0.	0.	0.	0.	0.	0.	0.
1967	0.	0.	0.	0.	0.	0.	0.	0.
1968	0.	0.	9688.	0.	0.	9685.	0.	413.
1969	0.	0.	0.	0.	0.	0.	0.	0.
1970	0.	0.	0.	0.	0.	0.	0.	0.
1971	0.	0.	0.	0.	0.	0.	0.	0.
1972	0.	0.	0.	0.	0.	0.	0.	0.
1973	0.	0.	0.	0.	0.	2.	0.	0.
1974	0.	0.	0.	0.	0.	0.	0.	0.
1975	0.	0.	48.	0.	0.	0.	0.	0.
1976	0.	0.	0.	0.	0.	0.	0.	0.
1977	0.	0.	0.	0.	0.	0.	0.	0.
1978	0.	0.	0.	0.	0.	0.	0.	0.
1979	0.	0.	0.	0.	0.	0.	0.	0.
1980	0.	0.	0.	0.	0.	0.	0.	0.
1981	0.	0.	0.	0.	0.	0.	0.	0.
1982	0.	0.	0.	0.	0.	0.	0.	0.
1983	0.	0.	0.	0.	0.	0.	0.	139.
1984	0.	0.	0.	0.	0.	3.	0.	0.
1985	0.	0.	0.	0.	0.	0.	0.	0.
1986	0.	0.	0.	0.	0.	38.	0.	0.
1987	0.	0.	0.	0.	0.	0.	0.	0.
1988	0.	0.	0.	0.	0.	0.	0.	0.
1989	0.	0.	0.	0.	0.	0.	0.	0.
1990	0.	0.	0.	0.	0.	55.	0.	0.
1991	0.	0.	0.	0.	0.	0.	0.	0.
1992	0.	0.	10214.	0.	0.	13250.	0.	1696.
1993	0.	0.	10142.	864.	864.	17279.	0.	3553.
1994	0.	0.	4326.	0.	0.	2779.	0.	0.
1995	0.	0.	0.	0.	0.	0.	0.	0.
1996	0.	0.	0.	0.	0.	0.	0.	0.
1997	0.	0.	0.	0.	0.	0.	0.	0.
1998	0.	0.	0.	0.	0.	0.	0.	0.
1999	3.	3.	0.	0.	0.	0.	0.	0.
2000	0.	0.	0.	0.	0.	0.	0.	0.
2001	0.	0.	0.	0.	0.	25.	0.	0.
2002	0.	0.	0.	0.	0.	0.	0.	0.
2003	0.	0.	415.	10.	10.	520.	0.	70.
2004	0.	0.	339.	9.	9.	424.	0.	57.
2005	0.	0.	218.	5.	5.	273.	0.	37.

PLANT INVESTMENT BY YEAR AND ACCOUNT

YEAR	SQ 20 1	SQ 5 1	L3 10 1	SQ 15 1	SQ 30 1	SQ 25 1	L2 15 1	S4 40 1	
1951	0.	0.	0.	0.	0.	0.	0.	0.	16.
1952	0.	0.	0.	0.	0.	0.	0.	0.	24.
1953	0.	0.	0.	0.	0.	0.	0.	0.	1391.
1954	0.	0.	0.	0.	0.	0.	0.	0.	18.
1955	0.	0.	0.	0.	0.	0.	0.	0.	84.
1956	0.	0.	0.	0.	0.	0.	0.	0.	1211.
1957	0.	0.	0.	0.	0.	0.	0.	0.	69.
1958	0.	0.	0.	0.	0.	0.	0.	0.	1442.
1959	0.	0.	0.	0.	0.	0.	0.	0.	316.
1960	0.	0.	0.	0.	0.	0.	0.	0.	24.
1961	0.	0.	0.	0.	0.	0.	0.	0.	6.
1962	0.	0.	0.	0.	0.	0.	0.	0.	103.
1963	0.	0.	0.	0.	0.	0.	0.	0.	68.
1964	0.	0.	0.	0.	0.	0.	0.	0.	25.
1965	0.	0.	0.	0.	0.	0.	0.	0.	7.
1966	0.	0.	0.	0.	0.	0.	0.	0.	352.
1967	0.	0.	0.	0.	0.	0.	0.	0.	27.
1968	0.	0.	0.	0.	0.	0.	0.	0.	21831.
1969	0.	0.	0.	0.	0.	0.	0.	0.	2954.
1970	0.	0.	0.	0.	0.	0.	0.	0.	1462.
1971	0.	0.	0.	0.	0.	0.	0.	0.	646.
1972	0.	0.	0.	0.	0.	0.	0.	0.	5209.
1973	0.	0.	0.	0.	0.	0.	0.	0.	138.
1974	0.	0.	0.	0.	0.	0.	0.	0.	124.
1975	0.	0.	0.	0.	0.	0.	0.	0.	998.
1976	0.	0.	0.	0.	0.	0.	0.	0.	110.
1977	0.	0.	0.	0.	0.	0.	0.	0.	1874.
1978	0.	0.	0.	0.	0.	0.	0.	0.	186.
1979	0.	0.	0.	0.	0.	0.	0.	0.	372.
1980	0.	0.	0.	0.	0.	0.	0.	0.	60.
1981	0.	0.	0.	0.	0.	0.	0.	0.	150.
1982	0.	0.	0.	0.	0.	0.	0.	0.	498.
1983	0.	0.	0.	0.	0.	0.	0.	0.	13820.
1984	0.	0.	0.	0.	0.	0.	0.	0.	361.
1985	0.	0.	0.	0.	0.	0.	0.	0.	88.
1986	0.	0.	0.	0.	0.	0.	0.	0.	931.
1987	0.	0.	0.	14.	0.	0.	0.	0.	708.
1988	0.	0.	0.	235.	0.	0.	0.	0.	3941.
1989	0.	0.	0.	307.	0.	0.	0.	0.	10879.
1990	0.	0.	0.	2299.	0.	0.	0.	0.	3330.
1991	0.	0.	0.	142.	0.	0.	0.	0.	676.
1992	0.	0.	0.	1390.	0.	0.	0.	0.	70900.
1993	0.	0.	0.	1059.	0.	0.	0.	0.	43174.
1994	0.	0.	0.	6317.	0.	0.	0.	0.	78218.
1995	0.	0.	0.	699.	0.	0.	0.	0.	7339.
1996	0.	0.	0.	2520.	0.	0.	0.	0.	7512.
1997	0.	0.	0.	557.	0.	0.	0.	0.	1375.
1998	0.	0.	0.	414.	0.	0.	0.	0.	3420.
1999	0.	0.	0.	481.	0.	0.	0.	1214.	2882.
2000	0.	0.	0.	126.	0.	0.	0.	0.	3434.
2001	0.	0.	0.	57.	0.	0.	0.	0.	6302.
2002	0.	0.	0.	382.	0.	0.	0.	0.	4416.
2003	0.	0.	0.	205.	0.	0.	0.	15.	3682.
2004	0.	0.	0.	167.	0.	0.	0.	12.	3007.
2005	0.	0.	0.	108.	0.	0.	0.	8.	1932.

ADJUSTED PLANT INVESTMENT BY YEAR AND FERC ACCOUNT

YEAR	R2	R3	SQ	S0	R2	R3	R2	R3
	60	60	40	39	34	34	32	32
	1	1	2	2	2	2	2	2
2003	-162.	-82.	0.	-1220.	-1301.	-1034.	-1.	0.
2004	-169.	-88.	0.	-1235.	-1393.	-1150.	-1.	0.
2005	-102.	-30.	0.	-1187.	-944.	-729.	0.	0.

YEAR	R2	R3	R3	R2	R3	R4	S3	R4
	13	13	100	50	50	100	30	75
	2	2	3	4	4	5	1	1
2003	0.	0.	-90.	-4.	-1.	-29.	0.	-5.
2004	0.	0.	-96.	-4.	-2.	-33.	0.	-6.
2005	0.	0.	116.	1.	4.	236.	0.	31.

YEAR	SQ	SQ	L3	SQ	SQ	SQ	L2	S4
	20	5	10	15	30	25	15	40
	1	1	1	1	1	1	1	1
2003	0.	0.	0.	0.	0.	0.		-3930.
2004	0.	0.	0.	0.	0.	0.		-4176.
2005	0.	0.	0.	108.	0.	0.		-2490.

2003 REPLACEMENTS BY INDIVIDUAL PLANT ACCOUNTS:

CURVE	R2	R3	SQ	S0	R2	R3	R2	R3
LIFE	60	60	40	39	34	34	32	32
H-W	1	1	2	2	2	2	2	2
2003	162.	82.	0.	1220.	1301.	1034.	1.	0.
2004	169.	88.	0.	1235.	1395.	1150.	1.	0.
2005	176.	94.	0.	1250.	1490.	1270.	1.	1.
2006	182.	100.	0.	1265.	1589.	1395.	1.	1.
2007	189.	106.	0.	1279.	1693.	1528.	1.	1.
2008	196.	112.	0.	1292.	1800.	1660.	1.	1.
2009	203.	119.	0.	1305.	1907.	1785.	2.	1.
2010	211.	126.	0.	1318.	2019.	1918.	2.	1.
2011	218.	133.	0.	1330.	2135.	2054.	2.	1.
2012	225.	140.	0.	1341.	2249.	2174.	2.	2.
2013	233.	148.	0.	1352.	2364.	2297.	2.	2.
2014	241.	155.	0.	1362.	2484.	2425.	2.	2.
2015	248.	162.	0.	1371.	2604.	2558.	3.	2.
2016	256.	170.	0.	1379.	2720.	2685.	3.	2.
2017	264.	177.	0.	1387.	2841.	2823.	3.	3.
2018	272.	185.	0.	1394.	2963.	2976.	3.	3.
2019	280.	192.	0.	1399.	3082.	3148.	3.	3.
2020	287.	199.	0.	1404.	3200.	3321.	4.	4.
2021	295.	206.	0.	1408.	3320.	3508.	4.	4.
2022	303.	213.	0.	1410.	3441.	3709.	4.	5.
2023	310.	220.	0.	1411.	3556.	3896.	4.	5.
2024	318.	227.	0.	1411.	3669.	4093.	5.	5.
2025	325.	234.	0.	1410.	3780.	4278.	5.	6.
2026	332.	239.	0.	1406.	3885.	4453.	5.	6.
2027	339.	245.	0.	1401.	3981.	4605.	5.	7.
2028	346.	251.	0.	1395.	4071.	4731.	6.	7.
2029	353.	257.	0.	1387.	4147.	4822.	6.	7.
2030	360.	263.	0.	1378.	4212.	4897.	6.	8.
2031	366.	269.	0.	1367.	4264.	4923.	6.	8.
2032	372.	274.	0.	1355.	4296.	4883.	6.	8.
2033	378.	279.	0.	1342.	4324.	4823.	6.	8.
2034	383.	284.	0.	1332.	4326.	4690.	6.	7.
2035	389.	291.	0.	1322.	4310.	4523.	6.	7.
2036	394.	297.	0.	1312.	4284.	4335.	6.	6.
2037	399.	304.	0.	1304.	4241.	4123.	6.	6.
2038	404.	310.	0.	1294.	4180.	3885.	6.	5.

2003 REPLACEMENTS BY INDIVIDUAL PLANT ACCOUNTS:

CURVE	R2	R3	R3	R2	R3	R4	S3	R4
LIFE	13	13	100	50	50	100	30	75
H-W	2	2	3	4	4	5	1	1
2003	0.	0.	90.	4.	1.	29.	0.	5.
2004	0.	0.	96.	4.	2.	33.	0.	6.
2005	0.	0.	102.	4.	2.	37.	0.	6.
2006	0.	0.	107.	5.	2.	41.	0.	7.
2007	0.	0.	113.	5.	2.	44.	0.	8.
2008	0.	0.	119.	5.	3.	48.	0.	8.
2009	0.	0.	126.	6.	3.	52.	0.	9.
2010	0.	0.	132.	6.	3.	57.	0.	10.
2011	0.	0.	139.	6.	4.	61.	0.	11.
2012	0.	0.	145.	7.	4.	65.	0.	12.
2013	0.	0.	152.	7.	5.	69.	0.	13.
2014	0.	0.	160.	7.	5.	76.	0.	15.
2015	0.	0.	168.	8.	5.	84.	0.	16.
2016	0.	0.	175.	8.	6.	91.	0.	17.
2017	0.	0.	183.	9.	6.	99.	0.	19.
2018	0.	0.	191.	9.	7.	106.	0.	20.
2019	0.	0.	200.	10.	7.	115.	0.	22.
2020	0.	0.	209.	10.	8.	123.	0.	24.
2021	0.	0.	217.	11.	9.	131.	0.	26.
2022	0.	0.	226.	11.	9.	139.	0.	28.
2023	0.	0.	234.	12.	10.	147.	0.	30.
2024	0.	0.	244.	12.	11.	160.	0.	32.
2025	0.	0.	255.	13.	11.	172.	0.	35.
2026	0.	0.	265.	13.	12.	185.	0.	37.
2027	0.	0.	275.	14.	13.	198.	0.	40.
2028	0.	0.	285.	15.	14.	211.	0.	43.
2029	0.	0.	296.	15.	15.	225.	0.	46.
2030	0.	0.	307.	16.	16.	239.	0.	50.
2031	0.	0.	318.	17.	17.	253.	0.	53.
2032	0.	0.	329.	17.	18.	267.	0.	56.
2033	0.	0.	340.	18.	19.	281.	0.	60.
2034	0.	0.	354.	19.	21.	300.	0.	65.
2035	0.	0.	368.	19.	22.	319.	0.	70.
2036	0.	0.	382.	20.	23.	337.	0.	75.
2037	0.	0.	396.	21.	25.	356.	0.	80.
2038	0.	0.	410.	22.	26.	376.	0.	85.

2003 REPLACEMENTS BY INDIVIDUAL PLANT ACCOUNTS:

CURVE	SQ	SQ	L3	SQ	SQ	SQ	L2	S4		
LIFE	20	5	10	15	30	25	15	40		
H-W	1	1	1	1	1	1	1	1		
2003	0.	0.	0.	0.	0.	0.		0.	0.	3930.
2004	0.	0.	0.	0.	0.	0.		0.	0.	4178.
2005	0.	0.	0.	0.	0.	0.		0.	0.	4431.
2006	0.	0.	0.	0.	0.	0.		0.	0.	4694.
2007	0.	0.	0.	0.	0.	0.		0.	0.	4969.
2008	0.	0.	0.	0.	0.	0.		0.	0.	5247.
2009	0.	0.	0.	0.	0.	0.		0.	0.	5518.
2010	0.	0.	0.	0.	0.	0.		0.	0.	5804.
2011	0.	0.	0.	0.	0.	0.		0.	0.	6095.
2012	0.	0.	0.	0.	0.	0.		0.	0.	6367.
2013	0.	0.	0.	0.	0.	0.		0.	0.	6645.
2014	0.	0.	0.	0.	0.	0.		0.	0.	6935.
2015	0.	0.	0.	0.	0.	0.		0.	0.	7229.
2016	0.	0.	0.	0.	0.	0.		0.	0.	7514.
2017	0.	0.	0.	0.	0.	0.		0.	0.	7814.
2018	0.	0.	0.	0.	0.	0.		0.	1.	8131.
2019	0.	0.	0.	0.	0.	0.		0.	2.	8462.
2020	0.	0.	0.	0.	0.	0.		0.	2.	8793.
2021	0.	0.	0.	0.	0.	0.		0.	3.	9139.
2022	0.	0.	0.	0.	0.	0.		0.	5.	9499.
2023	0.	0.	0.	0.	0.	0.		0.	7.	9837.
2024	0.	0.	0.	0.	0.	0.		0.	9.	10188.
2025	0.	0.	0.	0.	0.	0.		0.	11.	10524.
2026	0.	0.	0.	0.	0.	0.		0.	16.	10840.
2027	0.	0.	0.	0.	0.	0.		0.	20.	11124.
2028	0.	0.	0.	0.	0.	0.		0.	25.	11375.
2029	0.	0.	0.	0.	0.	0.		0.	29.	11577.
2030	0.	0.	0.	0.	0.	0.		0.	36.	11751.
2031	0.	0.	0.	0.	0.	0.		0.	42.	11861.
2032	0.	0.	0.	0.	0.	0.		0.	48.	11882.
2033	0.	0.	0.	0.	0.	0.		0.	54.	11879.
2034	0.	0.	0.	0.	0.	0.		0.	59.	11787.
2035	0.	0.	0.	0.	0.	0.		0.	63.	11647.
2036	0.	0.	0.	0.	0.	0.		0.	68.	11473.
2037	0.	0.	0.	0.	0.	0.		0.	73.	11262.
2038	0.	0.	0.	0.	0.	0.		0.	73.	11003.

2004 REPLACEMENTS BY INDIVIDUAL PLANT ACCOUNTS:

CURVE	R2	R3	SQ	S0	R2	R3	R2	R3
LIFE	60	60	40	39	34	34	32	32
H-W	1	1	2	2	2	2	2	2
2003	162.	82.	0.	1220.	1301.	1034.	1.	0.
2004	169.	88.	0.	1235.	1393.	1150.	1.	0.
2005	175.	94.	0.	1248.	1486.	1269.	1.	1.
2006	182.	100.	0.	1261.	1583.	1394.	1.	1.
2007	189.	106.	0.	1273.	1686.	1527.	1.	1.
2008	196.	112.	0.	1286.	1793.	1658.	1.	1.
2009	203.	119.	0.	1298.	1899.	1783.	2.	1.
2010	210.	126.	0.	1309.	2011.	1916.	2.	1.
2011	217.	133.	0.	1320.	2126.	2051.	2.	1.
2012	225.	140.	0.	1330.	2239.	2171.	2.	2.
2013	232.	147.	0.	1340.	2353.	2293.	2.	2.
2014	240.	155.	0.	1349.	2472.	2419.	2.	2.
2015	248.	162.	0.	1357.	2591.	2551.	3.	2.
2016	256.	170.	0.	1365.	2707.	2677.	3.	2.
2017	263.	177.	0.	1372.	2826.	2814.	3.	3.
2018	271.	185.	0.	1378.	2947.	2966.	3.	3.
2019	279.	192.	0.	1383.	3064.	3137.	3.	3.
2020	287.	199.	0.	1387.	3181.	3309.	4.	4.
2021	294.	206.	0.	1390.	3300.	3494.	4.	4.
2022	302.	213.	0.	1391.	3419.	3694.	4.	5.
2023	309.	220.	0.	1392.	3532.	3879.	4.	5.
2024	317.	227.	0.	1391.	3644.	4074.	5.	5.
2025	324.	233.	0.	1389.	3752.	4258.	5.	6.
2026	331.	239.	0.	1385.	3856.	4430.	5.	6.
2027	338.	244.	0.	1379.	3950.	4580.	5.	7.
2028	345.	250.	0.	1372.	4037.	4703.	6.	7.
2029	352.	256.	0.	1364.	4112.	4791.	6.	7.
2030	359.	262.	0.	1355.	4175.	4863.	6.	8.
2031	365.	269.	0.	1343.	4224.	4886.	6.	8.
2032	371.	274.	0.	1330.	4254.	4842.	6.	8.
2033	376.	278.	0.	1317.	4279.	4779.	6.	7.
2034	382.	283.	0.	1306.	4279.	4642.	6.	7.
2035	387.	290.	0.	1296.	4261.	4472.	6.	7.
2036	393.	297.	0.	1285.	4232.	4280.	6.	6.
2037	398.	303.	0.	1276.	4188.	4066.	6.	6.
2038	402.	309.	0.	1266.	4125.	3825.	6.	5.
2039	406.	315.	0.	1258.	4046.	3611.	6.	5.

2004 REPLACEMENTS BY INDIVIDUAL PLANT ACCOUNTS:

CURVE	R2	R3	R3	R2	R3	R4	S3	R4
LIFE	13	13	100	50	50	100	30	75
H-W	2	2	3	4	4	5	1	1
2003	0.	0.	90.	4.	1.	29.	0.	5.
2004	0.	0.	96.	4.	2.	33.	0.	6.
2005	0.	0.	102.	4.	2.	37.	0.	6.
2006	0.	0.	107.	5.	2.	41.	0.	7.
2007	0.	0.	113.	5.	2.	44.	0.	8.
2008	0.	0.	119.	5.	3.	48.	0.	8.
2009	0.	0.	126.	6.	3.	52.	0.	9.
2010	0.	0.	132.	6.	3.	57.	0.	10.
2011	0.	0.	139.	6.	4.	61.	0.	11.
2012	0.	0.	145.	7.	4.	65.	0.	12.
2013	0.	0.	152.	7.	5.	69.	0.	13.
2014	0.	0.	160.	7.	5.	76.	0.	15.
2015	0.	0.	168.	8.	5.	84.	0.	16.
2016	0.	0.	175.	8.	6.	91.	0.	17.
2017	0.	0.	183.	9.	6.	99.	0.	19.
2018	0.	0.	191.	9.	7.	106.	0.	20.
2019	0.	0.	200.	10.	7.	115.	0.	22.
2020	0.	0.	208.	10.	8.	123.	0.	24.
2021	0.	0.	217.	10.	9.	131.	0.	26.
2022	0.	0.	226.	11.	9.	139.	0.	28.
2023	0.	0.	234.	12.	10.	147.	0.	30.
2024	0.	0.	244.	12.	11.	160.	0.	32.
2025	0.	0.	254.	13.	11.	172.	0.	35.
2026	0.	0.	265.	13.	12.	185.	0.	37.
2027	0.	0.	275.	14.	13.	198.	0.	40.
2028	0.	0.	285.	15.	14.	211.	0.	43.
2029	0.	0.	296.	15.	15.	225.	0.	46.
2030	0.	0.	307.	16.	16.	239.	0.	50.
2031	0.	0.	318.	17.	17.	253.	0.	53.
2032	0.	0.	329.	17.	18.	267.	0.	56.
2033	0.	0.	340.	18.	19.	281.	0.	60.
2034	0.	0.	354.	19.	21.	300.	0.	65.
2035	0.	0.	368.	19.	22.	319.	0.	69.
2036	0.	0.	382.	20.	23.	337.	0.	75.
2037	0.	0.	396.	21.	25.	356.	0.	80.
2038	0.	0.	410.	22.	26.	376.	0.	85.
2039	0.	0.	425.	22.	27.	397.	0.	90.

2004 REPLACEMENTS BY INDIVIDUAL PLANT ACCOUNTS:

CURVE	SQ	SQ	L3	SQ	SQ	SQ	L2	S4		
LIFE	20	5	10	15	30	25	15	40		
H-W	1	1	1	1	1	1	1	1		
2003	0.	0.	0.	0.	0.	0.		0.	0.	3930.
2004	0.	0.	0.	0.	0.	0.		0.	0.	4176.
2005	0.	0.	0.	0.	0.	0.		0.	0.	4424.
2006	0.	0.	0.	0.	0.	0.		0.	0.	4683.
2007	0.	0.	0.	0.	0.	0.		0.	0.	4956.
2008	0.	0.	0.	0.	0.	0.		0.	0.	5231.
2009	0.	0.	0.	0.	0.	0.		0.	0.	5500.
2010	0.	0.	0.	0.	0.	0.		0.	0.	5783.
2011	0.	0.	0.	0.	0.	0.		0.	0.	6072.
2012	0.	0.	0.	0.	0.	0.		0.	0.	6342.
2013	0.	0.	0.	0.	0.	0.		0.	0.	6617.
2014	0.	0.	0.	0.	0.	0.		0.	0.	6904.
2015	0.	0.	0.	0.	0.	0.		0.	0.	7196.
2016	0.	0.	0.	0.	0.	0.		0.	0.	7478.
2017	0.	0.	0.	0.	0.	0.		0.	0.	7774.
2018	0.	0.	0.	0.	0.	0.		0.	1.	8088.
2019	0.	0.	0.	0.	0.	0.		0.	2.	8416.
2020	0.	0.	0.	0.	0.	0.		0.	2.	8743.
2021	0.	0.	0.	0.	0.	0.		0.	3.	9085.
2022	0.	0.	0.	0.	0.	0.		0.	5.	9442.
2023	0.	0.	0.	0.	0.	0.		0.	7.	9775.
2024	0.	0.	0.	0.	0.	0.		0.	9.	10123.
2025	0.	0.	0.	0.	0.	0.		0.	11.	10454.
2026	0.	0.	0.	0.	0.	0.		0.	16.	10765.
2027	0.	0.	0.	0.	0.	0.		0.	20.	11044.
2028	0.	0.	0.	0.	0.	0.		0.	25.	11289.
2029	0.	0.	0.	0.	0.	0.		0.	29.	11486.
2030	0.	0.	0.	0.	0.	0.		0.	35.	11654.
2031	0.	0.	0.	0.	0.	0.		0.	42.	11758.
2032	0.	0.	0.	0.	0.	0.		0.	48.	11772.
2033	0.	0.	0.	0.	0.	0.		0.	54.	11762.
2034	0.	0.	0.	0.	0.	0.		0.	59.	11664.
2035	0.	0.	0.	0.	0.	0.		0.	63.	11517.
2036	0.	0.	0.	0.	0.	0.		0.	68.	11337.
2037	0.	0.	0.	0.	0.	0.		0.	72.	11121.
2038	0.	0.	0.	0.	0.	0.		0.	72.	10857.
2039	0.	0.	0.	0.	0.	0.		0.	72.	10609.

2005 REPLACEMENTS BY INDIVIDUAL PLANT ACCOUNTS:

CURVE	R2	R3	SQ	S0	R2	R3	R2	R3
LIFE	60	60	40	39	34	34	32	32
H-W	1	1	2	2	2	2	2	2
2003	162.	82.	0.	1220.	1301.	1034.	1.	0.
2004	169.	88.	0.	1235.	1393.	1150.	1.	0.
2005	175.	94.	0.	1247.	1484.	1269.	1.	1.
2006	182.	100.	0.	1258.	1578.	1393.	1.	1.
2007	188.	106.	0.	1269.	1680.	1526.	1.	1.
2008	195.	112.	0.	1280.	1785.	1657.	1.	1.
2009	202.	119.	0.	1291.	1891.	1781.	2.	1.
2010	210.	126.	0.	1301.	2002.	1914.	2.	1.
2011	217.	133.	0.	1311.	2117.	2049.	2.	1.
2012	224.	140.	0.	1320.	2228.	2167.	2.	2.
2013	232.	147.	0.	1329.	2342.	2289.	2.	2.
2014	239.	155.	0.	1337.	2460.	2414.	2.	2.
2015	247.	162.	0.	1345.	2578.	2545.	3.	2.
2016	255.	170.	0.	1351.	2692.	2670.	3.	2.
2017	263.	177.	0.	1357.	2810.	2806.	3.	3.
2018	270.	184.	0.	1363.	2930.	2957.	3.	3.
2019	278.	192.	0.	1366.	3046.	3126.	3.	3.
2020	286.	199.	0.	1370.	3161.	3297.	4.	4.
2021	293.	206.	0.	1372.	3279.	3480.	4.	4.
2022	301.	213.	0.	1373.	3396.	3678.	4.	5.
2023	309.	219.	0.	1372.	3508.	3862.	4.	5.
2024	316.	226.	0.	1371.	3618.	4055.	5.	5.
2025	323.	233.	0.	1369.	3724.	4236.	5.	6.
2026	330.	239.	0.	1364.	3825.	4406.	5.	6.
2027	337.	244.	0.	1357.	3918.	4554.	5.	7.
2028	344.	250.	0.	1350.	4003.	4674.	6.	7.
2029	351.	256.	0.	1341.	4075.	4760.	6.	7.
2030	357.	262.	0.	1331.	4135.	4828.	6.	8.
2031	364.	268.	0.	1318.	4183.	4848.	6.	8.
2032	369.	273.	0.	1305.	4210.	4800.	6.	8.
2033	375.	278.	0.	1291.	4232.	4733.	6.	7.
2034	380.	283.	0.	1280.	4229.	4591.	6.	7.
2035	386.	290.	0.	1269.	4209.	4417.	6.	7.
2036	391.	296.	0.	1258.	4178.	4221.	6.	6.
2037	396.	302.	0.	1249.	4131.	4003.	6.	6.
2038	400.	309.	0.	1238.	4065.	3758.	6.	5.
2039	404.	314.	0.	1230.	3984.	3541.	6.	5.
2040	408.	321.	0.	1222.	3899.	3344.	6.	4.

2005 REPLACEMENTS BY INDIVIDUAL PLANT ACCOUNTS:

CURVE	R2	R3	R3	R2	R3	R4	S3	R4
LIFE	13	13	100	50	50	100	30	75
H-W	2	2	3	4	4	5	1	1
2003	0.	0.	90.	4.	1.	29.	0.	5.
2004	0.	0.	96.	4.	2.	33.	0.	6.
2005	0.	0.	102.	4.	2.	37.	0.	6.
2006	0.	0.	107.	5.	2.	41.	0.	7.
2007	0.	0.	113.	5.	2.	44.	0.	8.
2008	0.	0.	119.	5.	3.	48.	0.	8.
2009	0.	0.	126.	6.	3.	52.	0.	9.
2010	0.	0.	132.	6.	3.	57.	0.	10.
2011	0.	0.	139.	6.	4.	61.	0.	11.
2012	0.	0.	145.	7.	4.	65.	0.	12.
2013	0.	0.	152.	7.	5.	69.	0.	13.
2014	0.	0.	160.	7.	5.	76.	0.	15.
2015	0.	0.	168.	8.	5.	84.	0.	16.
2016	0.	0.	175.	8.	6.	91.	0.	17.
2017	0.	0.	183.	9.	6.	99.	0.	19.
2018	0.	0.	191.	9.	7.	106.	0.	20.
2019	0.	0.	200.	9.	7.	114.	0.	22.
2020	0.	0.	208.	10.	8.	123.	0.	24.
2021	0.	0.	217.	10.	9.	131.	0.	26.
2022	0.	0.	226.	11.	9.	139.	0.	28.
2023	0.	0.	234.	12.	10.	147.	0.	30.
2024	0.	0.	244.	12.	11.	160.	0.	32.
2025	0.	0.	254.	13.	11.	172.	0.	35.
2026	0.	0.	264.	13.	12.	185.	0.	37.
2027	0.	0.	275.	14.	13.	198.	0.	40.
2028	0.	0.	285.	15.	14.	211.	0.	43.
2029	0.	0.	296.	15.	15.	225.	0.	46.
2030	0.	0.	307.	16.	16.	239.	0.	50.
2031	0.	0.	318.	16.	17.	253.	0.	53.
2032	0.	0.	329.	17.	18.	267.	0.	56.
2033	0.	0.	340.	18.	19.	281.	0.	60.
2034	0.	0.	354.	19.	21.	300.	0.	65.
2035	0.	0.	368.	19.	22.	318.	0.	69.
2036	0.	0.	382.	20.	23.	337.	0.	75.
2037	0.	0.	396.	21.	24.	356.	0.	80.
2038	0.	0.	410.	21.	26.	376.	0.	85.
2039	0.	0.	424.	22.	27.	397.	0.	90.
2040	0.	0.	439.	23.	29.	418.	0.	94.

2005 REPLACEMENTS BY INDIVIDUAL PLANT ACCOUNTS:

CURVE	SQ	SQ	L3	SQ	SQ	SQ	L2	S4		
LIFE	20	5	10	15	30	25	15	40		
H-W	1	1	1	1	1	1	1	1		
2003	0.	0.	0.	0.	0.	0.		0.	0.	3930.
2004	0.	0.	0.	0.	0.	0.		0.	0.	4176.
2005	0.	0.	0.	0.	0.	0.		0.	0.	4422.
2006	0.	0.	0.	0.	0.	0.		0.	0.	4675.
2007	0.	0.	0.	0.	0.	0.		0.	0.	4944.
2008	0.	0.	0.	0.	0.	0.		0.	0.	5217.
2009	0.	0.	0.	0.	0.	0.		0.	0.	5484.
2010	0.	0.	0.	0.	0.	0.		0.	0.	5764.
2011	0.	0.	0.	0.	0.	0.		0.	0.	6050.
2012	0.	0.	0.	0.	0.	0.		0.	0.	6318.
2013	0.	0.	0.	0.	0.	0.		0.	0.	6590.
2014	0.	0.	0.	0.	0.	0.		0.	0.	6874.
2015	0.	0.	0.	0.	0.	0.		0.	0.	7163.
2016	0.	0.	0.	0.	0.	0.		0.	0.	7442.
2017	0.	0.	0.	0.	0.	0.		0.	0.	7735.
2018	0.	0.	0.	0.	0.	0.		0.	1.	8045.
2019	0.	0.	0.	0.	0.	0.		0.	2.	8369.
2020	0.	0.	0.	0.	0.	0.		0.	2.	8693.
2021	0.	0.	0.	0.	0.	0.		0.	3.	9031.
2022	0.	0.	0.	0.	0.	0.		0.	5.	9384.
2023	0.	0.	0.	0.	0.	0.		0.	7.	9713.
2024	0.	0.	0.	0.	0.	0.		0.	9.	10055.
2025	0.	0.	0.	0.	0.	0.		0.	11.	10382.
2026	0.	0.	0.	0.	0.	0.		0.	16.	10688.
2027	0.	0.	0.	0.	0.	0.		0.	20.	10961.
2028	0.	0.	0.	0.	0.	0.		0.	25.	11201.
2029	0.	0.	0.	0.	0.	0.		0.	29.	11392.
2030	0.	0.	0.	0.	0.	0.		0.	35.	11554.
2031	0.	0.	0.	0.	0.	0.		0.	42.	11651.
2032	0.	0.	0.	0.	0.	0.		0.	48.	11657.
2033	0.	0.	0.	0.	0.	0.		0.	54.	11641.
2034	0.	0.	0.	0.	0.	0.		0.	58.	11535.
2035	0.	0.	0.	0.	0.	0.		0.	63.	11381.
2036	0.	0.	0.	0.	0.	0.		0.	68.	11193.
2037	0.	0.	0.	0.	0.	0.		0.	72.	10969.
2038	0.	0.	0.	0.	0.	0.		0.	72.	10699.
2039	0.	0.	0.	0.	0.	0.		0.	72.	10446.
2040	0.	0.	0.	0.	0.	0.		0.	72.	10208.

FUTURE REPLACEMENTS FOR YEAR 2003:

YEAR	2002 DOLLARS	2003 DOLLARS
2003	3930.	
2004	4178.	4295.
2005	4431.	4556.
2006	4694.	4825.
2007	4969.	5109.
2008	5247.	5394.
2009	5518.	5673.
2010	5804.	5966.
2011	6095.	6265.
2012	6367.	6546.
2013	6645.	6831.
2014	6935.	7129.
2015	7229.	7432.
2016	7514.	7725.
2017	7814.	8032.
2018	8131.	8358.
2019	8462.	8699.
2020	8793.	9039.
2021	9139.	9395.
2022	9499.	9765.
2023	9837.	10112.
2024	10188.	10474.
2025	10524.	10819.
2026	10840.	11144.
2027	11124.	11435.
2028	11375.	11693.
2029	11577.	11901.
2030	11751.	12080.
2031	11861.	12194.
2032	11882.	12214.
2033	11879.	12211.
2034	11787.	12117.
2035	11647.	11973.
2036	11473.	11794.
2037	11262.	11577.
2038	11003.	11311.

FUTURE REPLACEMENTS FOR YEAR 2004:

YEAR	2002 DOLLARS	2004 DOLLARS
2003	3930.	
2004	4176.	
2005	4424.	4654.
2006	4683.	4926.
2007	4956.	5214.
2008	5231.	5503.
2009	5500.	5786.
2010	5783.	6084.
2011	6072.	6388.
2012	6342.	6672.
2013	6617.	6961.
2014	6904.	7263.
2015	7196.	7570.
2016	7478.	7867.
2017	7774.	8178.
2018	8088.	8508.
2019	8416.	8853.
2020	8743.	9198.
2021	9085.	9558.
2022	9442.	9933.
2023	9775.	10283.
2024	10123.	10649.
2025	10454.	10998.
2026	10765.	11325.
2027	11044.	11618.
2028	11289.	11876.
2029	11486.	12084.
2030	11654.	12260.
2031	11758.	12369.
2032	11772.	12384.
2033	11762.	12374.
2034	11664.	12271.
2035	11517.	12116.
2036	11337.	11926.
2037	11121.	11699.
2038	10857.	11421.
2039	10609.	11161.

FUTURE REPLACEMENTS FOR YEAR 2005:

YEAR	2002 DOLLARS	2005 DOLLARS
2003	3930.	
2004	4176.	
2005	4422.	
2006	4675.	5035.
2007	4944.	5325.
2008	5217.	5619.
2009	5484.	5906.
2010	5764.	6208.
2011	6050.	6516.
2012	6318.	6804.
2013	6590.	7097.
2014	6874.	7403.
2015	7163.	7715.
2016	7442.	8015.
2017	7735.	8330.
2018	8045.	8664.
2019	8369.	9014.
2020	8693.	9362.
2021	9031.	9727.
2022	9384.	10106.
2023	9713.	10460.
2024	10055.	10830.
2025	10382.	11182.
2026	10688.	11511.
2027	10961.	11805.
2028	11201.	12064.
2029	11392.	12270.
2030	11554.	12444.
2031	11651.	12548.
2032	11657.	12555.
2033	11641.	12537.
2034	11535.	12424.
2035	11381.	12257.
2036	11193.	12055.
2037	10969.	11814.
2038	10699.	11523.
2039	10446.	11250.
2040	10208.	10994.

CHAPTER 9

Financial Risk and Mitigation

9.1 BACKGROUND

BPA adopted a long-term policy in its 1993 Final Rate Proposal calling for setting rates that build and maintain financial reserves sufficient for the agency to achieve a 95 percent probability of meeting U.S. Treasury payments in full and on time for each two-year rate period. *See* 1993 Final Rate Proposal, Administrator's Record of Decision, WP-93-A-02 at page 72.

In this rate proposal, BPA has analyzed its transmission risks and has determined that the rate proposal achieves the 95 percent probability standard for the transmission function.

To achieve this Treasury payment probability, the following risk mitigation "tools" were considered in the rate proposal:

1. Starting financial reserves: Starting financial reserves include cash in the BPA Fund and the deferred borrowing balance attributed to the transmission function. The most likely value for starting reserves is projected to be $179 million at the beginning of FY 2006.

2. Planned Net Revenues for Risk (PNRR). PNRR is a component of the revenue requirement that is added to annual expenses. PNRR adds to cash flows so that financial reserves mitigate short-run cost and revenue risk and achieve the TPP goal. No PNRR was required in the revenue requirement to achieve the TPP standard under the rate proposal.

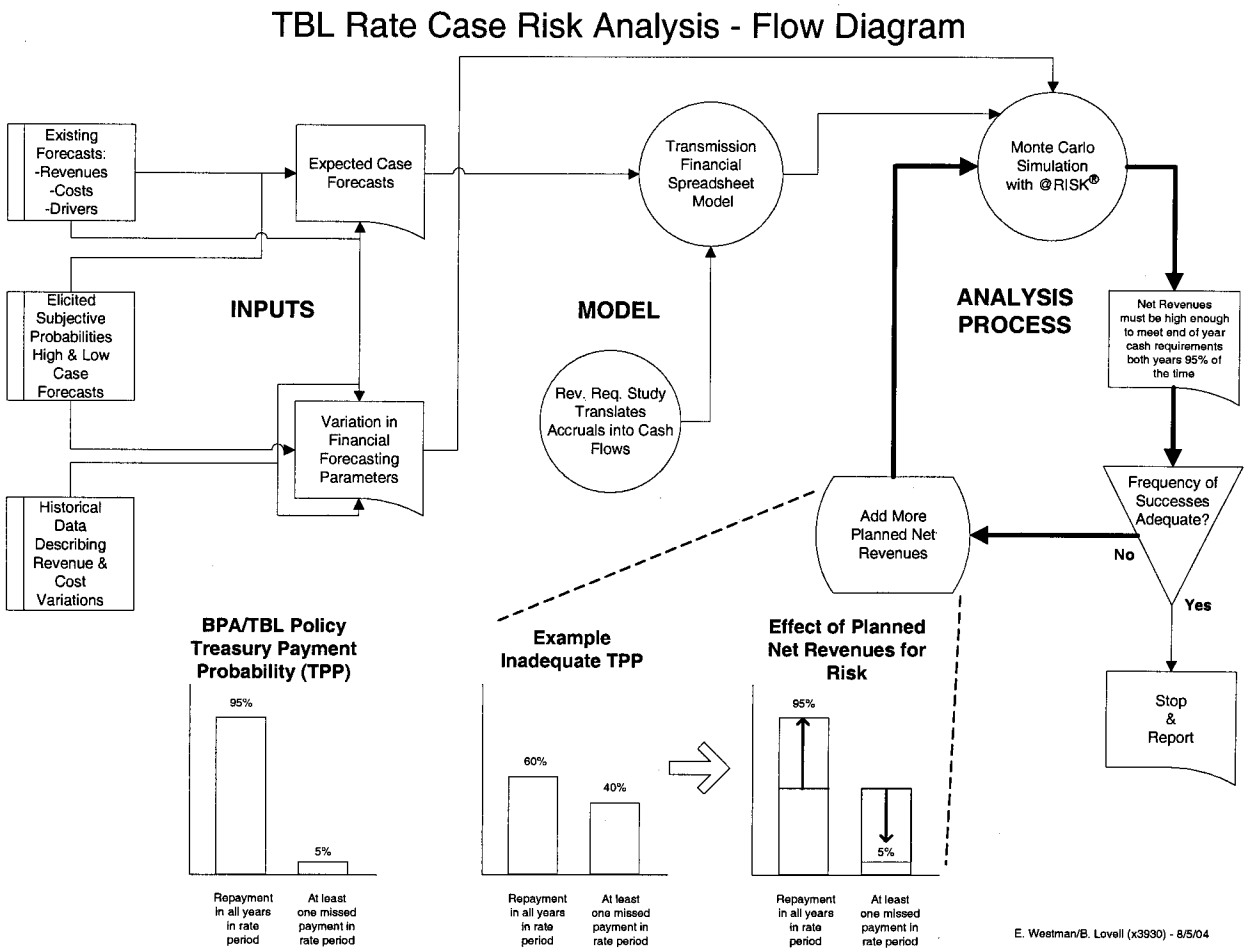
3. Two Year Rate Period. BPA is proposing to adopt rates for a two-year period. The ability to revise rates after two years, or more frequently if need be, serves as an important risk mitigation tool for BPA's transmission function. By adopting a two-year rate period the TBL limits the amount of risk that must be covered by financial reserves and PNRR.

9.2 TRANSMISSION RISK ANALYSIS

To quantify the effects of risk on the finances of BPA's transmission function, BPA analyzes the effects of uncertainty in expenses and revenues on transmission cash flows using a Monte Carlo simulation method. *See* Figure 9.1. The analysis is used to estimate the probability of successful Treasury payment on time and in full during the rate period, FYs 2006 and 2007. Successful Treasury payment is assumed to occur when the end-of-year cash reserve for the transmission function is at least sufficient to cover the TBL's working capital requirement of $20 million per year. The working capital requirement was estimated based on historical monthly net cash flow patterns and monthly cash requirements for the TBL. The value of $20 million was used in the 2002 and 2004 TBL rate cases.

The risk analysis is part of the Revenue Requirements Study (RRS). It uses inputs that come from the RRS and transmission sales, revenue, and expense forecasts. *See* the Programs in Review close-out letter in Appendix B, Revenue Requirement Study, TR-06-E-BPA-01, and the testimony of Knudsen and Woerner, TR-06-E-BPA-04. The risk analysis simulates the financial reserves available at the beginning of the rate period and calculates the probability that financial reserves will be sufficient in both years of the rate period to make the scheduled Treasury payments in full and on time. If this probability is below BPA's TPP standard of 95% for two years, it calculates the PNRR needed to raise the TPP to 95%. Initial input values for point estimates of expenses and revenues come from the applicable forecasts and when combined with inputs describing uncertainty in expenses and revenues, provide the basis for the initial estimate of PNRR. The PNRR is in turn provided, if appropriate, as an expense input to the RRS, changing the transmission revenue requirement and ultimately transmission rates.

Figure 9.1



The adjusted transmission rates increase expected revenues during the rate period. The revised estimates of expected revenues combined with the revenue and expense uncertainties are used to update the risk analysis, TPP and adequacy of PNRR. This iterative analysis process is continued until estimates of PNRR converge on a particular amount of PNRR. The estimated amount of PNRR is used to set the PNRR expense for the RRS.

The risk analysis covers the period of FYs 2005 through 2007. The analysis begins with an historical period, FY 2004. The change in revenues, expenses, and accrual to cash adjustments that are expected to occur between the initial rate proposal and the end of the next rate period is analyzed. The amount of cash reserves at the start of the next rate period has a direct effect on the amount of financial reserves and PNRR needed to achieve BPA's TPP standard. The FY 2004

information reflects historical data, FY 2005 is a transition year, part history and part forecast, and FYs 2006 and 2007 cover the next rate period forecast. The transition year of 2005 is analyzed with uncertainty in revenues and expenses so that uncertainty in financial reserves at the beginning of the next rate period (FYs 2006-2007) is captured in the risk analysis.

9.3 TRANSMISSION RISK ANALYSIS MODEL

The foundation of the risk analysis is a transmission financial spreadsheet model. This model was developed in Microsoft Excel to estimate the effects of risk and risk mitigation on end-of-year financial reserves and likelihood of successful Treasury payment during the rate period. Cash reserve levels at the end of a FY determine whether BPA is able to meet its Treasury payment obligation. The model is organized as a "workbook" with individual work sheets including: an input matrix of revenues and expenses, an income statement, a cash flow statement, and individual work sheets for the risks analyzed using the model.

The calculation of end-of-year financial reserves starts with historical data on start of year financial reserves, revenues earned and expenses paid during FY 2004 (Tables 9.1 and 9.2). FY 2004 transmission revenues and expenses are based on BPA's end-of-year financial results. The accrual based revenues and expenses shown in the income statement are then converted to cash flows in the cash flow statement worksheet. The year-end cash balance in FY 2004 becomes the beginning year cash balance for FY 2005. The structure of the income statement and cash flow statement are similar to those contained in the RRS, but does not match precisely because the tables contained in the risk analysis are for the purpose of forecasting net cash flow instead of determining the revenue requirement, and the values found are expected values instead of point estimates. The net cash flow provides an estimate of the annual change in cash balance which, when added to the beginning cash balance, yields the year-end cash balance. The year-end cash balance, when combined with deferred borrowing, provides an estimate of end-of-year financial reserves. This flow of computations is repeated sequentially for each year from FYs 2005 through 2007.

Simulating transmission cash flows in this manner permits forecasting start of year reserves at the beginning of the rate period instead of defining FY 2006 start of year reserves as an uncertain input variable. The model forecasts the start of year FY 2006 financial reserves based on transmission function historical cash flows, current forecasts of expenses and revenues, and uncertainty in expenses and revenues explicitly modeled for FY 2005 (Table 9.1). Table 9.1 shows the most likely value forecasts of expenses and revenues used in the RRS and the most likely revenue forecast. *See* TR-06-FS-BPA-04. The "most likely" forecasts are equal to the "mode" or peak of the underlying probability distribution for all uncertain variables. The most likely (mode or peak) forecast will also be equal to the mean or "expected" value when the underlying distribution is symmetric or the value is a single point estimate. However, in a few cases the "most likely" forecast is greater or less than the "expected" (or mean) value if the underlying uncertainty distribution is not symmetric.

9.4 RISK ANALYSIS COMPUTER SOFTWARE

The model used to perform the risk analysis was developed with Microsoft® Office Excel Professional Edition 2003 and @RISK, version 4.5.3 (©Palisade Corporation). Microsoft Excel is a basic spreadsheet computer program and @RISK is an Excel add-in computer program available from Palisade Corporation. The @RISK software allows the user to develop models incorporating uncertainty in a spreadsheet computer program environment. Uncertainty is incorporated by specifying model variables as probability distributions that reflect the variability in an input variable of interest. With model input variables specified as probability distributions instead of as point estimates, @RISK samples values from the probability distributions and then carries out the spreadsheet computations. Randomly sampled sets of input values are drawn for each game in a Monte Carlo simulation process that involves computing results of large numbers of games in order to describe a probability distribution of outcomes, such as net revenues or financial reserves. The values sampled from the probability distributions are drawn with probability based on their relative likelihood of occurrence as specified in the input probability distributions. While @RISK provides tools that enable users to turn spreadsheet models into Monte Carlo simulation models, the user still has the burden of determining the input probability distributions for uncertain variables in the model. This is done in analyses external to the @RISK computer program.

9.5 RISK FACTORS

Transmission risk factors used in the risk analysis include:

(1) Network long-term firm NT revenues;

(2) Network long-term firm Take or Pay (PTP, IR, FPT) revenues;

(3) Network short-term firm PTP revenues;

(4) Network hourly non-firm revenues;

(5) Southern Intertie long-term firm PTP revenues;

(6) Southern Intertie short-term firm PTP revenues;

(7) Southern Intertie hourly non-firm revenues;

(8) Scheduling, system control & dispatch revenues;

(9) Regulation & frequency response revenues;

(10)Delivery segment revenues;

(11)Total transmission expense annual variation, excluding between business line expenses paid to the PBL and Corporate expense;

(12)BPA Corporate expenses paid by the transmission function; and

(13)Effects of interest rates on interest expense for new borrowing.

The ancillary service "reactive supply & voltage control" revenues is treated as a point estimate forecast, since the pass through of actual costs provided in the formula rate means that this item entails little risk. Revenue from leasing fiber; proceeds from the sale of delivery facilities; and a variety of "other revenues" are also treated as point forecasts for this analysis due to their small size and the low level of additional uncertainty these are expected to contribute.

The risk variables analyzed were those judged to represent a significant impact on net revenues and cash flows, and that reasonably bear on estimating the amount of required PNRR during the next rate period. Other long-run risks such as variation in capital investment patterns; changes in generation and load patterns that may change transmission expenses and capacity availability; the price-elasticity effects of TBL transmission rate increases on load; the effect of secondary

transmission markets on transmission revenues; and potential changes in transmission industry structure due to formation of a Regional Transmission Organization are more speculative and not included in the analysis. Such risks are mitigated by the combination of financial reserves at the beginning of the rate period and the option of future rate increases if the unforeseen events occurs. In other words, these long-run risks are considered exogenous risks mitigated by the TBL's ability to change rate levels in response to fundamental changes in business environment and long-term changes in cost structure.

BPA relied on two approaches to forecasting the uncertainty in risk variables modeled. When historical data were present on which to base the estimation of uncertainty in a risk variable, BPA estimated the uncertainty in the historical data as the basis for forecasting the uncertainty in the variable. The underlying rationale for this approach is that the variation in the recent past is a reasonable basis for forecasting the short-run future (5 years or less). When historical data were not reasonably available, or when the future is expected to be different from the past, BPA relied on the judgment of technical staff familiar with specific areas of transmission risk as the basis for forecasting the uncertainty in those risks. With the exception of the Network and Intertie revenue uncertainties, standard deviations around the mean TBL forecasts of revenues and expenses were determined using the same methodology as in the 2004 rate case. *See* 2004 Final Transmission Proposal Revenue Requirement Study Documentation, TR-04-FS-BPA-01A.

Network and Intertie Transmission Revenue Uncertainties

Although the Network and Intertie rates are fixed during the rate period, the amount of revenue earned can be expected to vary due to uncertainty surrounding the quantity of service purchased by transmission customers. This is generally referred to as volumetric risk. Various underlying factors can affect the quantity of transmission service purchased. Some of these factors are related to weather such as the effect of temperature upon electric load and precipitation upon stream flows that determine the amount of generation output at hydro facilities in the Northwest. Influences outside the Northwest (e.g., the price of natural gas and relative hydro levels) can influence regional prices at Mid-Columbia, California-Oregon Border, and Palo Verde hubs and the amount of transmission purchased to move power between regions. Factors such as growth rates in the regional economy and the competitiveness of electricity-intensive industries

(e.g., DSIs) also influence the quantity of electricity usage and the amount of transmission needed to serve the demand for electricity. The existence of a growing secondary transmission market which competes with TBL on price, and the arbitrage between short-term and long-term transmission services, also introduce risk. Technical factors such as outages and de-ratings can affect revenues. A combination of these factors has caused substantial swings in TBL revenues in the past since the California power crisis of 2000-1, and could cause them again. It is important, therefore, to be sure that either transmission financial reserves provide a high enough cushion against reasonable adverse events or, if not, PNRR is set high enough to meet BPA's TPP standard. To model intertie and network revenue uncertainty appropriately in the current transmission environment, TBL believes there is a higher likelihood that revenues may be below its "most likely" (or mode) values than at or above such values for both Network Point-to-Point and Intertie. The probability distributions are then skewed toward lower revenues for a robust risk analysis that adequately weights these adverse outcomes. The result of this analysis is that expected or mean total revenues produced by the risk analysis are $13.6 million lower than "most likely" or mode revenues as presented in the accompanying tables. The important result from this analysis is that, even if this risk adjustment produces lower revenues, TPP remains well above 95% and PNRR is zero.

Transmission Operations and Maintenance Expense

The uncertainty in transmission O&M expense was estimated in the same manner as described in the 2004 Revenue Requirements Study Documentation,TR-04-FS-BPA-01A. It was assumed in this rate case, as in the previous one, that the variety of factors that have influenced year-to-year variations in transmission O&M expense in the historical period can reasonably be expected to prevail during the future, particularly the near term future. As in the case of transmission revenues, the objective was to describe short-run volatility and not long-run variability or variation in trend that may be due to factors such as changes in the structure of the transmission industry in the Northwest. Such long-term effects are mitigated by the TBL's ability to change rate levels as frequently as every two years.

The risk analysis model includes subcategories of transmission O&M expense with forecasted point estimates of expenses. The volatility in total O&M expense was distributed proportionally based on the relative size of individual expense

categories to the total O&M expense, with the exception of BPA Corporate and Shared Services and inter-business line expenses.

BPA Corporate and Shared Services expense uncertainty was treated in a similar manner to the 2004 rate case (i.e., skewed in the direction of higher cost). This is partly to reflect the move of Information Technology tech support to corporate and the concern that Corporate and Shared Services costs may exceed expectations in the future. Such skew has the effect of causing the "expected" or mean value TBL total operating expense to exceed the most likely or mode value (shown in Table 9.3) by an average of $3.4 million per year. Again, to repeat the similar discussion above on revenues, even with this "adverse bias" risk analysis the TPP exceeds 95% and the PNRR is zero.

Inter-business line expenses are treated as a point-estimate forecast because this item will change in a formula rate to reflect the actual costs that are incurred after new BPA's power rates and associated costs take effect. The specific "most likely" input values for Transmission O&M Expense are shown in Table 9.3.

Ancillary Services Revenue

The risk associated with TBL's inter-business line expense is implicitly treated in the ancillary services revenue risk assessment. Two of the six ancillary services revenue categories were modeled with uncertainty in the risk analysis. They are Scheduling, System Control, and Dispatch and Regulation and Frequency Response Service. Reactive Supply & Voltage Control from Generation is treated as entailing no significant risk as this is a periodically trued-up cost passed onto ratepayers via a formula rate. The remaining three ancillary services revenues were treated as risks borne by BPA's power marketing function (PBL) either because the transmission function only buys what it sells or the amount of revenue expected to be earned from the sale of the service was too small to warrant modeling revenue uncertainty.

Scheduling, System Control and Dispatch is an additional charge associated with the provision of transmission services and transmission customers are not permitted to self-supply this service. There is no price risk since the rate for this service is set in the rates process. The volumetric risk is assumed to vary in a manner directly proportional to the uncertainty in the total of transmission revenue. Since the majority of transmission wheeling revenue uncertainty is

modeled as a normal distribution, Scheduling, System Control and Dispatch uncertainty is assumed to be normally distributed with mean equal to the point estimate forecast for revenues from the revenue forecast. See Table 9.6.

Reactive Supply and Voltage Control service also is a mandatory service required for each transmission transaction. This service must be acquired from TBL unless the transmission customer demonstrates that it can self-supply a portion of its requirements or by qualifying generators billing TBL through FERC-approved rates. This additional potential cost exposure will be recovered via a formula rate that will be periodically trued-up to reflect actual cost throughout the rate period. Although there are other risk exposures associated with selling Reactive Supply and Voltage Control ancillary services, because this item is small it is treated as a point estimate forecast (i.e., as entailing no risk). *See* Table 9.6.

Regulation and Frequency Response service is a load-based service that only is applied to load in BPA's control area. The amount of revenue earned from this service is dependent on the amount of load that exists within TBL's control area and the rate of load growth. The risk analysis adopted the triangular distribution as a means of approximating the uncertainty that is expected to be associated with revenues earned from this service in the same manner as described in TR-04-FS-BPA-01A. *See* Table 9.6.

Interest Rate Risk

Annual volatility in Treasury borrowing rates can affect short-run interest expense for new debt required to finance transmission capital program additions. This effect was modeled by defining Treasury borrowing rates as an uncertain variable using the same distribution assumptions as in BPA's 2004 power rate case and estimating the effects of the uncertain interest rates on incremental transmission interest expense each year from FYs 2005 through 2007. *See* Risk Analysis Study Documentation, Chapter 2, WP-02-E-BPA-03A. In each year, a randomly sampled interest rate is drawn in each game for the debt added in that year. The extent to which the interest rate is above or below the expected rate determines whether there is an increase or decrease in interest expense compared to the expected interest expense for that new investment. The change in interest expense applies only to the new debt for the year in which the debt was incurred and for subsequent years during which interest payments are made on the debt. Since new debt is assumed issued midway

through the fiscal year, the interest expense deviation for the first year is only half of the total interest expense deviation expected to occur for an entire year. The entire deviation in interest expense affects subsequent years. New debt in each successive year is treated similarly. Randomly sampled interest rates are drawn independently for each year in which new debt is added and for each game of the simulation. The specific input values for Interest Rate Risk are shown in Table 9.9. Since this table shows expected value deviations in interest expense for new transmission debt, the actual deviation in net interest expense values shown are nil because the expected value or mean deviation in interest expense is nil.

Sale of Delivery Facilities Risk

Transmission customers who take service through delivery facilities have the opportunity to acquire those facilities instead of paying the Delivery charge. There is uncertainty in the pricing of the facilities that BPA expects will be sold and the number of facilities sold. The proceeds from facilities sold are assumed to be applied to amortization payments, lagged one year, made as BPA removes these assets from its books. However, because this item is small and the uncertainty difficult to estimate the proceeds from the sale of facilities were modeled as a deterministic point forecast. The specific input values for Sale of Facilities Net Proceeds Risk are shown in Table 9.10.

9.6 RISK CORRELATIONS

The risk analysis models revenue and expense risks as diversified risks. The chances of outcomes for individual risk factors are therefore independent of each other. The result is that the chance of consistently good luck or consistently bad luck across all of the risks is very low. More frequently in any individual simulation game the chances are that some risks will harm the TBL's financial reserves while others will benefit or increase financial reserves. However, the TPP standard is focused on the downside risk or the chances of the TBL not being able to meet it Treasury payment obligations.

If there were significant correlations between risk factors the assumption of diversified risks could serve to either bias the risk analysis in the direction of excessive risk mitigation or insufficient risk mitigation depending on the direction of the correlation. Risks can either be positively correlated or negatively correlated. Where data were available BPA analyzed risk factor correlation and found no compelling basis for explicitly modeling the effects of correlations among revenue and

expense risks. *See* 2002 Final Transmission Proposal Revenue Requirement Documentation, TR-02-FS-BPA-01A, Chapter 8.

9.7 RISK ANALYSIS RESULTS

The transmission risk analysis simulation resulted in 4987 games out of 5000 in which end-of-year financial reserves were sufficient to pay Treasury on time and in full in both years of the FY 2006 through 2007 rate period. This represents a 99.74% TPP for the rate period. These results were obtained with a pseudo random number seed value of "77" and the @RISK sampling option set for Latin Hypercube sampling.

Financial Reserves and PNRR

The expected year-end financial reserves for FYs 2006 and 2007 are estimated to be $176.3 million and $158.7 million, respectively. *See* Table 9.2. The range of possible financial reserves at the end of the current rate period and each year of the next rate period is shown in Figure 9.2. Since the 5th percentile of year-end reserves stays above $20 million, assuming $179 million start of year reserves in 2006 and the proposed rate levels, no PNRR were necessary to achieve the 95% TPP.

Figure 9.2

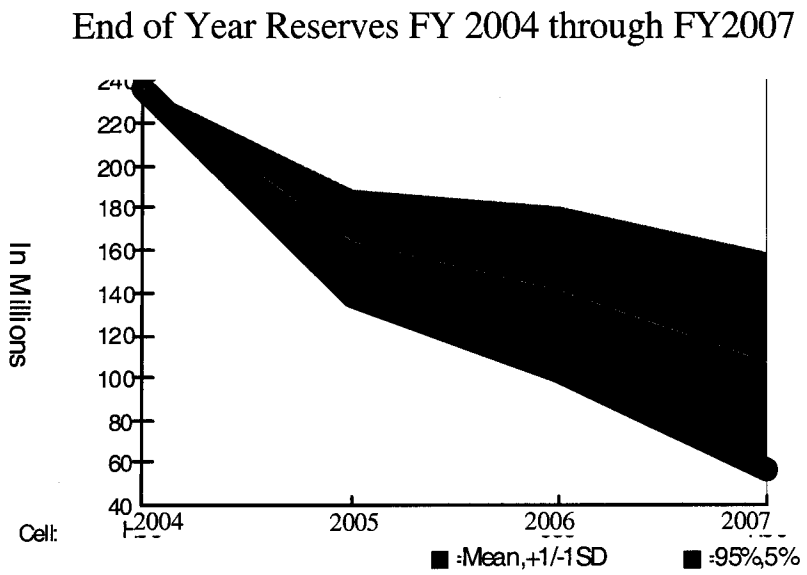

End of Year Reserves FY 2004 through FY2007
In Millions
220
200
180
160
140
120
100
80
60
40
2004
2005
2006
2007
Cell:
:Mean,+1/-1SD
:95%,5%

TABLE 9.1: Statement ofRevenues and Expenses – Transmission Business

	($ millions)	2004	2005	2006	2007
	Operating Revenues (Most Likely)				
1.	Transmission Revenues	451.1	459.4	527.2	534.4
2.	Ancillary Services Revenues	114.7	114.4	128.0	130.7
3.	Delivery Segment Revenues	3.6	4.7	4.3	4.4
4.	Fiber & PCS Revenues	13.8	10.6	10.8	10.8
5.	TBL Services Revenues	14.0	13.7	15.4	15.4
6.	Other Revenues & Credits	41.5	37.0	22.3	22.1
7.	**Total Operating Revenues**	**638.6**	**639.8**	**708.0**	**717.6**
	Operating Expenses				
8.	Transmission G&A	15.5	18.0	22.7	24.6
9.	CSRS Pension Expense	15.5	13.3	11.6	10.6
10.	Transmission Marketing	9.9	10.3	12.9	13.0
11.	Transmission Scheduling	12.4	10.6	11.5	11.8
12.	Transmission System Operations	41.1	39.9	49.5	49.6
13.	Transmission System Maintenance	69.8	78.5	80.4	80.4
14.	Transmission System Development	6.3	7.8	9.6	9.5
15.	Wheeling/Leases	5.5	7.0	13.8	13.8
16.	Environment	3.9	4.6	4.6	4.6
17.	Transmission Support Services	0.0	0.0	0.0	0.0
18.	TBL Services Expenses	8.9	10.0	0.0	0.0
19.	Between Business Line Expenses	78.9	71.3	71.2	72.2
20.	Corporate Expenses	45.0	65.8	49.3	56.6
21.	**Total Transmission Operating Expense**	**312.5**	**337.1**	**336.9**	**346.6**
22.	**Net Operating Margin**	**326.2**	**302.7**	**371.1**	**371.0**
23.	Federal Projects Depreciation	188.9	189.2	200.3	211.1
24.	**Total Operating Expense & Depreciation**	**501.4**	**526.3**	**537.2**	**557.7**
25.	**Net Operating Revenue**	**137.2**	**113.5**	**170.8**	**159.9**
	Interest Expense				
26.	Interest on Appropriated Funds	61.8	48.2	48.0	43.9
27.	Debt Service Re-assignment Interest		25.7	25.7	25.7
28.	Interest on Long-Term Debt Issued to Treasury	112.6	111.9	120.1	141.0
29.	Interest Credit on Cash Reserves	0.0	(10.1)	(10.2)	(9.8)
30.	Amortization of Capitalized Bond Premiums	3.7	3.2	3.0	2.9
31.	Capitalization Adjustment	(19.8)	(19.0)	(19.0)	(19.0)
32.	AFUDC	(20.5)	(19.9)	(16.0)	(12.8)
33.	Net Interest Expense	137.8	139.9	151.6	172.0

TABLE 9.2: Statement of Cash Flows – Transmission Business

	($ millions)	2004	2005	2006	2007
	Cash Provided by Current Operations				
1.	Net Revenues	(0.6)	(26.4)	19.2	(12.1)
	Expenses not Requiring Cash				
2.	Depreciation/Amortization	188.9	189.2	200.3	211.1
3.	Amort of Capitalized Bond Premiums	3.7	3.2	3.0	2.9
4.	Capitalization Adjustment	(19.8)	(19.0)	(19.0)	(19.0)
5.	Revenue Recognition (Third AC)	(13.6)	(3.1)	(3.1)	(3.1)
6.	Revenue Recognition (Fiberoptics)	(0.9)	(2.9)	(0.9)	(0.9)
7.	Prepayment of Fiber Revenues	44.5	0.0		
8.	Proceeds from Sale of Assets	2.5	6.9	4.9	4.9
9.	Payments for Stranded Investments/Defaults				
10.	AFUDC	0.0	0.0	0.0	0.0
11.	Inter Business Line Transfers		0.0	0.0	0.0
12.	Net Cash Inflow from 3rd Party Leases		(22.6)	(2.7)	0.0
13.	ELI Prepay & Other Fiber Lease Advances		(2.8)	(2.8)	(2.8)
14.	Other Accrual to Cash Adjustments	0.0	(2.0)		
15.	Cash Provided by Current Operations	204.8	120.6	199.0	181.0
	Cash Used for Capital Investments				
13.	Investment in Gross Utility Plant and CWIP	(289.4)	(218.8)	(275.9)	(280.8)
14.	Cash Used for Capital Investments	(289.4)	(218.8)	(275.9)	(280.8)
	Cash From Borrowing and Appropriations				
15.	Cash from Borrowing & Appropriations	307.7	203.8	260.9	265.8
16.	Debt Reassignment (from Corporate)				
17.	Repayment of Long-term Debt	(87.9)	(153.5)	(124.9)	(152.7)
18.	Accelerated Repayment of Debt (Debt Mgt.)	0.0	0.0	0.0	0.0
19.	Accelerated Repayment of Debt (Asset Sales)		(6.9)	(4.9)	(4.9)
20.	Repayment of Capital Appropriations	(66.4)	(1.5)	(57.0)	(26.1)
21.	**Subtotal** Cash from Borrowing & Approp	153.5	41.9	74.1	82.1
22.	**Annual Change in Cash Balance**	68.9	(56.3)	(2.8)	(17.6)
23.	Plus Beginning Cash Balance	128.5	235.5	179.2	176.3
24.	Year End Cash Balance	197.4	179.2	176.3	158.7
25.	Deferred Borrowing	38.1	0.0	0.0	0.0
26.	**Total Reserves (Most Likely or Mode)**	**235.5**	**179.2**	**176.3**	**158.7**

TABLE 9.3: Transmission Expense Risk

	Operating Expenses	FY 2004	FY 2005	FY 2006	FY 2007
	($1,000)				
1.	**Trans O&M Expense Change From Exp Value**	0.0	0.0	0.0	0.0
2.	Total Trans O&M Expense (With Uncertainty)	179,693	190,046	216,393	217,849
3.	Transmission O&M Expense Standard Deviation	9,524	10,072	11,469	11,546
4.	Sd as pct of mean	5.3%	5.3%	5.3%	5.3%
	Transmission O&M Expenses (With Uncertainty)				
5.	Transmission G&A	15,534	18,049	22,672	24,561
6.	CSRS Pension Expense	15,450	13,250	11,550	10,550
7.	Transmission Marketing and Scheduling	9,858	10,324	12,854	12,954
8.	Transmission Scheduling	12,363	10,596	11,470	11,819
9.	Transmission System Operations	41,137	39,851	49,513	49,613
10.	Transmission System Maintenance	69,753	78,529	80,367	80,367
11.	Transmission System Development	6,280	7,772	9,554	9,549
12.	Wheeling/Leases	5,459	7,025	13,835	13,835
13.	Environment	3,862	4,649	4,576	4,599
14.	Transmission Support Services	0	0	0	0
15.	TBL Services (Reimbursable)	8,937	10,000	0	0
16.	**Trans Exp excl Corp,BBL & CSRS**	179,693	190,046	216,393	217,849
17.	**TBL Corp & Shared Serv Expense (Mean Value)**	44,978	66,924	55,384	59,490
18.	TBL Corp & Shared Serv. Expenses (Most Likely or Mode)	44,978	65,772	49,256	56,574
19.	Min Corp & Shared Serv Exp	40,000	60,000	45,000	50,000
20.	Max Corp & Shared Serv Exp	75,506	75,000	71,896	71,896
21.	Between Business Line Expenses	78,891	71,302	71,229	72,221
	O&M Expense Standard Deviations		sd ($1,000)		
22.	Transmission G&A	823.3	956.6	1201.6	1301.7
23.	Transmission Marketing	522.4	547.2	681.3	686.6
24.	Transmission Scheduling	655.2	561.6	607.9	626.4
25.	Transmission System Operations	2180.3	2112.1	2624.2	2629.5
26.	Transmission System Maintenance	3696.9	4162.1	4259.5	4259.5
27.	Transmission System Development	332.8	411.9	506.4	506.1
28.	Support Services	0.0	0.0	0.0	0.0
29.	Environment	204.7	246.4	242.5	243.8
	Total TBL Expenses (Most Likely or Mode) - PIR Check		**337,120**	**336,878**	**346,645**

TABLE 9.4: Network Transmission Revenue Risk

	Operating Revenues	FY 2004	FY 2005	FY 2006	FY 2007
	($1,000)				
	Network LT Firm (Take or Pay)				
1.	Network LT Firm (Mean)	266,191	263,854	316,722	321,064
2.	Network LT Firm (Most Likely or Mode)	266,191	270,187	323,056	327,397
3.	Standard Deviation	20,097	20,399	24,391	24,719
4.	Sd as pct of mean	7.6%	7.6%	7.6%	7.6%
7.	Min		245,187	298,056	302,397
8.	Max		276,187	329,056	333,397
	Long Term Firm (NT Load)				
7.	Network NT Service (Mean)	99,282	102,372	113,859	115,638
8.	Network NT Service (Most Likely or Mode)	99,282	102,372	113,859	115,638
9.	Standard Deviation	2,283	3,071	3,416	3,469
10.	Sd as pct of mean	2.3%	3.0%	3.0%	3.0%
	Short Term Firm				
11.	Network ST Firm (Mean)	8,652	5,463	7,765	9,043
12.	Network ST Firm (Most Likely or Mode)	8,652	5,462	7,765	9,043
13.	Standard Deviation	1,866	1,178	1,675	1,951
14.	Sd as pct of mean	21.6%	21.6%	21.6%	21.6%
15.	Min	3,000	1,000	-	-
16.	Max	35,000	39,449	39,449	39,449
	Nonfirm				
17.	RNF Short Term (1 to 30 days)	0	0	0	0
18.	ET Hourly	5,768	3,641	5,176	6,029
19.	Network Hourly Nonfirm (Mean)	5,768	3,641	5,176	6,029
20.	Network Hourly Nonfirm (Most Likely or Mode)	5,768	3,641	5,176	6,029
21.	Standard Deviation	2,600	1,642	2,334	2,718
22.	Sd as pct of mean	45%	45%	45%	45%
23.	**Network Grand Total (Most Likely or Mode)**	**385,660**	**385,304**	**455,032**	**464,137**

TABLE 9.5: Intertie Transmission Revenue Risk

	Operating Revenues	FY 2004	FY 2005	FY 2006	FY 2007
	($1,000)				
	Long Term Firm				
1.	IS LT Firm (Mean)	64,347	62,559	61,703	60,268
2.	IS LT Firm (Most Likely or mode)	64,347	69,559	68,703	67,268
3.	Standard Deviation	4,813	5,203	5,139	5,032
4.	Sd as pct of mean	7.5%	7.5%	7.5%	7.5%
7.	Min		44,559	43,703	42,268
8.	Max		73,559	72,703	71,268
	Short Term Firm				
7.	IS ST Firm (Mean)	5,069	4,922	5,210	5,395
8.	IS ST Firm (Mode)	5,069	4,922	5,210	5,395
9.	Standard Deviation	2,025	1,966	2,081	2,155
10.	Sd as pct of mean	40.0%	40.0%	40.0%	40.0%
	IS Hourly Nonfirm Revenue				
11.	IS Hourly NonFirm Revenue (Mean)	1,750	3,281	3,474	3,596
12.	IS Hourly Nonfirm Revenue (Most Likely)	1,750	3,281	3,474	3,596
13.	Standard Deviation	385	723	765	792
14.	Sd as pct of mean	22%	22%	22%	22%
15.	**IS Total (Most Likely)**	**71,166**	**77,763**	**77,386**	**76,260**

TABLE 9.6: Ancillary Services Revenue Risk

	Operating Revenues	FY 2005	FY 2006	FY 2007
	($1,000)			
1.	**Scheduling, System Control, & Dispatch (Mean)**	50,973	64,276	66,099
2.	Most Likely (Mode)	50,973	64,276	66,099
3.	Standard Deviation	3,848	4,853	4,991
4.	**Generation Supplied Reactive (Point Estimate)***	20,554	21,493	22,099
5.	Most Likely (Point Estimate)	20,554	21,493	22,099
	* Treated as zero risk item due to formula rate pass through			
8.	**Regulation and Frequency Response Service (Mean)**	12,417	13,474	13,682
9.	Most Likely (Mode)	12,790	13,847	14,055
10.	Min	9,670	10,727	10,935
11.	Max	14,790	15,847	16,055
12.	**Operating Reserve - Spinning Reserve Service**	15,023	14,199	14,199
13.	**Operating Reserve - Supplemental Reserve Serv.**	15,023	14,199	14,199
14.	**Energy Imbalance Service**	0	0	0
15.	**Generation Imbalance Service**	0	0	0
16.	**Total Ancillary Services (Most Likely or Mode)**	114,362	128,014	130,652

TABLE 9.7: Delivery Segment Revenue Risk

	Operating Revenues ($1,000)	FY 2004	FY 2005	FY 2006	FY 2007
1.	Utility (Most Likely)	3,638	3,000	2,611	2,650
2.	Utility PBL Payments	0	0	0	0
3.	Industrial (UFT Method)	0	1,715	1,715	1,715
4.	Delivery (Most Likely)	3,638	4,714	4,326	4,365
5.	Mean	3,638	4,714	4,326	4,365
6.	Standard Deviation	467	605	555	560
7.	Sd as pct of mean	12.83%	12.83%	12.83%	12.83%

TABLE 9.8: Fiber & PCS Revenue Risk

	Operating Revenues	FY 2004	FY 2005	FY 2006	FY 2007
	($1,000)				
	Fiber				
1.	Fiber&PCS Revenue (Point Estimate)	13,771	10,594	10,768	10,768

TABLE 9.9: Treasury Borrowing Rate Interest Expense Risk

	Bond type	Principal original	Principal outstanding	E(rate)	rate	Bonds due	issued	annual interest	Fiscal Year Interest Expense Impact 2005	2006	2007
11.	TINT2005	198,354	198,354	6.20%	6.20%	2035	2005	12,298	6,149	12,298	12,298
12.	ZAFW	5,414	5,414	6.50%	6.50%	2020	2005	352	176	352	352
13.	Subtotal								6,325	12,650	12,650
14.	Subtotal Based on E(Interest Rate)								6,325	12,650	12,650
15.	Deviation in Net Interest Expense (Bonds Issued in 2005)								-	-	-
16.	TINT2006	255,344	255,344	6.20%	6.20%	2036	2006	15,831		7,916	15,831
17.	ZAFW	5,552	5,552	6.50%	6.50%	2021	2006	361		180	361
18.	Subtotal									8,096	16,192
19.	Subtotal Based on E(Interest Rate)									8,096	16,192
20.	Deviation in Net Interest Expense (Bonds Issued in 2006)									-	-
16.	TINT2007	260,226	260,226	6.20%	6.20%	2036	2007	16,134			8,067
17.	ZAFW	5,552	5,552	6.50%	6.50%	2021	2007	361			180
18.	Subtotal										8,247
19.	Subtotal Based on E(Interest Rate)										8,247
20.	Deviation in Net Interest Expense (Bonds Issued in 2006)										-
21.	**Total Annual Variation in Net Interest Expense for New Debt**								-	-	-

Uncertainty in Treasury Borrowing Rates

	Δ r	p(Δ r)
22.	-2.00%	0.05
23.	-1.25%	0.1
24.	-0.75%	0.2
25.	0.00%	0.3
26.	0.75%	0.2
27.	1.25%	0.1
28.	2.00%	0.05

CHAPTER 10

REPAYMENT STUDY INPUT DATA
CURRENT STUDY
FY 2006

BONNEVILLE POWER ADMINISTRATION

OCTOBER 1, 2004 - SEPTEMBER 30, 2007 COST EVALUATION PERIOD

Transmission 3-year Base with $10m Amort Shift 11-18-04

Historical Federal Investments (1000s) (FY 2006)

Project	Original Principal	Current Principal	Interest Rate	Due Date	Replacement?	In Service Date	Month	Rollover Date	Rollover Rate
BONNEVILLE PO\	6,812	-	2.500%	1985	No	1940	-	-	-
BONNEVILLE PO\	18,906	-	2.500%	1986	No	1941	-	-	-
BONNEVILLE PO\	461	-	2.500%	1986	No	1941	-	-	-
BONNEVILLE PO\	8,446	-	2.500%	1987	No	1942	-	-	-
BONNEVILLE PO\	1,052	-	2.500%	1987	No	1942	-	-	-
BONNEVILLE PO\	16,083	-	2.500%	1988	No	1943	-	-	-
BONNEVILLE PO\	4,538	-	2.500%	1988	No	1943	-	-	-
BONNEVILLE PO\	583	-	2.500%	1989	No	1944	-	-	-
BONNEVILLE PO\	249	-	2.500%	1989	No	1944	-	-	-
BONNEVILLE PO\	3,366	-	2.500%	1990	No	1945	-	-	-
BONNEVILLE PO\	1,306	-	2.500%	1990	No	1945	-	-	-
BONNEVILLE PO\	2,488	-	2.500%	1991	No	1946	-	-	-
BONNEVILLE PO\	732	-	2.500%	1991	No	1946	-	-	-
BONNEVILLE PO\	1,773	-	2.500%	1992	No	1947	-	-	-
BONNEVILLE PO\	1,330	-	2.500%	1992	No	1947	-	-	-
BONNEVILLE PO\	7,468	-	2.500%	1993	No	1948	-	-	-
BONNEVILLE PO\	2,290	-	2.500%	1993	No	1948	-	-	-
BONNEVILLE PO\	6,809	-	2.500%	1994	No	1949	-	-	-
BONNEVILLE PO\	2,719	-	2.500%	1994	No	1949	-	-	-
BONNEVILLE PO\	24,111	-	2.500%	1995	No	1950	-	-	-
BONNEVILLE PO\	6,124	-	2.500%	1995	No	1950	-	-	-
BONNEVILLE PO\	13,266	-	2.500%	1996	No	1951	-	-	-
BONNEVILLE PO\	7,040	-	2.500%	1996	No	1951	-	-	-
BONNEVILLE PO\	18,610	-	2.500%	1997	No	1952	-	-	-
BONNEVILLE PO\	8,979	-	2.500%	1997	No	1952	-	-	-
BONNEVILLE PO\	23,550	-	6.330%	1998	No	1953	-	-	-
BONNEVILLE PO\	11,605	-	6.330%	1998	Yes	1953	-	-	-
BONNEVILLE PO\	23,614	-	6.510%	1999	No	1954	-	-	-
BONNEVILLE PO\	17,370	-	6.510%	1999	No	1954	-	-	-
BONNEVILLE PO\	11,827	-	6.620%	2000	No	1955	-	-	-
BONNEVILLE PO\	10,283	-	6.620%	2000	Yes	1955	-	-	-
BONNEVILLE PO\	32,221	-	6.710%	2001	Yes	1956	-	-	-
BONNEVILLE PO\	14,573	-	6.710%	2001	No	1956	-	-	-
BONNEVILLE PO\	15,980	-	6.790%	2002	Yes	1957	-	-	-
BONNEVILLE PO\	7,933	-	6.790%	2002	No	1957	-	-	-
BONNEVILLE PO\	15,593	-	6.840%	2003	No	1958	-	-	-
BONNEVILLE PO\	10,654	-	6.840%	2003	Yes	1958	-	-	-
BONNEVILLE PO\	8,863	-	6.880%	2004	Yes	1959	-	-	-
BONNEVILLE PO\	8,157	-	6.880%	2004	No	1959	-	-	-
BONNEVILLE PO\	4,218	-	6.910%	2005	Yes	1960	-	-	-
BONNEVILLE PO\	3,598	1,500	6.910%	2005	No	1960	-	-	-
BONNEVILLE PO\	11,271	11,271	6.950%	2006	Yes	1961	-	-	-
BONNEVILLE PO\	4,468	4,468	6.950%	2006	No	1961	-	-	-
BONNEVILLE PO\	19,597	19,597	6.980%	2007	No	1962	-	-	-
BONNEVILLE PO\	4,877	4,877	6.980%	2007	Yes	1962	-	-	-
BONNEVILLE PO\	4,876	4,876	7.020%	2008	No	1963	-	-	-
BONNEVILLE PO\	4,330	4,330	7.020%	2008	Yes	1963	-	-	-
BONNEVILLE PO\	904	904	7.020%	2008	No	1963	-	-	-
BONNEVILLE PO\	803	803	7.020%	2008	Yes	1963	-	-	-
BONNEVILLE PO\	5,738	5,738	7.060%	2009	Yes	1964	-	-	-
BONNEVILLE PO\	4,151	4,151	7.060%	2009	No	1964	-	-	-
BONNEVILLE PO\	10,171	10,171	7.090%	2010	Yes	1965	-	-	-
BONNEVILLE PO\	7,248	7,248	7.090%	2010	Yes	1965	-	-	-
BONNEVILLE PO\	5,202	5,202	7.090%	2010	No	1965	-	-	-
BONNEVILLE PO\	3,706	3,706	7.090%	2010	No	1965	-	-	-
BONNEVILLE PO\	11,830	11,830	7.130%	2011	No	1966	-	-	-
BONNEVILLE PO\	6,647	6,647	7.130%	2011	No	1966	-	-	-
BONNEVILLE PO\	3,049	3,049	7.130%	2011	Yes	1966	-	-	-
BONNEVILLE PO\	1,714	1,714	7.130%	2011	Yes	1966	-	-	-
BONNEVILLE PO\	19,003	19,003	7.160%	2012	No	1967	-	-	-

BONNEVILLE PO\	14,300	-	7.160%	2012	No	1967	-	-	-
BONNEVILLE PO\	4,566	2,454	7.160%	2012	Yes	1967	-	-	-
BONNEVILLE PO\	3,436	-	7.160%	2012	Yes	1967	-	-	-
BONNEVILLE PO\	41,070	18,250	7.200%	2013	No	1968	-	-	-
BONNEVILLE PO\	23,202	-	7.200%	2013	No	1968	-	-	-
BONNEVILLE PO\	8,076	-	7.200%	2013	Yes	1968	-	-	-
BONNEVILLE PO\	4,562	-	7.200%	2013	Yes	1968	-	-	-
BONNEVILLE PO\	42,237	19,198	7.230%	2014	No	1969	-	-	-
BONNEVILLE PO\	22,537	-	7.230%	2014	Yes	1969	-	-	-
BONNEVILLE PO\	384	-	7.230%	2014	No	1969	-	-	-
BONNEVILLE PO\	205	-	7.230%	2014	Yes	1969	-	-	-
BONNEVILLE PO\	64,977	64,977	7.270%	2015	No	1970	-	-	-
BONNEVILLE PO\	24,412	23,551	7.270%	2015	No	1970	-	-	-
BONNEVILLE PO\	7,995	7,995	7.270%	2015	Yes	1970	-	-	-
BONNEVILLE PO\	3,003	-	7.270%	2015	Yes	1970	-	-	-
BONNEVILLE PO\	17,805	-	7.290%	2016	Yes	1971	-	-	-
BONNEVILLE PO\	17,766	-	7.290%	2016	Yes	1971	-	-	-
BONNEVILLE PO\	12,051	-	7.290%	2016	No	1971	-	-	-
BONNEVILLE PO\	12,025	-	7.290%	2016	No	1971	-	-	-
BONNEVILLE PO\	29,326	29,326	7.290%	2017	No	1972	-	-	-
BONNEVILLE PO\	21,170	21,170	7.290%	2017	Yes	1972	-	-	-
BONNEVILLE PO\	3,980	3,980	7.290%	2017	No	1972	-	-	-
BONNEVILLE PO\	2,873	1,298	7.290%	2017	Yes	1972	-	-	-
BONNEVILLE PO\	33,788	33,788	7.280%	2018	No	1973	-	-	-
BONNEVILLE PO\	21,656	21,656	7.280%	2018	Yes	1973	-	-	-
BONNEVILLE PO\	16,368	16,368	7.280%	2018	No	1973	-	-	-
BONNEVILLE PO\	10,491	10,491	7.280%	2018	Yes	1973	-	-	-
BONNEVILLE PO\	21,826	21,826	7.270%	2019	Yes	1974	-	-	-
BONNEVILLE PO\	20,984	20,984	7.270%	2019	Yes	1974	-	-	-
BONNEVILLE PO\	12,563	12,563	7.270%	2019	No	1974	-	-	-
BONNEVILLE PO\	12,079	12,079	7.270%	2019	No	1974	-	-	-
BONNEVILLE PO\	32,026	32,026	7.250%	2020	No	1975	-	-	-
BONNEVILLE PO\	21,916	21,916	7.250%	2020	Yes	1975	-	-	-
BONNEVILLE PO\	17,158	17,158	7.250%	2020	No	1975	-	-	-
BONNEVILLE PO\	11,742	11,742	7.250%	2020	Yes	1975	-	-	-
BONNEVILLE PO\	61,025	61,025	7.230%	2021	No	1976	-	-	-
BONNEVILLE PO\	2,212	2,212	7.230%	2021	Yes	1976	-	-	-
BONNEVILLE PO\	33,702	33,702	7.210%	2022	No	1977	-	-	-
BONNEVILLE PO\	5,380	5,380	7.210%	2022	Yes	1977	-	-	-
BONNEVILLE PO\	4,981	4,981	7.210%	2022	Yes	1977	-	-	-
BONNEVILLE PO\	3,948	3,948	7.210%	2022	No	1977	-	-	-
BPA PROGRAM	24,222	-	8.950%	2013	Yes	1978	9	-	-
BPA PROGRAM	17,770	-	8.950%	2013	No	1978	9	-	-
BPA PROGRAM	4,619	-	8.950%	2013	Yes	1978	9	-	-
BPA PROGRAM	3,389	-	8.950%	2013	No	1978	9	-	-
BPA PROGRAM	21,228	-	9.900%	2014	No	1979	9	-	-
BPA PROGRAM	14,340	-	9.900%	2014	Yes	1979	9	-	-
BPA PROGRAM	10,610	-	9.900%	2014	No	1979	9	-	-
BPA PROGRAM	2,888	-	9.900%	2014	Yes	1979	9	-	-
BPA PROGRAM	605	-	9.900%	2014	No	1979	9	-	-
BPA PROGRAM	165	-	9.900%	2014	Yes	1979	9	-	-
BPA PROGRAM	98	-	9.900%	2014	No	1979	9	-	-
BPA PROGRAM	66	-	9.900%	2014	Yes	1979	9	-	-
BPA PROGRAM	26,690	-	9.450%	2014	No	1979	6	-	-
BPA PROGRAM	21,977	-	9.450%	2014	Yes	1979	6	-	-
BPA PROGRAM	9,804	-	9.450%	2014	Yes	1979	6	-	-
BPA PROGRAM	7,010	-	9.450%	2014	No	1979	6	-	-
BPA PROGRAM	6,026	-	9.450%	2014	Yes	1979	6	-	-
BPA PROGRAM	1,870	-	9.450%	2014	Yes	1979	6	-	-
BPA PROGRAM	1,371	-	9.450%	2014	No	1979	6	-	-
BPA PROGRAM	150	-	9.450%	2014	No	1979	6	-	-
BPA PROGRAM	102	-	9.450%	2014	Yes	1979	6	-	-
BPA PROGRAM	44,811	-	13.000%	2015	No	1980	9	-	-
BPA PROGRAM	39,696	-	13.000%	2015	No	1980	9	-	-
BPA PROGRAM	10,806	-	13.000%	2015	Yes	1980	9	-	-
BPA PROGRAM	9,292	-	13.000%	2015	No	1980	9	-	-
BPA PROGRAM	4,253	-	13.000%	2015	Yes	1980	9	-	-
BPA PROGRAM	2,263	-	13.000%	2015	No	1980	9	-	-
BPA PROGRAM	1,707	-	13.000%	2015	No	1980	9	-	-
BPA PROGRAM	1,469	-	13.000%	2015	Yes	1980	9	-	-

BPA PROGRAM	616	-	13.000%	2015	Yes	1980	9	-	-
BPA PROGRAM	56	-	13.000%	2015	Yes	1980	9	-	-
BPA PROGRAM	21	-	13.000%	2015	No	1980	9	-	-
BPA PROGRAM	10	-	13.000%	2015	Yes	1980	9	-	-
BPA PROGRAM	119,775	-	16.600%	2016	No	1981	9	-	-
BPA PROGRAM	54,821	-	16.600%	2016	Yes	1981	9	-	-
BPA PROGRAM	277	-	16.600%	2016	No	1981	9	-	-
BPA PROGRAM	127	-	16.600%	2016	Yes	1981	9	-	-
BPA PROGRAM	46,980	-	14.400%	2017	No	1982	4	-	-
BPA PROGRAM	37,455	-	14.400%	2017	Yes	1982	4	-	-
BPA PROGRAM	34,221	-	14.400%	2017	No	1982	12	-	-
BPA PROGRAM	15,663	-	14.400%	2017	Yes	1982	12	-	-
BPA PROGRAM	9,975	-	14.400%	2017	No	1982	4	-	-
BPA PROGRAM	4,566	-	14.400%	2017	Yes	1982	4	-	-
BPA PROGRAM	551	-	14.400%	2017	No	1982	4	-	-
BPA PROGRAM	439	-	14.400%	2017	Yes	1982	4	-	-
BPA PROGRAM	80	-	14.400%	2017	No	1982	12	-	-
BPA PROGRAM	36	-	14.400%	2017	Yes	1982	12	-	-
BPA PROGRAM	23	-	14.400%	2017	No	1982	4	-	-
BPA PROGRAM	11	-	14.400%	2017	Yes	1982	4	-	-
BPA PROGRAM	77,807	-	14.150%	2017	No	1982	7	-	-
BPA PROGRAM	3,677	-	14.150%	2017	No	1982	7	-	-
BPA PROGRAM	2,932	-	14.150%	2017	Yes	1982	7	-	-
BPA PROGRAM	402	-	14.150%	2017	No	1982	7	-	-
BPA PROGRAM	105	-	14.150%	2017	Yes	1982	7	-	-
BPA PROGRAM	43	-	14.150%	2017	No	1982	7	-	-
BPA PROGRAM	34	-	14.150%	2017	Yes	1982	7	-	-
BPA PROGRAM	37,235	-	12.250%	2018	No	1983	9	-	-
BPA PROGRAM	6,708	-	12.250%	2018	Yes	1983	9	-	-
BPA PROGRAM	814	-	12.250%	2018	No	1983	9	-	-
BPA PROGRAM	203	-	12.250%	2018	No	1983	9	-	-
BPA PROGRAM	35	-	12.250%	2018	Yes	1983	9	-	-
BPA PROGRAM	4	-	12.250%	2018	No	1983	9	-	-
BPA PROGRAM	1	-	12.250%	2018	Yes	1983	9	-	-
BPA PROGRAM	29,806	-	11.700%	2018	No	1983	6	-	-
BPA PROGRAM	154	-	11.700%	2018	No	1983	6	-	-
BPA PROGRAM	40	-	11.700%	2018	Yes	1983	6	-	-
BPA PROGRAM	39,741	-	10.850%	2018	No	1983	11	-	-
BPA PROGRAM	205	-	10.850%	2018	No	1983	11	-	-
BPA PROGRAM	54	-	10.850%	2018	Yes	1983	11	-	-
BPA PROGRAM	50,567	-	13.050%	2019	No	1984	9	-	-
BPA PROGRAM	9,109	-	13.050%	2019	Yes	1984	9	-	-
BPA PROGRAM	276	-	13.050%	2019	No	1984	9	-	-
BPA PROGRAM	48	-	13.050%	2019	Yes	1984	9	-	-
BPA PROGRAM	25,283	-	12.300%	2019	No	1984	11	-	-
BPA PROGRAM	4,555	-	12.300%	2019	Yes	1984	11	-	-
BPA PROGRAM	138	-	12.300%	2019	No	1984	11	-	-
BPA PROGRAM	24	-	12.300%	2019	Yes	1984	11	-	-
BPA PROGRAM	15,182	-	11.250%	2029	Yes	1985	6	-	-
BPA PROGRAM	460	-	11.250%	2029	No	1985	6	-	-
BPA PROGRAM	80	-	11.250%	2029	Yes	1985	6	-	-
BPA PROGRAM	84,278	-	11.250%	2030	No	1985	6	-	-
BPA PROGRAM	68,194	-	8.150%	1996	Yes	1986	3	-	-
BPA PROGRAM	30,161	-	8.150%	1996	No	1986	3	-	-
BPA PROGRAM	870	-	8.150%	1996	No	1986	3	-	-
BPA PROGRAM	443	-	8.150%	1996	No	1986	3	-	-
BPA PROGRAM	169	-	8.150%	1996	Yes	1986	3	-	-
BPA PROGRAM	157	-	8.150%	1996	Yes	1986	3	-	-
BPA PROGRAM	5	-	8.150%	1996	No	1986	3	-	-
BPA PROGRAM	1	-	8.150%	1996	Yes	1986	3	-	-
BPA PROGRAM	180,054	-	8.950%	2031	No	1986	6	-	-
BPA PROGRAM	57,354	-	8.950%	2031	Yes	1986	6	-	-
BPA PROGRAM	40,000	-	8.950%	2031	Yes	1986	6	-	-
BPA PROGRAM	11,668	-	8.950%	2031	Yes	1986	6	-	-
BPA PROGRAM	5,161	-	8.950%	2031	No	1986	6	-	-
BPA PROGRAM	3,117	-	8.950%	2031	Yes	1986	6	-	-
BPA PROGRAM	1,819	-	8.950%	2031	No	1986	6	-	-
BPA PROGRAM	722	-	8.950%	2031	Yes	1986	6	-	-
BPA PROGRAM	76	-	8.950%	2031	No	1986	6	-	-
BPA PROGRAM	29	-	8.950%	2031	Yes	1986	6	-	-

BPA PROGRAM	96,519	-	8.350%	1992	No	1987	6	-	-
BPA PROGRAM	2,498	-	8.350%	1992	No	1987	6	-	-
BPA PROGRAM	983	-	8.350%	1992	No	1987	6	-	-
BPA PROGRAM	86,958	-	9.550%	2017	No	1987	7	-	-
BPA PROGRAM	4,113	-	9.550%	2017	No	1987	7	-	-
BPA PROGRAM	3,274	-	9.550%	2017	Yes	1987	7	-	-
BPA PROGRAM	569	-	9.550%	2017	No	1987	7	-	-
BPA PROGRAM	48	-	9.550%	2017	No	1987	7	-	-
BPA PROGRAM	38	-	9.550%	2017	Yes	1987	7	-	-
BPA PROGRAM	37,342	-	9.550%	2032	No	1987	7	-	-
BPA PROGRAM	7,903	-	9.550%	2032	No	1987	7	-	-
BPA PROGRAM	3,109	-	9.550%	2032	Yes	1987	7	-	-
BPA PROGRAM	631	-	9.550%	2032	No	1987	7	-	-
BPA PROGRAM	618	-	9.550%	2032	Yes	1987	7	-	-
BPA PROGRAM	285	-	9.550%	2032	No	1987	7	-	-
BPA PROGRAM	112	-	9.550%	2032	Yes	1987	7	-	-
BPA PROGRAM	54,409	-	9.300%	2032	Yes	1987	4	-	-
BPA PROGRAM	43,236	-	9.300%	2032	No	1987	4	-	-
BPA PROGRAM	1,409	-	9.300%	2032	No	1987	4	-	-
BPA PROGRAM	554	-	9.300%	2032	No	1987	4	-	-
BPA PROGRAM	281	-	9.300%	2032	No	1987	4	-	-
BPA PROGRAM	111	-	9.300%	2032	No	1987	4	-	-
BPA PROGRAM	43,417	-	9.500%	2018	No	1988	2	-	-
BPA PROGRAM	283	-	9.500%	2018	No	1988	2	-	-
BPA PROGRAM	30,004	-	9.900%	2033	Yes	1988	6	-	-
BPA PROGRAM	9,018	-	9.900%	2033	No	1988	6	-	-
BPA PROGRAM	752	-	9.900%	2033	Yes	1988	6	-	-
BPA PROGRAM	226	-	9.900%	2033	No	1988	6	-	-
BPA PROGRAM	45,870	-	9.500%	2033	Yes	1988	2	-	-
BPA PROGRAM	28,513	-	9.500%	2033	No	1988	2	-	-
BPA PROGRAM	27,887	-	9.500%	2033	Yes	1988	2	-	-
BPA PROGRAM	22,923	-	9.500%	2033	Yes	1988	2	-	-
BPA PROGRAM	20,677	-	9.500%	2033	No	1988	2	-	-
BPA PROGRAM	1,725	-	9.500%	2033	Yes	1988	2	-	-
BPA PROGRAM	954	-	9.500%	2033	No	1988	2	-	-
BPA PROGRAM	933	-	9.500%	2033	Yes	1988	2	-	-
BPA PROGRAM	518	-	9.500%	2033	No	1988	2	-	-
BPA PROGRAM	56,257	-	8.950%	1999	Yes	1989	5	-	-
BPA PROGRAM	16,909	-	8.950%	1999	No	1989	5	-	-
BPA PROGRAM	1,410	-	8.950%	1999	No	1989	5	-	-
BPA PROGRAM	424	-	8.950%	1999	No	1989	5	-	-
BPA PROGRAM	41,894	-	9.250%	2030	No	1990	1	-	-
BPA PROGRAM	3,824	-	9.250%	2030	Yes	1990	1	-	-
BPA PROGRAM	3,008	-	9.250%	2030	No	1990	1	-	-
BPA PROGRAM	1,149	-	9.250%	2030	No	1990	1	-	-
BPA PROGRAM	96	-	9.250%	2030	Yes	1990	1	-	-
BPA PROGRAM	29	-	9.250%	2030	No	1990	1	-	-
BPA PROGRAM	54,145	-	7.550%	1995	No	1991	2	-	-
BPA PROGRAM	5,855	-	7.550%	1995	No	1991	2	-	-
BPA PROGRAM	80,000	-	6.200%	1995	No	1992	4	-	-
BPA PROGRAM	50,000	-	7.000%	1997	No	1992	4	-	-
BPA PROGRAM	28,300	-	7.000%	1997	No	1992	4	-	-
BPA PROGRAM	107,800	-	6.600%	2000	No	1992	8	-	-
BPA PROGRAM	107,700	-	7.250%	2007	No	1992	8	-	-
BPA PROGRAM	147,521	-	8.800%	2032	No	1992	4	-	-
BPA PROGRAM	2,479	-	8.800%	2032	No	1992	4	-	-
BPA PROGRAM	150,000	-	8.130%	2032	No	1992	7	-	-
BPA PROGRAM	50,000	-	6.050%	1998	No	1993	10	-	-
BPA PROGRAM	99,962	-	8.350%	2033	No	1993	10	-	-
BPA PROGRAM	130,000	-	7.800%	2033	No	1993	2	-	-
BPA PROGRAM	100,000	-	7.500%	2033	No	1993	4	-	-
BPA PROGRAM	110,000	-	6.950%	2033	No	1993	8	-	-
BPA PROGRAM	49,489	-	7.100%	1998	No	1994	5	-	-
BPA PROGRAM	43,155	-	7.100%	1998	No	1994	5	-	-
BPA PROGRAM	4,456	-	7.100%	1998	No	1994	5	-	-
BPA PROGRAM	55,000	-	7.650%	1999	No	1994	9	-	-
BPA PROGRAM	50,000	-	8.200%	2034	No	1994	5	-	-
BPA PROGRAM	50,000	-	7.050%	2034	No	1994	1	-	-
BPA PROGRAM	108,400	-	6.850%	2034	No	1994	10	-	-
BPA PROGRAM	50,000	-	6.850%	2034	No	1994	10	-	-

BPA PROGRAM	55,000	-	8.350%	2001	No	1995	1	-	-
BPA PROGRAM	65,000	-	7.700%	2025	No	1995	8	-	-
BPA PROGRAM	49,933	-	7.700%	2025	No	1995	7	-	-
BPA PROGRAM	54,378	-	5.900%	2003	No	1996	1	-	-
BPA PROGRAM	70,000	70,000	7.050%	2006	No	1996	8	-	-
BPA PROGRAM	22,600	-	6.800%	2004	No	1997	1	-	-
BPA PROGRAM	80,000	80,000	6.900%	2005	No	1997	5	-	-
BPA PROGRAM	111,254	111,254	6.650%	2007	No	1997	8	2021	6.700%
BPA PROGRAM	75,300	75,300	6.000%	2008	No	1998	4	-	-
BPA PROGRAM	36,819	36,819	5.750%	2008	No	1998	8	-	-
BPA PROGRAM	72,700	72,700	6.000%	2009	No	1998	5	-	-
BPA PROGRAM	40,000	40,000	6.200%	2011	No	1998	5	-	-
BPA PROGRAM	50,000	50,000	6.650%	2028	No	1998	4	-	-
BPA PROGRAM	112,300	112,300	5.850%	2028	No	1998	8	-	-
BPA PROGRAM	106,600	106,600	5.850%	2028	No	1998	8	2031	8.290%
BPA PROGRAM	98,900	98,900	6.700%	2032	No	1998	5	-	-
BPA PROGRAM	40,000	-	6.200%	2002	No	1999	9	-	-
BPA PROGRAM	26,200	-	5.950%	2004	No	1999	5	-	-
BPA PROGRAM	59,050	59,050	5.900%	2014	No	1999	2	-	-
BPA PROGRAM	15,300	-	6.850%	2003	No	2000	8	-	-
BPA PROGRAM	40,000	-	6.400%	2003	No	2000	11	-	-
BPA PROGRAM	39,052	-	7.000%	2004	No	2000	7	-	-
BPA PROGRAM	53,500	53,500	7.150%	2005	No	2000	1	-	-
BPA PROGRAM	40,000	40,000	6.750%	2006	No	2000	9	2020	6.690%
BPA PROGRAM	20,000	20,000	5.650%	2005	No	2001	1	-	-
BPA PROGRAM	59,932	59,932	6.050%	2010	No	2001	1	-	-
BPA PROGRAM	25,000	25,000	5.950%	2011	No	2001	6	-	-
BPA PROGRAM	50,000	50,000	5.750%	2011	No	2001	8	-	-
BPA PROGRAM	108,010	108,010	4.600%	2005	No	2002	3	2024	6.830%
BPA PROGRAM	60,000	60,000	3.750%	2005	No	2002	6	2023	6.790%
BPA PROGRAM	100,000	100,000	3.050%	2006	No	2002	9	2022	6.760%
BPA PROGRAM	4,938	4,938	3.000%	2006	No	2003	10	-	-
BPA PROGRAM	40,000	40,000	2.800%	2006	No	2003	11	2021	6.730%
BPA PROGRAM	20,000	20,000	2.500%	2006	No	2003	9	-	-
BPA PROGRAM	75,000	75,000	2.300%	2006	No	2003	7	2023	6.800%
BPA PROGRAM	25,000	25,000	2.950%	2007	No	2003	7	2020	6.670%
BPA PROGRAM	40,000	40,000	2.900%	2007	No	2003	4	-	-
BPA PROGRAM	40,000	40,000	5.550%	2033	No	2003	4	-	-
BPA PROGRAM	50,000	50,000	3.450%	2007	No	2004	7	-	-
BPA PROGRAM	30,000	30,000	3.100%	2007	No	2004	9	-	-
BPA PROGRAM	65,000	65,000	2.950%	2007	No	2004	4	2019	6.640%
BPA PROGRAM	32,700	32,700	2.500%	2007	No	2004	1	-	-
BPA PROGRAM	25,000	25,000	3.800%	2008	No	2004	7	-	-
BPA PROGRAM	65,000	65,000	2.950%	2008	No	2004	1	2020	6.680%
BPA PROGRAM	40,000	40,000	5.600%	2034	No	2004	9	-	-
ENVIRONMENT	40,000	-	6.950%	2012	No	1997	11	-	-
ENVIRONMENT	30,000	30,000	6.050%	2010	No	2001	1	-	-
ENVIRONMENT	30,000	30,000	3.050%	2006	No	2002	9	-	-

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BONNEVILLE POWER ADMINISTRATION

OCTOBER 1, 2004 - SEPTEMBER 30, 2007 COST EVALUATION PERIOD

Transmission 3-year Base with $10m Amort Shift 11-18-04

Projected Federal Investments (1000s) (FY 2006)

Project	Original Principal	Current Principal	Interest Rate	Due Date	Replacement?	In Service Date	Month	Rollover Date	Rollover Rate
BPA PROGRAM	217,215	217,215	5.630%	2040	No	2005	3	-	-
BPA PROGRAM	263,828	263,828	6.820%	2041	No	2006	3	-	-
ENVIRONMENT	11,919	11,919	5.800%	2020	No	2005	3	-	-
ENVIRONMENT	4,670	4,670	6.050%	2021	No	2006	3	-	-

CHAPTER 11

REPAYMENT STUDY RESULTS
CURRENT STUDY
FY 2006

BONNEVILLE POWER ADMINISTRATION

OCTOBER 1, 2004 - SEPTEMBER 30, 2007 COST EVALUATION PERIOD

Transmission 3-year Base with $10m Amort Shift 11-18-04

Summary of Interest (1000s) (FY 2006)

Project	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
BONNEVILLE POWER ADMINISTRATION	48,150	48,047	43,287	42,106	38,303	30,161	22,477	16,336	3,574	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL APPROPRIATIONS	48,150	48,047	43,287	42,106	38,303	30,161	22,477	16,336	3,574	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BPA BORROWING	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BPA PROGRAM	107,706	116,575	132,825	140,139	143,839	148,623	154,422	157,284	167,277	173,925	177,146	179,361	180,619	182,817	185,421	182,916
ENVIRONMENT	3,076	3,563	2,789	2,789	2,789	2,789	974	974	974	974	974	974	974	974	974	974
PREMIUMS	-	-	-	-	-	-	-	-	3,022	3,118	6,929	7,933	7,432	7,325	8,172	4,192
(LESS INTEREST INCOME)	-6,030	-7,022	-6,476	-7,033	-6,877	-7,007	-6,963	-6,314	-4,460	-4,757	-5,081	-5,539	-5,329	-5,310	-7,210	-7,243
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL BPA BORROWING	104,752	113,115	129,138	135,895	139,751	144,404	148,433	151,943	166,813	173,260	179,968	182,729	183,696	185,806	187,356	180,839
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTALS	152,902	161,162	172,425	178,002	178,054	174,565	170,911	168,280	170,388	173,260	179,968	182,729	183,696	185,806	187,356	180,839

2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	Total
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	292,441
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	292,441
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
181,297	179,247	176,910	174,581	172,280	170,123	167,998	165,895	167,397	165,490	163,561	159,907	157,761	157,957	162,061	159,659	157,110	154,390	151,485	148,386	147,440	136,625	6,108,456
283	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27,814
3,449	6,465	4,720	6,123	11,771	12,004	12,300	3,967	12,186	12,449	6,983	7,534	9,066	6,013	12,613	12,820	13,034	13,274	13,581	2,371	0	13,431	244,274
-7,272	-7,303	-7,333	-7,363	-7,392	-7,420	-7,447	-7,473	-7,457	-7,481	-7,504	-7,547	-6,885	-5,544	-7,675	-7,703	-7,731	-7,762	-7,795	-7,830	-7,840	-7,872	-262,280
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
177,756	178,409	174,298	173,342	176,659	174,707	172,852	162,388	172,125	170,458	163,040	159,893	159,942	158,426	166,999	164,777	162,412	159,902	157,271	142,927	139,601	142,184	6,118,265
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
177,756	178,409	174,298	173,342	176,659	174,707	172,852	162,388	172,125	170,458	163,040	159,893	159,942	158,426	166,999	164,777	162,412	159,902	157,271	142,927	139,601	142,184	6,410,706

BONNEVILLE POWER ADMINISTRATION

OCTOBER 1, 2004 - SEPTEMBER 30, 2007 COST EVALUATION PERIOD

Transmission 3-year Base with $10m Amort Shift 11-18-04

Summary of Amortization (1000s) (FY 2006)

Project	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
BONNEVILLE POWER ADMINISTRATION	1,501	67,069	16,189	52,622	112,205	106,340	84,991	176,610	49,602	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL APPROPRIATIONS	1,501	67,069	16,189	52,622	112,205	106,340	84,991	176,610	49,602	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BPA BORROWING	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BPA PROGRAM	153,500	94,938	152,700	137,119	72,700	59,932	115,000	-	51,445	114,019	122,594	140,283	131,009	129,145	209,231	203,902	214,309
ENVIRONMENT	-	30,000	-	-	-	30,000	-	-	-	-	-	-	-	-	-	11,919	4,670
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL BPA BORROWING	153,500	124,938	152,700	137,119	72,700	89,932	115,000	-	51,445	114,019	122,594	140,283	131,009	129,145	209,231	215,821	218,979
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTALS	155,001	192,007	168,889	189,741	184,905	196,272	199,991	176,610	101,047	114,019	122,594	140,283	131,009	129,145	209,231	215,821	218,979

2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	Total
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	667,129
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	667,129
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
218,404	222,588	223,621	220,376	222,395	224,310	234,825	225,128	226,829	234,266	237,409	208,259	153,197	236,764	238,941	241,253	243,699	246,271	260,559	263,833	258,972	6,943,727
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76,589
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
218,404	222,588	223,621	220,376	222,395	224,310	234,825	225,128	226,829	234,266	237,409	208,259	153,197	236,764	238,941	241,253	243,699	246,271	260,559	263,833	258,972	7,020,316
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
218,404	222,588	223,621	220,376	222,395	224,310	234,825	225,128	226,829	234,266	237,409	208,259	153,197	236,764	238,941	241,253	243,699	246,271	260,559	263,833	258,972	7,687,445

BONNEVILLE POWER ADMINISTRATION

OCTOBER 1, 2004 - SEPTEMBER 30, 2007 COST EVALUATION PERIOD

Transmission 3-year Base with $10m Amort Shift 11-18-04

Application of Amortization (1000s) (FY 2006)

Date	Project	In Service	Due	Original Balance	Amount Available	Rate	Replacement?	Rollover?	Amount Amortized
FY 2005	BPA PROGRAM	2000	2005	53,500	53,500	7.150%	No	No	53,500
FY 2005	BONNEVILLE PO\	1960	2005	3,598	1,500	6.910%	No	No	1,500
FY 2005	BPA PROGRAM	1997	2005	80,000	80,000	6.900%	No	No	80,000
FY 2005	BPA PROGRAM	2001	2005	20,000	20,000	5.650%	No	No	20,000
FY 2005	BONNEVILLE PO\	1972	2017	2,873	1,298	7.290%	Yes	No	1
Subtotal		-	-	**$159,971**	**$156,298**	-	**Yes**	**No**	**$155,001**
FY 2006	BPA PROGRAM	1996	2006	70,000	70,000	7.050%	No	No	70,000
FY 2006	BONNEVILLE PO\	1961	2006	4,468	4,468	6.950%	No	No	4,468
FY 2006	BONNEVILLE PO\	1961	2006	11,271	11,271	6.950%	Yes	No	11,271
FY 2006	ENVIRONMENT	2002	2006	30,000	30,000	3.050%	No	No	30,000
FY 2006	BPA PROGRAM	2003	2006	4,938	4,938	3.000%	No	No	4,938
FY 2006	BPA PROGRAM	2003	2006	20,000	20,000	2.500%	No	No	20,000
FY 2006	BONNEVILLE PO\	1962	2007	19,597	19,597	6.980%	No	No	19,597
FY 2006	BONNEVILLE PO\	1962	2007	4,877	4,877	6.980%	Yes	No	4,877
FY 2006	BONNEVILLE PO\	1972	2017	29,326	29,326	7.290%	No	No	409
FY 2006	BONNEVILLE PO\	1972	2017	21,170	21,170	7.290%	Yes	No	21,170
FY 2006	BONNEVILLE PO\	1972	2017	3,980	3,980	7.290%	No	No	3,980
FY 2006	BONNEVILLE PO\	1972	2017	2,873	1,297	7.290%	Yes	No	1,297
Subtotal		-	-	**$222,500**	**$220,924**	-	**Yes**	**No**	**$192,007**
FY 2007	BPA PROGRAM	2004	2007	50,000	50,000	3.450%	No	No	50,000
FY 2007	BPA PROGRAM	2004	2007	30,000	30,000	3.100%	No	No	30,000
FY 2007	BPA PROGRAM	2003	2007	40,000	40,000	2.900%	No	No	40,000
FY 2007	BPA PROGRAM	2004	2007	32,700	32,700	2.500%	No	No	32,700
FY 2007	BONNEVILLE PO\	1972	2017	29,326	28,917	7.290%	No	No	16,189
Subtotal		-	-	**$182,026**	**$181,617**	-	**No**	**No**	**$168,889**
FY 2008	BONNEVILLE PO\	1963	2008	4,876	4,876	7.020%	No	No	4,876
FY 2008	BONNEVILLE PO\	1963	2008	4,330	4,330	7.020%	Yes	No	4,330
FY 2008	BONNEVILLE PO\	1963	2008	904	904	7.020%	No	No	904
FY 2008	BONNEVILLE PO\	1963	2008	803	803	7.020%	Yes	No	803
FY 2008	BPA PROGRAM	1998	2008	75,300	75,300	6.000%	No	No	75,300
FY 2008	BPA PROGRAM	1998	2008	36,819	36,819	5.750%	No	No	36,819
FY 2008	BPA PROGRAM	2004	2008	25,000	25,000	3.800%	No	No	25,000
FY 2008	BONNEVILLE PO\	1972	2017	29,326	12,728	7.290%	No	No	12,728
FY 2008	BONNEVILLE PO\	1973	2018	21,656	21,656	7.280%	Yes	No	2,122
FY 2008	BONNEVILLE PO\	1973	2018	16,368	16,368	7.280%	No	No	16,368
FY 2008	BONNEVILLE PO\	1973	2018	10,491	10,491	7.280%	Yes	No	10,491
Subtotal		-	-	**$225,873**	**$209,275**	-	**Yes**	**No**	**$189,741**
FY 2009	BONNEVILLE PO\	1964	2009	4,151	4,151	7.060%	No	No	4,151
FY 2009	BONNEVILLE PO\	1964	2009	5,738	5,738	7.060%	Yes	No	5,738
FY 2009	BPA PROGRAM	1998	2009	72,700	72,700	6.000%	No	No	72,700
FY 2009	BONNEVILLE PO\	1970	2015	64,977	64,977	7.270%	No	No	17,448
FY 2009	BONNEVILLE PO\	1970	2015	7,995	7,995	7.270%	Yes	No	7,995
FY 2009	BONNEVILLE PO\	1970	2015	24,412	23,551	7.270%	No	No	23,551
FY 2009	BONNEVILLE PO\	1973	2018	33,788	33,788	7.280%	No	No	33,788
FY 2009	BONNEVILLE PO\	1973	2018	21,656	19,534	7.280%	Yes	No	19,534
Subtotal		-	-	**$235,417**	**$232,434**	-	**Yes**	**No**	**$184,905**
FY 2010	BONNEVILLE PO\	1965	2010	3,706	3,706	7.090%	No	No	3,706
FY 2010	BONNEVILLE PO\	1965	2010	7,248	7,248	7.090%	Yes	No	7,248
FY 2010	BONNEVILLE PO\	1965	2010	5,202	5,202	7.090%	No	No	5,202
FY 2010	BONNEVILLE PO\	1965	2010	10,171	10,171	7.090%	Yes	No	10,171
FY 2010	ENVIRONMENT	2001	2010	30,000	30,000	6.050%	No	No	30,000
FY 2010	BPA PROGRAM	2001	2010	59,932	59,932	6.050%	No	No	59,932
FY 2010	BONNEVILLE PO\	1970	2015	64,977	47,529	7.270%	No	No	47,529
FY 2010	BONNEVILLE PO\	1974	2019	12,563	12,563	7.270%	No	No	10,658
FY 2010	BONNEVILLE PO\	1974	2019	21,826	21,826	7.270%	Yes	No	21,826
Subtotal		-	-	**$215,625**	**$198,177**	-	**Yes**	**No**	**$196,272**

FY 2011	BONNEVILLE PO\	1966	2011	11,830	11,830	7.130%	No	No	11,830
FY 2011	BONNEVILLE PO\	1966	2011	3,049	3,049	7.130%	Yes	No	3,049
FY 2011	BONNEVILLE PO\	1966	2011	6,647	6,647	7.130%	No	No	6,647
FY 2011	BONNEVILLE PO\	1966	2011	1,714	1,714	7.130%	Yes	No	1,714
FY 2011	BPA PROGRAM	1998	2011	40,000	40,000	6.200%	No	No	40,000
FY 2011	BPA PROGRAM	2001	2011	25,000	25,000	5.950%	No	No	25,000
FY 2011	BPA PROGRAM	2001	2011	50,000	50,000	5.750%	No	No	50,000
FY 2011	BONNEVILLE PO\	1974	2019	12,079	12,079	7.270%	No	No	12,079
FY 2011	BONNEVILLE PO\	1974	2019	20,984	20,984	7.270%	Yes	No	20,984
FY 2011	BONNEVILLE PO\	1974	2019	12,563	1,905	7.270%	No	No	1,905
FY 2011	BONNEVILLE PO\	1975	2020	17,158	17,158	7.250%	No	No	15,041
FY 2011	BONNEVILLE PO\	1975	2020	11,742	11,742	7.250%	Yes	No	11,742
Subtotal		-	-	**$212,766**	**$202,108**	-	**Yes**	**No**	**$199,991**
FY 2012	BONNEVILLE PO\	1967	2012	19,003	19,003	7.160%	No	No	19,003
FY 2012	BONNEVILLE PO\	1967	2012	4,566	2,454	7.160%	Yes	No	2,454
FY 2012	BONNEVILLE PO\	1969	2014	42,237	19,198	7.230%	No	No	19,198
FY 2012	BONNEVILLE PO\	1975	2020	32,026	32,026	7.250%	No	No	32,026
FY 2012	BONNEVILLE PO\	1975	2020	21,916	21,916	7.250%	Yes	No	21,916
FY 2012	BONNEVILLE PO\	1975	2020	17,158	2,117	7.250%	No	No	2,117
FY 2012	BONNEVILLE PO\	1976	2021	61,025	61,025	7.230%	No	No	61,025
FY 2012	BONNEVILLE PO\	1976	2021	2,212	2,212	7.230%	Yes	No	2,212
FY 2012	BONNEVILLE PO\	1977	2022	33,702	33,702	7.210%	No	No	11,678
FY 2012	BONNEVILLE PO\	1977	2022	4,981	4,981	7.210%	Yes	No	4,981
Subtotal		-	-	**$238,826**	**$198,634**	-	**Yes**	**No**	**$176,610**
FY 2013	BONNEVILLE PO\	1968	2013	41,070	18,250	7.200%	No	No	18,250
FY 2013	BONNEVILLE PO\	1977	2022	3,948	3,948	7.210%	No	No	3,948
FY 2013	BONNEVILLE PO\	1977	2022	5,380	5,380	7.210%	Yes	No	5,380
FY 2013	BONNEVILLE PO\	1977	2022	33,702	22,024	7.210%	No	No	22,024
FY 2013	BPA PROGRAM	2007	2042	118,591	118,591	7.090%	Yes	No	51,445
Subtotal		-	-	**$202,691**	**$168,193**	-	**Yes**	**No**	**$101,047**
FY 2014	BPA PROGRAM	1999	2014	59,050	59,050	5.900%	No	No	59,050
FY 2014	BPA PROGRAM	2007	2042	118,591	67,146	7.090%	Yes	No	54,969
Subtotal		-	-	**$177,641**	**$126,196**	-	**Yes**	**No**	**$114,019**
FY 2015	BONNEVILLE PO\	1970	2015	64,977	-0	7.270%	No	No	-0
FY 2015	BPA PROGRAM	2007	2042	118,591	12,177	7.090%	Yes	No	12,177
FY 2015	BPA PROGRAM	2008	2043	122,945	122,945	7.090%	Yes	No	110,416
Subtotal		-	-	**$306,513**	**$135,122**	-	**Yes**	**No**	**$122,594**
FY 2016	BPA PROGRAM	2008	2043	122,945	12,529	7.090%	Yes	No	12,529
FY 2016	BPA PROGRAM	2009	2044	127,001	127,001	7.090%	Yes	No	127,001
FY 2016	BPA PROGRAM	2010	2045	130,989	130,989	7.090%	Yes	No	754
Subtotal		-	-	**$380,935**	**$270,519**	-	**Yes**	**No**	**$140,283**
FY 2017	BPA PROGRAM	2010	2045	130,989	130,235	7.090%	Yes	No	130,235
FY 2017	BPA PROGRAM	2011	2046	134,879	134,879	7.090%	Yes	No	774
Subtotal		-	-	**$265,868**	**$265,114**	-	**Yes**	**No**	**$131,009**
FY 2018	BONNEVILLE PO\	1973	2018	21,656	-0	7.280%	Yes	No	-0
FY 2018	BPA PROGRAM	2011	2046	134,879	134,105	7.090%	Yes	No	129,145
Subtotal		-	-	**$156,535**	**$134,105**	-	**Yes**	**No**	**$129,145**
FY 2019	BONNEVILLE PO\	1974	2019	12,563	-0	7.270%	No	No	-0
FY 2019	BPA PROGRAM	2004	2019	65,000	65,000	6.640%	No	Yes	65,000
FY 2019	BPA PROGRAM	2011	2046	134,879	4,961	7.090%	Yes	No	4,961
FY 2019	BPA PROGRAM	2012	2047	138,865	138,865	7.090%	Yes	No	138,865
FY 2019	BPA PROGRAM	2013	2048	143,033	143,033	7.090%	Yes	No	406
Subtotal		-	-	**$494,340**	**$351,859**	-	**Yes**	**Yes**	**$209,231**
FY 2020	BONNEVILLE PO\	1975	2020	17,158	-0	7.250%	No	No	-0
FY 2020	BPA PROGRAM	2000	2020	40,000	40,000	6.690%	No	Yes	40,000
FY 2020	BPA PROGRAM	2004	2020	65,000	65,000	6.680%	No	Yes	65,000
FY 2020	BPA PROGRAM	2003	2020	25,000	25,000	6.670%	No	Yes	25,000
FY 2020	ENVIRONMENT	2005	2020	11,919	11,919	5.800%	No	No	11,919
FY 2020	BPA PROGRAM	2013	2048	143,033	142,627	7.090%	Yes	No	73,902
Subtotal		-	-	**$302,110**	**$284,546**	-	**Yes**	**Yes**	**$215,821**

FY 2021	BPA PROGRAM	2003	2021	40,000	40,000	6.730%	No	Yes	40,000
FY 2021	BPA PROGRAM	1997	2021	111,254	111,254	6.700%	No	Yes	111,254
FY 2021	ENVIRONMENT	2006	2021	4,670	4,670	6.050%	No	No	4,670
FY 2021	BPA PROGRAM	2013	2048	143,033	68,725	7.090%	Yes	No	63,055
Subtotal		**-**	**-**	**$298,957**	**$224,649**	**-**	**Yes**	**Yes**	**$218,979**
FY 2022	BPA PROGRAM	2002	2022	100,000	100,000	6.760%	No	Yes	100,000
FY 2022	BPA PROGRAM	2013	2048	143,033	5,670	7.090%	Yes	No	5,670
FY 2022	BPA PROGRAM	2014	2049	147,381	147,381	7.090%	Yes	No	112,734
Subtotal		**-**	**-**	**$390,414**	**$253,051**	**-**	**Yes**	**Yes**	**$218,404**
FY 2023	BPA PROGRAM	2003	2023	75,000	75,000	6.800%	No	Yes	75,000
FY 2023	BPA PROGRAM	2002	2023	60,000	60,000	6.790%	No	Yes	60,000
FY 2023	BPA PROGRAM	2014	2049	147,381	34,647	7.090%	Yes	No	34,647
FY 2023	BPA PROGRAM	2015	2050	151,707	151,707	7.090%	Yes	No	52,941
Subtotal		**-**	**-**	**$434,088**	**$321,354**	**-**	**Yes**	**Yes**	**$222,588**
FY 2024	BPA PROGRAM	2002	2024	108,010	108,010	6.830%	No	Yes	108,010
FY 2024	BPA PROGRAM	2015	2050	151,707	98,766	7.090%	Yes	No	98,766
FY 2024	BPA PROGRAM	2016	2051	155,961	155,961	7.090%	Yes	No	16,846
Subtotal		**-**	**-**	**$415,678**	**$362,737**	**-**	**Yes**	**Yes**	**$223,621**
FY 2025	BPA PROGRAM	2016	2051	155,961	139,115	7.090%	Yes	No	139,115
FY 2025	BPA PROGRAM	2017	2052	160,079	160,079	7.090%	Yes	No	81,260
Subtotal		**-**	**-**	**$316,040**	**$299,194**	**-**	**Yes**	**No**	**$220,376**
FY 2026	BPA PROGRAM	2017	2052	160,079	78,819	7.090%	Yes	No	78,819
FY 2026	BPA PROGRAM	2018	2053	163,942	163,942	7.090%	Yes	No	143,576
Subtotal		**-**	**-**	**$324,021**	**$242,761**	**-**	**Yes**	**No**	**$222,395**
FY 2027	BPA PROGRAM	2018	2053	163,942	20,366	7.090%	Yes	No	20,366
FY 2027	BPA PROGRAM	2019	2054	167,822	167,822	7.090%	Yes	No	167,822
FY 2027	BPA PROGRAM	2020	2055	171,702	171,702	7.090%	Yes	No	36,123
Subtotal		**-**	**-**	**$503,466**	**$359,890**	**-**	**Yes**	**No**	**$224,310**
FY 2028	BPA PROGRAM	1998	2028	50,000	50,000	6.650%	No	No	50,000
FY 2028	BPA PROGRAM	1998	2028	112,300	112,300	5.850%	No	No	112,300
FY 2028	BPA PROGRAM	2020	2055	171,702	135,579	7.090%	Yes	No	72,525
Subtotal		**-**	**-**	**$334,002**	**$297,879**	**-**	**Yes**	**No**	**$234,825**
FY 2029	BPA PROGRAM	2020	2055	171,702	63,054	7.090%	Yes	No	63,054
FY 2029	BPA PROGRAM	2021	2056	175,451	175,451	7.090%	Yes	No	162,074
Subtotal		**-**	**-**	**$347,153**	**$238,505**	**-**	**Yes**	**No**	**$225,128**
FY 2030	BPA PROGRAM	2021	2056	175,451	13,377	7.090%	Yes	No	13,377
FY 2030	BPA PROGRAM	2022	2057	179,049	179,049	7.090%	Yes	No	179,049
FY 2030	BPA PROGRAM	2023	2058	182,517	182,517	7.090%	Yes	No	34,404
Subtotal		**-**	**-**	**$537,017**	**$374,943**	**-**	**Yes**	**No**	**$226,829**
FY 2031	BPA PROGRAM	1998	2031	106,600	106,600	8.290%	No	Yes	106,600
FY 2031	BPA PROGRAM	2023	2058	182,517	148,113	7.090%	Yes	No	127,666
Subtotal		**-**	**-**	**$289,117**	**$254,713**	**-**	**Yes**	**Yes**	**$234,266**
FY 2032	BPA PROGRAM	1998	2032	98,900	98,900	6.700%	No	No	98,900
FY 2032	BPA PROGRAM	2023	2058	182,517	20,448	7.090%	Yes	No	20,448
FY 2032	BPA PROGRAM	2024	2059	185,748	185,748	7.090%	Yes	No	118,061
Subtotal		**-**	**-**	**$467,165**	**$305,096**	**-**	**Yes**	**No**	**$237,409**
FY 2033	BPA PROGRAM	2003	2033	40,000	40,000	5.550%	No	No	40,000
FY 2033	BPA PROGRAM	2024	2059	185,748	67,687	7.090%	Yes	No	67,687
FY 2033	BPA PROGRAM	2025	2060	188,650	188,650	7.090%	Yes	No	100,572
Subtotal		**-**	**-**	**$414,398**	**$296,337**	**-**	**Yes**	**No**	**$208,259**
FY 2034	BPA PROGRAM	2004	2034	40,000	40,000	5.600%	No	No	40,000
FY 2034	BPA PROGRAM	2025	2060	188,650	88,078	7.090%	Yes	No	88,078
FY 2034	BPA PROGRAM	2026	2061	191,261	191,261	7.090%	Yes	No	25,119
Subtotal		**-**	**-**	**$419,911**	**$319,339**	**-**	**Yes**	**No**	**$153,197**
FY 2035	BPA PROGRAM	2026	2061	191,261	166,142	7.090%	Yes	No	166,142

FY 2035	BPA PROGRAM	2027	2062	193,596	193,596	7.090%	Yes	No	70,622
Subtotal		-	-	**$384,857**	**$359,738**	-	**Yes**	**No**	**$236,764**
FY 2036	BPA PROGRAM	2027	2062	193,596	122,974	7.090%	Yes	No	122,974
FY 2036	BPA PROGRAM	2028	2063	195,689	195,689	7.090%	Yes	No	115,968
Subtotal		-	-	**$389,285**	**$318,663**	-	**Yes**	**No**	**$238,941**
FY 2037	BPA PROGRAM	2028	2063	195,689	79,721	7.090%	Yes	No	79,721
FY 2037	BPA PROGRAM	2029	2064	197,467	197,467	7.090%	Yes	No	161,532
Subtotal		-	-	**$393,156**	**$277,188**	-	**Yes**	**No**	**$241,253**
FY 2038	BPA PROGRAM	2029	2064	197,467	35,935	7.090%	Yes	No	35,935
FY 2038	BPA PROGRAM	2030	2065	199,009	199,009	7.090%	Yes	No	199,009
FY 2038	BPA PROGRAM	2031	2066	200,238	200,238	7.090%	Yes	No	8,755
Subtotal		-	-	**$596,714**	**$435,182**	-	**Yes**	**No**	**$243,699**
FY 2039	BPA PROGRAM	2031	2066	200,238	191,483	7.090%	Yes	No	191,483
FY 2039	BPA PROGRAM	2032	2067	201,290	201,290	7.090%	Yes	No	54,788
Subtotal		-	-	**$401,528**	**$392,773**	-	**Yes**	**No**	**$246,271**
FY 2040	BPA PROGRAM	2005	2040	217,215	217,215	5.630%	No	No	217,215
FY 2040	BPA PROGRAM	2032	2067	201,290	146,502	7.090%	Yes	No	43,344
Subtotal		-	-	**$418,505**	**$363,717**	-	**Yes**	**No**	**$260,559**
FY 2041	BPA PROGRAM	2006	2041	263,828	263,828	6.820%	No	No	263,828
FY 2041	BPA PROGRAM	2032	2067	201,290	103,158	7.090%	Yes	No	5
Subtotal		-	-	**$465,118**	**$366,986**	-	**Yes**	**No**	**$263,833**
FY 2042	BPA PROGRAM	2007	2042	118,591	-0	7.090%	Yes	No	-0
FY 2042	BPA PROGRAM	2032	2067	201,290	103,153	7.090%	Yes	No	103,153
FY 2042	BPA PROGRAM	2033	2068	202,133	202,133	7.090%	Yes	No	155,819
Subtotal		-	-	**$522,014**	**$305,286**	-	**Yes**	**No**	**$258,972**
Grand Total		-	-	**$13,042,241**	**$10,305,102**	-	**Yes**	**Yes**	**$7,687,445**

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CHAPTER 12

REPAYMENT STUDY INPUT DATA
REVISED STUDY
FY 2007

BONNEVILLE POWER ADMINISTRATION

OCTOBER 1, 2004 - SEPTEMBER 30, 2007 COST EVALUATION PERIOD

Transmission 3-year Base with $10m Amort Shift 11-18-04

Historical Federal Investments (1000s) (FY 2007)

Project	Original Principal	Current Principal	Interest Rate	Due Date	Replacement?	In Service Date	Month	Rollover Date	Rollover Rate
BONNEVILLE PO\	6,812	-	2.500%	1985	No	1940	-	-	-
BONNEVILLE PO\	18,906	-	2.500%	1986	No	1941	-	-	-
BONNEVILLE PO\	461	-	2.500%	1986	No	1941	-	-	-
BONNEVILLE PO\	8,446	-	2.500%	1987	No	1942	-	-	-
BONNEVILLE PO\	1,052	-	2.500%	1987	No	1942	-	-	-
BONNEVILLE PO\	16,083	-	2.500%	1988	No	1943	-	-	-
BONNEVILLE PO\	4,538	-	2.500%	1988	No	1943	-	-	-
BONNEVILLE PO\	583	-	2.500%	1989	No	1944	-	-	-
BONNEVILLE PO\	249	-	2.500%	1989	No	1944	-	-	-
BONNEVILLE PO\	3,366	-	2.500%	1990	No	1945	-	-	-
BONNEVILLE PO\	1,306	-	2.500%	1990	No	1945	-	-	-
BONNEVILLE PO\	2,488	-	2.500%	1991	No	1946	-	-	-
BONNEVILLE PO\	732	-	2.500%	1991	No	1946	-	-	-
BONNEVILLE PO\	1,773	-	2.500%	1992	No	1947	-	-	-
BONNEVILLE PO\	1,330	-	2.500%	1992	No	1947	-	-	-
BONNEVILLE PO\	7,468	-	2.500%	1993	No	1948	-	-	-
BONNEVILLE PO\	2,290	-	2.500%	1993	No	1948	-	-	-
BONNEVILLE PO\	6,809	-	2.500%	1994	No	1949	-	-	-
BONNEVILLE PO\	2,719	-	2.500%	1994	No	1949	-	-	-
BONNEVILLE PO\	24,111	-	2.500%	1995	No	1950	-	-	-
BONNEVILLE PO\	6,124	-	2.500%	1995	No	1950	-	-	-
BONNEVILLE PO\	13,266	-	2.500%	1996	No	1951	-	-	-
BONNEVILLE PO\	7,040	-	2.500%	1996	No	1951	-	-	-
BONNEVILLE PO\	18,610	-	2.500%	1997	No	1952	-	-	-
BONNEVILLE PO\	8,979	-	2.500%	1997	No	1952	-	-	-
BONNEVILLE PO\	23,550	-	6.330%	1998	No	1953	-	-	-
BONNEVILLE PO\	11,605	-	6.330%	1998	Yes	1953	-	-	-
BONNEVILLE PO\	23,614	-	6.510%	1999	No	1954	-	-	-
BONNEVILLE PO\	17,370	-	6.510%	1999	No	1954	-	-	-
BONNEVILLE PO\	11,827	-	6.620%	2000	No	1955	-	-	-
BONNEVILLE PO\	10,283	-	6.620%	2000	Yes	1955	-	-	-
BONNEVILLE PO\	32,221	-	6.710%	2001	Yes	1956	-	-	-
BONNEVILLE PO\	14,573	-	6.710%	2001	No	1956	-	-	-
BONNEVILLE PO\	15,980	-	6.790%	2002	Yes	1957	-	-	-
BONNEVILLE PO\	7,933	-	6.790%	2002	No	1957	-	-	-
BONNEVILLE PO\	15,593	-	6.840%	2003	No	1958	-	-	-
BONNEVILLE PO\	10,654	-	6.840%	2003	Yes	1958	-	-	-
BONNEVILLE PO\	8,863	-	6.880%	2004	Yes	1959	-	-	-
BONNEVILLE PO\	8,157	-	6.880%	2004	No	1959	-	-	-
BONNEVILLE PO\	4,218	-	6.910%	2005	Yes	1960	-	-	-
BONNEVILLE PO\	3,598	1,500	6.910%	2005	No	1960	-	-	-
BONNEVILLE PO\	11,271	11,271	6.950%	2006	Yes	1961	-	-	-
BONNEVILLE PO\	4,468	4,468	6.950%	2006	No	1961	-	-	-
BONNEVILLE PO\	19,597	19,597	6.980%	2007	No	1962	-	-	-
BONNEVILLE PO\	4,877	4,877	6.980%	2007	Yes	1962	-	-	-
BONNEVILLE PO\	4,876	4,876	7.020%	2008	No	1963	-	-	-
BONNEVILLE PO\	4,330	4,330	7.020%	2008	Yes	1963	-	-	-
BONNEVILLE PO\	904	904	7.020%	2008	No	1963	-	-	-
BONNEVILLE PO\	803	803	7.020%	2008	Yes	1963	-	-	-
BONNEVILLE PO\	5,738	5,738	7.060%	2009	Yes	1964	-	-	-
BONNEVILLE PO\	4,151	4,151	7.060%	2009	No	1964	-	-	-
BONNEVILLE PO\	10,171	10,171	7.090%	2010	Yes	1965	-	-	-

BONNEVILLE PO\	7,248	7,248	7.090%	2010	Yes	1965	-	-	-
BONNEVILLE PO\	5,202	5,202	7.090%	2010	No	1965	-	-	-
BONNEVILLE PO\	3,706	3,706	7.090%	2010	No	1965	-	-	-
BONNEVILLE PO\	11,830	11,830	7.130%	2011	No	1966	-	-	-
BONNEVILLE PO\	6,647	6,647	7.130%	2011	No	1966	-	-	-
BONNEVILLE PO\	3,049	3,049	7.130%	2011	Yes	1966	-	-	-
BONNEVILLE PO\	1,714	1,714	7.130%	2011	Yes	1966	-	-	-
BONNEVILLE PO\	19,003	19,003	7.160%	2012	No	1967	-	-	-
BONNEVILLE PO\	14,300	-	7.160%	2012	No	1967	-	-	-
BONNEVILLE PO\	4,566	2,454	7.160%	2012	Yes	1967	-	-	-
BONNEVILLE PO\	3,436	-	7.160%	2012	Yes	1967	-	-	-
BONNEVILLE PO\	41,070	18,250	7.200%	2013	No	1968	-	-	-
BONNEVILLE PO\	23,202	-	7.200%	2013	No	1968	-	-	-
BONNEVILLE PO\	8,076	-	7.200%	2013	Yes	1968	-	-	-
BONNEVILLE PO\	4,562	-	7.200%	2013	Yes	1968	-	-	-
BONNEVILLE PO\	42,237	19,198	7.230%	2014	No	1969	-	-	-
BONNEVILLE PO\	22,537	-	7.230%	2014	Yes	1969	-	-	-
BONNEVILLE PO\	384	-	7.230%	2014	No	1969	-	-	-
BONNEVILLE PO\	205	-	7.230%	2014	Yes	1969	-	-	-
BONNEVILLE PO\	64,977	64,977	7.270%	2015	No	1970	-	-	-
BONNEVILLE PO\	24,412	23,551	7.270%	2015	No	1970	-	-	-
BONNEVILLE PO\	7,995	7,995	7.270%	2015	Yes	1970	-	-	-
BONNEVILLE PO\	3,003	-	7.270%	2015	Yes	1970	-	-	-
BONNEVILLE PO\	17,805	-	7.290%	2016	Yes	1971	-	-	-
BONNEVILLE PO\	17,766	-	7.290%	2016	Yes	1971	-	-	-
BONNEVILLE PO\	12,051	-	7.290%	2016	No	1971	-	-	-
BONNEVILLE PO\	12,025	-	7.290%	2016	No	1971	-	-	-
BONNEVILLE PO\	29,326	29,326	7.290%	2017	No	1972	-	-	-
BONNEVILLE PO\	21,170	21,170	7.290%	2017	Yes	1972	-	-	-
BONNEVILLE PO\	3,980	3,980	7.290%	2017	No	1972	-	-	-
BONNEVILLE PO\	2,873	1,298	7.290%	2017	Yes	1972	-	-	-
BONNEVILLE PO\	33,788	33,788	7.280%	2018	No	1973	-	-	-
BONNEVILLE PO\	21,656	21,656	7.280%	2018	Yes	1973	-	-	-
BONNEVILLE PO\	16,368	16,368	7.280%	2018	No	1973	-	-	-
BONNEVILLE PO\	10,491	10,491	7.280%	2018	Yes	1973	-	-	-
BONNEVILLE PO\	21,826	21,826	7.270%	2019	Yes	1974	-	-	-
BONNEVILLE PO\	20,984	20,984	7.270%	2019	Yes	1974	-	-	-
BONNEVILLE PO\	12,563	12,563	7.270%	2019	No	1974	-	-	-
BONNEVILLE PO\	12,079	12,079	7.270%	2019	No	1974	-	-	-
BONNEVILLE PO\	32,026	32,026	7.250%	2020	No	1975	-	-	-
BONNEVILLE PO\	21,916	21,916	7.250%	2020	Yes	1975	-	-	-
BONNEVILLE PO\	17,158	17,158	7.250%	2020	No	1975	-	-	-
BONNEVILLE PO\	11,742	11,742	7.250%	2020	Yes	1975	-	-	-
BONNEVILLE PO\	61,025	61,025	7.230%	2021	No	1976	-	-	-
BONNEVILLE PO\	2,212	2,212	7.230%	2021	Yes	1976	-	-	-
BONNEVILLE PO\	33,702	33,702	7.210%	2022	No	1977	-	-	-
BONNEVILLE PO\	5,380	5,380	7.210%	2022	Yes	1977	-	-	-
BONNEVILLE PO\	4,981	4,981	7.210%	2022	Yes	1977	-	-	-
BONNEVILLE PO\	3,948	3,948	7.210%	2022	No	1977	-	-	-
BPA PROGRAM	24,222	-	8.950%	2013	Yes	1978	9	-	-
BPA PROGRAM	17,770	-	8.950%	2013	No	1978	9	-	-
BPA PROGRAM	4,619	-	8.950%	2013	Yes	1978	9	-	-
BPA PROGRAM	3,389	-	8.950%	2013	No	1978	9	-	-
BPA PROGRAM	21,228	-	9.900%	2014	No	1979	9	-	-
BPA PROGRAM	14,340	-	9.900%	2014	Yes	1979	9	-	-
BPA PROGRAM	10,610	-	9.900%	2014	No	1979	9	-	-
BPA PROGRAM	2,888	-	9.900%	2014	Yes	1979	9	-	-
BPA PROGRAM	605	-	9.900%	2014	No	1979	9	-	-
BPA PROGRAM	165	-	9.900%	2014	Yes	1979	9	-	-
BPA PROGRAM	98	-	9.900%	2014	No	1979	9	-	-
BPA PROGRAM	66	-	9.900%	2014	Yes	1979	9	-	-
BPA PROGRAM	26,690	-	9.450%	2014	No	1979	6	-	-
BPA PROGRAM	21,977	-	9.450%	2014	Yes	1979	6	-	-
BPA PROGRAM	9,804	-	9.450%	2014	Yes	1979	6	-	-
BPA PROGRAM	7,010	-	9.450%	2014	No	1979	6	-	-
BPA PROGRAM	6,026	-	9.450%	2014	Yes	1979	6	-	-
BPA PROGRAM	1,870	-	9.450%	2014	Yes	1979	6	-	-
BPA PROGRAM	1,371	-	9.450%	2014	No	1979	6	-	-

BPA PROGRAM	150	-	9.450%	2014	No	1979	6	-	-
BPA PROGRAM	102	-	9.450%	2014	Yes	1979	6	-	-
BPA PROGRAM	44,811	-	13.000%	2015	No	1980	9	-	-
BPA PROGRAM	39,696	-	13.000%	2015	No	1980	9	-	-
BPA PROGRAM	10,806	-	13.000%	2015	Yes	1980	9	-	-
BPA PROGRAM	9,292	-	13.000%	2015	No	1980	9	-	-
BPA PROGRAM	4,253	-	13.000%	2015	Yes	1980	9	-	-
BPA PROGRAM	2,263	-	13.000%	2015	No	1980	9	-	-
BPA PROGRAM	1,707	-	13.000%	2015	No	1980	9	-	-
BPA PROGRAM	1,469	-	13.000%	2015	Yes	1980	9	-	-
BPA PROGRAM	616	-	13.000%	2015	Yes	1980	9	-	-
BPA PROGRAM	56	-	13.000%	2015	Yes	1980	9	-	-
BPA PROGRAM	21	-	13.000%	2015	No	1980	9	-	-
BPA PROGRAM	10	-	13.000%	2015	Yes	1980	9	-	-
BPA PROGRAM	119,775	-	16.600%	2016	No	1981	9	-	-
BPA PROGRAM	54,821	-	16.600%	2016	Yes	1981	9	-	-
BPA PROGRAM	277	-	16.600%	2016	No	1981	9	-	-
BPA PROGRAM	127	-	16.600%	2016	Yes	1981	9	-	-
BPA PROGRAM	46,980	-	14.400%	2017	No	1982	4	-	-
BPA PROGRAM	37,455	-	14.400%	2017	Yes	1982	4	-	-
BPA PROGRAM	34,221	-	14.400%	2017	No	1982	12	-	-
BPA PROGRAM	15,663	-	14.400%	2017	Yes	1982	12	-	-
BPA PROGRAM	9,975	-	14.400%	2017	No	1982	4	-	-
BPA PROGRAM	4,566	-	14.400%	2017	Yes	1982	4	-	-
BPA PROGRAM	551	-	14.400%	2017	No	1982	4	-	-
BPA PROGRAM	439	-	14.400%	2017	Yes	1982	4	-	-
BPA PROGRAM	80	-	14.400%	2017	No	1982	12	-	-
BPA PROGRAM	36	-	14.400%	2017	Yes	1982	12	-	-
BPA PROGRAM	23	-	14.400%	2017	No	1982	4	-	-
BPA PROGRAM	11	-	14.400%	2017	Yes	1982	4	-	-
BPA PROGRAM	77,807	-	14.150%	2017	No	1982	7	-	-
BPA PROGRAM	3,677	-	14.150%	2017	No	1982	7	-	-
BPA PROGRAM	2,932	-	14.150%	2017	Yes	1982	7	-	-
BPA PROGRAM	402	-	14.150%	2017	No	1982	7	-	-
BPA PROGRAM	105	-	14.150%	2017	Yes	1982	7	-	-
BPA PROGRAM	43	-	14.150%	2017	No	1982	7	-	-
BPA PROGRAM	34	-	14.150%	2017	Yes	1982	7	-	-
BPA PROGRAM	37,235	-	12.250%	2018	No	1983	9	-	-
BPA PROGRAM	6,708	-	12.250%	2018	Yes	1983	9	-	-
BPA PROGRAM	814	-	12.250%	2018	No	1983	9	-	-
BPA PROGRAM	203	-	12.250%	2018	No	1983	9	-	-
BPA PROGRAM	35	-	12.250%	2018	Yes	1983	9	-	-
BPA PROGRAM	4	-	12.250%	2018	No	1983	9	-	-
BPA PROGRAM	1	-	12.250%	2018	Yes	1983	9	-	-
BPA PROGRAM	29,806	-	11.700%	2018	No	1983	6	-	-
BPA PROGRAM	154	-	11.700%	2018	No	1983	6	-	-
BPA PROGRAM	40	-	11.700%	2018	Yes	1983	6	-	-
BPA PROGRAM	39,741	-	10.850%	2018	No	1983	11	-	-
BPA PROGRAM	205	-	10.850%	2018	No	1983	11	-	-
BPA PROGRAM	54	-	10.850%	2018	Yes	1983	11	-	-
BPA PROGRAM	50,567	-	13.050%	2019	No	1984	9	-	-
BPA PROGRAM	9,109	-	13.050%	2019	Yes	1984	9	-	-
BPA PROGRAM	276	-	13.050%	2019	No	1984	9	-	-
BPA PROGRAM	48	-	13.050%	2019	Yes	1984	9	-	-
BPA PROGRAM	25,283	-	12.300%	2019	No	1984	11	-	-
BPA PROGRAM	4,555	-	12.300%	2019	Yes	1984	11	-	-
BPA PROGRAM	138	-	12.300%	2019	No	1984	11	-	-
BPA PROGRAM	24	-	12.300%	2019	Yes	1984	11	-	-
BPA PROGRAM	15,182	-	11.250%	2029	Yes	1985	6	-	-
BPA PROGRAM	460	-	11.250%	2029	No	1985	6	-	-
BPA PROGRAM	80	-	11.250%	2029	Yes	1985	6	-	-
BPA PROGRAM	84,278	-	11.250%	2030	No	1985	6	-	-
BPA PROGRAM	68,194	-	8.150%	1996	Yes	1986	3	-	-
BPA PROGRAM	30,161	-	8.150%	1996	No	1986	3	-	-
BPA PROGRAM	870	-	8.150%	1996	No	1986	3	-	-
BPA PROGRAM	443	-	8.150%	1996	No	1986	3	-	-
BPA PROGRAM	169	-	8.150%	1996	Yes	1986	3	-	-
BPA PROGRAM	157	-	8.150%	1996	Yes	1986	3	-	-

BPA PROGRAM	5	-	8.150%	1996	No	1986	3	-	-
BPA PROGRAM	1	-	8.150%	1996	Yes	1986	3	-	-
BPA PROGRAM	180,054	-	8.950%	2031	No	1986	6	-	-
BPA PROGRAM	57,354	-	8.950%	2031	Yes	1986	6	-	-
BPA PROGRAM	40,000	-	8.950%	2031	Yes	1986	6	-	-
BPA PROGRAM	11,668	-	8.950%	2031	Yes	1986	6	-	-
BPA PROGRAM	5,161	-	8.950%	2031	No	1986	6	-	-
BPA PROGRAM	3,117	-	8.950%	2031	Yes	1986	6	-	-
BPA PROGRAM	1,819	-	8.950%	2031	No	1986	6	-	-
BPA PROGRAM	722	-	8.950%	2031	Yes	1986	6	-	-
BPA PROGRAM	76	-	8.950%	2031	No	1986	6	-	-
BPA PROGRAM	29	-	8.950%	2031	Yes	1986	6	-	-
BPA PROGRAM	96,519	-	8.350%	1992	No	1987	6	-	-
BPA PROGRAM	2,498	-	8.350%	1992	No	1987	6	-	-
BPA PROGRAM	983	-	8.350%	1992	No	1987	6	-	-
BPA PROGRAM	86,958	-	9.550%	2017	No	1987	7	-	-
BPA PROGRAM	4,113	-	9.550%	2017	No	1987	7	-	-
BPA PROGRAM	3,274	-	9.550%	2017	Yes	1987	7	-	-
BPA PROGRAM	569	-	9.550%	2017	No	1987	7	-	-
BPA PROGRAM	48	-	9.550%	2017	No	1987	7	-	-
BPA PROGRAM	38	-	9.550%	2017	Yes	1987	7	-	-
BPA PROGRAM	37,342	-	9.550%	2032	No	1987	7	-	-
BPA PROGRAM	7,903	-	9.550%	2032	No	1987	7	-	-
BPA PROGRAM	3,109	-	9.550%	2032	Yes	1987	7	-	-
BPA PROGRAM	631	-	9.550%	2032	No	1987	7	-	-
BPA PROGRAM	618	-	9.550%	2032	Yes	1987	7	-	-
BPA PROGRAM	285	-	9.550%	2032	No	1987	7	-	-
BPA PROGRAM	112	-	9.550%	2032	Yes	1987	7	-	-
BPA PROGRAM	54,409	-	9.300%	2032	Yes	1987	4	-	-
BPA PROGRAM	43,236	-	9.300%	2032	No	1987	4	-	-
BPA PROGRAM	1,409	-	9.300%	2032	No	1987	4	-	-
BPA PROGRAM	554	-	9.300%	2032	No	1987	4	-	-
BPA PROGRAM	281	-	9.300%	2032	No	1987	4	-	-
BPA PROGRAM	111	-	9.300%	2032	No	1987	4	-	-
BPA PROGRAM	43,417	-	9.500%	2018	No	1988	2	-	-
BPA PROGRAM	283	-	9.500%	2018	No	1988	2	-	-
BPA PROGRAM	30,004	-	9.900%	2033	Yes	1988	6	-	-
BPA PROGRAM	9,018	-	9.900%	2033	No	1988	6	-	-
BPA PROGRAM	752	-	9.900%	2033	Yes	1988	6	-	-
BPA PROGRAM	226	-	9.900%	2033	No	1988	6	-	-
BPA PROGRAM	45,870	-	9.500%	2033	Yes	1988	2	-	-
BPA PROGRAM	28,513	-	9.500%	2033	No	1988	2	-	-
BPA PROGRAM	27,887	-	9.500%	2033	Yes	1988	2	-	-
BPA PROGRAM	22,923	-	9.500%	2033	Yes	1988	2	-	-
BPA PROGRAM	20,677	-	9.500%	2033	No	1988	2	-	-
BPA PROGRAM	1,725	-	9.500%	2033	Yes	1988	2	-	-
BPA PROGRAM	954	-	9.500%	2033	No	1988	2	-	-
BPA PROGRAM	933	-	9.500%	2033	Yes	1988	2	-	-
BPA PROGRAM	518	-	9.500%	2033	No	1988	2	-	-
BPA PROGRAM	56,257	-	8.950%	1999	Yes	1989	5	-	-
BPA PROGRAM	16,909	-	8.950%	1999	No	1989	5	-	-
BPA PROGRAM	1,410	-	8.950%	1999	No	1989	5	-	-
BPA PROGRAM	424	-	8.950%	1999	No	1989	5	-	-
BPA PROGRAM	41,894	-	9.250%	2030	No	1990	1	-	-
BPA PROGRAM	3,824	-	9.250%	2030	Yes	1990	1	-	-
BPA PROGRAM	3,008	-	9.250%	2030	No	1990	1	-	-
BPA PROGRAM	1,149	-	9.250%	2030	No	1990	1	-	-
BPA PROGRAM	96	-	9.250%	2030	Yes	1990	1	-	-
BPA PROGRAM	29	-	9.250%	2030	No	1990	1	-	-
BPA PROGRAM	54,145	-	7.550%	1995	No	1991	2	-	-
BPA PROGRAM	5,855	-	7.550%	1995	No	1991	2	-	-
BPA PROGRAM	80,000	-	6.200%	1995	No	1992	4	-	-
BPA PROGRAM	50,000	-	7.000%	1997	No	1992	4	-	-
BPA PROGRAM	28,300	-	7.000%	1997	No	1992	4	-	-
BPA PROGRAM	107,800	-	6.600%	2000	No	1992	8	-	-
BPA PROGRAM	107,700	-	7.250%	2007	No	1992	8	-	-
BPA PROGRAM	147,521	-	8.800%	2032	No	1992	4	-	-
BPA PROGRAM	2,479	-	8.800%	2032	No	1992	4	-	-

BPA PROGRAM	150,000	-	8.130%	2032	No	1992	7	-	-
BPA PROGRAM	50,000	-	6.050%	1998	No	1993	10	-	-
BPA PROGRAM	99,962	-	8.350%	2033	No	1993	10	-	-
BPA PROGRAM	130,000	-	7.800%	2033	No	1993	2	-	-
BPA PROGRAM	100,000	-	7.500%	2033	No	1993	4	-	-
BPA PROGRAM	110,000	-	6.950%	2033	No	1993	8	-	-
BPA PROGRAM	49,489	-	7.100%	1998	No	1994	5	-	-
BPA PROGRAM	43,155	-	7.100%	1998	No	1994	5	-	-
BPA PROGRAM	4,456	-	7.100%	1998	No	1994	5	-	-
BPA PROGRAM	55,000	-	7.650%	1999	No	1994	9	-	-
BPA PROGRAM	50,000	-	8.200%	2034	No	1994	5	-	-
BPA PROGRAM	50,000	-	7.050%	2034	No	1994	1	-	-
BPA PROGRAM	108,400	-	6.850%	2034	No	1994	10	-	-
BPA PROGRAM	50,000	-	6.850%	2034	No	1994	10	-	-
BPA PROGRAM	55,000	-	8.350%	2001	No	1995	1	-	-
BPA PROGRAM	65,000	-	7.700%	2025	No	1995	8	-	-
BPA PROGRAM	49,933	-	7.700%	2025	No	1995	7	-	-
BPA PROGRAM	54,378	-	5.900%	2003	No	1996	1	-	-
BPA PROGRAM	70,000	70,000	7.050%	2006	No	1996	8	-	-
BPA PROGRAM	22,600	-	6.800%	2004	No	1997	1	-	-
BPA PROGRAM	80,000	80,000	6.900%	2005	No	1997	5	-	-
BPA PROGRAM	111,254	111,254	6.650%	2007	No	1997	8	2021	6.700%
BPA PROGRAM	75,300	75,300	6.000%	2008	No	1998	4	-	-
BPA PROGRAM	36,819	36,819	5.750%	2008	No	1998	8	-	-
BPA PROGRAM	72,700	72,700	6.000%	2009	No	1998	5	-	-
BPA PROGRAM	40,000	40,000	6.200%	2011	No	1998	5	-	-
BPA PROGRAM	50,000	50,000	6.650%	2028	No	1998	4	-	-
BPA PROGRAM	112,300	112,300	5.850%	2028	No	1998	8	-	-
BPA PROGRAM	106,600	106,600	5.850%	2028	No	1998	8	2031	8.290%
BPA PROGRAM	98,900	98,900	6.700%	2032	No	1998	5	-	-
BPA PROGRAM	40,000	-	6.200%	2002	No	1999	9	-	-
BPA PROGRAM	26,200	-	5.950%	2004	No	1999	5	-	-
BPA PROGRAM	59,050	59,050	5.900%	2014	No	1999	2	-	-
BPA PROGRAM	15,300	-	6.850%	2003	No	2000	8	-	-
BPA PROGRAM	40,000	-	6.400%	2003	No	2000	11	-	-
BPA PROGRAM	39,052	-	7.000%	2004	No	2000	7	-	-
BPA PROGRAM	53,500	53,500	7.150%	2005	No	2000	1	-	-
BPA PROGRAM	40,000	40,000	6.750%	2006	No	2000	9	2020	6.690%
BPA PROGRAM	20,000	20,000	5.650%	2005	No	2001	1	-	-
BPA PROGRAM	59,932	59,932	6.050%	2010	No	2001	1	-	-
BPA PROGRAM	25,000	25,000	5.950%	2011	No	2001	6	-	-
BPA PROGRAM	50,000	50,000	5.750%	2011	No	2001	8	-	-
BPA PROGRAM	108,010	108,010	4.600%	2005	No	2002	3	2024	6.830%
BPA PROGRAM	60,000	60,000	3.750%	2005	No	2002	6	2023	6.790%
BPA PROGRAM	100,000	100,000	3.050%	2006	No	2002	9	2022	6.760%
BPA PROGRAM	4,938	4,938	3.000%	2006	No	2003	10	-	-
BPA PROGRAM	40,000	40,000	2.800%	2006	No	2003	11	2021	6.730%
BPA PROGRAM	20,000	20,000	2.500%	2006	No	2003	9	-	-
BPA PROGRAM	75,000	75,000	2.300%	2006	No	2003	7	2023	6.800%
BPA PROGRAM	25,000	25,000	2.950%	2007	No	2003	7	2020	6.670%
BPA PROGRAM	40,000	40,000	2.900%	2007	No	2003	4	-	-
BPA PROGRAM	40,000	40,000	5.550%	2033	No	2003	4	-	-
BPA PROGRAM	50,000	50,000	3.450%	2007	No	2004	7	-	-
BPA PROGRAM	30,000	30,000	3.100%	2007	No	2004	9	-	-
BPA PROGRAM	65,000	65,000	2.950%	2007	No	2004	4	2019	6.640%
BPA PROGRAM	32,700	32,700	2.500%	2007	No	2004	1	-	-
BPA PROGRAM	25,000	25,000	3.800%	2008	No	2004	7	-	-
BPA PROGRAM	65,000	65,000	2.950%	2008	No	2004	1	2020	6.680%
BPA PROGRAM	40,000	40,000	5.600%	2034	No	2004	9	-	-
ENVIRONMENT	40,000	-	6.950%	2012	No	1997	11	-	-
ENVIRONMENT	30,000	30,000	6.050%	2010	No	2001	1	-	-
ENVIRONMENT	30,000	30,000	3.050%	2006	No	2002	9	-	-

BONNEVILLE POWER ADMINISTRATION

OCTOBER 1, 2004 - SEPTEMBER 30, 2007 COST EVALUATION PERIOD

Transmission 3-year Base with $10m Amort Shift 11-18-04

Projected Federal Investments (1000s) (FY 2007)

Project	Original Principal	Current Principal	Interest Rate	Due Date	Replacement?	In Service Date	Month	Rollover Date	Rollover Rate
BPA PROGRAM	217,215	217,215	5.630%	2040	No	2005	3	-	-
BPA PROGRAM	263,828	263,828	6.820%	2041	No	2006	3	-	-
BPA PROGRAM	274,718	274,718	6.900%	2042	No	2007	3	-	-
ENVIRONMENT	11,919	11,919	5.800%	2020	No	2005	3	-	-
ENVIRONMENT	4,670	4,670	6.050%	2021	No	2006	3	-	-
ENVIRONMENT	4,836	4,836	6.190%	2022	No	2007	3	-	-

BONNEVILLE POWER ADMINISTRATION

OCTOBER 1, 2004 - SEPTEMBER 30, 2007 COST EVALUATION PERIOD

Transmission 3-year Base with $10m Amort Shift 11-18-04

Capitalized Contract Obligations (1000s) (FY 2007)

Date	Capitalized Contract Obligations
09/30/2005	32,130.55
09/30/2006	32,131.72
09/30/2007	32,132.94
09/30/2008	33,387.23
09/30/2009	38,170.47
09/30/2010	30,291.38
09/30/2011	30,226.81
09/30/2012	56,236.04
09/30/2013	129,691.44
09/30/2014	113,846.31
09/30/2015	98,562.59
09/30/2016	78,111.10
09/30/2017	86,417.19
09/30/2018	86,170.36
09/30/2019	4,533.20
09/30/2020	4,459.23
09/30/2021	4,383.34
09/30/2022	4,303.53
09/30/2023	4,229.81
09/30/2024	4,152.19
09/30/2025	4,079.66
09/30/2026	4,011.22
09/30/2027	3,951.89
09/30/2028	3,899.67
09/30/2029	3,859.56
09/30/2030	3,826.56
09/30/2031	3,808.68
09/30/2032	3,812.93
09/30/2033	32,915.50
09/30/2034	89,496.76
09/30/2035	(2,642.00)
09/30/2036	(2,595.00)
09/30/2037	(2,539.00)
09/30/2038	(2,473.00)
09/30/2039	(2,410.00)
09/30/2040	(2,352.00)
09/30/2041	(2,297.00)
09/30/2042	(2,247.00)
Total	**$1,037,674.86**

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CHAPTER 13

REPAYMENT STUDY RESULTS
REVISED STUDY
FY 2007

BONNEVILLE POWER ADMINISTRATION

OCTOBER 1, 2004 - SEPTEMBER 30, 2007 COST EVALUATION PERIOD

Transmission 3-year Base with $10m Amort Shift 11-18-04

Summary of Interest (1000s) (FY 2007)

Project	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
BONNEVIL	48,150	48,047	43,287	42,106	38,245	30,054	22,328	16,152	3,363	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL OTI	48,150	48,047	43,287	42,106	38,245	30,054	22,328	16,152	3,363	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BPA BORR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BPA PROG	107,706	116,575	138,099	150,767	154,626	159,561	165,502	168,492	178,595	185,115	188,390	190,648	191,937	194,156	196,766	194,248	192,597	190,505	188,438	186,049	183,687
ENVIRONM	3,076	3,563	2,938	3,088	3,088	3,088	1,273	1,273	1,273	1,273	1,273	1,273	1,273	1,273	1,273	1,273	582	299	-	-	-
PREMIUMS	-	-	-	-	-	-	-	-	3,310	3,240	7,176	8,200	7,669	7,547	8,410	4,282	3,581	6,377	4,815	6,335	12,053
(LESS INTE	-6,030	-7,022	-6,625	-7,178	-7,020	-7,149	-7,102	-6,452	-4,597	-4,895	-5,219	-5,676	-5,466	-5,446	-7,347	-7,379	-7,409	-7,440	-7,470	-7,501	-7,531
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL BP/	104,752	113,115	134,412	146,678	150,694	155,501	159,674	163,313	178,581	184,733	191,621	194,444	195,414	197,530	199,103	192,425	189,351	189,742	185,783	184,882	188,208
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTALS	152,902	161,162	177,699	188,784	188,939	185,554	182,001	179,465	181,945	184,733	191,621	194,444	195,414	197,530	199,103	192,425	189,351	189,742	185,783	184,882	188,208

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2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	Total
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	667,129
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	667,129
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
214,297	213,820	222,689	223,667	220,413	222,441	224,508	235,298	225,498	227,425	235,133	238,564	209,649	154,947	238,846	241,393	244,205	247,235	250,507	265,710	269,858	274,721	6,990,721
4,670	4,836	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	81,425
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
218,967	218,656	222,689	223,667	220,413	222,441	224,508	235,298	225,498	227,425	235,133	238,564	209,649	154,947	238,846	241,393	244,205	247,235	250,507	265,710	269,858	274,721	7,072,145
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
218,967	218,656	222,689	223,667	220,413	222,441	224,508	235,298	225,498	227,425	235,133	238,564	209,649	154,947	238,846	241,393	244,205	247,235	250,507	265,710	269,858	274,721	7,739,274

BONNEVILLE POWER ADMINISTRATION

OCTOBER 1, 2004 - SEPTEMBER 30, 2007 COST EVALUATION PERIOD

Transmission 3-year Base with $10m Amort Shift 11-18-04

Summary of Amortization (1000s) (FY 2007)

Project	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
BONNEVILLE POWER ADMINISTRATION	1,501	67,069	16,189	53,411	112,891	106,924	85,473	177,000	46,672	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL OTHER APPROPRIATIONS	1,501	67,069	16,189	53,411	112,891	106,924	85,473	177,000	46,672	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BPA BORROWING	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BPA PROGRAM	153,500	94,938	152,700	137,119	72,700	59,932	115,000	-	54,393	114,122	122,518	140,146	130,870	129,000	209,065	203,898
ENVIRONMENT	-	30,000	-	-	-	30,000	-	-	-	-	-	-	-	-	-	11,919
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL BPA BORROWING	153,500	124,938	152,700	137,119	72,700	89,932	115,000	-	54,393	114,122	122,518	140,146	130,870	129,000	209,065	215,817
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTALS	155,001	192,007	168,889	190,530	185,591	196,856	200,473	177,000	101,065	114,122	122,518	140,146	130,870	129,000	209,065	215,817

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2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	Total
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	291,731
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	291,731
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
181,455	179,247	177,035	178,404	176,330	174,190	170,283	167,831	167,665	171,353	168,469	165,378	162,051	158,470	154,622	152,858	148,328	6,476,428
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32,454
12,353	12,582	4,084	12,540	12,745	7,221	7,739	9,345	6,296	12,982	13,306	13,564	13,832	14,118	2,750	330	0	238,783
-7,560	-7,588	-7,616	-7,601	-7,626	-7,652	-7,698	-7,039	-5,703	-7,838	-7,871	-7,906	-7,944	-7,985	-8,029	-8,048	-8,101	-267,756
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
186,249	184,241	173,504	183,343	181,450	173,759	170,324	170,136	168,258	176,497	173,903	171,035	167,939	164,604	149,343	145,140	140,227	6,479,909
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
186,249	184,241	173,504	183,343	181,450	173,759	170,324	170,136	168,258	176,497	173,903	171,035	167,939	164,604	149,343	145,140	140,227	6,771,641

BONNEVILLE POWER ADMINISTRATION

OCTOBER 1, 2004 - SEPTEMBER 30, 2007 COST EVALUATION PERIOD

Transmission 3-year Base with $10m Amort Shift 11-18-04

Application of Amortization (1000s) (FY 2007)

Date	Project	In Service	Due	Original Balance	Amount Available	Rate	Replacement?	Rollover?	Amount Amortized
FY 2005	BPA PROGRAM	2000	2005	53,500	53,500	7.150%	No	No	53,500
FY 2005	BONNEVILLE POV	1960	2005	3,598	1,500	6.910%	No	No	1,500
FY 2005	BPA PROGRAM	1997	2005	80,000	80,000	6.900%	No	No	80,000
FY 2005	BPA PROGRAM	2001	2005	20,000	20,000	5.650%	No	No	20,000
FY 2005	BONNEVILLE POV	1972	2017	2,873	1,298	7.290%	Yes	No	1
Subtotal		-	-	**$159,971**	**$156,298**	-	**Yes**	**No**	**$155,001**
FY 2006	BPA PROGRAM	1996	2006	70,000	70,000	7.050%	No	No	70,000
FY 2006	BONNEVILLE POV	1961	2006	4,468	4,468	6.950%	No	No	4,468
FY 2006	BONNEVILLE POV	1961	2006	11,271	11,271	6.950%	Yes	No	11,271
FY 2006	ENVIRONMENT	2002	2006	30,000	30,000	3.050%	No	No	30,000
FY 2006	BPA PROGRAM	2003	2006	4,938	4,938	3.000%	No	No	4,938
FY 2006	BPA PROGRAM	2003	2006	20,000	20,000	2.500%	No	No	20,000
FY 2006	BONNEVILLE POV	1962	2007	19,597	19,597	6.980%	No	No	19,597
FY 2006	BONNEVILLE POV	1962	2007	4,877	4,877	6.980%	Yes	No	4,877
FY 2006	BONNEVILLE POV	1972	2017	29,326	29,326	7.290%	No	No	409
FY 2006	BONNEVILLE POV	1972	2017	21,170	21,170	7.290%	Yes	No	21,170
FY 2006	BONNEVILLE POV	1972	2017	3,980	3,980	7.290%	No	No	3,980
FY 2006	BONNEVILLE POV	1972	2017	2,873	1,297	7.290%	Yes	No	1,297
Subtotal		-	-	**$222,500**	**$220,924**	-	**Yes**	**No**	**$192,007**
FY 2007	BPA PROGRAM	2004	2007	50,000	50,000	3.450%	No	No	50,000
FY 2007	BPA PROGRAM	2004	2007	30,000	30,000	3.100%	No	No	30,000
FY 2007	BPA PROGRAM	2003	2007	40,000	40,000	2.900%	No	No	40,000
FY 2007	BPA PROGRAM	2004	2007	32,700	32,700	2.500%	No	No	32,700
FY 2007	BONNEVILLE POV	1972	2017	29,326	28,917	7.290%	No	No	16,189
Subtotal		-	-	**$182,026**	**$181,617**	-	**No**	**No**	**$168,889**
FY 2008	BONNEVILLE POV	1963	2008	4,876	4,876	7.020%	No	No	4,876
FY 2008	BONNEVILLE POV	1963	2008	4,330	4,330	7.020%	Yes	No	4,330
FY 2008	BONNEVILLE POV	1963	2008	904	904	7.020%	No	No	904
FY 2008	BONNEVILLE POV	1963	2008	803	803	7.020%	Yes	No	803
FY 2008	BPA PROGRAM	1998	2008	75,300	75,300	6.000%	No	No	75,300
FY 2008	BPA PROGRAM	1998	2008	36,819	36,819	5.750%	No	No	36,819
FY 2008	BPA PROGRAM	2004	2008	25,000	25,000	3.800%	No	No	25,000
FY 2008	BONNEVILLE POV	1972	2017	29,326	12,728	7.290%	No	No	12,728
FY 2008	BONNEVILLE POV	1973	2018	21,656	21,656	7.280%	Yes	No	2,911
FY 2008	BONNEVILLE POV	1973	2018	16,368	16,368	7.280%	No	No	16,368
FY 2008	BONNEVILLE POV	1973	2018	10,491	10,491	7.280%	Yes	No	10,491
Subtotal		-	-	**$225,873**	**$209,275**	-	**Yes**	**No**	**$190,530**
FY 2009	BONNEVILLE POV	1964	2009	4,151	4,151	7.060%	No	No	4,151
FY 2009	BONNEVILLE POV	1964	2009	5,738	5,738	7.060%	Yes	No	5,738
FY 2009	BPA PROGRAM	1998	2009	72,700	72,700	6.000%	No	No	72,700
FY 2009	BONNEVILLE POV	1970	2015	64,977	64,977	7.270%	No	No	18,923
FY 2009	BONNEVILLE POV	1970	2015	7,995	7,995	7.270%	Yes	No	7,995
FY 2009	BONNEVILLE POV	1970	2015	24,412	23,551	7.270%	No	No	23,551
FY 2009	BONNEVILLE POV	1973	2018	33,788	33,788	7.280%	No	No	33,788
FY 2009	BONNEVILLE POV	1973	2018	21,656	18,745	7.280%	Yes	No	18,745
Subtotal		-	-	**$235,417**	**$231,645**	-	**Yes**	**No**	**$185,591**
FY 2010	BONNEVILLE POV	1965	2010	3,706	3,706	7.090%	No	No	3,706
FY 2010	BONNEVILLE POV	1965	2010	7,248	7,248	7.090%	Yes	No	7,248
FY 2010	BONNEVILLE POV	1965	2010	5,202	5,202	7.090%	No	No	5,202
FY 2010	BONNEVILLE POV	1965	2010	10,171	10,171	7.090%	Yes	No	10,171
FY 2010	ENVIRONMENT	2001	2010	30,000	30,000	6.050%	No	No	30,000
FY 2010	BPA PROGRAM	2001	2010	59,932	59,932	6.050%	No	No	59,932
FY 2010	BONNEVILLE POV	1970	2015	64,977	46,054	7.270%	No	No	46,054
FY 2010	BONNEVILLE POV	1974	2019	20,984	20,984	7.270%	Yes	No	153

FY 2010	BONNEVILLE POV	1974	2019	12,563	12,563	7.270%	No	No	12,563
FY 2010	BONNEVILLE POV	1974	2019	21,826	21,826	7.270%	Yes	No	21,826
Subtotal		**-**	**-**	**$236,609**	**$217,686**	**-**	**Yes**	**No**	**$196,856**
FY 2011	BONNEVILLE POV	1966	2011	11,830	11,830	7.130%	No	No	11,830
FY 2011	BONNEVILLE POV	1966	2011	3,049	3,049	7.130%	Yes	No	3,049
FY 2011	BONNEVILLE POV	1966	2011	6,647	6,647	7.130%	No	No	6,647
FY 2011	BONNEVILLE POV	1966	2011	1,714	1,714	7.130%	Yes	No	1,714
FY 2011	BPA PROGRAM	1998	2011	40,000	40,000	6.200%	No	No	40,000
FY 2011	BPA PROGRAM	2001	2011	25,000	25,000	5.950%	No	No	25,000
FY 2011	BPA PROGRAM	2001	2011	50,000	50,000	5.750%	No	No	50,000
FY 2011	BONNEVILLE POV	1974	2019	12,079	12,079	7.270%	No	No	12,079
FY 2011	BONNEVILLE POV	1974	2019	20,984	20,831	7.270%	Yes	No	20,831
FY 2011	BONNEVILLE POV	1975	2020	21,916	21,916	7.250%	Yes	No	424
FY 2011	BONNEVILLE POV	1975	2020	17,158	17,158	7.250%	No	No	17,158
FY 2011	BONNEVILLE POV	1975	2020	11,742	11,742	7.250%	Yes	No	11,742
Subtotal		**-**	**-**	**$222,119**	**$221,966**	**-**	**Yes**	**No**	**$200,473**
FY 2012	BONNEVILLE POV	1967	2012	19,003	19,003	7.160%	No	No	19,003
FY 2012	BONNEVILLE POV	1967	2012	4,566	2,454	7.160%	Yes	No	2,454
FY 2012	BONNEVILLE POV	1969	2014	42,237	19,198	7.230%	No	No	19,198
FY 2012	BONNEVILLE POV	1975	2020	32,026	32,026	7.250%	No	No	32,026
FY 2012	BONNEVILLE POV	1975	2020	21,916	21,492	7.250%	Yes	No	21,492
FY 2012	BONNEVILLE POV	1976	2021	61,025	61,025	7.230%	No	No	61,025
FY 2012	BONNEVILLE POV	1976	2021	2,212	2,212	7.230%	Yes	No	2,212
FY 2012	BONNEVILLE POV	1977	2022	33,702	33,702	7.210%	No	No	14,608
FY 2012	BONNEVILLE POV	1977	2022	4,981	4,981	7.210%	Yes	No	4,981
Subtotal		**-**	**-**	**$221,668**	**$196,093**	**-**	**Yes**	**No**	**$177,000**
FY 2013	BONNEVILLE POV	1968	2013	41,070	18,250	7.200%	No	No	18,250
FY 2013	BONNEVILLE POV	1977	2022	3,948	3,948	7.210%	No	No	3,948
FY 2013	BONNEVILLE POV	1977	2022	5,380	5,380	7.210%	Yes	No	5,380
FY 2013	BONNEVILLE POV	1977	2022	33,702	19,094	7.210%	No	No	19,094
FY 2013	BPA PROGRAM	2008	2043	125,044	125,044	7.100%	Yes	No	54,393
Subtotal		**-**	**-**	**$209,144**	**$171,716**	**-**	**Yes**	**No**	**$101,065**
FY 2014	BPA PROGRAM	1999	2014	59,050	59,050	5.900%	No	No	59,050
FY 2014	BPA PROGRAM	2008	2043	125,044	70,651	7.100%	Yes	No	55,072
Subtotal		**-**	**-**	**$184,094**	**$129,701**	**-**	**Yes**	**No**	**$114,122**
FY 2015	BPA PROGRAM	2008	2043	125,044	15,579	7.100%	Yes	No	15,579
FY 2015	BPA PROGRAM	2009	2044	129,009	129,009	7.100%	Yes	No	106,938
Subtotal		**-**	**-**	**$254,053**	**$144,588**	**-**	**Yes**	**No**	**$122,518**
FY 2016	BPA PROGRAM	2009	2044	129,009	22,071	7.100%	Yes	No	22,071
FY 2016	BPA PROGRAM	2010	2045	132,886	132,886	7.100%	Yes	No	118,075
Subtotal		**-**	**-**	**$261,895**	**$154,957**	**-**	**Yes**	**No**	**$140,146**
FY 2017	BPA PROGRAM	2010	2045	132,886	14,811	7.100%	Yes	No	14,811
FY 2017	BPA PROGRAM	2011	2046	136,618	136,618	7.100%	Yes	No	116,059
Subtotal		**-**	**-**	**$269,504**	**$151,429**	**-**	**Yes**	**No**	**$130,870**
FY 2018	BPA PROGRAM	2011	2046	136,618	20,559	7.100%	Yes	No	20,559
FY 2018	BPA PROGRAM	2012	2047	140,354	140,354	7.100%	Yes	No	108,441
Subtotal		**-**	**-**	**$276,972**	**$160,913**	**-**	**Yes**	**No**	**$129,000**
FY 2019	BPA PROGRAM	2004	2019	65,000	65,000	6.640%	No	Yes	65,000
FY 2019	BPA PROGRAM	2012	2047	140,354	31,913	7.100%	Yes	No	31,913
FY 2019	BPA PROGRAM	2013	2048	144,215	144,215	7.100%	Yes	No	112,152
Subtotal		**-**	**-**	**$349,569**	**$241,128**	**-**	**Yes**	**Yes**	**$209,065**
FY 2020	BPA PROGRAM	2000	2020	40,000	40,000	6.690%	No	Yes	40,000
FY 2020	BPA PROGRAM	2004	2020	65,000	65,000	6.680%	No	Yes	65,000
FY 2020	BPA PROGRAM	2003	2020	25,000	25,000	6.670%	No	Yes	25,000
FY 2020	ENVIRONMENT	2005	2020	11,919	11,919	5.800%	No	No	11,919
FY 2020	BPA PROGRAM	2013	2048	144,215	32,063	7.100%	Yes	No	32,063
FY 2020	BPA PROGRAM	2014	2049	148,247	148,247	7.100%	Yes	No	41,835
Subtotal		**-**	**-**	**$434,381**	**$322,229**	**-**	**Yes**	**Yes**	**$215,817**

FY 2021	BPA PROGRAM	2003	2021	40,000	40,000	6.730%	No	Yes	40,000
FY 2021	BPA PROGRAM	1997	2021	111,254	111,254	6.700%	No	Yes	111,254
FY 2021	ENVIRONMENT	2006	2021	4,670	4,670	6.050%	No	No	4,670
FY 2021	BPA PROGRAM	2014	2049	148,247	106,412	7.100%	Yes	No	63,043
Subtotal		-	-	**$304,171**	**$262,336**	-	**Yes**	**Yes**	**$218,967**
FY 2022	BPA PROGRAM	2002	2022	100,000	100,000	6.760%	No	Yes	100,000
FY 2022	ENVIRONMENT	2007	2022	4,836	4,836	6.190%	No	No	4,836
FY 2022	BPA PROGRAM	2014	2049	148,247	43,369	7.100%	Yes	No	43,369
FY 2022	BPA PROGRAM	2015	2050	152,293	152,293	7.100%	Yes	No	70,450
Subtotal		-	-	**$405,376**	**$300,498**	-	**Yes**	**Yes**	**$218,656**
FY 2023	BPA PROGRAM	2003	2023	75,000	75,000	6.800%	No	Yes	75,000
FY 2023	BPA PROGRAM	2002	2023	60,000	60,000	6.790%	No	Yes	60,000
FY 2023	BPA PROGRAM	2015	2050	152,293	81,843	7.100%	Yes	No	81,843
FY 2023	BPA PROGRAM	2016	2051	156,334	156,334	7.100%	Yes	No	5,846
Subtotal		-	-	**$443,627**	**$373,177**	-	**Yes**	**Yes**	**$222,689**
FY 2024	BPA PROGRAM	2002	2024	108,010	108,010	6.830%	No	Yes	108,010
FY 2024	BPA PROGRAM	2016	2051	156,334	150,488	7.100%	Yes	No	115,657
Subtotal		-	-	**$264,344**	**$258,498**	-	**Yes**	**Yes**	**$223,667**
FY 2025	BPA PROGRAM	2016	2051	156,334	34,832	7.100%	Yes	No	34,832
FY 2025	BPA PROGRAM	2017	2052	160,283	160,283	7.100%	Yes	No	160,283
FY 2025	BPA PROGRAM	2018	2053	163,952	163,952	7.100%	Yes	No	25,298
Subtotal		-	-	**$480,569**	**$359,067**	-	**Yes**	**No**	**$220,413**
FY 2026	BPA PROGRAM	2018	2053	163,952	138,654	7.100%	Yes	No	138,654
FY 2026	BPA PROGRAM	2019	2054	167,577	167,577	7.100%	Yes	No	83,787
Subtotal		-	-	**$331,529**	**$306,231**	-	**Yes**	**No**	**$222,441**
FY 2027	BPA PROGRAM	2019	2054	167,577	83,790	7.100%	Yes	No	83,790
FY 2027	BPA PROGRAM	2020	2055	171,207	171,207	7.100%	Yes	No	140,718
Subtotal		-	-	**$338,784**	**$254,997**	-	**Yes**	**No**	**$224,508**
FY 2028	BPA PROGRAM	1998	2028	50,000	50,000	6.650%	No	No	50,000
FY 2028	BPA PROGRAM	1998	2028	112,300	112,300	5.850%	No	No	112,300
FY 2028	BPA PROGRAM	2020	2055	171,207	30,489	7.100%	Yes	No	30,489
FY 2028	BPA PROGRAM	2021	2056	174,746	174,746	7.100%	Yes	No	42,509
Subtotal		-	-	**$508,253**	**$367,535**	-	**Yes**	**No**	**$235,298**
FY 2029	BPA PROGRAM	2021	2056	174,746	132,237	7.100%	Yes	No	132,237
FY 2029	BPA PROGRAM	2022	2057	178,206	178,206	7.100%	Yes	No	93,261
Subtotal		-	-	**$352,952**	**$310,443**	-	**Yes**	**No**	**$225,498**
FY 2030	BPA PROGRAM	2022	2057	178,206	84,945	7.100%	Yes	No	84,945
FY 2030	BPA PROGRAM	2023	2058	181,629	181,629	7.100%	Yes	No	142,480
Subtotal		-	-	**$359,835**	**$266,574**	-	**Yes**	**No**	**$227,425**
FY 2031	BPA PROGRAM	1998	2031	106,600	106,600	8.290%	No	Yes	106,600
FY 2031	BPA PROGRAM	2023	2058	181,629	39,149	7.100%	Yes	No	39,149
FY 2031	BPA PROGRAM	2024	2059	184,857	184,857	7.100%	Yes	No	89,384
Subtotal		-	-	**$473,086**	**$330,606**	-	**Yes**	**Yes**	**$235,133**
FY 2032	BPA PROGRAM	1998	2032	98,900	98,900	6.700%	No	No	98,900
FY 2032	BPA PROGRAM	2024	2059	184,857	95,473	7.100%	Yes	No	95,473
FY 2032	BPA PROGRAM	2025	2060	187,730	187,730	7.100%	Yes	No	44,190
Subtotal		-	-	**$471,487**	**$382,103**	-	**Yes**	**No**	**$238,564**
FY 2033	BPA PROGRAM	2003	2033	40,000	40,000	5.550%	No	No	40,000
FY 2033	BPA PROGRAM	2025	2060	187,730	143,540	7.100%	Yes	No	143,540
FY 2033	BPA PROGRAM	2026	2061	190,241	190,241	7.100%	Yes	No	26,110
Subtotal		-	-	**$417,971**	**$373,781**	-	**Yes**	**No**	**$209,649**
FY 2034	BPA PROGRAM	2004	2034	40,000	40,000	5.600%	No	No	40,000
FY 2034	BPA PROGRAM	2026	2061	190,241	164,131	7.100%	Yes	No	114,947
Subtotal		-	-	**$230,241**	**$204,131**	-	**Yes**	**No**	**$154,947**
FY 2035	BPA PROGRAM	2026	2061	190,241	49,185	7.100%	Yes	No	49,185

FY 2035	BPA PROGRAM	2027	2062	192,421	192,421	7.100%	Yes	No	189,661
Subtotal		**-**	**-**	**$382,662**	**$241,606**	**-**	**Yes**	**No**	**$238,846**
FY 2036	BPA PROGRAM	2027	2062	192,421	2,760	7.100%	Yes	No	2,760
FY 2036	BPA PROGRAM	2028	2063	194,290	194,290	7.100%	Yes	No	194,290
FY 2036	BPA PROGRAM	2029	2064	195,720	195,720	7.100%	Yes	No	44,343
Subtotal		**-**	**-**	**$582,431**	**$392,770**	**-**	**Yes**	**No**	**$241,393**
FY 2037	BPA PROGRAM	2029	2064	195,720	151,377	7.100%	Yes	No	151,377
FY 2037	BPA PROGRAM	2030	2065	196,874	196,874	7.100%	Yes	No	92,828
Subtotal		**-**	**-**	**$392,594**	**$348,251**	**-**	**Yes**	**No**	**$244,205**
FY 2038	BPA PROGRAM	2030	2065	196,874	104,046	7.100%	Yes	No	104,046
FY 2038	BPA PROGRAM	2031	2066	197,685	197,685	7.100%	Yes	No	143,189
Subtotal		**-**	**-**	**$394,559**	**$301,731**	**-**	**Yes**	**No**	**$247,235**
FY 2039	BPA PROGRAM	2031	2066	197,685	54,496	7.100%	Yes	No	54,496
FY 2039	BPA PROGRAM	2032	2067	198,269	198,269	7.100%	Yes	No	196,011
Subtotal		**-**	**-**	**$395,954**	**$252,765**	**-**	**Yes**	**No**	**$250,507**
FY 2040	BPA PROGRAM	2005	2040	217,215	217,215	5.630%	No	No	217,215
FY 2040	BPA PROGRAM	2032	2067	198,269	2,258	7.100%	Yes	No	2,258
FY 2040	BPA PROGRAM	2033	2068	198,619	198,619	7.100%	Yes	No	46,237
Subtotal		**-**	**-**	**$614,103**	**$418,092**	**-**	**Yes**	**No**	**$265,710**
FY 2041	BPA PROGRAM	2006	2041	263,828	263,828	6.820%	No	No	263,828
FY 2041	BPA PROGRAM	2033	2068	198,619	152,382	7.100%	Yes	No	6,030
Subtotal		**-**	**-**	**$462,447**	**$416,210**	**-**	**Yes**	**No**	**$269,858**
FY 2042	BPA PROGRAM	2007	2042	274,718	274,718	6.900%	No	No	274,718
FY 2042	BPA PROGRAM	2033	2068	198,619	146,352	7.100%	Yes	No	3
Subtotal		**-**	**-**	**$473,337**	**$421,070**	**-**	**Yes**	**No**	**$274,721**
Grand Total		**-**	**-**	**$13,026,107**	**$10,254,634**	**-**	**Yes**	**Yes**	**$7,739,274**

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CHAPTER 14

REPAYMENT STUDY
THEORY AND OPERATION

Repayment Theory of Operation

Introduction

The BPA is required to collect revenues sufficient to meet BPA's annual transmission expenses and cover the long-term obligations of the Federal Columbia River transmission system (FCRTS).

The Repayment Program is used to determine whether a given set of annual revenues is sufficient to meet a given set of annual expenses and cover a given set of long-term obligations when applied in accordance with the requirements of Department of Energy (DOE) Order RA 6120.2. The Program is also used to determine by the minimum factor future revenues can be multiplied by to obtain a new set of revenues which will be sufficient to recover amortization costs.

The revenues and the expenses of the cost evaluation year will be assigned to all future years. This will have the effect of assigning the net operating revenue of the cost evaluation year to all future years. This has the effect of levelizing the long-term obligations over all future years.

REPAYMENT PROGRAM LOGIC

The diagrams on the following pages show the flow of logic in BPA's repayment program. The first diagram shows the logic of the binary search used to locate minimum sufficient revenues. A necessary part of this search is the test for sufficiency. The logic of the test for sufficiency is shown on the remaining two diagrams.

The equations which are referred to are:

Revenue Equation: Net revenues of each year are expended on interest and payments on the principles.

Investment equation: The payments on each investment are less than or equal to the principle of that investment (and equal to the principle of that investment after the investment is due).

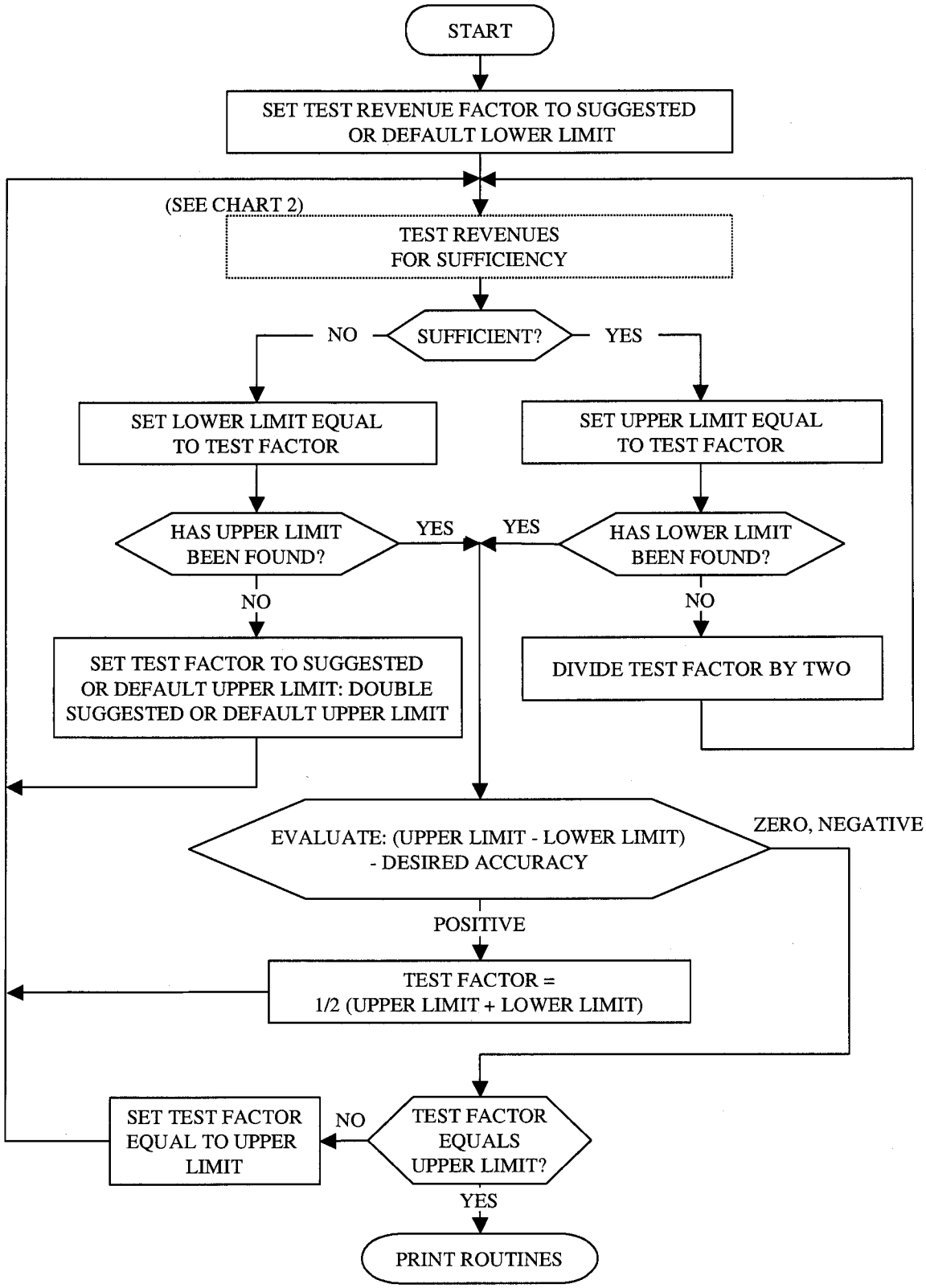
Predictor equation: For each future year the accumulated revenues less the accumulated interest less the accumulated investments due is equal to the accumulated payments on high interest rate investments which are not due.

These equations are developed in more detail in the 2004 Final Transmission Proposal Revenue Requirement Study and Documentation (TR-04-FS-BPA-01, Appendix A and TR-04-FS-BPA-01A, Chapter 12) respectively.

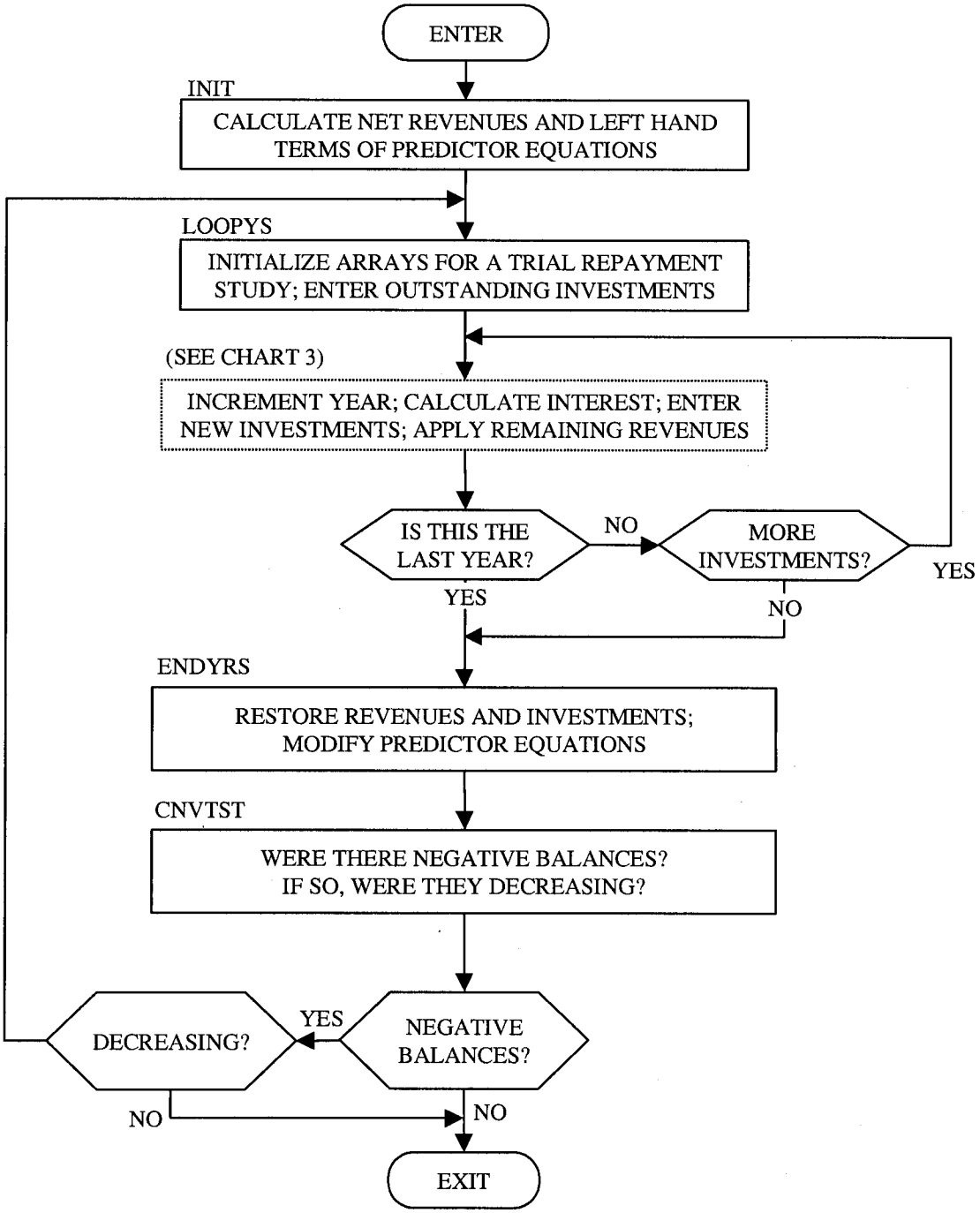
BOND ROLLOVER FEATURE

Since the 2004 Transmission Rate Case, BPA has incorporated a new data manipulation feature associated with the repayment program. This does not change any methodology of the model. It allows the user to assume that short-term bond(s) associated with assets with average service lives considerably longer than the bond maturity date are refinanced on the original maturity date, and recognizes replacement bonds with new maturity dates and corresponding interest rate. This feature reflects BPA's practice of rolling over a bond when it comes due if funds are not available to pay it at that time or if market conditions justify refinancing such bonds within the allowable repayment period of the associated assets. Reflecting this practice in the model allows a more realistic calculation of interest expense.

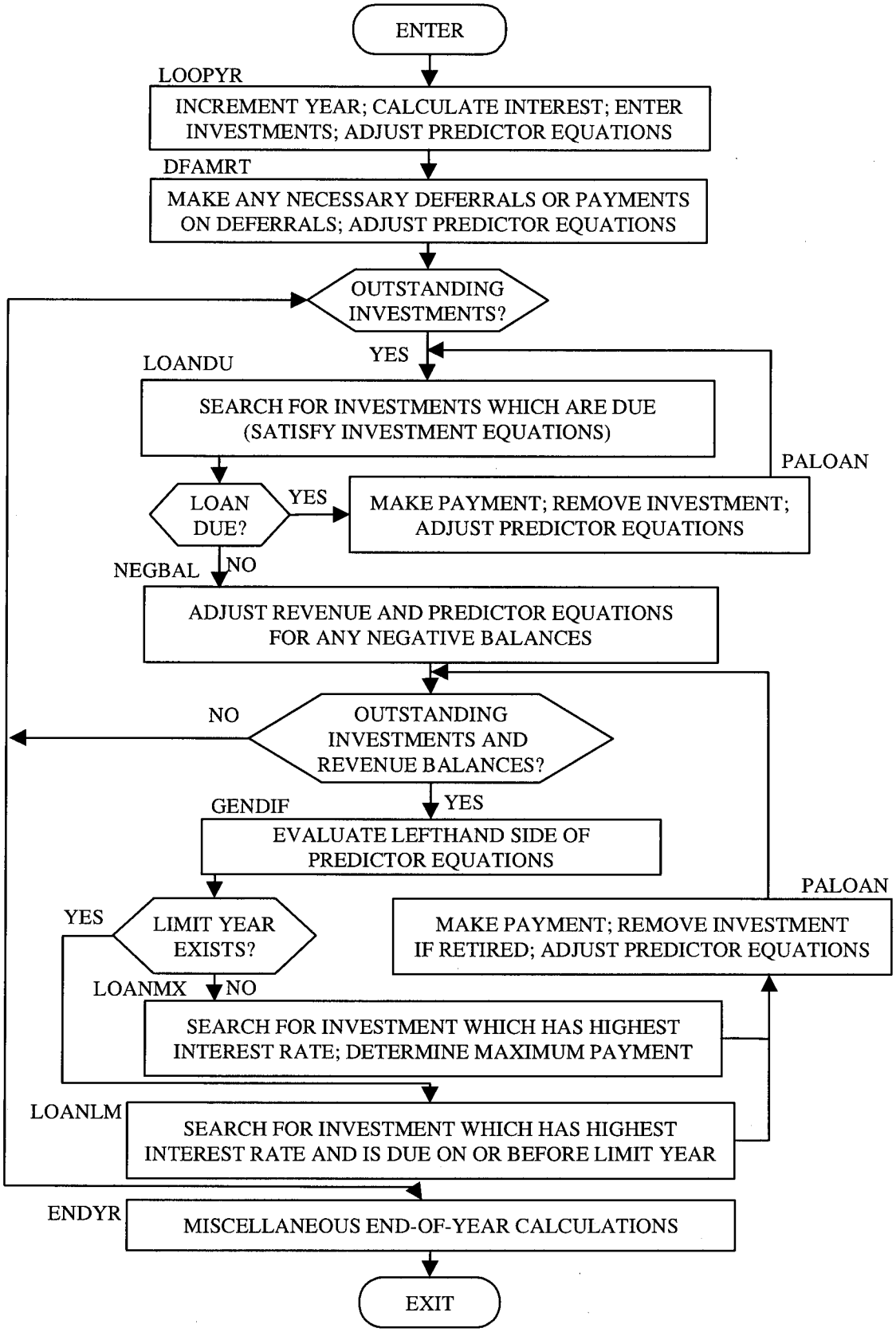
REPAYMENT PROGRAM
(BINARY SEARCH)
CHART 1



REPAYMENT PROGRAM
(TEST FOR SUFFICIENCY)
CHART 2



REPAYMENT PROGRAM
(APPLICATION OF REVENUES)
CHART 3



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