

2010 Initial Transmission Proposal

Documentation for Revenue Requirement Study

TR-10-E-BPA-01A

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BONNEVILLE POWER ADMINISTRATION
TRANSMISSION SERVICES
2010 INITIAL PROPOSAL

DOCUMENTATION FOR REVENUE REQUIREMENT STUDY
TR-10-E-BPA-01A

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**DOCUMENTATION FOR REVENUE REQUIREMENT STUDY
TABLE OF CONTENTS**

	Page
1. TRANSMISSION REVENUE REQUIREMENTS	1
1.1 Introduction	1
1.2 Income Statement	1
1.3 Statement of Cash Flows.....	2
2. TRANSMISSION EXPENSES	5
2.1 Introduction	5
2.2 Expenses	5
3. FCRTS INVESTMENT BASE	12
3.1 Introduction	12
3.2 Methodology.....	12
4. PROJECTED CASH BALANCES/INTEREST CREDITS	18
4.1 Introduction	18
4.2 Interest credits on BPA's projected cash balances.....	18
4.3 Interest income (repayment program calculation).....	18
5. INTEREST RATES AND PRICE DEFLATORS	21
5.1 Introduction	21
5.2 Source of Forecasts.....	21
5.3 Interest Rate Projections	21
5.4 Deflators	21
6. HISTORICAL AND PROJECTED NEW BONDS ISSUED TO TREASURY.....	42
6.1 Purpose	42
6.2 Method.....	42
6.3 Application of Methodology	42
7. NON-FEDERAL PAYMENT OBLIGATIONS.....	49
7.1 Introduction	49
7.2 Lease-Purchase Agreements.....	49
Debt Service Reassignment	51
7.3 Calculation of Debt Service Reassignment.....	51
8. REPAYMENT PERIOD REPLACEMENTS.....	55
8.1 Introduction	55
8.2 Transmission Replacements	55
8.3 AC Intertie Replacements.....	55
9. FINANCIAL RISK AND MITIGATION.....	61
9.1 Background	61

9.2	Transmission Risk Analysis.....	61
9.3	Transmission Risk Analysis Model.....	63
9.4	Risk Analysis Computer Software	64
9.5	Risk Factors	64
9.6	Network and Intertie Transmission Revenue Uncertainties	65
9.7	Transmission Operations and Maintenance Expense	66
9.8	Ancillary Services Revenue	66
9.9	Revenue from Sales of Services to Wind Generators.....	67
9.10	Interest Rate Risk.....	68
9.11	Risk Correlations.....	68
9.12	Risk Analysis Results	69
9.13	Financial Reserves and PNRR	69
10.	REPAYMENT STUDY INPUT DATA CURRENT STUDY	77
11.	REPAYMENT STUDY RESULTS CURRENT STUDY.....	91
12.	REPAYMENT THEORY OF OPERATION.....	123
12.1	Introduction	123
12.2	Repayment Program Logic.....	123
12.3	Bond Rollover Feature	123
13.	DEBT OPTIMIZATION DEMONSTRATION.....	127
13.1	Background	127
13.2	DO Demonstration and Slice Settlement Agreement	127
13.3	The Demonstration Tables.....	128
13.4	Attachment A, Excerpt from the Slice Settlement Agreement.....	128
14.	SALES AND REVENUE FORECAST	138

1. TRANSMISSION REVENUE REQUIREMENTS

1.1 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 2010 and 2011). On the first table, revenue requirements for FYs 2010 and 2011 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.

1.2 Income Statement

A more detailed description of the following line items is presented in Chapter 4 of the Revenue Requirement Study, TR-10-E-BPA-01. Operating expenses (lines 1-6) include: BPA's transmission system operation (line 2), system maintenance (line 3), e system engineering and design (line 4); ancillary services and inter-business lines expenses (primarily the generation inputs for ancillary services) (line 5), support services and overheads (line 6), interest that accrues on the outstanding Large Generator Interconnection Agreement (LGIA) credit balances (line 7), and annual straight-line depreciation (remaining life technique) for transmission and general plant-in-service and amortization of deferred assets.(line 8).

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 TS through the Debt Optimization Program (line 11). 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 13) and on bonds that BPA issues to the U.S. Treasury (line 14). Amortization of capitalized bond premiums (line 16) 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 15). The capitalization adjustment and the Allowance for Funds Used During Construction (AFUDC) (lines 17-18) 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 21-22) 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 Revenue Requirement Study, TR-10-E-BPA-01, Chapter 2.2.

1.3 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 and amortization (line 4), non-Federal projects debt service is the interest that accrues on outstanding LGIA deposits (line 5), amortization of capitalized bond premiums (line 6), and the capitalization adjustment (line 7) and the revenues that do not provide cash in that year (accrual revenues from AC Intertie capacity ownership and fiber optic cable leases and revenue credits given to customers for LGIA payments) (line 9). As part of the settlement agreement, BPA is drawing on cash reserves for capital investments. (line 8).
- **Cash Used for Capital Investments:** Investment in utility plant (line 13) 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 16) 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 TS through the Debt Optimization Program (line 17). Repayment of long-term debt (line 18) is planned amortization of bonds issued to Treasury, as determined in transmission repayment studies. Repayment of capital appropriations (line 19) is planned amortization associated with pre-Transmission System Act appropriations, as determined in transmission repayment studies.

Table 1-1: Transmission Revenue Requirement Income Statement

(\$000s)

	A	B
	FY 2010	FY 2011
1 OPERATING EXPENSES		
2 TRANSMISSION OPERATIONS	123,083	125,435
3 TRANSMISSION MAINTENANCE	125,896	130,873
4 TRANSMISSION ENGINEERING	26,500	28,011
5 TRANSMISSION ACQ & ANCILLARY SERVICES	198,662	235,250
6 BPA INTERNAL SUPPORT	57,376	38,011
7 NON-FEDERAL PROJECTS DEBT SERVICE	10,696	13,057
8 DEPRECIATION & AMORTIZATION	186,297	197,755
9 TOTAL OPERATING EXPENSES	728,510	768,392
10 INTEREST EXPENSE		
11 DEBT SERVICE REASSIGNMENT INTEREST	55,476	55,475
12 INTEREST ON FEDERAL INVESTMENT -		
13 ON APPROPRIATED FUNDS	27,692	25,887
14 ON LONG-TERM DEBT	102,696	120,572
15 INTEREST INCOME	(25,932)	(24,296)
16 AMORTIZATION OF CAPITALIZED BOND PREMIUMS	758	692
17 CAPITALIZATION ADJUSTMENT	(18,968)	(18,968)
18 AFUDC	(11,097)	(13,605)
19 NET INTEREST EXPENSE	130,625	145,757
20 TOTAL EXPENSES	859,135	914,149
21 MINIMUM REQUIRED NET REVENUES 1/	77,936	73,507
22 PLANNED NET REVENUES FOR RISK	0	0
23 TOTAL PLANNED NET REVENUES	77,936	73,507
24 TOTAL REVENUE REQUIREMENT	937,070	987,656

1/ SEE NOTE ON CASH FLOW TABLE.

**Table 1-2: Transmission Revenue Requirement Statement of Cash Flows
(\$000s)**

	A	B
	FY 2010	FY 2011
1 CASH FROM CURRENT OPERATIONS:		
2 MINIMUM REQUIRED NET REVENUES 1/	77,936	73,507
3 EXPENSES NOT REQUIRING CASH:		
4 DEPRECIATION & AMORTIZATION	186,297	197,755
5 NON-FEDERAL PROJECTS DEBT SERVICE	10,696	13,057
6 AMORTIZATION OF CAPITALIZED BOND PREMIUMS	758	692
7 CAPITALIZATION ADJUSTMENT	(18,968)	(18,968)
8 DRAWDOWN OF CASH RESERVES FOR CAPITAL FUNDING	15,000	15,000
9 ACCRUAL REVENUES (AC INTERTIE/FIBER/LGIA)	(41,537)	(47,097)
10 CASH PROVIDED BY CURRENT OPERATIONS	230,182	233,946
11 CASH USED FOR CAPITAL INVESTMENTS:		
12 INVESTMENT IN:		
13 UTILITY PLANT	(421,099)	(430,523)
14 CASH USED FOR CAPITAL INVESTMENTS	(421,099)	(430,523)
15 CASH FROM TREASURY BORROWING AND APPROPRIATIONS:		
16 INCREASE IN LONG-TERM DEBT	406,099	415,523
17 DEBT SERVICE REASSIGNMENT PRINCIPAL	(12)	(154)
18 REPAYMENT OF LONG-TERM DEBT	(190,251)	(140,000)
19 REPAYMENT OF CAPITAL APPROPRIATIONS	(24,919)	(78,792)
20 CASH FROM TREASURY BORROWING AND APPROPRIATIONS	190,917	196,577
21 ANNUAL INCREASE (DECREASE) IN CASH	0	0
22 PLANNED NET REVENUES FOR RISK	0	0
23 TOTAL ANNUAL INCREASE (DECREASE) IN CASH	0	0

1/ Line 21 must be greater than or equal to zero, otherwise net revenues will be added so that there are no negative cash flows for the year.

2. TRANSMISSION EXPENSES

2.1 Introduction

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

2.2 Expenses

Table 2-1 displays the forecasted program spending levels that are the basis for the revenue requirement study. BPA used O&M expenses reflected in the Integrated Program Review process and decisions explained in the Study, Chapter 2. Inter-business line expenses, including the cost of redispatch, are the generation inputs for ancillary services and the COE and BOR annual costs of network transmission and utility delivery facilities of those agencies. These inter-business line expenses are calculated by BPA's generation function. *See Wholesale Power Rate Development Study Documentation, WP-10-E-BPA-05A.*

Depreciation and amortization 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.*

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 for calculation of the interest credit on cash reserves.*

Table 2-2 calculates the net costs that will be included in rates for FY 2010-2011. *See Homenick et al., TR-10-E-BPA-05, Section 2.*

**Table 2-1: TS Expenses from Integrated Program Review
(\$000s)**

Program & Other Operating Costs	A FY2010	B FY2011
1 Transmission's Transmission Acquisition		
2 Leased Facilities	16,136	16,678
3 Settlements	500	500
4 Stability Reserve Payments	1,735	1,735
5 Sub-Total Transmission Acquisition	18,371	18,913
6 Transmission System Operations		
7 Information Technology	7,034	6,790
8 Power System Dispatching	11,461	11,864
9 Control Center Support	13,172	13,541
10 Technical Operations	5,882	6,096
11 Substation Operations	19,024	19,206
12 Sub-Total Transmission System Operations	56,573	57,497
13 Transmission Scheduling		
14 Management Supervision & Administration	458	481
15 Reservations	1,023	1,074
16 Pre-Scheduling	448	470
17 Real-Time Scheduling	4,808	5,028
18 Scheduling Technical Support	2,271	2,369
19 Scheduling After-The-Fact	415	447
20 Sub-Total Transmission Scheduling	9,423	9,868
21 Transmission Marketing		
22 Transmission Sales	3,120	3,261
23 Marketing Internal Operations	0	1
24 Transmission Finance	388	402
25 Contract Management	4,349	4,496
26 Transmission Billing	2,837	2,885
27 Business Strategy & Assessment	6,794	7,068
28 Marketing IT Support	2,012	2,112
29 Meter Data	0	1
30 Sub-Total Transmission Marketing	19,500	20,227
31 Transmission Business Support		
32 Executive and Admin Services 1/	7,370	7,614
33 Staff Management	0	1
34 TBL Internal G&A 1/	16,626	17,151
35 Aircraft Services	1,160	1,203
36 Logistics Services	8,121	7,420
37 Security Enhancements	1,383	1,429
38 Sub-Total Transmission Business Support	34,660	34,819
39 Transmission System Development		
40 Research & Development	6,121	7,005
41 TSD Planning & Analysis	8,539	8,811
42 Capital to Expense Transfer	3,000	3,000
43 Inventory Management	1,000	1,000
44 Regulatory & Region Association Fees	6,055	6,331
45 Environmental Analysis	78	80
46 Sub-Total Transmission System Development	24,793	26,228

**Table 2-1: TS Expenses from Integrated Program Review
(\$000s)**

Program & Other Operating Costs	A FY2010	B FY2011
47 Transmission System Maintenance		
48 Non-Electric Maintenance	26,046	28,055
49 Substation Maintenance	22,439	22,985
50 Transmission Line Maintenance	25,540	26,179
51 System Protection Control Maintenance	10,798	11,317
52 Power System Control Maintenance	10,147	10,659
53 System Maintenance Management	6,291	6,450
54 Right Of Way Maintenance	18,181	18,508
55 Heavy Mobile Equipment Maintenance	0	0
56 Technical Training	2,657	2,723
57 Sub-Total Transmission System Maintenance	122,099	126,877
58 Transmission Environmental Operations		
59 Environmental Policy & Planning	1,785	1,863
60 Pollution Prevention & Abatement	3,719	3,915
61 Sub-Total Transmission Environmental Operations	5,505	5,779
62 Transmission Other		
63 Unfunded Retirement Benefits	15,598	16,071
64 Undistributed Cost Reduction	(2,000)	(1,999)
65 Non-Federal Debt Service	-	-
66 Sub-Total Transmission Other	13,598	14,072
67 Sub-Total Transmission System Operations & Maintenance	304,520	314,280
68 Between Business Line Expenses		
69 Ancillary Services	187,538	187,538
70 Corps/Bureau/Network/Delivery Facilities	5,515	5,515
71 Redispatch and Station Service	4,312	4,312
72 Sub-Total Between Business Line Expense	197,365	197,365
73 Corporate Expenses		
74 Legal Support - Expense	2,928	3,027
75 Shared Services Costs	0	0
76 Corporate Overhead Distributions	58,779	58,940
77 Sub-Total Corporate Charges	61,707	61,967
78 Total Transmission IPR Program Levels	563,592	573,612

**Table 2-2: Calculation of Net Costs
(\$000s)**

	A 2010	B 2011
Operations, Maintenance, & Internal Support Costs		
1 (Table 2-1, Line 67 + Line 77)	366,227	376,247
2 Adjustment for Costs Excluded from Rates	<u>(15,000)</u>	<u>(35,000)</u>
3 Net Costs to be Collected in Rates	351,227	341,247

**Table 2-3: Transmission System Capital-Related Costs
(\$000s)**

Summary of Transmission Repayment Study Data

	A	B
	2010	2011
1 DSR Interest	55,476	55,475
2 Appropriation Interest	27,692	25,887
3 Bond Interest	<u>102,696</u>	<u>120,572</u>
4 Total Gross Interest	185,864	201,934
5 DSR Principal	12	154
6 Appropriation Principal	24,919	78,792
7 Bond Principal	<u>190,251</u>	<u>140,000</u>
8 Total Principal	215,182	218,946

Summary of Transmission Depreciation & Amortization

	A	B
	2010	2011
9 TRANSMISSION PLANT		
10 LINES	53,224	55,538
11 SUBSTATION	66,699	72,674
12 STATION EQUIPMENT	4,537	4,845
13 GENERAL PLANT	60,592	63,299
14 INTANGIBLE ASSETS	<u>1,245</u>	<u>1,399</u>
15 TOTAL	186,297	197,755

**Table 2-4: Allowance for Funds Used During Construction
(\$000s)**

	A	B	C
	2009	2010	2011
1 capital expenditures	278,403	401,331	407,024
2 plant-in-service	266,362	349,225	346,674
3 SOY CWIP Balance	268,352	291,084	354,287
4 EOY CWIP Balance	280,393	343,190	414,637
5 Average CWIP Balance	274,373	317,137	384,462
6 AFUDC Rate	5.21%	5.31%	5.41%
7 AFUDC	10,691	11,097	13,605

Table 2-5 Amortization of Premiums of Bond Refinancings

	A Date of Refinancing	B Premium	C Proration	D No. of Months	E Monthly Amortization	F Type of Bond	G Last Month to Amortize
1	8/31/1992	7,760,000		180	43,111	Construction	Aug-2007
2	8/31/1997	7,954,100		120	66,284	Construction	Aug-2007
3	4/30/1998	4,998,330		120	41,653	Construction	Apr-2008
4	5/31/1998	4,827,690		132	36,573	Construction	May-2009
5	1/0/1900	2,556,947		156	16,391	Construction	May-2011
6	5/31/1998	6,322,053		408	15,495	Construction	May-2032
7	8/31/1998	4,684,950		360	13,014	Construction	Aug-2028
8	8/31/1998	<u>6,560,000</u>		360	<u>18,222</u>	Construction	Aug-2028
9	Total	45,664,070			250,743		

3. FCRTS INVESTMENT BASE

3.1 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.

3.2 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.

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.

Table 3-1: BPA Transmission Plant Depreciation and Accumulated Depreciation (\$000s)

		A	B	C	D	E	F	G	H	I
		2009	2009	2009	2010	2010	2010	2011	2011	2011
		PLANT	DEPREC	ACCUM	PLANT	DEPREC	ACCUM	PLANT	DEPREC	ACCUM
		INVEST	EXPEN	DEPREC	INVEST	EXPEN	DEPREC	INVEST	EXPEN	DEPREC
1	TOTAL LINES	2,407,892	51,049	1,233,374	2,514,266	53,224	1,286,598	2,621,892	55,538	1,342,136
2	TOTAL SUBSTATIONS	2,556,446	61,558	1,013,537	2,792,691	66,699	1,080,236	3,035,686	72,674	1,152,910

Table 3-2: BPA Projected Transmission Plant Investment (\$000s)

		A	B	C	D	E	F
		TOTAL	2009	TOTAL	2010	TOTAL	2011
		INVEST	ADDITIONS	INVEST	ADDITIONS	INVEST	ADDITIONS
1	TOTAL BPA	5,642,437	363,628	6,006,065	433,416	6,439,481	433,107

Table 3-3: BPA Transmission Plant Investment Additions (\$000s)

		A	B	C	D	E	F	G	H	I	J	K	L
		LINES	SUBS	GEN	TOTAL	LINES	SUBS	GEN	TOTAL	LINES	SUBS	GEN	TOTAL
				PLANT	2009			PLANT	2010			PLANT	2011
					ADDITIONS				ADDITIONS				ADDITIONS
1	TOTAL BPA	94,852	176,009	92,767	363,628	106,374	236,245	90,797	433,416	107,626	242,995	82,486	433,107

**Table 3-4: Amortization of BPA Transmission Other Deferred Assets
(\$000s)**

Spacer Dampers		A	B	C	D	E	F	G
	FY	Investment	Partial Year Amortization	Full year Amortization	Annual Amortization	Accumulated Amortization	Cumulative Investment	Deferred Investment
1	2005				-	-		
2	2006	2,728	45	91	45	45	2,728	5,696
3	2007	2,800	47	93	138	183	5,528	6,630
4	2008	24,091	575	803	759	942	29,619	
5	2009	5,417	181	181	1,168	2,110	35,036	
6	2010	106	2	4	1,170	3,280	32,414	
7	2011	109	2	4	1,174	4,454	32,523	
8	2012	111	2	4	1,178	5,632	32,634	
9	2013	113	2	4	1,182	6,814	32,747	
10	2014	115	2	4	1,186	8,000	32,862	

FY 2008 investment = 9,617 plus total deferred investment from 2006 and 2007.

Non-Wires Program

	FY	A	B	C	D	E	F
		Investment	Partial Year Amortization	Full year Amortization	Annual Amortization	Accumulated Amortization	Cumulative Investment
11	2005						
12	2006						
13	2007						
14	2008		-	-	-	-	-
15	2009		-	-	-	-	-
16	2010	3,000	75	150	75	75	3,000
17	2011	3,000	75	150	225	300	6,000
18	2012	3,000	75	150	375	675	9,000
19	2013	3,000	75	150	525	1,200	12,000
20	2013	3,000	75	150	675	1,875	15,000

Total FAS 71 Amortization

	FY	A
		Annual Amortization
21	2008	759
22	2009	1,168
23	2010	1,245
24	2011	1,399
25	2012	1,553
26	2013	1,707
27	2014	1,861

**Table 3-5: BPA General Plant Cumulative Investment
(\$000s)**

	A	B	C	D
	FERC	2009	2010	2011
	ACCT	TOTAL	TOTAL	TOTAL
1 LAND & LAND RIGHTS	389	10,900	22,412	22,412
2 STRUCTURES & IMPROVEMENTS	390	176,863	179,502	179,502
3 OFFICE FURNITURE & FIXTURES	391.1	1,611	1,611	1,611
4 DATA PROCESSING -EQUIPMENT	391.2	26,063	26,063	26,063
5 DATA PROCESSING -SOFTWARE	391.3	15,983	16,577	16,577
6 TRANSPORT EQUIPMENT	392.1	31,349	32,626	32,626
7 HELICOPTERS	392.2	6,118	6,975	6,975
8 AIRPLANES	392.3	11,093	11,950	11,950
9 STORES EQUIPMENT	393	3,177	4,454	4,454
10 TOOLS, SHOP & GARAGE EQUIPMENT	394	6,344	7,201	7,201
11 LAB EQUIPMENT	395	33,173	34,888	34,888
12 POWER OPERATED EQUIPMENT	396	30,325	32,040	32,040
13 COMMUNICATIONS EQUIPMENT	397	536,688	593,298	593,298
14 MISC EQUIPMENT	398	20,862	20,862	20,862
15 SUBTOTAL GENERAL PLANT		910,548	990,458	990,458
16 STATION EQUIPMENT	353	111,557	127,837	127,837
17 TOTAL GENERAL PLANT		1,022,105	1,118,295	1,118,295

**Table 3-6: BPA General Plant Depreciation Expense
(\$000s)**

	A	B	C	D
	FERC	FY 2009	FY 2010	FY 2011
	ACCT	TOTAL	TOTAL	TOTAL
1 LAND & LAND RIGHTS	389	-	-	-
2 STRUCTURES & IMPROVEMENTS	390	3,565	3,617	3,644
3 OFFICE FURNITURE & FIXTURES	391.1	161	161	161
4 DATA PROCESSING -EQUIPMENT	391.2	3,081	-	-
5 DATA PROCESSING -SOFTWARE	391.3	2,879	691	-
6 TRANSPORT EQUIPMENT	392.1	467	486	496
7 HELICOPTERS	392.2	205	236	251
8 AIRPLANES	392.3	337	364	378
9 STORES EQUIPMENT	393	54	81	94
10 TOOLS, SHOP & GARAGE EQUIPMENT	394	150	172	183
11 LAB EQUIPMENT	395	1,658	1,746	1,790
12 POWER OPERATED EQUIPMENT	396	1,707	1,805	1,855
13 COMMUNICATIONS EQUIPMENT	397	40,807	44,239	46,455
14 MISC EQUIPMENT	398	1,400	1,400	1,400
15 SUBTOTAL GENERAL PLANT		56,471	54,998	56,707
16 STATION EQUIPMENT	353	3,915	4,537	4,845
17 TOTAL GENERAL PLANT		60,386	59,535	61,552

**Table 3-7: BPA Transmission General Plant Projected Plant Additions
(\$000s)**

	A	B	C	D
	FERC	2009	2010	2011
	ACCT	ADDTNS	ADDTNS	ADDTNS
1 LAND & LAND RIGHTS	389	15,638	10,635	10,853
2 STRUCTURES & IMPROVEMENTS	390	2,513	2,390	2,469
3 OFFICE FURNITURE & FIXTURES	391.1	-	-	-
4 DATA PROCESSING -EQUIPMENT	391.2	-	-	-
5 DATA PROCESSING -SOFTWARE	391.3	505	538	556
6 TRANSPORT EQUIPMENT	392.1	1,243	1,256	1,263
7 HELICOPTERS	392.2	834	13,437	847
8 AIRPLANES	392.3	834	842	847
9 STORES EQUIPMENT	393	1,243	1,256	1,263
10 TOOLS, SHOP & GARAGE EQUIPMENT	394	834	842	847
11 LAB EQUIPMENT	395	1,667	1,685	1,694
12 POWER OPERATED EQUIPMENT	396	1,667	1,685	1,694
13 COMMUNICATIONS EQUIPMENT	397	28,884	28,301	31,060
14 MISC EQUIPMENT	398	-	-	-
15 SUBTOTAL GENERAL PLANT		55,862	62,867	53,393
16 STATION EQUIPMENT	353	14,063	16,141	16,501
17 TOTAL GENERAL PLANT		69,925	79,008	69,894

4. PROJECTED CASH BALANCES/INTEREST CREDITS

4.1 Introduction

This chapter projects BPA-TS 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-TS' projected cash balances are proceeds from the sale of Delivery segment facilities projected to be sold prior to the 2010-2011 rate period.

4.2 Interest credits on BPA's projected cash balances

The beginning rate period cash balance was derived from BPA's business unit cash analysis for FY 2008 and from current TS forecasts of revenues, expenses and cash flows for FY 2009. The annual incremental cash provided from forecasted net revenues are added to this, for revenue requirements and the current and revised revenue tests. Reserves during the rate period are reduced by \$15 million each year for the funding of capital expenditures in lieu of Treasury borrowing. 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 TS 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.

4.3 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.

**Table 4-1: Interest Income from Projected Cash Balances
Revenue Requirement Development
(\$000s)**

	2009	2010	2011
1 Annual Cash Surplus/(Deficit)		0	0
2 Adjustments to Cash			
3 SOY Cash Balance		416,146	386,146
4 EOY Cash Balance	416,146	386,146	336,146
5 Average Cash Balance		401,146	361,146
6 Interest Income Rate		4.73%	4.73%
7 Annual Interest Income *		25,932	24,296
8 * includes from repayment study		6,958	7,214

**Table 4-2: Interest Income from Projected Cash Balances
Revenues from Proposed Rates
(\$000s)**

	2009	2010	2011	Repayment Period
1 Annual Cash Surplus/(Deficit)		(19,519)	(22,090)	
2 Adjustments to Cash				
3 SOY Cash Balance		416,146	392,098	344,063
4 EOY Cash Balance	416,146	366,627	320,008	344,063
5 Average Cash Balance		391,386	356,053	344,063
6 Interest Income Rate		0	0	0
7 Annual Interest Income *		25,471	24,055	16,274
8 * includes from repayment study		6,958	7,214	

5. INTEREST RATES AND PRICE DEFLATORS

5.1 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.

5.2 Source of Forecasts

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

5.3 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 150 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 2010-2011 period the 30-year rate reflects a markup of 150 and 120 basis points respectively.

5.4 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:

$$[(FY1/100) \times 0.5] + 1 = \text{Cumulative Price Deflator}_1$$

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 2010-2011 spending levels, they are based on the price deflators from the Third Quarter 2008 GI forecast.

memorandum

DATE: November 14, 2008

REPLY TO
ATTN OF: FTC-2

SUBJECT: FY 2009 BPA Borrowing and Inflation Rate Assumptions

TO: See attached cc list:

COMMON AGENCY ASSUMPTIONS

BPA Borrowing and Inflation Rate Assumptions

Please see attached BPA borrowing rate and inflation assumptions for the period FY 2009 through 2038.

These forecasts provide an internally consistent basis for BPA decisions regarding: debt management, budget formulation, and other financial analyses, as well as capital budgeting, and strategic planning efforts. The FY 2009 forecasts are summarized in the following tables:

- Table 1: 30-year term (2009 Forecast)
- Table 2: 30-year term (Comparison of 2009 and 2008 Forecasts)
- Table 3: 20-year term (2009 Forecast)
- Table 4: 15-year term (2009 Forecast).
- Table 5: Appropriations
- Table 6: BPA Treasury borrowing
- Table 7: Third-party taxable borrowing
- Table 8: Third-party tax-exempt borrowing
- Table 9: FERC (Prime Rate)
- Table 10: LIBOR 3-Month Rate
- Table 11: Projected change in the GDP price deflator
- Table 12: Summary of equivalent cumulative discount rates for alternative base years

Although BPA borrowing rates trend lower over the near term, they are projected in Global Insight (GI) trend forecast to recover to a constant long-term equilibrium rate by 2011.

In contrast, the FY 2009 inflation forecast trends lower over the entire forecast period, just as in the FY 2008 forecast. There is, in fact, little difference between the inflation environments envisioned by the FY 2009 and FY 2008 forecasts.

FY 2009 Borrowing Rate and Inflation Forecasts

The FY 2009 forecast of BPA borrowing rates and inflation expectations is based on the GI August Third Quarter 2008 Long-Term Economic Outlook.

Table 1 illustrates the basis of BPA's Treasury borrowing rate. GI calendar year (CY) projections of 30-year Treasury bond yields are shown in Column A. BPA fiscal year projections are shown in Column B. Column C reflects BPA's Treasury borrowing rate.

The U.S. Treasury pricing of BPA borrowing reflects a mark-up over the Treasury yield curve. The markup is based upon the Government Agency borrowing rate spread over the Treasury yield curve, and, when appropriate, an adder for call options embedded in BPA Treasury borrowings.

Markup assumptions have changed in the FY 2009 borrowing rate forecast. These revisions were based on a review of historical market information, and data provided by the U.S. Treasury.

Revised estimates of Treasury borrowing rates reflect the market's relative perception of credit quality risks since 1995. This period includes two periods of economic and financial stress and uncertainty in 2000-01 and 2007-08. Over these periods, the Treasury markup widened to reflect: (1) widening yield spreads between U.S. Treasury and Agency securities, and (2) higher premiums on embedded call options. These revisions are consistent with the progressive escalation spreads for longer dated BPA borrowings.

BPA inflation assumptions reflect projected changes in the U.S. Gross Domestic Product (GDP) Price Deflator. This index assumes a base year of 2000. The projected change in the GDP price deflator is summarized in Table 11. Column A shows the projected trend in GDP inflation rates between 2009-2038 on a calendar year basis and in column B by BPA fiscal year. Column C provides the cumulative price index projections. The forecast expresses fiscal year dollar values as mid-year dollar values.

This update expands the set of BPA borrowing rate assumptions to include the Prime rate and a short-term LIBOR rate. The Prime rate reverts over the next three years from a GI forecast of 5.40 percent in FY 2009 to a long-term equilibrium rate of 7.75 percent in FY 2012. LIBOR rates are projected to increase from 3.15 percent in FY 2009 to 5.20 percent in FY 2012. Since early October 2008, the 3-month LIBOR rate has fallen 253 bp from 4.82 percent to 2.29 percent.

BPA Borrowing Forecasts

The FY 2009 forecast begins in an environment of financial crisis of historic proportions, slowing economic growth, and falling interest rates in which the risk of recession has risen significantly. However, with the projected economic recovery in 2010, borrowing rates rebound to long-term equilibrium levels. In this environment interest rates and borrowing costs rise over the next four years.

The FY 2009 outlook suggests BPA borrowing rates will, in the near term, increase to a long-term equilibrium over all funding sources. The borrowing rate on FCRPS appropriations over a 2-year term is projected to increase 319 bp, from 2.25 percent in FY 2009 to a long-term equilibrium rate of 4.99 percent in 2012. The appropriation borrowing rate over a 10-year term is projected to increase 169 bp from 3.75 percent to 5.44 percent in 2012

By 2012, the 10-year rate on BPA's Treasury borrowing is expected to increase 155 bp from 4.45 percent in FY 2009 to 6.00 percent. The Third-party taxable 10-year rate is expected to increase 195 bp from 4.74 percent to 6.69 percent in 2012, and the Third-party tax-exempt 10-year rate increases 149 bp from 3.42 percent to 4.91 percent. Beyond 2012, BPA borrowing rates are expected to remain at a constant long-term equilibrium rate.

Inflation Forecast

The GDP Price Deflator is the broadest measure of inflation in the U.S. economy. GDP reflects the value of all 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 real GDP calculations reflect both the changing mix of the components in GDP, and the relative price changes in these components.

The GI August 2008 Trend forecast assumes inflation will remain subdued over the next 30 years. Slower growth and greater slack in the economy reduces inflationary pressures. The outlook for inflation is essentially the same as BPA's FY 2008 forecast.

Inflationary pressures decline throughout the forecast period. Inflation slips from 2.19 percent in 2009 to 2.09 percent by 2012. The annual rate of inflation continues to decline gradually to 1.72 percent by 2038. Inflation in the 2009 forecast is essentially the same outlook as the 2008 forecast (See Table 11).

If you have questions, or suggestions concerning the FY 2009 Agency borrowing rate and inflation forecasts, please contact Robert Mealey 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
Economist

Table 1
30 YEAR TREASURY YIELDS
FY 2008 FORECAST OF BPA TREASURY BORROWING RATES

Calendar/Fiscal Years 2009 - 2038

<u>YEAR</u>	(A) <u>BOND RATE 1/ Calendar Year</u>	(B) <u>BOND RATE Fiscal Year</u>	(C) <u>BPA RATE 2/ Fiscal Year</u>
2009	4.46	4.45	5.35
2010	5.56	5.29	6.79
2011	5.79	5.73	6.93
2012	5.79	5.79	6.69
2013	5.79	5.79	6.69
2014	5.79	5.79	6.69
2015	5.79	5.79	6.69
2016	5.79	5.79	6.69
2017	5.79	5.79	6.69
2018	5.79	5.79	6.69
2019	5.79	5.79	6.69
2020	5.79	5.79	6.69
2021	5.79	5.79	6.69
2022	5.79	5.79	6.69
2023	5.79	5.79	6.69
2024	5.79	5.79	6.69
2025	5.79	5.79	6.69
2026	5.79	5.79	6.69
2027	5.79	5.79	6.69
2028	5.79	5.79	6.69
2029	5.79	5.79	6.69
2030	5.79	5.79	6.69
2031	5.79	5.79	6.69
2032	5.79	5.79	6.69
2033	5.79	5.79	6.69
2034	5.79	5.79	6.69
2035	5.79	5.79	6.69
2036	5.79	5.79	6.69
2037	5.79	5.79	6.69
2038	5.79	5.79	6.69

1/ BPA Forecast November 2008; Global Insight CY 2008 Q3 long-term outlook.
The U.S. Economy: 30-Year Focus, August 2008 Forecast, Base Case

2/ Column C = Column B + U.S. Treasury markup of 90 bp for all years except
2010 and 2011 when it is 150 bp and 120 bp respectively.

Table 2
30 YEAR TREASURY YIELDS
FY 2009 COMPARISON OF BPA BORROWING RATE FORECASTS

Fiscal Years 2009 - 2038

<u>YEAR</u>	(A) FY 2008 FORECAST 1/ BPA RATE	(B) FY 2007 FORECAST 2/ BPA RATE	(C) DIFFERENCE (A-B)
2009	5.35	6.54	-1.19
2010	6.79	6.78	0.01
2011	6.93	6.84	0.09
2012	6.69	6.84	-0.15
2013	6.69	6.73	-0.04
2014	6.69	6.52	0.17
2015	6.69	6.46	0.23
2016	6.69	6.46	0.23
2017	6.69	6.46	0.23
2018	6.69	6.46	0.23
2019	6.69	6.46	0.23
2020	6.69	6.46	0.23
2021	6.69	6.46	0.23
2022	6.69	6.46	0.23
2023	6.69	6.46	0.23
2024	6.69	6.46	0.23
2025	6.69	6.46	0.23
2026	6.69	6.46	0.23
2027	6.69	6.46	0.23
2028	6.69	6.46	0.23
2029	6.69	6.46	0.23
2030	6.69	6.46	0.23
2031	6.69	6.46	0.23
2032	6.69	6.46	0.23
2033	6.69	6.46	0.23
2034	6.69	6.46	0.23
2035	6.69	6.46	0.23
2036	6.69	6.46	0.23
2037	6.69	6.46	0.23
2038	6.69	6.46	0.23

1/ BPA Forecast November 2008; Global Insight CY 2008.Q3 long-term outlook.
The U.S. Economy: 30-Year Focus, August 2008 Forecast, Base Case

2/ BPA Forecast October 2007; Global Insight CY 2007.Q3 long-term outlook.
The U.S. Economy: 30-Year Focus, February 2007 Core Forecast

Table 3
20 YEAR TREASURY YIELDS
FY 2009 FORECAST OF BPA TREASURY BORROWING RATES

Calendar/Fiscal Years 2009 - 2038

<u>YEAR</u>	(A)	(B)	(C)
	<u>BOND RATE 1/ Calendar Year</u>	<u>BOND RATE Fiscal Year</u>	<u>BPA RATE Fiscal Year</u>
2009	4.20	4.18	5.00
2010	5.38	5.08	6.18
2011	5.62	5.56	6.46
2012	5.62	5.62	6.44
2013	5.62	5.62	6.44
2014	5.62	5.62	6.44
2015	5.62	5.62	6.44
2016	5.62	5.62	6.44
2017	5.62	5.62	6.44
2018	5.62	5.62	6.44
2019	5.62	5.62	6.44
2020	5.62	5.62	6.44
2021	5.62	5.62	6.44
2022	5.62	5.62	6.44
2023	5.62	5.62	6.44
2024	5.62	5.62	6.44
2025	5.62	5.62	6.44
2026	5.62	5.62	6.44
2027	5.62	5.62	6.44
2028	5.62	5.62	6.44
2029	5.62	5.62	6.44
2030	5.62	5.62	6.44
2031	5.62	5.62	6.44
2032	5.62	5.62	6.44
2033	5.62	5.62	6.44
2034	5.62	5.62	6.44
2035	5.62	5.62	6.44
2036	5.62	5.62	6.44
2037	5.62	5.62	6.44
2038	5.62	5.62	6.44

1/ BPA Forecast November 2008; Global Insight CY 2008.Q3 long-term outlook.
The U.S. Economy: 30-Year Focus, August 2008 Forecast, Base Case

2/ Column C = Column B + U.S. Treasury markup of 82 bp for all years except
2010 and 2011 when it is 110 bp and 90 bp respectively.

Table 4
15 YEAR TREASURY YIELDS
FY 2009 FORECAST OF BPA TREASURY BORROWING RATES

Calendar/Fiscal Years 2009 - 2038

YEAR	(A)	(B)	(C)
	BOND RATE 1/ Calendar Year	BOND RATE Fiscal Year	BPA RATE Fiscal Year
2009	4.06	4.04	4.72
2010	5.28	4.98	5.87
2011	5.53	5.47	6.22
2012	5.53	5.53	6.21
2013	5.53	5.53	6.21
2014	5.53	5.53	6.21
2015	5.53	5.53	6.21
2016	5.53	5.53	6.21
2017	5.53	5.53	6.21
2018	5.53	5.53	6.21
2019	5.53	5.53	6.21
2020	5.53	5.53	6.21
2021	5.53	5.53	6.21
2022	5.53	5.53	6.21
2023	5.53	5.53	6.21
2024	5.53	5.53	6.21
2025	5.53	5.53	6.21
2026	5.53	5.53	6.21
2027	5.53	5.53	6.21
2028	5.53	5.53	6.21
2029	5.53	5.53	6.21
2030	5.53	5.53	6.21
2031	5.53	5.53	6.21
2032	5.53	5.53	6.21
2033	5.53	5.53	6.21
2034	5.53	5.53	6.21
2035	5.53	5.53	6.21
2036	5.53	5.53	6.21
2037	5.53	5.53	6.21
2038	5.53	5.53	6.21

1/ BPA Forecast November 2008; Global Insight CY 2008 Q3 long-term outlook.
The U.S. Economy: 30-Year Focus, August 2008 Forecast, Base Case

2/ Column C = Column B + U.S. Treasury markup of 69 bp for all years except 21
2010 and 2011 when it is 89 bp and 75 bp respectively.

Table 5
FY 2009 BPA APPROPRIATIONS BORROWING RATE FORECAST 1/

BPA Fiscal Years 2009 - 2038

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	
2009	2.00	2.25	3.50	2.75	3.00	3.13	3.25	3.50	3.63	3.75	3.88	4.00	4.13	4.25	4.38	4.38	4.38	4.38	4.38
2010	4.02	4.20	4.28	4.36	4.44	4.53	4.62	4.70	4.83	4.88	4.90	4.92	4.94	4.96	4.98	5.00	5.02	5.04	5.04
2011	4.75	4.90	4.97	5.03	5.10	5.15	5.21	5.27	5.32	5.38	5.40	5.41	5.43	5.45	5.47	5.48	5.50	5.52	5.52
2012	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2013	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2014	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2015	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2016	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2017	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2018	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2019	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2020	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2021	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2022	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2023	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2024	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2025	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2026	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2027	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2028	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2029	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2030	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2031	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2032	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2033	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2034	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2035	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2036	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2037	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58
2038	4.84	4.99	5.06	5.12	5.19	5.24	5.29	5.34	5.39	5.44	5.46	5.48	5.49	5.51	5.53	5.55	5.56	5.58	5.58

1/ Global Insight CY 2008 Q3 long-term outlook. The U.S. Economy: 30-Year Focus, August 2008 Forecast, Base Case

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
4.38	4.38	4.38	4.38	4.38	4.38	4.38	4.38	4.38	4.38	4.38	4.38	4.38	2009
5.06	5.08	5.10	5.12	5.14	5.16	5.18	5.20	5.22	5.24	5.26	5.29	5.29	2010
5.54	5.56	5.57	5.59	5.61	5.63	5.64	5.66	5.68	5.71	5.71	5.73	5.73	2011
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2012
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2013
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2014
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2015
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2016
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2017
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2018
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2019
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2020
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2021
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2022
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2023
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2024
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2025
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2026
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2027
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2028
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2029
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2030
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2031
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2032
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2033
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2034
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2035
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2036
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2037
5.60	5.62	5.63	5.65	5.67	5.69	5.70	5.72	5.74	5.76	5.77	5.79	5.79	2038

Table 6
BPA FY 2009 BPA TREASURY BORROWING YIELD CURVE FORECAST 1/

BPA Fiscal Years 2009 - 2038

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
2009	2.79	3.14	3.31	3.49	3.66	3.82	3.98	4.14	4.30	4.45	4.51	4.56	4.61	4.67	4.72	4.77	4.83	4.88
2010	4.25	4.56	4.69	4.81	4.93	5.06	5.19	5.31	5.44	5.57	5.63	5.69	5.75	5.81	5.87	5.93	5.99	6.05
2011	4.98	5.27	5.36	5.46	5.56	5.64	5.73	5.81	5.90	5.98	6.03	6.08	6.13	6.17	6.22	6.27	6.32	6.36
2012	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2013	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2014	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2015	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2016	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2017	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2018	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2019	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2020	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2021	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2022	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2023	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2024	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2025	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2026	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2027	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2028	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2029	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2030	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2031	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2032	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2033	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2034	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2035	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2036	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2037	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34
2038	5.07	5.36	5.45	5.54	5.62	5.70	5.77	5.85	5.92	6.00	6.04	6.08	6.13	6.17	6.21	6.26	6.30	6.34

1/ Global Insight CY 2008.Q3 long-term outlook. The U.S. Economy: 30-Year Focus, August 2008 Forecast, Base Case

<u>19 Year</u>	<u>20 Year</u>	<u>21 Year</u>	<u>22 Year</u>	<u>23 Year</u>	<u>24 Year</u>	<u>25 Year</u>	<u>26 Year</u>	<u>27 Year</u>	<u>28 Year</u>	<u>29 Year</u>	<u>30 Year</u>	<u>50 Year</u>	<u>Year</u>
4.93	5.00	5.03	5.07	5.10	5.14	5.18	5.21	5.25	5.28	5.32	5.35	5.35	2009
6.12	6.18	6.24	6.30	6.36	6.42	6.48	6.54	6.60	6.66	6.72	6.79	6.79	2010
6.41	6.46	6.51	6.55	6.60	6.65	6.70	6.74	6.79	6.84	6.89	6.93	6.93	2011
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2012
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2013
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2014
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2015
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2016
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2017
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2018
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2019
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2020
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2021
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2022
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2023
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2024
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2025
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2026
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2027
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2028
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2029
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2030
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2031
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2032
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2033
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2034
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2035
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2036
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2037
6.38	6.44	6.46	6.49	6.51	6.54	6.56	6.59	6.61	6.64	6.66	6.69	6.69	2038

Table 7
BPA FY 2009 THIRD-PARTY TAXABLE BORROWING RATE FORECAST 1/
 BPA Fiscal Years 2009 - 2038

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
2009	2.96	3.35	3.54	3.73	3.93	4.09	4.25	4.42	4.58	4.74	4.78	4.81	4.85	4.88	4.91	4.95	4.98	5.01
2010	4.55	5.03	5.16	5.29	5.42	5.54	5.66	5.78	5.90	6.02	6.05	6.07	6.10	6.13	6.15	6.18	6.20	6.23
2011	5.33	5.94	5.96	6.08	6.19	6.28	6.36	6.45	6.53	6.62	6.64	6.67	6.69	6.71	6.74	6.76	6.78	6.80
2012	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2013	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2014	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2015	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2016	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2017	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2018	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2019	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2020	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2021	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2022	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2023	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2024	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2025	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2026	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2027	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2028	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2029	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2030	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2031	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2032	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2033	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2034	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2035	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2036	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2037	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88
2038	5.43	5.94	6.06	6.18	6.30	6.38	6.46	6.54	6.62	6.69	6.72	6.74	6.76	6.79	6.81	6.83	6.85	6.88

1/ Global Insight CY 2008.Q3 long-term outlook. The U.S. Economy: 30-Year Focus, August 2008 Forecast, Base Case

<u>19 Year</u>	<u>20 Year</u>	<u>21 Year</u>	<u>22 Year</u>	<u>23 Year</u>	<u>24 Year</u>	<u>25 Year</u>	<u>26 Year</u>	<u>27 Year</u>	<u>28 Year</u>	<u>29 Year</u>	<u>30 Year</u>	<u>50 Year</u>	<u>Year</u>
5.05	5.08	5.11	5.15	5.18	5.21	5.25	5.28	5.31	5.35	5.38	5.42	5.42	2009
6.26	6.28	6.31	6.34	6.36	6.39	6.41	6.44	6.47	6.49	6.52	6.55	6.55	2010
6.83	6.85	6.87	6.90	6.92	6.94	6.97	6.99	7.01	7.04	7.06	7.08	7.08	2011
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2012
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2013
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2014
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2015
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2016
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2017
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2018
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2019
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2020
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2021
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2022
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2023
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2024
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2025
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2026
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2027
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2028
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2029
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2030
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2031
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2032
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2033
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2034
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2035
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2036
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2037
6.90	6.92	6.95	6.97	6.99	7.01	7.04	7.06	7.08	7.11	7.13	7.15	7.15	2038

Table 8
BPA FY 2009 THIRD-PARTY TAX-EXEMPT BORROWING RATE FORECAST 1/
 BPA Fiscal Years 2009 - 2038

Year	<u>MATURITY</u>																	
	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
2009	2.01	2.29	2.44	2.59	2.73	2.87	3.01	3.15	3.28	3.42	3.45	3.49	3.52	3.56	3.59	3.62	3.66	3.69
2010	3.04	3.42	3.54	3.67	3.79	3.91	4.04	4.17	4.29	4.42	4.45	4.49	4.52	4.56	4.59	4.63	4.66	4.70
2011	3.55	3.96	4.08	4.20	4.32	4.42	4.53	4.64	4.74	4.85	4.89	4.92	4.95	4.99	5.02	5.06	5.09	5.13
2012	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2013	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2014	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2015	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2016	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2017	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2018	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2019	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2020	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2021	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2022	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2023	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2024	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2025	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2026	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2027	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2028	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2029	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2030	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2031	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2032	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2033	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2034	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2035	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2036	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2037	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18
2038	3.62	4.03	4.15	4.27	4.39	4.49	4.60	4.70	4.80	4.91	4.94	4.97	5.01	5.04	5.08	5.11	5.15	5.18

1/ Global Insight CY 2008 Q3 long-term outlook. The U.S. Economy: 30-Year Focus, August 2008 Forecast, Base Case

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
3.73	3.76	3.79	3.83	3.86	3.90	3.93	3.96	4.00	4.03	4.07	4.10	4.10	2009
4.73	4.77	4.80	4.84	4.88	4.91	4.95	4.98	5.02	5.05	5.09	5.12	5.12	2010
5.16	5.20	5.23	5.26	5.30	5.33	5.37	5.40	5.44	5.47	5.50	5.54	5.54	2011
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2012
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2013
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2014
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2015
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2016
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2017
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2018
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2019
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2020
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2021
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2022
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2023
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2024
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2025
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2026
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2027
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2028
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2029
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2030
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2031
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2032
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2033
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2034
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2035
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2036
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2037
5.21	5.25	5.28	5.32	5.35	5.39	5.42	5.45	5.49	5.52	5.56	5.59	5.59	2038

Table 9
 PA FY 2009 FERC BORROWING RATE (Bank Prime) FORECAST 1/
 Calendar/Fiscal Years 2009 - 2038

YEAR	(A)	(B)
	FERC RATE Calendar Year	FERC RATE Fiscal Year
2009	5.43	5.40
2010	7.32	6.85
2011	7.75	7.64
2012	7.75	7.75
2013	7.75	7.75
2014	7.75	7.75
2015	7.75	7.75
2016	7.75	7.75
2017	7.75	7.75
2018	7.75	7.75
2019	7.75	7.75
2020	7.75	7.75
2021	7.75	7.75
2022	7.75	7.75
2023	7.75	7.75
2024	7.75	7.75
2025	7.75	7.75
2026	7.75	7.75
2027	7.75	7.75
2028	7.75	7.75
2029	7.75	7.75
2030	7.75	7.75
2031	7.75	7.75
2032	7.75	7.75
2033	7.75	7.75
2034	7.75	7.75
2035	7.75	7.75
2036	7.75	7.75
2037	7.75	7.75
2038	7.75	7.75

1/ BPA Forecast November 2008; Global Insight CY 2008.Q3 long-term outlook.
 The U.S. Economy: 30-Year Focus, August 2008 Forecast, Base Case

Table 10
BPA FY 2009 3-MONTH LIBOR RATE FORECAST 1/
 Calendar/Fiscal Years 2009 - 2038

<u>YEAR</u>	(A)	(B)
	<u>3-Mo LIBOR Calendar Year</u>	<u>3-Mo LIBOR Fiscal Year</u>
2009	3.19	3.15
2010	4.82	4.41
2011	5.20	5.11
2012	5.20	5.20
2013	5.20	5.20
2014	5.20	5.20
2015	5.20	5.20
2016	5.20	5.20
2017	5.20	5.20
2018	5.20	5.20
2019	5.20	5.20
2020	5.20	5.20
2021	5.20	5.20
2022	5.20	5.20
2023	5.20	5.20
2024	5.20	5.20
2025	5.20	5.20
2026	5.20	5.20
2027	5.20	5.20
2028	5.20	5.20
2029	5.20	5.20
2030	5.20	5.20
2031	5.20	5.20
2032	5.20	5.20
2033	5.20	5.20
2034	5.20	5.20
2035	5.20	5.20
2036	5.20	5.20
2037	5.20	5.20
2038	5.20	5.20

1/ BPA Forecast November 2008; Global Insight CY 2008.Q3 long-term outlook.
 The U.S. Economy: 30-Year Focus, August 2008 Forecast, Base Case

TABLE 11

**COMPARISON OF INFLATION FORECAST COMPONENTS
CALENDAR/FISCAL YEAR FORECASTS 2009 vs. 2008**

BPA Fiscal Years 2009 - 2038

	A	B	C	D	E	F	G
	FY 2009 1/ CALENDAR YEAR GDP PRICE DEFLATOR %	FY 2009 1/ FISCAL YEAR GDP PRICE DEFLATOR %	FY 2009 1/ FISCAL YEAR CUMULATIVE PRICE DEFLATOR (Base Year 2009)	FY 2008 3/ LAST YEAR'S FY PRICE DEFLATOR	FY 2008 3/ LAST YEAR'S FY CUMULATIVE PRICE DEFLATOR (Base Year 2009)	CHANGE IN THE FY PRICE DEFLATOR	CHANGE IN THE FY CUMULATIVE PRICE DEFLATOR
2009	2.30%	2.19%	1.011	2.05%	1.010	0.15%	0.07%
2010	2.15%	2.06%	1.032	2.01%	1.031	0.05%	0.12%
2011	2.03%	2.02%	1.053	2.05%	1.052	-0.03%	0.09%
2012	2.02%	2.09%	1.075	2.10%	1.074	-0.01%	0.09%
2013	2.12%	2.04%	1.097	2.03%	1.096	0.01%	0.10%
2014	2.01%	2.03%	1.119	1.96%	1.117	0.06%	0.17%
2015	2.03%	2.00%	1.141	1.93%	1.139	0.08%	0.26%
2016	2.00%	1.98%	1.164	1.90%	1.160	0.08%	0.35%
2017	1.97%	1.97%	1.187	1.90%	1.182	0.07%	0.44%
2018	1.99%	1.98%	1.210	1.90%	1.205	0.09%	0.55%
2019	2.01%	2.01%	1.235	1.87%	1.227	0.14%	0.73%
2020	2.12%	2.09%	1.260	1.91%	1.251	0.18%	0.97%
2021	2.02%	2.04%	1.286	1.94%	1.275	0.10%	1.11%
2022	1.92%	1.95%	1.311	1.92%	1.299	0.03%	1.17%
2023	1.91%	1.91%	1.336	1.90%	1.324	0.01%	1.21%
2024	1.87%	1.88%	1.361	1.91%	1.350	-0.02%	1.20%
2025	1.83%	1.84%	1.387	1.93%	1.376	-0.09%	1.10%
2026	1.82%	1.82%	1.412	1.94%	1.402	-0.11%	0.97%
2027	1.86%	1.85%	1.438	1.92%	1.429	-0.07%	0.89%
2028	1.85%	1.85%	1.465	1.88%	1.456	-0.03%	0.87%
2029	1.82%	1.83%	1.491	1.86%	1.483	-0.04%	0.83%
2030	1.81%	1.81%	1.518	1.86%	1.511	-0.05%	0.77%
2031	1.81%	1.81%	1.546	1.83%	1.538	-0.02%	0.75%
2032	1.75%	1.77%	1.573	1.81%	1.566	-0.04%	0.70%
2033	1.70%	1.71%	1.600	1.76%	1.594	-0.05%	0.64%
2034	1.69%	1.69%	1.627	1.74%	1.621	-0.05%	0.57%
2035	1.70%	1.68%	1.655	1.74%	1.650	-0.05%	0.50%
2036	1.68%	1.69%	1.683	1.75%	1.679	-0.06%	0.42%
2037	1.72%	1.71%	1.712	1.75%	1.708	-0.03%	0.37%
2038	1.73%	1.72%	1.741	1.74%			

1/ BPA Forecast November 2008; Global Insight CY 2008.Q3 long-term outlook.
The U.S. Economy: 30-Year Focus, August 2008 Forecast, Base Case

2/ BPA Forecast October 2008; Global Insight CY 2007.Q3 long-term outlook.
The U.S. Economy: 30-Year Focus, August 2007 Forecast, Base Case

3/ Fiscal Year Cumulative Price Deflator escalates to midyear dollars. The first year, 2009, is determined as follows: $1.011 = [(2.19/100)^5] + 1$. An example of subsequent year cumulative growth such as in 2010 is found as: $1.032 = [1 + (2.06/100)] * 1.011$

TABLE 12

**FY 2009 INFLATION FORECAST COMPARISONS 1/
GROSS DOMESTIC PRODUCT PRICE DEFLATOR INDEXES**

BPA Fiscal Years 2008 - 2038

YEAR	(A) FY 2009 2/ CUMULATIVE PRICE DEFLATOR INDEX (Base Year 2009)	(B) FY 2008 3/ CUMULATIVE PRICE DEFLATOR INDEX (Base Year 2009)	(C) (A - B) DIFFERENCE
2009	1.0110	1.010	0.07%
2010	1.0318	1.031	0.12%
2011	1.0526	1.052	0.09%
2012	1.0747	1.074	0.09%
2013	1.0965	1.096	0.10%
2014	1.1187	1.117	0.17%
2015	1.1412	1.139	0.26%
2016	1.1638	1.160	0.35%
2017	1.1868	1.182	0.44%
2018	1.2103	1.205	0.55%
2019	1.2346	1.227	0.73%
2020	1.2604	1.251	0.97%
2021	1.2862	1.275	1.11%
2022	1.3112	1.299	1.17%
2023	1.3363	1.324	1.21%
2024	1.3615	1.350	1.20%
2025	1.3865	1.376	1.10%
2026	1.4118	1.402	0.97%
2027	1.4380	1.429	0.89%
2028	1.4646	1.456	0.87%
2029	1.4914	1.483	0.83%
2030	1.5183	1.511	0.77%
2031	1.5458	1.538	0.75%
2032	1.5732	1.566	0.70%
2033	1.6001	1.594	0.64%
2034	1.6271	1.621	0.57%
2035	1.6547	1.650	0.50%
2036	1.6827	1.679	0.42%
2037	1.7115	1.708	0.37%

1/ Fiscal Year Cumulative Price Deflator escalates to midyear dollars. The first year, 2009, is determined as follows: $1.011 = [(2.19/100)^* 5] + 1$. An example of subsequent year cumulative growth such as in 2010 is found $1.032 = [1 + (2.06/100)]^* 1.011$

2/ Source: Global Insight, Third Quarter 2008 Long Term Economic Outlook, Base Case Forecast.

3/ Source: Global Insight, Third Quarter 2007 Long Term Economic Outlook, Base Case Forecast.

6. HISTORICAL AND PROJECTED NEW BONDS ISSUED TO TREASURY

6.1 Purpose

This chapter documents all the bonds that BPA has issued, and those it projects it will issue, to the U.S. Treasury to finance BPA capital investments.

6.2 Method

New long-term debt consists of bonds issued by BPA to Treasury reflecting projected outlays for BPA Transmission construction and Environmental programs during the cost evaluation period (FY 2009-2011). All bonds projected for issuance are entered into the projected portions of the repayment study.

6.3 Application of Methodology

New bonds projected to be issued for the cost evaluation period are based on Integrated Program Review capital program outlays.

**Table 6-1: Projected Federal Borrowing for FY 2009 - 2011
(\$000s)**

	A	B	C	D		
	Fiscal	Description	Interest	Term	Total	
	Year		Rate		Borrowing	
1	2009	Construction	5.350%	35	277,265	
2		Environment	4.720%	15	4,402	
3						
4	2010	Construction	6.790%	35	405,094	<u>1/</u>
5		Environment	5.870%	15	5,369	
6						
7	2011	Construction	6.930%	35	414,465	<u>2/</u>
8		Environment	6.220%	15	5,581	
9						
10						
11						
12	<u>1/</u>	Capital projection assumes \$15,000 of reserve financing				
13	<u>2/</u>	Capital projection assumes \$15,000 of reserve financing				

**Table 6-2: Association of Transmission Construction Investment Funded by Bonds 1977 - 2008 1/
(\$000s)**

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)
<u>Fiscal Year</u>	<u>Plant in Service</u> ^{2/}	<u>Amount Funded by Bonds</u> ^{3/}	<u>Amount of Bond Sales</u>	<u>Amount Outstanding</u>	<u>Interest Rate</u>	<u>Term</u>	<u>Year Due</u>	<u>Refinancing Date</u>	<u>Refinancing Amount</u>
1 1977	171,038	100,800							
2		50,000							
3		20,238							
4		171,038							
5									
6 1978	90,494	54,762	50,000	0	8.950	35	2013		
7		35,732							
8		90,494							
9									
10 1979	67,649	14,268	75,000	0	9.450	35	2014		
11		53,381	50,000	0	9.900	35	2014		
12		67,649							
13									
14 1980	48,043	48,043	115,000	0	13.000	35	2015		
15									
16 1981	253,151	13,576	175,000	0	16.600	35	2016		
17		175,000	50,000	0	14.400	35	2017		
18		50,000							
19		14,575							
20		253,151							
21									
22 1982	92,111	85,425	100,000	0	14.400	35	2017		
23		6,686	85,000	0	14.150	35	2017	7/31/1987	95,000 ^{4/9/}
24		92,111							
25									
26 1983	149,133	78,314	40,000	0	10.850	35	2018	2/29/1988	43,700 ^{5/12/}
27		40,000	30,000	0	11.700	35	2018		
28		30,000	45,000	0	12.250	35	2018		
29		819							
30		149,133							
31									
32 1984	235,214	44,181	30,000	0	12.300	35	2019		
33		30,000	60,000	0	13.050	35	2019		
34		60,000							
35		100,000							
36		1,033							
37		235,214							
38									
39 1985	115,901	98,967	100,000	0	11.250	45	2030		
40		16,934							
41		115,901							
42									
43 1986	326,694	283,066	100,000	0	8.150	10	1996		
44		43,628	300,000	112,300	8.950	45	2031	8/31/1992	107,800 ^{7/}
45								8/31/1992	107,700 ^{8/27/}
46								5/31/1994	43,000 ^{14/ 19/}
47		326,694							
48									
49 1987	167,781	56,372	100,000	0	9.300	45	2032	4/30/1992	80,000 ^{6/ 18/}
50									28,300 ^{6/21/}
51		100,000	100,000	0	8.350	5	1992		
52		11,409	50,000	0	9.550	45	2032		
53		167,781							
54									
55 1988	96,878	38,591	150,000	0	9.500	45	2033	10/31/1993	108,400 ^{13/36}
56								5/31/1994	54,100 ^{14/ 19}
57		58,287	40,000	0	9.900	45	2033		
58		96,878							
59									
60 1989	211,811	91,713	75,000	0	8.950	10	1999	5/31/1999	26,200 ^{30/ 41}
61		40,000							
62		75,000							
63		5,098							
64		211,811							
65									
66 1990	88,894	44,902	50,000	0	9.250	40	2030	1/31/2000	53,500 ^{31/ 43/}
67		43,992							

Table 6-2: Association of Transmission Construction Investment Funded by Bonds 1977 - 2008 1/
 (\$000s)

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)
<u>Fiscal Year</u>	<u>Plant in Service</u> ^{2/}	<u>Amount Funded by Bonds</u>	<u>Amount of Bond Sales</u>	<u>Amount Outstanding</u>	<u>Interest Rate</u>	<u>Term</u>	<u>Year Due</u>	<u>Refinancing Date</u>	<u>Refinancing Amount</u>
68		88,894							
69									
70	1991	139,891	16,008	60,000	0	7.550	4	1995	
71			123,883						
72			139,891						
73									
74	1992	214,883	26,117	150,000	0	8.800	40	8/31/1997	111,300 ^{22/ 48/}
75			50,000	50,000	0	7.000	5	1997	
76			138,766	150,000	72,700	8.130	40	4/30/1998	75,300 ^{23/ 42/ 51/}
77			214,883					5/31/1998	72,700 ^{24/}
78								8/31/2000	15,300 ^{33/ 37/}
79									
80	1993	209,541	11,234	50,000	0	6.050	5	1998	
81			50,000	99,962 ^{11/}	0	8.350	40	2033	
82			99,962	130,000	0	7.800	40	2033	5/31/1998
83			48,345						40,000 ^{25/}
84				100,000	0	7.500	40	2033	8/31/1998
85				110,000	0	6.950	40	2033	106,500 ^{26/}
86			209,541						
87									
88	1994	239,060	81,655	50,000	0	6.850	40	2034	
89			100,000	50,000	0	7.050	40	2034	
90			57,405	50,000	0	8.200	40	2034	
91				55,000	0	7.650	5	1999	
92			239,060						
93									
94	1995	290,154	52,595	55,000	0	8.350	6	2001	
95			50,000	49,933 ^{15/}	0	7.700	30	2025	
96			50,000	65,000	0	7.700	30	2025	
97			50,000						
98			55,000						
99			32,559						
100			290,154						
101									
102	1996	146,886	49,933	15,000 ^{16/}					
103			65,000	54,378 ^{17/}	0	5.900	7	2003	
104			15,000	70,000	0	7.050	10	2006	
105			16,953						
106			146,886						
107									
108	1997	178,551	37,425	22,600 ^{20/}	0	6.800	7	2004	
109			70,000	80,000	0	6.900	8	2005	
110			22,600						
111			48,526						
112			178,551						
113									
114	1998	149,940	31,474	50,000	50,000	6.650	30	2028	
115			50,000	36,819 ^{28/}	0	5.750	10	2008	
116			36,819	40,000	40,000	6.200	13	2011	
117			31,647						
118			149,940						
119									
120	1999	126,238	8,353	59,050 ^{29/}	59,050	5.900	15	2014	
121			59,050	40,000	0	6.200	3	2002	
122			40,000						
123			18,835						
124			126,238						
125									
126	2000	104,957	21,165	40,000	0	6.400	3	2002	
127			39,052	39,052 ^{32/}	0	7.000	4	2004	
128			44,740	40,000	0	6.750	6	2006	
129			104,957						
130									
131	2001	126,298	4,740	20,000	0	5.650	4	2005	
132			15,260	59,932 ^{34/}	59,933	6.050	9	2010	
133			44,672	25,000	25,000	5.950	10	2011	
134			25,000	50,000	50,000	5.750	10	2011	

Table 6-2: Association of Transmission Construction Investment Funded by Bonds 1977 - 2008 1/
 (\$000s)

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)
Fiscal Year	Plant in Service	Amount Funded by Bonds ^{2/}	Amount of Bond Sales	Amount Outstanding	Interest Rate	Term	Year Due	Refinancing Date	Refinancing Amount
135		36,626							
136		126,298							
137									
138	2002	273,625	13,374	108,010 ^{35/}	0	4.600	3	2005	
139			108,010	60,000	0	3.750	3	2005	
140			60,000	100,000	0	3.050	4	2006	
141			92,241						
142		273,625							
143									
144	2003	266,971	7,759	4,938 ^{36/}	0	3.000	3	2005	
145			4,938	40,000	0	2.800	3	2005	
146			40,000	40,000	0	2.900	4	2007	
147			40,000	40,000	40,000	5.550	30	2033	
148			40,000	75,000	0	2.300	3	2006	
149			75,000	25,000	0	2.950	4	2007	
150			25,000	20,000	0	2.500	3	2006	9/30/2006 20,000 ^{45/}
151			34,274						
152		266,971							
153									
154	2004	270,077	726	15,000 ^{39/}					
155			46,643	46,643 ^{40/}	0	2.500	3	2007	
156			65,000	65,000	0	2.950	4	2008	
157			65,000	65,000	0	2.950	3	2007	
158			50,000	50,000	0	3.450	3	2007	7/31/2007 50,000 ^{47/}
159			25,000	25,000	0	3.800	4	2008	
160			17,708	30,000	0	3.100	3	2007	
161				40,000	40,000	5.600	30	2034	
162		270,077							
163									
164	2005	295,585	12,292	27,010 ^{42/}	27,010	3.750	4	2009	
165			40,000	40,000	40,000	5.400	30	2035	
166			27,010	15,000 ^{32/}					
167			40,000	40,000	40,000	5.500	30	2035	
168			15,000	40,000	40,000	4.000	4	2009	
169			40,000	45,000	45,000	5.250	30	2035	
170			40,000						
171			45,000						
172			36,283						
173		295,585							
174									
175	2006	152,503	53,717	20,000	20,000	5.050	3	2009	
176			5,319	70,000	70,000	5.350	3	2009	
177			15,000	5,319 ^{44/}	5,319	4.950	4	2010	
178				15,000 ^{46/}					
179			78,467						
180		152,503							
181									
182	2007	190,048	21,533	25,000	25,000	5.100	3	2010	
183			13,467	40,000	40,000	4.850	5	2012	
184			15,000	35,000	35,000	6.400	30	2037	
185			161,581 ^{54/}	15,000 ^{49/}					
186		190,048							
187									
188	2008	159,045	159,045 ^{55/}	15,000 ^{50/}					
189				30,000 ^{52/}	30,000	3.200	4	2012	
190				40,000	40,000	3.358	3	2011	
191				30,000	30,000	3.913	4	2012	
192				25,000 ^{53/}	25,000	3.444	4	2012	
193									
194		159,045							

195 1/ These investments have an estimated average service life of 40 years and a maximum repayment period of 40 years
 196 2/ BPA's Summary Financial data, Analysis of Funds Returned to the U.S Treasury and Cash Amortization Table
 197 change in Total column from previous year
 198 3/ Funded by appropriations (Reference WP-89-E-BPA-01A1, Documentation for the Revenue Requirement Study -
 199 Volume 1, 1989 Rate Proposal, page 195)
 200 4/ Refinanced on 7/31/87 with \$ 95,000 issued at 9.55%, 30 year term, due 2017

**Table 6-2: Association of Transmission Construction Investment Funded by Bonds 1977 - 2008 1/
(\$000s)**

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	
	<u>Fiscal Year</u>	<u>Plant in Service</u>	<u>Amount Funded by Bonds</u>	<u>Amount of Bond Sales</u>	<u>Amount Outstanding</u>	<u>Interest Rate</u>	<u>Term</u>	<u>Year Due</u>	<u>Refinancing Date</u>	<u>Amount</u>
201	5/	Refinanced on 2/29/88 with \$43,700 issued at 9.50%, 30 year term, due 2018								
202	6/	Refinanced on 1/31/00 with \$53,500 issued at 7.15%, 5 year term, due 2005								
203	7/	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,								
204		due 1997								
205	8/	Refinanced on 8/31/92 with \$107,800 issued at 6.60%, 8 year term, due 2000								
206	9/	Refinanced on 8/31/92 with \$107,700 issued at 7.25%, 15 year term, due 2007								
207	10/	Amortized on 9/30/92								
208	11/	\$100,000 bond, \$38 functionalized to Generation 1993								
209	12/	Amortized on 9/30/93								
210	13/	Partial refinance on 10/31/93 with \$108,400 issued at 6.85%, 40 year term, due 2033.								
211	14/	Refinanced on 5/31/94 with \$97,100 issued at 7.1%, 4 year term, due 1998 (this new bond also partially refinanced \$50,000 of 2/29/88, \$150,000 bond)								
212	15/	\$50,000 bond, \$67 functionalized to Generation 1995								
213	16/	As proposed in Revenue Requirements for 1996 in the 1995 Final Rate Proposal \$15 million of revenue financing								
214	17/	\$60,000 bond, \$5,622 functionalized to Generation 1996								
215	18/	Amortized on 4/30/95								
216	19/	Amortized on 9/30/95								
217	20/	\$30,000 bond, \$7,400 functionalized to Generation 1997								
218	21/	Amortized on 4/30/97								
219	22/	Refinanced remaining \$103,300 on 8/31/97 with \$111,300 at 6.65% for 10 year term, due 2007								
220	23/	Partial refinance of \$70,300 on 4/30/1998 with \$75,300 issued at 6.0%, 10 year term, due 2009								
221	24/	Paid \$11,800, and refinanced \$67,900 on 5/31/98 with \$72,700 at 6.00% for 11 year term, due 2009								
222	25/	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								
223		issued at 6.70%, 34 year term, due 2032								
224	26/	Refinanced on 8/31/98 with \$106,500 at 5.85% for 30 year term, due 2028								
225	27/	Refinanced again on 8/31/98 with \$112,300 at 5.85%, 30 year term, due 2028								
226	28/	\$40,000 bond, \$3,181 functionalized to Generation 1998								
227	29/	\$60,000 bond, \$950 functionalized to Generation 1999								
228	30/	Refinanced on 5/31/99 with \$26,200 issued at 5.95%, 5 year term, due 2004								
229	31/	Refinanced on 1/31/00 with \$53,500 issued at 7.15%, 5 year term, due 2005								
230	32/	\$50,000 bond, \$10,948 functionalized to Generation 2000								
231	33/	Amortized \$92,500 on 8/31/00 and refinanced on 8/31/00 with \$15,300 at 6.85% for 3 year term, due 2003								
232	34/	\$60,000 bond, \$68 functionalized to Generation 2001								
233	35/	\$110,000 bond, \$1,990 functionalized to Generation 2002								
234	36/	\$50,000 bond, \$45,062 functionalized to Generation 2003								
235	37/	Amortized on 8/31/03								
236	38/	Amortized on 9/30/03								
237	39/	As proposed in Revenue Requirements for 2004 in the 2004 Final Rate Proposal, \$15 million of revenue financing								
238	40/	\$60,000 bond, \$13,357 functionalized to Generation 2004								
239	41/	Amortized on 5/31/04								
240	42/	\$35,000 bond, \$,7990 functionalized to Generation 2005								
241	43/	Amortized on 1/31/05								
242	44/	\$15,000 bond, \$9,681 functionalized to Generation 2006								
243	45/	Rollover on 9/30/06 with \$20,000 issued at 4.95%, 4 year term, due 2010								
244	46/	As proposed in Revenue Requirements for 2006 in the 2006 Final Rate Proposal, \$15 million of revenue financing								
245	47/	Rollover on 7/31/07 with \$50.0 at 5.20%, 3 yr due 2010.								
246	48/	Amortized on 8/31/07								
247	49/	As proposed in Revenue Requirements for 2007 in the 2006 Final Rate Proposal, \$15 million of revenue financing								
248	50/	As proposed in Revenue Requirements for 2008 in the 2008 Final Rate Proposal, \$15 million of revenue financing								
249	51/	Amortized 4/30/08								
250	52/	\$40,000 bond, \$10,000 functionalized to Generation 2008								
251	53/	\$35,000 bond, \$10,000 functionalized to Generation 2008								
252	54/	A portion of 2007 plant is not completely borrowed for								
253	55/	2008 plant not yet borrowed for								

Table 6-3: Association of Environment Investment Funded by Bonds 1995 - 2008
 (\$000s)

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)
<u>Fiscal Year</u>	<u>Plant in Service</u> ^{1/}	<u>Amount Funded by Bonds</u>	<u>Amount of Bond Sales</u>	<u>Amount Outstanding</u>	<u>Interest Rate</u>	<u>Term</u>	<u>Year Due</u>	<u>Date</u>	<u>Refinancing Amount</u>
1 1995	16,014	16,014 ^{2/}							
2									
3 1997	40,000	40,000	40,000	0	6.95	15	2011		
4									
5 1999	10,517	10,517							
6									
7 2000	9,394	9,394							
8									
9 2001	12,091	10,089	30,000	0	6.05	9	2010		
10		2,002							
11		12,091							
12									
13 2002	8,651	8,651	30,000	0	3.05	4	2006		
14									
15 2003	7,953	7,953							
16									
17 2004	4,528	4,528							
18									
19 2005	13,900	6,866							
20		7,034							
21		13,900							
22									
23 2006	5,286	5,286	20,000	20,000	5.05	3	2009		
24									
25 2007	5,882	5,882							
26									
27 2008	5,500								
28									
29									
30									

31 1/ Data is from Year End Capital Spending Sheet
 32 2/ Funded by construction bond

7. NON-FEDERAL PAYMENT OBLIGATIONS

7.1 Introduction

There are two forms of non-Federal payment obligations associated with transmission assets in this rate filing. One is a lease-purchase arrangement for capitalized asset purchases. The other is the functional reassignment to transmission of debt service payment obligations associated with non-Federal, Energy Northwest (EN) bonds that are typically recovered in power rates.

7.2 Lease-Purchase Agreements

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. Since the completion of that discrete project, BPA has entered into additional lease-purchase agreements with NIFC for other capital projects. The resulting payment streams are treated as debt service in the repayment study. Table 7-1 displays the consolidated payment stream.

Table 7-1 Lease-Purchase Payment Stream
(\$000s)

		A	B	C	D	F
Fiscal Year		Principal	Interest	Expenses	CIF	Total
1	2009	0	16,858	469	-5,933	11,395
2	2010	0	16,293	477	-1,639	15,131
3	2011	0	16,293	485	-546	16,232
4	2012	0	16,293	493	-478	16,308
5	2013	0	16,293	501	-205	16,590
6	2014	0	17,430	408	0	17,837
7	2015	0	19,513	103	0	19,617
8	2016	0	19,779	57	0	19,836
9	2017	0	19,779	59	0	19,837
10	2018	0	19,779	61	0	19,839
11	2019	0	19,779	63	0	19,841
12	2020	0	19,779	65	0	19,843
13	2021	0	19,779	67	0	19,845
14	2022	0	19,779	69	0	19,848
15	2023	0	19,779	71	0	19,850
16	2024	0	19,779	74	0	19,852
17	2025	0	19,779	76	0	19,855
18	2026	0	19,779	79	0	19,857
19	2027	0	19,779	81	0	19,860
20	2028	0	19,779	84	0	19,863
21	2029	0	19,779	87	0	19,866
22	2030	0	19,779	90	0	19,869
23	2031	0	19,779	93	0	19,872
24	2032	0	19,779	96	0	19,875
25	2033	29,896	18,974	100	0	48,971
26	2034	89,689	15,758	77	0	105,524
27	2035	0	13,346	0	0	13,346
28	2036	15,255	13,346	0	0	28,601
29	2037	134,997	9,589	0	0	144,586
30	2038	<u>49,063</u>	<u>2,379</u>	<u>0</u>	<u>0</u>	<u>51,442</u>
32	Total	318,900	528,602	4,385	-8,800	843,087

Debt Service Reassignment

Debt Service Reassignment (DSR) is an accounting and ratemaking mechanism created to make full use of the Debt Optimization program (DO). When the cash flows from DO are applied to Transmission obligations, DSR ensures that Transmission revenues repay the full cost of the associated EN debt.

Under DO, the proceeds from EN refinancing bonds are used to pay principal on the currently maturing EN bonds in a given fiscal year. Since BPA Power rates were set to recover the originally-expected EN principal payments on the maturing bonds, and the associated debt service requirement was expected to go down in the EN budget (when the principal was paid from the proceeds of the newly-issued refinancing bonds), funds in the BPA Fund then became available for other purposes. The amount made available is equal to the principal of the amortized EN bonds. BPA uses 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.

DSR occurs when BPA uses the funds made available from DO to early-amortize Federal Transmission obligations. The stream of annual all-in costs from the DSR transaction is assigned to Transmission and recovered in Transmission rates. The all-in costs include debt service on tax-exempt and taxable bonds and other costs associated with the DSR transaction, which are described later. Conversely, the costs attached to these EN refinancing bonds are no longer assigned for recovery from Power revenues.

The next section is an explanation of how the debt service stream associated with DSR is calculated. The allocation of DO cash flows to Transmission and Generation can be different each fiscal year. For illustration purposes, the following explanation of the process for determining the Transmission payment obligation uses data from the 2008 EN bond issuance.

7.3 Calculation of Debt Service Reassignment

Prior to calculating the Transmission DSR obligation, two sets of data are required. First, the final pricing data from the EN refunding forms the basis of all calculations. Second, the amount of debt service assigned to Transmission for repayment is determined based on the allocation of the Federal principal payment between Transmission and Generation.

Step 1: Determine the Total Base Debt Service. This is the sum of the debt service on the newly-issued EN bonds assigned to Transmission plus the transaction costs associated with the issuance of the bonds. *See Table 7.2.*

Table 7-2: Base Debt Service for Transmission

EN	Fiscal Year	A New EN Bonds		C Transaction Costs		E	F Total		G Total
		Principal	Interest	Principal	Interest		Principal	Interest	
1	2009	-	8,509,511	4,980,000	223,104	4,980,000	8,732,615	13,712,615	
2	2010	-	6,838,000	-	-	-	6,838,000	6,838,000	
3	2011	-	6,838,000	-	-	-	6,838,000	6,838,000	
4	2012	-	6,838,000	-	-	-	6,838,000	6,838,000	
5	2013	20,840,000	6,838,000	-	-	20,840,000	6,838,000	27,678,000	
6	2014	33,545,000	5,796,000	-	-	33,545,000	5,796,000	39,341,000	
7	2015	32,600,000	4,118,750	-	-	32,600,000	4,118,750	36,718,750	
8	2016	16,035,000	2,488,750	-	-	16,035,000	2,488,750	18,523,750	
9	2017	16,070,000	1,646,913	-	-	16,070,000	1,646,913	17,716,913	
10	2018	16,065,000	843,413	-	-	16,065,000	843,413	16,908,413	
	Total	135,155,000	50,755,336	4,980,000	223,104	140,135,000	50,978,440	191,113,440	

Step 2: Convert the Base Debt Service to BPA Fiscal Years. The debt service on the newly-issued EN bonds is based on the EN July-June fiscal year. The debt service stream is converted into BPA’s October-September fiscal year. See Table 7.3.

Table 7-3: Convert to BPA Fiscal Year

EN	Fiscal Year	BPA FY Conversion		
		A Principal	B Interest	C Total
1	2009	2,794,898	6,515,914	9,310,812
2	2010	-	5,137,070	5,137,070
3	2011	-	5,137,070	5,137,070
4	2012	5,210,000	5,137,070	10,347,070
5	2013	19,648,997	4,876,570	24,525,566
6	2014	16,069,592	3,894,120	19,963,712
7	2015	16,046,556	3,090,640	19,137,196
8	2016	16,043,750	2,278,291	18,322,041
9	2017	16,068,750	1,446,038	17,514,788
10	2018	12,048,750	632,559	12,681,309
	Total	103,931,293	38,145,341	142,076,634

Step 3: Calculate the “Carrying Charge” and “Taxable Note Charge.” The “carrying charge” and “taxable note charge” are necessary because the debt service expense on the newly-issued EN bonds begins on July 1, but the Transmission Federal principal payment is not made until September 30. It is on October 1, the day after the Federal payment has been made, that all debt service and other costs associated with DSR are assigned to Transmission. The carrying charge is the interest accrued and debt service payments made from July 1 to October 1. The interest accrued portion of the carrying charge is calculated by multiplying the sum of the Federal Transmission principal retired and the EN transaction costs by one-twelfth of BPA’s weighted average cost of capital, then compounding this monthly amount for three months. The carrying charge is treated like a bond with interest at BPA’s weighted average cost of capital and spread on a pro-rata basis through the final maturities of the newly-issued EN bonds. The taxable note charge represents the interest costs associated with a loan taken out by EN in order to facilitate the refinancing of EN debt on a tax-exempt basis. The taxable note charge is spread using the

same methodology as the carrying charge. The carrying charge and taxable note charge are reflected in Table 7.4

Step 4: Calculate the Total Payment Obligation for Transmission. The total payment obligation for Transmission is the sum of the base debt service converted from an EN FY to a BPA FY in Table 7.3, the carrying charge, and the taxable note charge. *See* Table 7.4

Table 7-4: Total Payment Obligation

	EN Fiscal Year	A Carrying Charge		C Taxable Note Charge		E Total Payment Obligation		G Total
		Principal	Interest	Principal	Interest	Principal	Interest	
1	2009	42,218	86,032	15,979	32,561	2,853,095	6,634,508	9,487,603
2	2010	-	83,719	-	31,686	-	5,252,474	5,252,474
3	2011	-	83,719	-	31,686	-	5,252,474	5,252,474
4	2012	78,700	83,719	29,786	31,686	5,318,486	5,252,474	10,570,960
5	2013	296,808	79,406	112,335	30,053	20,058,139	4,986,029	25,044,168
6	2014	242,739	63,141	91,871	23,897	16,404,202	3,981,158	20,385,360
7	2015	242,391	49,839	91,739	18,863	16,380,687	3,159,342	19,540,029
8	2016	242,349	36,556	91,723	13,836	16,377,822	2,328,682	18,706,504
9	2017	242,726	23,275	91,866	8,809	16,403,343	1,478,122	17,881,464
10	2018	182,002	9,974	68,884	3,775	12,299,636	646,308	12,945,944
	Total	1,569,934	599,379	594,183	226,851	106,095,410	38,971,572	145,066,981

Step 5: Reshape the Debt Service. The total principal payment obligation is reshaped to equal the total Federal Transmission principal retired in advance due to DSR. The EN principal maturing can differ from the principal on the newly-issued EN bonds because municipal bonds are often sold at a premium or discount, based on the market conditions at the time of the sale. With premium bonds, a lower aggregate par amount is issued to pay off the maturing bonds. The opposite is true with discount bonds. BPA made a policy decision that requires the DSR-related Transmission principal obligation to equal the amount of Federal Transmission principal repaid due to DSR.

The calculation of the EN bonds increases or decreases the total principal payments with corresponding changes to interest. The principal is proportionately recalculated using the ratio of annual principal payments to the total, displayed previously in Table 7.4. The EN principal maturities that were issued at a premium or a discount are adjusted on a pro-rata basis to equal the total amount of Federal Transmission principal repaid. The Excel solver function is used to calculate the new interest stream for the adjusted principal. The total debt service does not change. *See* Table 7.5.

Table 7-5: Reshape Debt Service

	EN Fiscal Year	A	B	C
		Principal	Interest	Total
1	2009	2,958,096	5,033,365	7,991,461
2	2010	-	4,898,009	4,898,009
3	2011	-	4,898,009	4,898,009
4	2012	5,514,220	4,898,009	10,412,229
5	2013	20,796,332	4,645,690	25,442,021
6	2014	17,007,920	3,694,094	20,702,014
7	2015	16,983,539	2,915,848	19,899,387
8	2016	16,980,569	2,138,718	19,119,287
9	2017	17,007,029	1,361,723	18,368,752
10	2018	12,752,295	583,518	13,335,813
	Total	110,000,000	35,066,981	145,066,981

Transmission’s total DSR payment obligation and the related relief of Generation’s payment obligations are shown in Table 7.6. Transmission’s total principal obligation can be higher or lower than the total principal relief for Generation if premium or discount bonds are issued.

Table 7-6: Relief of Generation & Transmission DSR Obligation

	BPA FY	Relief of Generation Obligation			Transmission DSR Payment Obligation		
		Principal	Interest	Total	Principal	Interest	Total
1	2004	-	16,418,815	16,418,815	-	15,227,105	15,227,105
2	2005	-	27,558,861	27,558,861	-	25,380,111	25,380,111
3	2006	-	35,834,302	35,834,302	-	32,802,639	32,802,639
4	2007	674,279	45,866,305	46,540,584	715,562	42,574,359	43,289,921
5	2008	4,270,748	57,123,915	61,394,663	4,510,058	51,137,080	55,647,138
6	2009	9,949,905	61,873,003	71,822,908	10,407,168	55,971,071	66,378,239
7	2010	11,769	60,199,076	60,210,845	11,965	55,475,855	55,487,820
8	2011	147,244	60,198,462	60,345,706	153,700	55,475,283	55,628,982
9	2012	39,444,233	60,190,944	99,635,177	41,117,683	55,468,551	96,586,233
10	2013	156,712,484	57,491,021	214,203,505	163,609,042	53,562,744	217,171,786
11	2014	159,859,467	47,690,520	207,549,987	167,654,443	46,023,584	213,678,027
12	2015	170,393,309	40,609,923	211,003,232	178,384,587	38,454,450	216,839,037
13	2016	168,689,831	32,806,956	201,496,787	176,132,814	30,421,460	206,554,273
14	2017	185,520,995	24,070,421	209,591,417	193,454,567	22,452,748	215,907,315
15	2018	177,107,211	14,461,630	191,568,841	183,730,525	13,639,266	197,369,792
16	2019	4,757,409	5,248,861	10,006,269	4,836,620	5,112,809	9,949,429
17	2020	19,267,636	5,011,368	24,279,004	19,588,444	4,881,472	24,469,916
18	2021	20,230,102	4,049,516	24,279,619	20,566,936	3,944,552	24,511,488
19	2022	21,238,338	3,039,618	24,277,956	21,591,959	2,960,830	24,552,789
20	2023	22,302,805	1,979,388	24,282,193	22,674,149	1,928,082	24,602,231
21	2024	17,347,934	866,019	18,213,953	17,636,779	843,571	18,480,350
	Total	1,177,925,700	662,588,923	1,840,514,623	1,226,777,000	613,737,622	1,840,514,622

8. REPAYMENT PERIOD REPLACEMENTS

8.1 Introduction

Consistent with the requirements of RA 6120.2, each repayment study includes funding for replacements to the transmission system during the repayment period. The purpose of these investments is to maintain the existing revenue-generating capability of the system. This schedule is expressed in mid-year dollars for the study year and is assigned the interest rates of the projected study year long-term borrowing.

8.2 Transmission Replacements

The Iowa Curve methodology was used to calculate replacements for the transmission system. The Iowa Curves are a set of curves with different shapes corresponding to how much of an 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, April 1967. The specific curves are assigned to FERC Accounts in BPA's depreciation study.

BPA's total plant, by FERC account and in-service date, was analyzed and the various FERC accounts were assigned Iowa Curves as determined by the depreciation study. 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 was created for use in calculating repayment period transmission replacements. For each of the Iowa Curves, Table 22 calls 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 was 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. The trends for individual FERC accounts were used when available. The trends for total transmission plant were used for those accounts for which no specific trend was included.

Surviving transmission plant investment by FERC account and in-service year was obtained from BPA's plant investment records. The plant investment of each year and account was divided by the corresponding Handy-Whitman number to obtain plant in quasi-physical units. The quasi-physical plant was 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 were 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 were accumulated by future year and FERC account.

Gross plant investment data for the cost evaluation period were 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 investment from plant balances. Some historical plant would be retired during the cost evaluation period and be replaced with plant funded from the Transmission System Replacements capital program. If future replacements were calculated for both, a double counting would occur. Therefore the projections for a cost evaluation period year were reduced by the amount calculated for replacements for the same year. Future replacements were then calculated for only the remaining net initial investment of that year.

The replacement costs of each future year and FERC account were then accumulated for all FERC accounts and inflated from the dollars of the most recent Handy-Whitman year to the dollars of the rate test period year. *See* Tables 8-1 and 8-2.

8.3 AC Intertie Replacements

Repayment period replacements for the AC Intertie facilities were calculated separately so that the contributions made toward those replacements by Non-Federal Capacity Owners could be properly credited in the repayment studies. For historical plant, the plant investment in each of the lines and substations composing the AC Intertie System 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.

The cost-evaluation period data for the AC Intertie was then processed by the replacement methodology 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 from capacity owners. These fractional parts, together with the amounts for the cost evaluation period, are included in the repayment studies as negative expenses. *See* Table 8-3 and 8-4.

Table 8-1: Future Replacements for FY 2010
(\$000s)

	FY	A Amount	B Rate	C Due
1	2011	145,191	6.78%	2046
2	2012	148,963	6.78%	2047
3	2013	152,734	6.78%	2048
4	2014	156,566	6.78%	2049
5	2015	160,313	6.78%	2050
6	2016	164,045	6.78%	2051
7	2017	167,759	6.78%	2052
8	2018	171,303	6.78%	2053
9	2019	174,891	6.78%	2054
10	2020	178,490	6.78%	2055
11	2021	181,955	6.78%	2056
12	2022	185,323	6.78%	2057
13	2023	188,717	6.78%	2058
14	2024	192,018	6.78%	2059
15	2025	195,061	6.78%	2060
16	2026	197,787	6.78%	2061
17	2027	200,150	6.78%	2062
18	2028	202,131	6.78%	2063
19	2029	203,568	6.78%	2064
20	2030	204,618	6.78%	2065
21	2031	205,213	6.78%	2066
22	2032	205,493	6.78%	2067
23	2033	205,504	6.78%	2068
24	2034	205,027	6.78%	2069
25	2035	204,432	6.78%	2070
26	2036	203,810	6.78%	2071
27	2037	203,009	6.78%	2072
28	2038	202,139	6.78%	2073
29	2039	201,332	6.78%	2074
30	2040	200,643	6.78%	2075
31	2041	200,138	6.78%	2076
32	2042	199,826	6.78%	2077
33	2043	199,785	6.78%	2078
34	2044	200,141	6.78%	2079
35	2045	200,818	6.78%	2080

Table 8-2: Future Replacements for FY 2011
(\$000s)

	FY	A Amount	B Rate	C Due
1	2012	152,244	6.84%	2047
2	2013	156,038	6.84%	2048
3	2014	159,853	6.84%	2049
4	2015	163,547	6.84%	2050
5	2016	167,165	6.84%	2051
6	2017	170,739	6.84%	2052
7	2018	174,139	6.84%	2053
8	2019	177,611	6.84%	2054
9	2020	181,138	6.84%	2055
10	2021	184,559	6.84%	2056
11	2022	187,871	6.84%	2057
12	2023	191,173	6.84%	2058
13	2024	194,392	6.84%	2059
14	2025	197,370	6.84%	2060
15	2026	200,060	6.84%	2061
16	2027	202,425	6.84%	2062
17	2028	204,416	6.84%	2063
18	2029	205,837	6.84%	2064
19	2030	206,825	6.84%	2065
20	2031	207,329	6.84%	2066
21	2032	207,481	6.84%	2067
22	2033	207,284	6.84%	2068
23	2034	206,590	6.84%	2069
24	2035	205,764	6.84%	2070
25	2036	204,878	6.84%	2071
26	2037	203,804	6.84%	2072
27	2038	202,682	6.84%	2073
28	2039	201,642	6.84%	2074
29	2040	200,717	6.84%	2075
30	2041	199,999	6.84%	2076
31	2042	199,488	6.84%	2077
32	2043	199,309	6.84%	2078
33	2044	199,529	6.84%	2079
34	2045	200,066	6.84%	2080
35	2046	201,060	6.84%	2081

Table 8-3: 2010 AC Credits
(\$000s)

		A
1	2011	(1,514)
2	2012	(1,578)
3	2013	(1,644)
4	2014	(1,713)
5	2015	(1,783)
6	2016	(1,850)
7	2017	(1,921)
8	2018	(1,995)
9	2019	(2,074)
10	2020	(2,151)
11	2021	(2,233)
12	2022	(2,318)
13	2023	(2,396)
14	2024	(2,478)
15	2025	(2,556)
16	2026	(2,628)
17	2027	(2,691)
18	2028	(2,746)
19	2029	(2,788)
20	2030	(2,823)
21	2031	(2,840)
22	2032	(2,834)
23	2033	(2,822)
24	2034	(2,787)
25	2035	(2,739)
26	2036	(2,683)
27	2037	(2,617)
28	2038	(2,540)
29	2039	(2,466)
30	2040	(2,397)
31	2041	(2,334)
32	2042	(2,275)
33	2043	(2,221)
34	2044	(2,178)
35	2045	(2,144)

Table 8-4: 2011 AC Credits
(\$000s)

		A
1	2012	(1,616)
2	2013	(1,682)
3	2014	(1,752)
4	2015	(1,822)
5	2016	(1,891)
6	2017	(1,962)
7	2018	(2,038)
8	2019	(2,117)
9	2020	(2,196)
10	2021	(2,279)
11	2022	(2,365)
12	2023	(2,444)
13	2024	(2,527)
14	2025	(2,606)
15	2026	(2,678)
16	2027	(2,742)
17	2028	(2,797)
18	2029	(2,839)
19	2030	(2,873)
20	2031	(2,889)
21	2032	(2,882)
22	2033	(2,868)
23	2034	(2,830)
24	2035	(2,779)
25	2036	(2,719)
26	2037	(2,650)
27	2038	(2,568)
28	2039	(2,490)
29	2040	(2,418)
30	2041	(2,350)
31	2042	(2,286)
32	2043	(2,229)
33	2044	(2,184)
34	2045	(2,147)
35	2046	(2,121)

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 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 available for risk attributed to Transmission: Starting reserves include cash in the BPA Fund and the deferred borrowing balance attributed to the transmission function, excluding encumbered reserves that are generally deposits from other entities. Reserves available for risk attributed to Transmission were \$419 million at the beginning of FY2009.
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 set 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 using a two-year rate period TS limits the amount of risk that must be covered by financial reserves and PNRR.

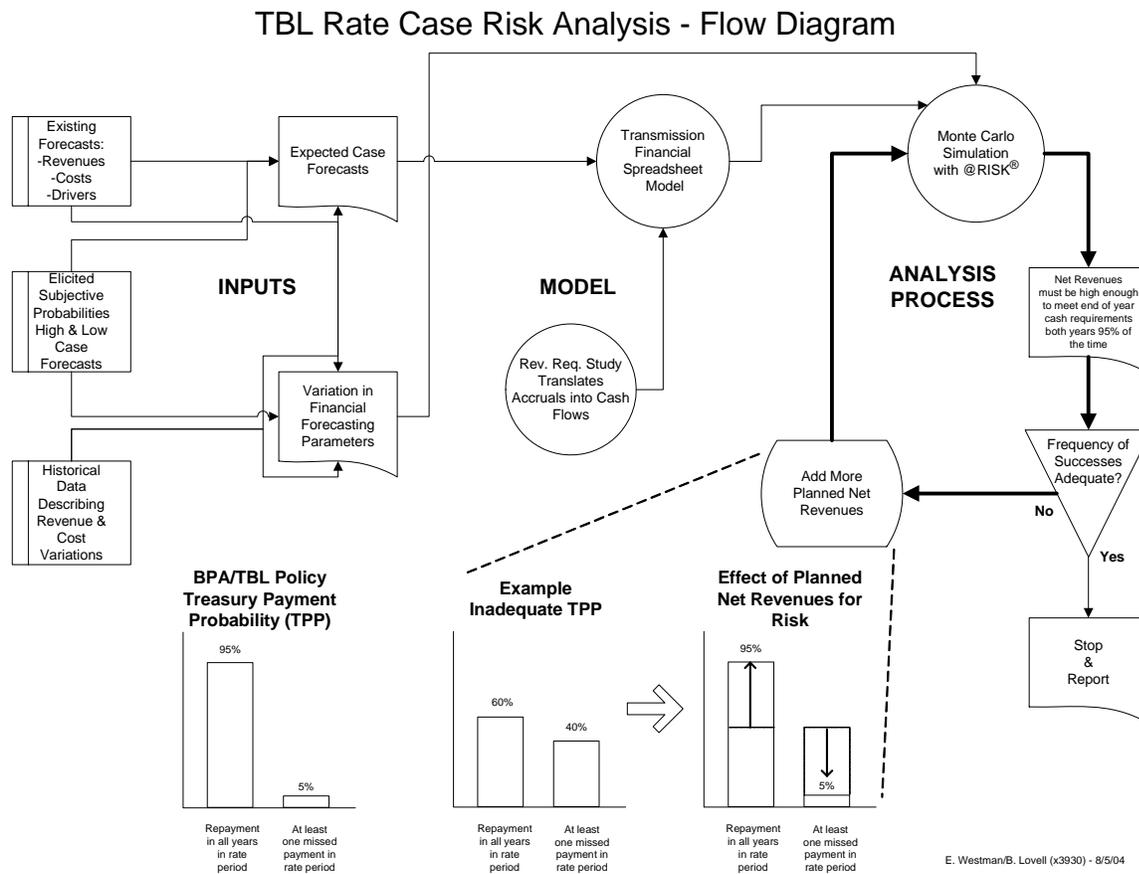
9.2 Transmission Risk Analysis

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 2010 and 2011. 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 TS' 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 TS. The value of \$20 million was used in the 2002, 2004, 2006, and 2008 Transmission rate cases.

The risk analysis is part of the Study. It uses inputs that come from the Study and transmission sales, revenue, and expense forecasts. See Integrated Program Review close-out letter in the Revenue Requirement Study, TR-10-E-BPA-01, Appendix A and Documentation, TR-10-E-BPA-01A, Chapter 14. The risk analysis simulates the financial reserves available at the beginning of FY 2009 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 two-year TPP standard of 95%, the risk analysis calculates the amount of PNR 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 PNR. The PNR 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 TS Rate Case Risk Analysis – Flow Diagram



The proposed transmission rates are used to simulate revenues during the rate period. These simulated revenues are combined with the revenue and expense uncertainties and are used to

update the risk analysis. A primary output of the risk analysis is a calculation of TPP. If TPP is below 95%, an amount of PNRR is added and TPP is retested. This iterative analysis process is continued until estimates of PNRR converge on a particular amount of PNRR yielding 95% TPP. The calculated amount of PNRR is used to set the PNRR expense for the RRS.

The risk analysis covers the period of FYs 2009 through 2011. The analysis begins with start-of-year FY2009 values. The change in revenues, expenses, and accrual to cash adjustments that are may occur by the end of the next rate period are simulated. The amount of reserves available for risk attributed to Transmission 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 risk analysis uses actual data on the starting cash balance attributed to TS at the beginning of the 3-year time horizon (start-of-year FY2009). All other data in FY 2009, FYs 2010 and 2011 are forecasts or projections.

9.3 Transmission Risk Analysis Model

The foundation of the risk analysis is a transmission financial spreadsheet model. This spreadsheet, the Transmission Risk Analysis 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 end-of-year financial reserves for the end of FY2008, and equivalently, the beginning of FY 2009. *See* Table 9-2, line 27. The structure of the income statement and cash flow statement used in the risk analysis is similar to those contained in the RRS, but does not match precisely. 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 most probable values (mode of distribution) instead of point estimates. The net cash flow provides an estimate of the annual change in cash balance which, when added to the start-of-year 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 2009 through 2011.

Simulating transmission cash flows in this manner permits forecasting start-of-year reserves at the beginning of the rate period instead of defining FY 2010 start-of-year reserves as an uncertain input variable. The model forecasts the start-of-year FY 2010 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 2009. Table 9-1 shows the most likely value forecasts of expenses and revenues used in the RRS and the most likely revenue forecast. *See* generally this volume. 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, Professional version 5.0 (©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, including wind PTP revenues
- (3) Network short-term firm PTP
- (4) Southern Intertie long-term firm PTP revenues
- (5) Southern Intertie short-term firm PTP
- (6) Regulation & frequency response revenues
- (7) Total transmission expense annual variation, excluding between business line expenses paid to Power Services and Corporate expense

The ancillary service “Scheduling, System control & Dispatch” was embedded in the above revenue forecasts (and associated distributions) and therefore not treated separately. Operating Reserves (spinning and supplemental) and Imbalance Services were treated as point estimate forecasts, since the pass through of actual costs provided in the formula rate means that this item entails little risk. Revenue from leasing fiber; delivery segment revenues, 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 TS transmission rate increases on load; the effect of secondary transmission markets on transmission revenues; and potential changes in transmission industry structure 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 TS' 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. The bottom-up analysis of risk by individual revenue and expense components was compared to a top-down analysis of Transmission's historic net revenues as a check on accuracy. Historically, TS net revenues have had an annual standard deviation of approximately \$50 million per year. The net revenues in this analysis range from about \$56 million in FY 2009 to \$61 million in FY 2011, which is reasonably consistent with historical patterns.

9.6 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 TS 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 TS 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 network revenue uncertainty appropriately in the current transmission environment, which is also affected by the deepening national recession, TS believes there is a higher likelihood that network revenues will be below its "most likely" (or mode) values more often than at or above such values for Network long term and Point-to-Point long term. These probability distributions are skewed toward lower revenues for a robust risk analysis that adequately weights these adverse outcomes. For the intertie, which is believed will have continued pent-up demand, the uncertainties around long term revenue are considered normal and symmetric. For short-term network and intertie revenues, the distributions primarily reflect water conditions and weather, and are assumed to continue to exhibit a positive skew (average above the mode or most likely). The result of this analysis is that expected or mean total revenues produced by the risk analysis are \$34 million lower for FY 2009, \$32.6 million lower for FY 2010, and \$34 million lower for FY 2011, than "most likely" or mode revenues as presented in the accompanying tables. The important result from this analysis is that TPP remains well above 95% and PNRR is zero.

9.7 Transmission Operations and Maintenance Expense

For this risk analysis, BPA retained the same expense distribution as in the TR-08 rate case. Based on this analysis, BPA developed a risk distribution that allows O&M to be up to 10% higher or 10% lower than the forecast value. As in the case of transmission revenues, the objective is 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 TS' ability to change rate levels as frequently as every two years. *See*, 2008 Final Revenue Requirement Documentation, TR-08-FS-BPA-01A, Chapter 9.

Except for the cost of operating reserves purchased from Power Services, inter-business line expenses are treated as a point-estimate forecast. The specific "most likely" input values for Transmission O&M Expense are shown in Table 9-3.

9.8 Ancillary Services Revenue

As in the previous rate case, in this risk analysis, only Regulation and Frequency Response Service and services provided to wind generators are modeled explicitly with uncertainty. 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. Therefore, the Scheduling, System Control and Dispatch revenues are included in the forecast of Network and Intertie revenues, and the uncertainty is included implicitly in the uncertainty around the Network and Intertie revenues.

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 BPA'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 2008 Final Transmission Proposal, Documentation for Revenue Requirement Study, TR-08-FS-BPA-01A. *See* Table 9-6.

9.9 Revenue from Sales of Services to Wind Generators

In FY 2010 and 2011, TS will provide services to wind generators in the BPA balancing area. TS is proposing to charge these customers on the basis of the installed MW of capacity. TS will obtain from PS the generation inputs needed to support these services, and will pay PS for the generation inputs. PS has estimated the costs of providing the forecast quantity of generation inputs to TS to meet the needs of wind generation on the BPA system. The costs can be characterized as having two components, embedded costs and variable costs.

Since the quantity of wind generation in BPA's balancing area is not known with certainty, there is a financial risk due to the possibility that the quantity will differ from the forecast, and TS will receive either more or less revenue for wind services sales than forecast. TS and PS are proposing that TS and PS each bear half of this risk.

The variable cost calculations made by PS reflect deoptimization of the power system due to setting aside some system capability to support installed wind capacity. If less wind generation than forecast is actually installed, BPA (TS) will receive less revenue for such services, but BPA (PS) will be able to generate greater net secondary revenues than forecast, and, the incremental net secondary revenue will be, within BPA's ability to calculate such factors, equal to and offsetting the decrease in TS revenues. TS will pass to PS all actual revenue from sales of services to wind generators that is designed to recover the variable costs of generation inputs provided by PS; in this way, TS faces no risk due to variation in the total quantity of wind associated with the recovery of the variable costs of generation inputs. PS bears the entire risk of deviations in the recovery of the variable cost component, but this risk is offset by the corresponding impact on PS net secondary revenue, so PS faces no significant financial risk. Therefore, BPA does not face significant risk for the recovery of the variable costs of generation inputs.

The recovery of embedded costs, however, is subject to risk, and this risk will be shared equally by the two business lines as follows. If the amount of installed wind capacity is lower than the rate case forecast in a year in the rate period, BPA staff will calculate the portion of the decrease in revenue TS receives that was intended to recover the embedded costs of generation inputs. TS payments to PS for the embedded costs of generation inputs will then be equal to the forecast

amount minus half of the decrease in the embedded-cost portion of the revenue received from TS wind customers. Similarly, if the amount of installed wind capacity exceeds the rate case forecast for a year in the rate period, TS payments to PS for the embedded costs of generation inputs for that year will be equal to the rate case forecast for that year plus half of the increase in the embedded-cost portion of the revenue received from TS wind customers.

Equivalently: If the amount of installed wind capacity under-runs the rate case forecast in a year in the rate period, BPA staff will calculate the portion of the decrease in revenue TS receives that was intended to recover the embedded costs of generation inputs. TS payments to PS for the total costs of generation inputs for that year will be equal to the actual amount received by TS plus half of the amount of the decrease in the embedded-cost portion of the revenue received from TS wind customers. Similarly, if the amount of installed wind capacity exceeds the rate case forecast for a year in the rate period, TS payments to PS for the total costs of generation inputs for that year will be equal to the actual amount received by TS less half of the amount of the increase in the embedded-cost portion of the revenue received from TS wind customers.

BPA risk staff modeled this risk using estimates of low, most likely, and high quantities of installed wind capacity for FY 2010 and 2011. The low and high estimates were interpreted to represent the 2.5th and 97.5th percentiles. Distributions were fitted that matched those parameters. In each of the games in the risk analysis, a random draw of installed wind capacity was made from the distributions. If this random result was lower (higher) than the most likely forecast, then a negative (positive) financial result was calculated by multiplying the difference in capacity by the annual cost per installed MW for embedded costs of generation inputs. Fifty percent of the financial result was then applied to the net revenues for both TS and PS in their respective risk analyses.

9.10 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. In the previous rate case, the interest rate risk analysis yielded a relatively insignificant standard deviation of \$3.9 million on a mean interest expense level of \$125 million and a mean assumed interest rate of around 6%. Interest rates have dropped substantially and the U.S. economy has worsened markedly since BPA's last internal interest rate forecast (Nov. 8, 2008). Due to a concern that previous modeling of interest rate risk is not applicable in the current economic environment, and lacking a more appropriate modeling approach, interest rate risk is treated as a point estimate in this rate case. The effect of this simplification on overall Transmission risk is considered minor.

9.11 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 TS' 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 TS not being able to meet its 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.

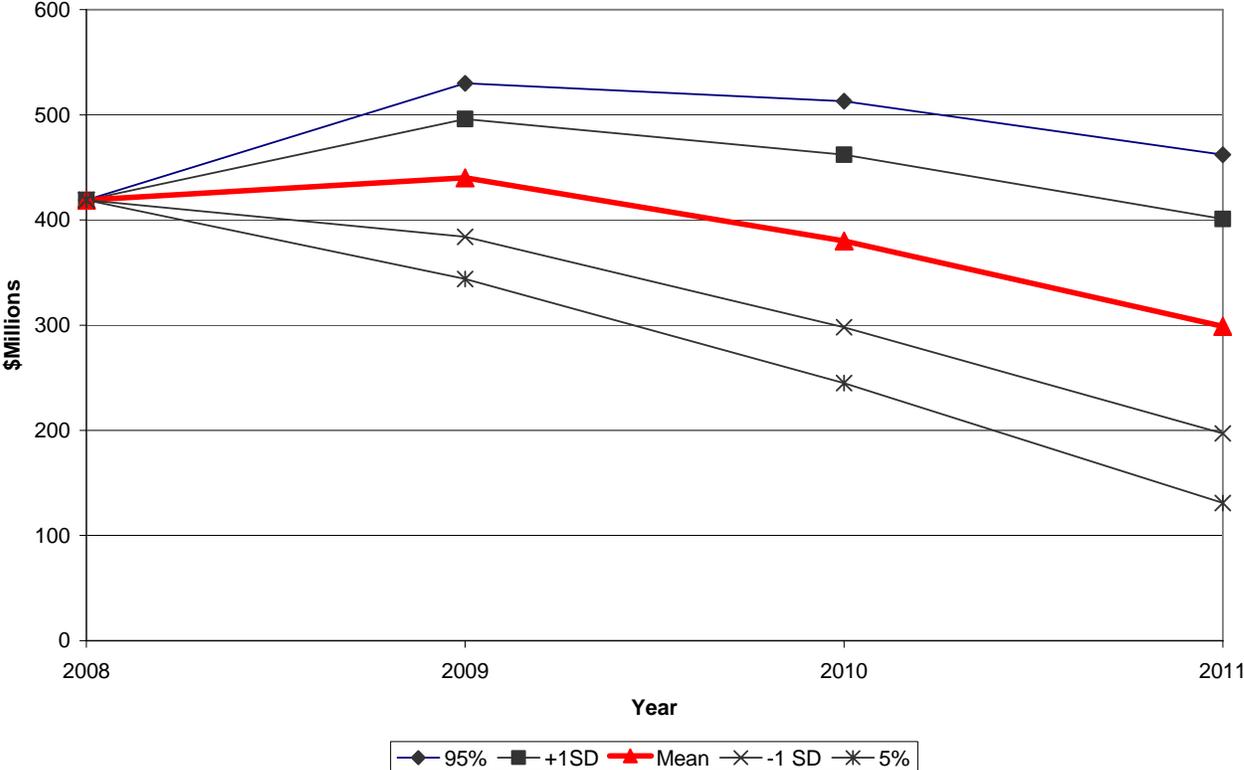
9.12 Risk Analysis Results

The transmission risk analysis simulation resulted in 2986 games out of 3000 in which end-of-year financial reserves were sufficient to pay Treasury on time and in full in the FY 2010 through 2011 rate period. This represents a 99.5% 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.

9.13 Financial Reserves and PNRR

The expected value year-end financial reserves for FYs 2010 and 2011 are estimated to be \$380.5 million and \$298.5 million, respectively. *See* Figure 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 also shown in Figure 9-2. Since the 5th percentile of year-end reserves stays above \$20 million, assuming \$419.3 million start-of-year reserves in 2009 and the proposed rate levels, no PNRR were necessary to achieve the 95% TPP.

Figure 9-2: End-of-Year Reserves, FY 2008 - 2011



**Table 9-1: Statement of Revenues and Expenses
(\$000s)**

	A	B	C
	2009	2010	2011
Operating Revenues (Most Likely)			
1	615,387	624,054	637,742
2	144,213	260,238	297,786
3	4,345	4,429	4,189
4	13,497	13,256	13,066
5	18,615	-	-
6	35,752	37,059	37,647
7	831,809	939,035	990,430
Operating Expenses			
8	44,448	74,376	75,011
9	15,277	-	-
10	52,855	21,514	22,312
11	9,046	10,308	10,784
12	53,643	56,586	57,511
13	105,797	122,099	126,877
14	24,505	26,500	28,011
15	17,844	2,235	2,235
16	3,597	3,797	3,996
17	10,000	34,675	34,828
18	79,306	180,291	216,337
19	4,886	8,696	11,057
20	421,205	541,077	588,959
21	410,604	397,958	401,471
22	190,648	186,297	197,755
23	611,853	727,374	786,714
24	219,956	211,661	203,716
Interest Expense			
25	36,444	27,692	25,887
26	55,971	55,476	55,475
27	78,429	102,696	120,572
28	(18,745)	(25,944)	(24,355)
29	1,051	758	692
30	(18,968)	(18,968)	(18,968)
	-	16,136	16,678
31	(9,500)	(11,097)	(13,605)
32	124,682	146,749	162,376
33	736,535	874,123	949,090
34	95,274	64,913	41,340

**Table 9-2: Statement of Cash Flows
(\$000s)**

	A	B	C	
	2009	2010	2011	
Cash Provided by Current Operations				
1	Net Revenues	95,274	64,913	41,340
	Expenses not Requiring Cash			
2	Depreciation/Amortization	190,648	186,297	197,755
3	Amort of Capitalized Bond Premiums	1,051	758	692
4	Capitalization Adjustment	(18,968)	(18,968)	(18,968)
5	Revenue Recognition (Third AC)	(3,065)	(3,065)	(3,065)
6	Revenue Recognition (Fiberoptics)	(897)	(777)	(737)
7	Cash Flow from NOS/COI and Other	-	-	-
8	Inter Business Line Transfers	-	-	-
9	3rd Party Lease net of accruals	6,481	-	-
10	Fiber Lease Contract Pre Pay	(2,781)	(2,781)	(2,781)
11	LGIA Interest Exp Accrual, Bad Debt Exp, Other	6,886	10,696	13,057
12	LGIA Revenue Credits	(22,301)	(33,600)	(39,200)
13	LGIA Cash Flow (net of draws)	-	-	-
14	Other Accrual to Cash Adjustments	-	-	-
15	Cash Provided by Current Operations	252,327	203,472	188,093
Cash Used for Capital Investments				
16	Investment in Gross Utility Plant and CWIP	(172,659)	(264,626)	(279,982)
17	Cash Used for Capital Investments	(172,659)	(264,626)	(279,982)
Cash From Borrowing and Appropriations				
18	Cash from Borrowing & Appropriations	157,659	249,626	264,982
19	Adjust DSR Accruals to Actual Cash Flows	(4,283)	(3,946)	(4,093)
20	Repayment of Long-term Debt	(67,010)	(190,251)	(115,000)
21	Advanced Payment of LT Debt from Debt Opt	(50,000)	-	-
22	Net Cash Inflow from COI/GI type projects	-	-	-
	Loan to PBL Reserves/yr	-	-	-
23	Transfer of cash from PS for advanced amort payment	50,000	-	-
24	Repayment of Capital Appropriations	(105,649)	(15,873)	(94,872)
25	Subtotal Cash from Borrowing & Approp	(19,283)	39,556	51,017
26	Annual Change in Cash Balance	60,386	(21,597)	(40,873)
27	Plus Beginning Cash Balance	419,295	479,681	458,083
28	Year End Cash Balance	479,681	458,083	417,211
29	Deferred Borrowing	-	-	-
30	Total Reserves	479,681	458,083	417,211

**Table 9-3: Transmission Expense Risk
(\$000s)**

	A	B	C
Operating Expenses	2009	2010	2011
1 Total Trans O&M Expense (With Uncertainty)	421,205	541,077	588,959
2 Min Transmission O&M Expense	341,176	438,272	477,057
3 Max Transmission O&M Expense	514,806	661,316	719,839
4 Transmission O&M Expenses (Point Estimates)			
5 Transmission G&A	44,448	74,376	75,011
6 CSRS Pension Expense	15,277	0	0
7 Transmission Marketing and Scheduling	52,855	21,514	22,312
8 Transmission Scheduling	9,046	10,308	10,784
9 Transmission System Operations	53,643	56,586	57,511
10 Transmission System Maintenance	105,797	122,099	126,877
11 Transmission System Development	24,505	26,500	28,011
12 Wheeling/Leases	17,844	2,235	2,235
13 Environment	3,597	3,797	3,996
14 Other Expenses & Adjustments	0	34,675	34,828
15 TBL Services (Reimbursable)	10,000	0	0
16 Between Business Line Expenses	79,306	180,291	216,337
17 Non-Federal Debt Service	4,886	8,696	11,057
18 Total Trans O&M Expense	421,205	541,077	588,959

**Table 9-4: Network Transmission Revenue Risk
(\$000s)**

Operating Revenues		A	B	C
		2009	2010	2011
Long Term Firm (Take or Pay)				
1	Network LT Firm (Mean) with Wind	390,259	391,967	401,864
2	Network LT Firm (Most Likely or Mode) w/o Wind	390,259	316,399	301,110
3	Min	263,425	213,569	203,249
4	Max	429,284	348,039	331,221
5	Network LT Firm--Wind		75,568	100,754
Long Term Firm (NT Load)				
6	Network NT Service (Mean)	119,713	122,266	126,530
7	Network NT Service (Most Likely or Mode)	119,713	122,266	126,530
8	Min	96,968	99,035	102,489
9	Max	125,699	128,379	132,856
Short Term Firm				
10	Network ST Firm (Mean)	20,648	21,181	21,181
11	Network ST Firm (Most Likely or Mode)	20,648	21,181	21,181
12	Min	15,486	15,885	15,885
13	Max	40,057	41,090	41,090

**Table 9-5: Intertie Transmission Revenue Risk
(\$000s)**

Operating Revenues		A	B	C
		2009	2010	2011
Long Term Firm				
1	IS LT Firm (Mean)	80,203	84,212	83,730
2	IS LT Firm (Most Likely or mode)	80,203	84,212	83,730
3	Standard Deviation	5,999	6,299	6,263
4	Sd as pct of mean	7.5%	7.5%	7.5%
5	Min	74,589	78,317	77,869
6	Max	85,817	90,107	89,592
Short Term Firm				
7	IS ST Firm (Mean)	4,565	4,438	4,438
8	IS ST Firm (Mode)	4,565	4,438	4,438
9	Min	3,424	3,328	3,328
10	Max	9,450	9,186	9,186

**Table 9-6: Ancillary Services Revenue Risk
(\$000s)**

	A	B	C
Operating Revenues	2009	2010	2011
1 Scheduling, System Control, & Dispatch (Mean)	76,648	93,831	95,687
Note: This is treated within other Revenue Line items			
2 Regulation and Frequency Response Service (Mean)	14,457	14,615	14,615
3 Most Likely (Mode)	14,457	14,615	14,615
4 Min	11,337	11,495	11,495
5 Max	16,457	16,615	16,615
Revenue Point Estimates Due to Costs with PS offsetting Revenues:			
6 Operating Reserve - Spinning Reserve Service	16,992	23,617	23,617
7 Operating Reserve - Supplemental Reserve Serv.	16,992	23,617	23,617
8 Energy Imbalance Service	0	0	0
9 Generation Imbalance Service	19,124	104,558	140,250
10 Total Ancillary Services (Most Likely or Mode)	144,213	260,238	297,786

10. REPAYMENT STUDY INPUT DATA CURRENT STUDY

Table 10-1: Historical Investments (\$000s) (FY 2010)

	A	B	C	D	E	F	G	H	I	J
	Project	Original Principal	Current Principal	Interest Rate	Due Date	Replacement?	Service In Date	Month	Rollover Date	Rollover Rate
1	BONNEVILLE POWER ADMINISTRATION	6,812	-	2.500%	1985	No	1940	-	-	-
2	BONNEVILLE POWER ADMINISTRATION	18,906	-	2.500%	1986	No	1941	-	-	-
3	BONNEVILLE POWER ADMINISTRATION	461	-	2.500%	1986	No	1941	-	-	-
4	BONNEVILLE POWER ADMINISTRATION	8,446	-	2.500%	1987	No	1942	-	-	-
5	BONNEVILLE POWER ADMINISTRATION	1,052	-	2.500%	1987	No	1942	-	-	-
6	BONNEVILLE POWER ADMINISTRATION	16,083	-	2.500%	1988	No	1943	-	-	-
7	BONNEVILLE POWER ADMINISTRATION	4,538	-	2.500%	1988	No	1943	-	-	-
8	BONNEVILLE POWER ADMINISTRATION	583	-	2.500%	1989	No	1944	-	-	-
9	BONNEVILLE POWER ADMINISTRATION	249	-	2.500%	1989	No	1944	-	-	-
10	BONNEVILLE POWER ADMINISTRATION	3,366	-	2.500%	1990	No	1945	-	-	-
11	BONNEVILLE POWER ADMINISTRATION	1,306	-	2.500%	1990	No	1945	-	-	-
12	BONNEVILLE POWER ADMINISTRATION	2,488	-	2.500%	1991	No	1946	-	-	-
13	BONNEVILLE POWER ADMINISTRATION	732	-	2.500%	1991	No	1946	-	-	-
14	BONNEVILLE POWER ADMINISTRATION	1,773	-	2.500%	1992	No	1947	-	-	-
15	BONNEVILLE POWER ADMINISTRATION	1,330	-	2.500%	1992	No	1947	-	-	-
16	BONNEVILLE POWER ADMINISTRATION	7,468	-	2.500%	1993	No	1948	-	-	-
17	BONNEVILLE POWER ADMINISTRATION	2,290	-	2.500%	1993	No	1948	-	-	-
18	BONNEVILLE POWER ADMINISTRATION	6,809	-	2.500%	1994	No	1949	-	-	-
19	BONNEVILLE POWER ADMINISTRATION	2,719	-	2.500%	1994	No	1949	-	-	-
20	BONNEVILLE POWER ADMINISTRATION	24,111	-	2.500%	1995	No	1950	-	-	-
21	BONNEVILLE POWER ADMINISTRATION	6,124	-	2.500%	1995	No	1950	-	-	-
22	BONNEVILLE POWER ADMINISTRATION	13,266	-	2.500%	1996	No	1951	-	-	-
23	BONNEVILLE POWER ADMINISTRATION	7,040	-	2.500%	1996	No	1951	-	-	-
24	BONNEVILLE POWER ADMINISTRATION	18,610	-	2.500%	1997	No	1952	-	-	-
25	BONNEVILLE POWER ADMINISTRATION	8,979	-	2.500%	1997	No	1952	-	-	-
26	BONNEVILLE POWER ADMINISTRATION	23,550	-	6.330%	1998	No	1953	-	-	-
27	BONNEVILLE POWER ADMINISTRATION	11,605	-	6.330%	1998	No	1953	-	-	-
28	BONNEVILLE POWER ADMINISTRATION	23,614	-	6.510%	1999	No	1954	-	-	-
29	BONNEVILLE POWER ADMINISTRATION	17,370	-	6.510%	1999	No	1954	-	-	-
30	BONNEVILLE POWER ADMINISTRATION	11,827	-	6.620%	2000	No	1955	-	-	-
31	BONNEVILLE POWER ADMINISTRATION	10,283	-	6.620%	2000	No	1955	-	-	-
32	BONNEVILLE POWER ADMINISTRATION	32,221	-	6.710%	2001	No	1956	-	-	-
33	BONNEVILLE POWER ADMINISTRATION	14,573	-	6.710%	2001	No	1956	-	-	-
34	BONNEVILLE POWER ADMINISTRATION	15,980	-	6.790%	2002	No	1957	-	-	-
35	BONNEVILLE POWER ADMINISTRATION	7,933	-	6.790%	2002	No	1957	-	-	-
36	BONNEVILLE POWER ADMINISTRATION	15,593	-	6.840%	2003	No	1958	-	-	-
37	BONNEVILLE POWER ADMINISTRATION	10,654	-	6.840%	2003	No	1958	-	-	-
38	BONNEVILLE POWER ADMINISTRATION	8,863	-	6.880%	2004	No	1959	-	-	-
39	BONNEVILLE POWER ADMINISTRATION	8,157	-	6.880%	2004	No	1959	-	-	-
40	BONNEVILLE POWER ADMINISTRATION	4,218	-	6.910%	2005	No	1960	-	-	-
41	BONNEVILLE POWER ADMINISTRATION	3,598	-	6.910%	2005	No	1960	-	-	-
42	BONNEVILLE POWER ADMINISTRATION	11,271	-	6.950%	2006	No	1961	-	-	-
43	BONNEVILLE POWER ADMINISTRATION	4,468	-	6.950%	2006	No	1961	-	-	-
44	BONNEVILLE POWER ADMINISTRATION	19,597	-	6.980%	2007	No	1962	-	-	-
45	BONNEVILLE POWER ADMINISTRATION	4,877	-	6.980%	2007	No	1962	-	-	-
46	BONNEVILLE POWER ADMINISTRATION	4,876	-	7.020%	2008	No	1963	-	-	-
47	BONNEVILLE POWER ADMINISTRATION	4,330	-	7.020%	2008	No	1963	-	-	-
48	BONNEVILLE POWER ADMINISTRATION	904	-	7.020%	2008	No	1963	-	-	-
49	BONNEVILLE POWER ADMINISTRATION	803	-	7.020%	2008	No	1963	-	-	-
50	BONNEVILLE POWER ADMINISTRATION	5,738	5,738	7.060%	2009	No	1964	-	-	-
51	BONNEVILLE POWER ADMINISTRATION	4,151	4,151	7.060%	2009	No	1964	-	-	-
52	BONNEVILLE POWER ADMINISTRATION	10,171	-	7.090%	2010	No	1965	-	-	-
53	BONNEVILLE POWER ADMINISTRATION	7,248	78	7.090%	2010	No	1965	-	-	-
54	BONNEVILLE POWER ADMINISTRATION	5,202	-	7.090%	2010	No	1965	-	-	-
55	BONNEVILLE POWER ADMINISTRATION	3,706	3,706	7.090%	2010	No	1965	-	-	-
56	BONNEVILLE POWER ADMINISTRATION	11,830	11,830	7.130%	2011	No	1966	-	-	-
57	BONNEVILLE POWER ADMINISTRATION	6,647	6,353	7.130%	2011	No	1966	-	-	-
58	BONNEVILLE POWER ADMINISTRATION	3,049	3,049	7.130%	2011	No	1966	-	-	-
59	BONNEVILLE POWER ADMINISTRATION	1,714	-	7.130%	2011	No	1966	-	-	-
60	BONNEVILLE POWER ADMINISTRATION	19,003	19,003	7.160%	2012	No	1967	-	-	-
61	BONNEVILLE POWER ADMINISTRATION	14,300	-	7.160%	2012	No	1967	-	-	-
62	BONNEVILLE POWER ADMINISTRATION	4,566	355	7.160%	2012	No	1967	-	-	-
63	BONNEVILLE POWER ADMINISTRATION	3,436	-	7.160%	2012	No	1967	-	-	-
64	BONNEVILLE POWER ADMINISTRATION	41,070	18,250	7.200%	2013	No	1968	-	-	-
65	BONNEVILLE POWER ADMINISTRATION	23,202	-	7.200%	2013	No	1968	-	-	-
66	BONNEVILLE POWER ADMINISTRATION	8,076	-	7.200%	2013	No	1968	-	-	-
67	BONNEVILLE POWER ADMINISTRATION	4,562	-	7.200%	2013	No	1968	-	-	-
68	BONNEVILLE POWER ADMINISTRATION	42,237	19,198	7.230%	2014	No	1969	-	-	-
69	BONNEVILLE POWER ADMINISTRATION	22,537	-	7.230%	2014	No	1969	-	-	-
70	BONNEVILLE POWER ADMINISTRATION	384	-	7.230%	2014	No	1969	-	-	-
71	BONNEVILLE POWER ADMINISTRATION	205	-	7.230%	2014	No	1969	-	-	-
72	BONNEVILLE POWER ADMINISTRATION	64,977	64,977	7.270%	2015	No	1970	-	-	-
73	BONNEVILLE POWER ADMINISTRATION	24,412	23,551	7.270%	2015	No	1970	-	-	-

Table 10-1: Historical Investments (\$000s) (FY 2010)

	A	B	C	D	E	F	G	H	I	J
	Project	Original Principal	Current Principal	Interest Rate	Due Date	Replacement?	Service In Date	Month	Rollover Date	Rollover Rate
74	BONNEVILLE POWER ADMINISTRATION	7,995	7,995	7.270%	2015	No	1970	-	-	-
75	BONNEVILLE POWER ADMINISTRATION	3,003	-	7.270%	2015	No	1970	-	-	-
76	BONNEVILLE POWER ADMINISTRATION	17,805	-	7.290%	2016	No	1971	-	-	-
77	BONNEVILLE POWER ADMINISTRATION	17,766	-	7.290%	2016	No	1971	-	-	-
78	BONNEVILLE POWER ADMINISTRATION	12,051	-	7.290%	2016	No	1971	-	-	-
79	BONNEVILLE POWER ADMINISTRATION	12,025	-	7.290%	2016	No	1971	-	-	-
80	BONNEVILLE POWER ADMINISTRATION	29,326	-	7.290%	2017	No	1972	-	-	-
81	BONNEVILLE POWER ADMINISTRATION	21,170	-	7.290%	2017	No	1972	-	-	-
82	BONNEVILLE POWER ADMINISTRATION	3,980	-	7.290%	2017	No	1972	-	-	-
83	BONNEVILLE POWER ADMINISTRATION	2,873	-	7.290%	2017	No	1972	-	-	-
84	BONNEVILLE POWER ADMINISTRATION	33,788	33,788	7.280%	2018	No	1973	-	-	-
85	BONNEVILLE POWER ADMINISTRATION	21,656	5,041	7.280%	2018	No	1973	-	-	-
86	BONNEVILLE POWER ADMINISTRATION	16,368	-	7.280%	2018	No	1973	-	-	-
87	BONNEVILLE POWER ADMINISTRATION	10,491	-	7.280%	2018	No	1973	-	-	-
88	BONNEVILLE POWER ADMINISTRATION	21,826	21,826	7.270%	2019	No	1974	-	-	-
89	BONNEVILLE POWER ADMINISTRATION	20,984	20,984	7.270%	2019	No	1974	-	-	-
90	BONNEVILLE POWER ADMINISTRATION	12,563	12,563	7.270%	2019	No	1974	-	-	-
91	BONNEVILLE POWER ADMINISTRATION	12,079	12,079	7.270%	2019	No	1974	-	-	-
92	BONNEVILLE POWER ADMINISTRATION	32,026	32,026	7.250%	2020	No	1975	-	-	-
93	BONNEVILLE POWER ADMINISTRATION	21,916	21,916	7.250%	2020	No	1975	-	-	-
94	BONNEVILLE POWER ADMINISTRATION	17,158	17,158	7.250%	2020	No	1975	-	-	-
95	BONNEVILLE POWER ADMINISTRATION	11,742	11,742	7.250%	2020	No	1975	-	-	-
96	BONNEVILLE POWER ADMINISTRATION	61,025	61,025	7.230%	2021	No	1976	-	-	-
97	BONNEVILLE POWER ADMINISTRATION	2,212	2,212	7.230%	2021	No	1976	-	-	-
98	BONNEVILLE POWER ADMINISTRATION	33,702	33,702	7.210%	2022	No	1977	-	-	-
99	BONNEVILLE POWER ADMINISTRATION	5,380	5,380	7.210%	2022	No	1977	-	-	-
100	BONNEVILLE POWER ADMINISTRATION	4,981	4,981	7.210%	2022	No	1977	-	-	-
101	BONNEVILLE POWER ADMINISTRATION	3,948	3,948	7.210%	2022	No	1977	-	-	-
102	BPA PROGRAM	24,222	-	8.950%	2013	No	1978	9	-	-
103	BPA PROGRAM	17,770	-	8.950%	2013	No	1978	9	-	-
104	BPA PROGRAM	4,619	-	8.950%	2013	No	1978	9	-	-
105	BPA PROGRAM	3,389	-	8.950%	2013	No	1978	9	-	-
106	BPA PROGRAM	21,228	-	9.900%	2014	No	1979	9	-	-
107	BPA PROGRAM	14,340	-	9.900%	2014	No	1979	9	-	-
108	BPA PROGRAM	10,610	-	9.900%	2014	No	1979	9	-	-
109	BPA PROGRAM	2,888	-	9.900%	2014	No	1979	9	-	-
110	BPA PROGRAM	605	-	9.900%	2014	No	1979	9	-	-
111	BPA PROGRAM	165	-	9.900%	2014	No	1979	9	-	-
112	BPA PROGRAM	98	-	9.900%	2014	No	1979	9	-	-
113	BPA PROGRAM	66	-	9.900%	2014	No	1979	9	-	-
114	BPA PROGRAM	26,690	-	9.450%	2014	No	1979	6	-	-
115	BPA PROGRAM	21,977	-	9.450%	2014	No	1979	6	-	-
116	BPA PROGRAM	9,804	-	9.450%	2014	No	1979	6	-	-
117	BPA PROGRAM	7,010	-	9.450%	2014	No	1979	6	-	-
118	BPA PROGRAM	6,026	-	9.450%	2014	No	1979	6	-	-
119	BPA PROGRAM	1,870	-	9.450%	2014	No	1979	6	-	-
120	BPA PROGRAM	1,371	-	9.450%	2014	No	1979	6	-	-
121	BPA PROGRAM	150	-	9.450%	2014	No	1979	6	-	-
122	BPA PROGRAM	102	-	9.450%	2014	No	1979	6	-	-
123	BPA PROGRAM	44,811	-	13.000%	2015	No	1980	9	-	-
124	BPA PROGRAM	39,696	-	13.000%	2015	No	1980	9	-	-
125	BPA PROGRAM	10,806	-	13.000%	2015	No	1980	9	-	-
126	BPA PROGRAM	9,292	-	13.000%	2015	No	1980	9	-	-
127	BPA PROGRAM	4,253	-	13.000%	2015	No	1980	9	-	-
128	BPA PROGRAM	2,263	-	13.000%	2015	No	1980	9	-	-
129	BPA PROGRAM	1,707	-	13.000%	2015	No	1980	9	-	-
130	BPA PROGRAM	1,469	-	13.000%	2015	No	1980	9	-	-
131	BPA PROGRAM	616	-	13.000%	2015	No	1980	9	-	-
132	BPA PROGRAM	56	-	13.000%	2015	No	1980	9	-	-
133	BPA PROGRAM	21	-	13.000%	2015	No	1980	9	-	-
134	BPA PROGRAM	10	-	13.000%	2015	No	1980	9	-	-
135	BPA PROGRAM	119,775	-	16.600%	2016	No	1981	9	-	-
136	BPA PROGRAM	54,821	-	16.600%	2016	No	1981	9	-	-
137	BPA PROGRAM	277	-	16.600%	2016	No	1981	9	-	-
138	BPA PROGRAM	127	-	16.600%	2016	No	1981	9	-	-
139	BPA PROGRAM	46,980	-	14.400%	2017	No	1982	4	-	-
140	BPA PROGRAM	37,455	-	14.400%	2017	No	1982	4	-	-
141	BPA PROGRAM	34,221	-	14.400%	2017	No	1982	12	-	-
142	BPA PROGRAM	15,663	-	14.400%	2017	No	1982	12	-	-
143	BPA PROGRAM	9,975	-	14.400%	2017	No	1982	4	-	-
144	BPA PROGRAM	4,566	-	14.400%	2017	No	1982	4	-	-
145	BPA PROGRAM	551	-	14.400%	2017	No	1982	4	-	-
146	BPA PROGRAM	439	-	14.400%	2017	No	1982	4	-	-

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A	B	C	D	E	F	G	H	I	J
Project	Original Principal	Current Principal	Interest Rate	Due Date	Replacement?	Service In Date	Month	Rollover Date	Rollover Rate
147	BPA PROGRAM	80	-	14.400%	2017	No	1982	12	-
148	BPA PROGRAM	36	-	14.400%	2017	No	1982	12	-
149	BPA PROGRAM	23	-	14.400%	2017	No	1982	4	-
150	BPA PROGRAM	11	-	14.400%	2017	No	1982	4	-
151	BPA PROGRAM	77,807	-	14.150%	2017	No	1982	7	-
152	BPA PROGRAM	3,677	-	14.150%	2017	No	1982	7	-
153	BPA PROGRAM	2,932	-	14.150%	2017	No	1982	7	-
154	BPA PROGRAM	402	-	14.150%	2017	No	1982	7	-
155	BPA PROGRAM	105	-	14.150%	2017	No	1982	7	-
156	BPA PROGRAM	43	-	14.150%	2017	No	1982	7	-
157	BPA PROGRAM	34	-	14.150%	2017	No	1982	7	-
158	BPA PROGRAM	37,235	-	12.250%	2018	No	1983	9	-
159	BPA PROGRAM	6,708	-	12.250%	2018	No	1983	9	-
160	BPA PROGRAM	814	-	12.250%	2018	No	1983	9	-
161	BPA PROGRAM	203	-	12.250%	2018	No	1983	9	-
162	BPA PROGRAM	35	-	12.250%	2018	No	1983	9	-
163	BPA PROGRAM	4	-	12.250%	2018	No	1983	9	-
164	BPA PROGRAM	1	-	12.250%	2018	No	1983	9	-
165	BPA PROGRAM	29,806	-	11.700%	2018	No	1983	6	-
166	BPA PROGRAM	154	-	11.700%	2018	No	1983	6	-
167	BPA PROGRAM	40	-	11.700%	2018	No	1983	6	-
168	BPA PROGRAM	39,741	-	10.850%	2018	No	1983	11	-
169	BPA PROGRAM	205	-	10.850%	2018	No	1983	11	-
170	BPA PROGRAM	54	-	10.850%	2018	No	1983	11	-
171	BPA PROGRAM	50,567	-	13.050%	2019	No	1984	9	-
172	BPA PROGRAM	9,109	-	13.050%	2019	No	1984	9	-
173	BPA PROGRAM	276	-	13.050%	2019	No	1984	9	-
174	BPA PROGRAM	48	-	13.050%	2019	No	1984	9	-
175	BPA PROGRAM	25,283	-	12.300%	2019	No	1984	11	-
176	BPA PROGRAM	4,555	-	12.300%	2019	No	1984	11	-
177	BPA PROGRAM	138	-	12.300%	2019	No	1984	11	-
178	BPA PROGRAM	24	-	12.300%	2019	No	1984	11	-
179	BPA PROGRAM	15,182	-	11.250%	2029	No	1985	6	-
180	BPA PROGRAM	460	-	11.250%	2029	No	1985	6	-
181	BPA PROGRAM	80	-	11.250%	2029	No	1985	6	-
182	BPA PROGRAM	84,278	-	11.250%	2030	No	1985	6	-
183	BPA PROGRAM	68,194	-	8.150%	1996	No	1986	3	-
184	BPA PROGRAM	30,161	-	8.150%	1996	No	1986	3	-
185	BPA PROGRAM	870	-	8.150%	1996	No	1986	3	-
186	BPA PROGRAM	443	-	8.150%	1996	No	1986	3	-
187	BPA PROGRAM	169	-	8.150%	1996	No	1986	3	-
188	BPA PROGRAM	157	-	8.150%	1996	No	1986	3	-
189	BPA PROGRAM	5	-	8.150%	1996	No	1986	3	-
190	BPA PROGRAM	1	-	8.150%	1996	No	1986	3	-
191	BPA PROGRAM	180,054	-	8.950%	2031	No	1986	6	-
192	BPA PROGRAM	57,354	-	8.950%	2031	No	1986	6	-
193	BPA PROGRAM	40,000	-	8.950%	2031	No	1986	6	-
194	BPA PROGRAM	11,668	-	8.950%	2031	No	1986	6	-
195	BPA PROGRAM	5,161	-	8.950%	2031	No	1986	6	-
196	BPA PROGRAM	3,117	-	8.950%	2031	No	1986	6	-
197	BPA PROGRAM	1,819	-	8.950%	2031	No	1986	6	-
198	BPA PROGRAM	722	-	8.950%	2031	No	1986	6	-
199	BPA PROGRAM	76	-	8.950%	2031	No	1986	6	-
200	BPA PROGRAM	29	-	8.950%	2031	No	1986	6	-
201	BPA PROGRAM	96,519	-	8.350%	1992	No	1987	6	-
202	BPA PROGRAM	2,498	-	8.350%	1992	No	1987	6	-
203	BPA PROGRAM	983	-	8.350%	1992	No	1987	6	-
204	BPA PROGRAM	86,958	-	9.550%	2017	No	1987	7	-
205	BPA PROGRAM	4,113	-	9.550%	2017	No	1987	7	-
206	BPA PROGRAM	3,274	-	9.550%	2017	No	1987	7	-
207	BPA PROGRAM	569	-	9.550%	2017	No	1987	7	-
208	BPA PROGRAM	48	-	9.550%	2017	No	1987	7	-
209	BPA PROGRAM	38	-	9.550%	2017	No	1987	7	-
210	BPA PROGRAM	37,342	-	9.550%	2032	No	1987	7	-
211	BPA PROGRAM	7,903	-	9.550%	2032	No	1987	7	-
212	BPA PROGRAM	3,109	-	9.550%	2032	No	1987	7	-
213	BPA PROGRAM	631	-	9.550%	2032	No	1987	7	-
214	BPA PROGRAM	618	-	9.550%	2032	No	1987	7	-
215	BPA PROGRAM	285	-	9.550%	2032	No	1987	7	-
216	BPA PROGRAM	112	-	9.550%	2032	No	1987	7	-
217	BPA PROGRAM	54,409	-	9.300%	2032	No	1987	4	-
218	BPA PROGRAM	43,236	-	9.300%	2032	No	1987	4	-
219	BPA PROGRAM	1,409	-	9.300%	2032	No	1987	4	-

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	Project	Original Principal	Current Principal	Interest Rate	Due Date	Replacement?	Service In Date	Month	Rollover Date	Rollover Rate
220	BPA PROGRAM	554	-	9.300%	2032	No	1987	4	-	-
221	BPA PROGRAM	281	-	9.300%	2032	No	1987	4	-	-
222	BPA PROGRAM	111	-	9.300%	2032	No	1987	4	-	-
223	BPA PROGRAM	43,417	-	9.500%	2018	No	1988	2	-	-
224	BPA PROGRAM	283	-	9.500%	2018	No	1988	2	-	-
225	BPA PROGRAM	30,004	-	9.900%	2033	No	1988	6	-	-
226	BPA PROGRAM	9,018	-	9.900%	2033	No	1988	6	-	-
227	BPA PROGRAM	752	-	9.900%	2033	No	1988	6	-	-
228	BPA PROGRAM	226	-	9.900%	2033	No	1988	6	-	-
229	BPA PROGRAM	45,870	-	9.500%	2033	No	1988	2	-	-
230	BPA PROGRAM	28,513	-	9.500%	2033	No	1988	2	-	-
231	BPA PROGRAM	27,887	-	9.500%	2033	No	1988	2	-	-
232	BPA PROGRAM	22,923	-	9.500%	2033	No	1988	2	-	-
233	BPA PROGRAM	20,677	-	9.500%	2033	No	1988	2	-	-
234	BPA PROGRAM	1,725	-	9.500%	2033	No	1988	2	-	-
235	BPA PROGRAM	954	-	9.500%	2033	No	1988	2	-	-
236	BPA PROGRAM	933	-	9.500%	2033	No	1988	2	-	-
237	BPA PROGRAM	518	-	9.500%	2033	No	1988	2	-	-
238	BPA PROGRAM	56,257	-	8.950%	1999	No	1989	5	-	-
239	BPA PROGRAM	16,909	-	8.950%	1999	No	1989	5	-	-
240	BPA PROGRAM	1,410	-	8.950%	1999	No	1989	5	-	-
241	BPA PROGRAM	424	-	8.950%	1999	No	1989	5	-	-
242	BPA PROGRAM	41,894	-	9.250%	2030	No	1990	1	-	-
243	BPA PROGRAM	3,824	-	9.250%	2030	No	1990	1	-	-
244	BPA PROGRAM	3,008	-	9.250%	2030	No	1990	1	-	-
245	BPA PROGRAM	1,149	-	9.250%	2030	No	1990	1	-	-
246	BPA PROGRAM	96	-	9.250%	2030	No	1990	1	-	-
247	BPA PROGRAM	29	-	9.250%	2030	No	1990	1	-	-
248	BPA PROGRAM	54,145	-	7.550%	1995	No	1991	2	-	-
249	BPA PROGRAM	5,855	-	7.550%	1995	No	1991	2	-	-
250	BPA PROGRAM	80,000	-	6.200%	1995	No	1992	4	-	-
251	BPA PROGRAM	50,000	-	7.000%	1997	No	1992	4	-	-
252	BPA PROGRAM	28,300	-	7.000%	1997	No	1992	4	-	-
253	BPA PROGRAM	107,800	-	6.600%	2000	No	1992	8	-	-
254	BPA PROGRAM	107,700	-	7.250%	2007	No	1992	8	-	-
255	BPA PROGRAM	147,521	-	8.800%	2032	No	1992	4	-	-
256	BPA PROGRAM	2,479	-	8.800%	2032	No	1992	4	-	-
257	BPA PROGRAM	150,000	-	8.130%	2032	No	1992	7	-	-
258	BPA PROGRAM	50,000	-	6.050%	1998	No	1993	10	-	-
259	BPA PROGRAM	99,962	-	8.350%	2033	No	1993	10	-	-
260	BPA PROGRAM	130,000	-	7.800%	2033	No	1993	2	-	-
261	BPA PROGRAM	100,000	-	7.500%	2033	No	1993	4	-	-
262	BPA PROGRAM	110,000	-	6.950%	2033	No	1993	8	-	-
263	BPA PROGRAM	49,489	-	7.100%	1998	No	1994	5	-	-
264	BPA PROGRAM	43,155	-	7.100%	1998	No	1994	5	-	-
265	BPA PROGRAM	4,456	-	7.100%	1998	No	1994	5	-	-
266	BPA PROGRAM	55,000	-	7.650%	1999	No	1994	9	-	-
267	BPA PROGRAM	50,000	-	8.200%	2034	No	1994	5	-	-
268	BPA PROGRAM	50,000	-	7.050%	2034	No	1994	1	-	-
269	BPA PROGRAM	108,400	-	6.850%	2034	No	1994	10	-	-
270	BPA PROGRAM	50,000	-	6.850%	2034	No	1994	10	-	-
271	BPA PROGRAM	55,000	-	8.350%	2001	No	1995	1	-	-
272	BPA PROGRAM	65,000	-	7.700%	2025	No	1995	8	-	-
273	BPA PROGRAM	49,933	-	7.700%	2025	No	1995	7	-	-
274	BPA PROGRAM	54,378	-	5.900%	2003	No	1996	1	-	-
275	BPA PROGRAM	70,000	-	7.050%	2006	No	1996	8	-	-
276	BPA PROGRAM	22,600	-	6.800%	2004	No	1997	1	-	-
277	BPA PROGRAM	80,000	-	6.900%	2005	No	1997	5	-	-
278	BPA PROGRAM	111,254	-	6.650%	2007	No	1997	8	-	-
279	BPA PROGRAM	75,300	-	6.000%	2008	No	1998	4	-	-
280	BPA PROGRAM	36,819	-	5.750%	2008	No	1998	8	-	-
281	BPA PROGRAM	72,700	72,700	6.000%	2009	No	1998	5	2021	4.540%
282	BPA PROGRAM	40,000	40,000	6.200%	2011	No	1998	5	-	-
283	BPA PROGRAM	50,000	50,000	6.650%	2028	No	1998	4	-	-
284	BPA PROGRAM	112,300	112,300	5.850%	2028	No	1998	8	-	-
285	BPA PROGRAM	106,500	106,500	5.850%	2028	No	1998	8	2031	5.510%
286	BPA PROGRAM	98,900	98,900	6.700%	2032	No	1998	5	-	-
287	BPA PROGRAM	40,000	-	6.200%	2002	No	1999	9	-	-
288	BPA PROGRAM	26,200	-	5.950%	2004	No	1999	5	-	-
289	BPA PROGRAM	59,050	59,050	5.900%	2014	No	1999	2	2025	6.100%
290	BPA PROGRAM	15,300	-	6.850%	2003	No	2000	8	-	-
291	BPA PROGRAM	40,000	-	6.400%	2003	No	2000	11	-	-
292	BPA PROGRAM	39,052	-	7.000%	2004	No	2000	7	-	-

Table 10-1: Historical Investments (\$000s) (FY 2010)

A	B	C	D	E	F	G	H	I	J
Project	Original Principal	Current Principal	Interest Rate	Due Date	Replacement?	Service In Date	Month	Rollover Date	Rollover Rate
293	BPA PROGRAM	53,500	-	7.150%	2005	No	2000	1	-
294	BPA PROGRAM	40,000	-	6.750%	2006	No	2000	9	-
295	BPA PROGRAM	20,000	-	5.650%	2005	No	2001	1	-
296	BPA PROGRAM	59,932	59,932	6.050%	2010	No	2001	1	-
297	BPA PROGRAM	25,000	25,000	5.950%	2011	No	2001	6	-
298	BPA PROGRAM	50,000	50,000	5.750%	2011	No	2001	8	2026 6.080%
299	BPA PROGRAM	108,010	-	4.600%	2005	No	2002	3	-
300	BPA PROGRAM	60,000	-	3.750%	2005	No	2002	6	-
301	BPA PROGRAM	100,000	-	3.050%	2006	No	2002	9	-
302	BPA PROGRAM	4,938	-	3.000%	2006	No	2003	10	-
303	BPA PROGRAM	40,000	-	2.800%	2006	No	2003	11	-
304	BPA PROGRAM	20,000	-	2.500%	2006	No	2003	9	-
305	BPA PROGRAM	75,000	-	2.300%	2006	No	2003	7	-
306	BPA PROGRAM	25,000	-	2.950%	2007	No	2003	7	-
307	BPA PROGRAM	40,000	-	2.900%	2007	No	2003	4	-
308	BPA PROGRAM	40,000	40,000	5.550%	2033	No	2003	4	-
309	BPA PROGRAM	50,000	-	3.450%	2007	No	2004	7	-
310	BPA PROGRAM	30,000	-	3.100%	2007	No	2004	9	-
311	BPA PROGRAM	65,000	-	2.950%	2007	No	2004	4	-
312	BPA PROGRAM	46,643	-	2.500%	2007	No	2004	1	-
313	BPA PROGRAM	25,000	-	3.800%	2008	No	2004	7	-
314	BPA PROGRAM	65,000	-	2.950%	2008	No	2004	1	-
315	BPA PROGRAM	40,000	40,000	5.600%	2034	No	2004	9	-
316	BPA PROGRAM	40,000	40,000	4.000%	2009	No	2005	6	2037 5.410%
317	BPA PROGRAM	27,010	27,010	3.750%	2009	No	2005	11	-
318	BPA PROGRAM	40,000	40,000	5.500%	2035	No	2005	4	-
319	BPA PROGRAM	40,000	40,000	5.400%	2035	No	2005	1	-
320	BPA PROGRAM	45,000	45,000	5.250%	2035	No	2005	9	-
321	BPA PROGRAM	70,000	70,000	5.350%	2009	No	2006	7	2038 5.470%
322	BPA PROGRAM	20,000	20,000	5.050%	2009	No	2006	3	-
323	BPA PROGRAM	20,000	20,000	4.950%	2010	No	2006	9	-
324	BPA PROGRAM	5,319	5,319	4.950%	2010	No	2006	9	-
325	BPA PROGRAM	50,000	50,000	5.200%	2010	No	2007	7	-
326	BPA PROGRAM	25,000	25,000	5.100%	2010	No	2007	1	-
327	BPA PROGRAM	40,000	40,000	4.850%	2012	No	2007	3	2026 6.200%
328	BPA PROGRAM	35,000	35,000	6.400%	2037	No	2007	6	-
329	BPA PROGRAM	40,000	40,000	3.358%	2011	No	2008	5	-
330	BPA PROGRAM	25,000	25,000	3.151%	2011	No	2008	9	-
331	BPA PROGRAM	30,000	30,000	3.913%	2012	No	2008	7	2026 6.200%
332	BPA PROGRAM	25,000	25,000	3.444%	2012	No	2008	9	-
333	BPA PROGRAM	30,000	30,000	3.200%	2012	No	2008	1	-
334	ENVIRONMENT	40,000	-	6.950%	2012	No	1997	11	-
335	ENVIRONMENT	30,000	30,000	6.050%	2010	No	2001	1	-
336	ENVIRONMENT	30,000	-	3.050%	2006	No	2002	9	-
337	ENVIRONMENT	20,000	20,000	5.050%	2009	No	2006	3	-
338	ENVIRONMENT	10,000	10,000	3.151%	2011	No	2008	9	-

Table 10-2: Projected Federal Investments (\$000s)(FY 2010)

	A	B	C	D	E	F	G	H	I	J
	Project	Original Principal	Current Principal	Interest Rate	Due Date	Replacement?	In Service Date	Month	Rollover Date	Rollover Rate
1	BPA PROGRAM	277,265	277,265	5.350%	2044	No	2009	3	-	-
2	BPA PROGRAM	405,094	405,094	6.790%	2045	No	2010	3	-	-
3	ENVIRONMENT	4,402	4,402	4.720%	2024	No	2009	3	-	-
4	ENVIRONMENT	5,369	5,369	5.870%	2025	No	2010	3	-	-

Table 10-3: Historical Federal Investments (\$000s)(FY 2011)

	A	B	C	D	E	F	G	H	I	J
	Project	Original Principal	Current Principal	Interest Rate	Due Date	Replacement?	In Service Date	Month	Rollover Date	Rollover Rate
1	BONNEVILLE POWER ADMINISTRATION	6,812	-	2.500%	1985	No	1940	-	-	-
2	BONNEVILLE POWER ADMINISTRATION	18,906	-	2.500%	1986	No	1941	-	-	-
3	BONNEVILLE POWER ADMINISTRATION	461	-	2.500%	1986	No	1941	-	-	-
4	BONNEVILLE POWER ADMINISTRATION	8,446	-	2.500%	1987	No	1942	-	-	-
5	BONNEVILLE POWER ADMINISTRATION	1,052	-	2.500%	1987	No	1942	-	-	-
6	BONNEVILLE POWER ADMINISTRATION	16,083	-	2.500%	1988	No	1943	-	-	-
7	BONNEVILLE POWER ADMINISTRATION	4,538	-	2.500%	1988	No	1943	-	-	-
8	BONNEVILLE POWER ADMINISTRATION	583	-	2.500%	1989	No	1944	-	-	-
9	BONNEVILLE POWER ADMINISTRATION	249	-	2.500%	1989	No	1944	-	-	-
10	BONNEVILLE POWER ADMINISTRATION	3,366	-	2.500%	1990	No	1945	-	-	-
11	BONNEVILLE POWER ADMINISTRATION	1,306	-	2.500%	1990	No	1945	-	-	-
12	BONNEVILLE POWER ADMINISTRATION	2,488	-	2.500%	1991	No	1946	-	-	-
13	BONNEVILLE POWER ADMINISTRATION	732	-	2.500%	1991	No	1946	-	-	-
14	BONNEVILLE POWER ADMINISTRATION	1,773	-	2.500%	1992	No	1947	-	-	-
15	BONNEVILLE POWER ADMINISTRATION	1,330	-	2.500%	1992	No	1947	-	-	-
16	BONNEVILLE POWER ADMINISTRATION	7,468	-	2.500%	1993	No	1948	-	-	-
17	BONNEVILLE POWER ADMINISTRATION	2,290	-	2.500%	1993	No	1948	-	-	-
18	BONNEVILLE POWER ADMINISTRATION	6,809	-	2.500%	1994	No	1949	-	-	-
19	BONNEVILLE POWER ADMINISTRATION	2,719	-	2.500%	1994	No	1949	-	-	-
20	BONNEVILLE POWER ADMINISTRATION	24,111	-	2.500%	1995	No	1950	-	-	-
21	BONNEVILLE POWER ADMINISTRATION	6,124	-	2.500%	1995	No	1950	-	-	-
22	BONNEVILLE POWER ADMINISTRATION	13,266	-	2.500%	1996	No	1951	-	-	-
23	BONNEVILLE POWER ADMINISTRATION	7,040	-	2.500%	1996	No	1951	-	-	-
24	BONNEVILLE POWER ADMINISTRATION	18,610	-	2.500%	1997	No	1952	-	-	-
25	BONNEVILLE POWER ADMINISTRATION	8,979	-	2.500%	1997	No	1952	-	-	-
26	BONNEVILLE POWER ADMINISTRATION	23,550	-	6.330%	1998	No	1953	-	-	-
27	BONNEVILLE POWER ADMINISTRATION	11,605	-	6.330%	1998	No	1953	-	-	-
28	BONNEVILLE POWER ADMINISTRATION	23,614	-	6.510%	1999	No	1954	-	-	-
29	BONNEVILLE POWER ADMINISTRATION	17,370	-	6.510%	1999	No	1954	-	-	-
30	BONNEVILLE POWER ADMINISTRATION	11,827	-	6.620%	2000	No	1955	-	-	-
31	BONNEVILLE POWER ADMINISTRATION	10,283	-	6.620%	2000	No	1955	-	-	-
32	BONNEVILLE POWER ADMINISTRATION	32,221	-	6.710%	2001	No	1956	-	-	-
33	BONNEVILLE POWER ADMINISTRATION	14,573	-	6.710%	2001	No	1956	-	-	-
34	BONNEVILLE POWER ADMINISTRATION	15,980	-	6.790%	2002	No	1957	-	-	-
35	BONNEVILLE POWER ADMINISTRATION	7,933	-	6.790%	2002	No	1957	-	-	-
36	BONNEVILLE POWER ADMINISTRATION	15,593	-	6.840%	2003	No	1958	-	-	-
37	BONNEVILLE POWER ADMINISTRATION	10,654	-	6.840%	2003	No	1958	-	-	-
38	BONNEVILLE POWER ADMINISTRATION	8,863	-	6.880%	2004	No	1959	-	-	-
39	BONNEVILLE POWER ADMINISTRATION	8,157	-	6.880%	2004	No	1959	-	-	-
40	BONNEVILLE POWER ADMINISTRATION	4,218	-	6.910%	2005	No	1960	-	-	-
41	BONNEVILLE POWER ADMINISTRATION	3,598	-	6.910%	2005	No	1960	-	-	-
42	BONNEVILLE POWER ADMINISTRATION	11,271	-	6.950%	2006	No	1961	-	-	-
43	BONNEVILLE POWER ADMINISTRATION	4,468	-	6.950%	2006	No	1961	-	-	-
44	BONNEVILLE POWER ADMINISTRATION	19,597	-	6.980%	2007	No	1962	-	-	-
45	BONNEVILLE POWER ADMINISTRATION	4,877	-	6.980%	2007	No	1962	-	-	-
46	BONNEVILLE POWER ADMINISTRATION	4,876	-	7.020%	2008	No	1963	-	-	-
47	BONNEVILLE POWER ADMINISTRATION	4,330	-	7.020%	2008	No	1963	-	-	-
48	BONNEVILLE POWER ADMINISTRATION	904	-	7.020%	2008	No	1963	-	-	-
49	BONNEVILLE POWER ADMINISTRATION	803	-	7.020%	2008	No	1963	-	-	-
50	BONNEVILLE POWER ADMINISTRATION	5,738	5,738	7.060%	2009	No	1964	-	-	-
51	BONNEVILLE POWER ADMINISTRATION	4,151	4,151	7.060%	2009	No	1964	-	-	-
52	BONNEVILLE POWER ADMINISTRATION	10,171	-	7.090%	2010	No	1965	-	-	-
53	BONNEVILLE POWER ADMINISTRATION	7,248	78	7.090%	2010	No	1965	-	-	-
54	BONNEVILLE POWER ADMINISTRATION	5,202	-	7.090%	2010	No	1965	-	-	-
55	BONNEVILLE POWER ADMINISTRATION	3,706	3,706	7.090%	2010	No	1965	-	-	-
56	BONNEVILLE POWER ADMINISTRATION	11,830	11,830	7.130%	2011	No	1966	-	-	-
57	BONNEVILLE POWER ADMINISTRATION	6,647	6,353	7.130%	2011	No	1966	-	-	-
58	BONNEVILLE POWER ADMINISTRATION	3,049	3,049	7.130%	2011	No	1966	-	-	-
59	BONNEVILLE POWER ADMINISTRATION	1,714	-	7.130%	2011	No	1966	-	-	-
60	BONNEVILLE POWER ADMINISTRATION	19,003	19,003	7.160%	2012	No	1967	-	-	-
61	BONNEVILLE POWER ADMINISTRATION	14,300	-	7.160%	2012	No	1967	-	-	-
62	BONNEVILLE POWER ADMINISTRATION	4,566	355	7.160%	2012	No	1967	-	-	-
63	BONNEVILLE POWER ADMINISTRATION	3,436	-	7.160%	2012	No	1967	-	-	-
64	BONNEVILLE POWER ADMINISTRATION	41,070	18,250	7.200%	2013	No	1968	-	-	-
65	BONNEVILLE POWER ADMINISTRATION	23,202	-	7.200%	2013	No	1968	-	-	-
66	BONNEVILLE POWER ADMINISTRATION	8,076	-	7.200%	2013	No	1968	-	-	-
67	BONNEVILLE POWER ADMINISTRATION	4,562	-	7.200%	2013	No	1968	-	-	-

Table 10-3: Historical Federal Investments (\$000s)(FY 2011)

	A	B	C	D	E	F	G	H	I	J
	Project	Original Principal	Current Principal	Interest Rate	Due Date	Replacement?	In Service Date	Month	Rollover Date	Rollover Rate
68	BONNEVILLE POWER ADMINISTRATION	42,237	19,198	7.230%	2014	No	1969	-	-	-
69	BONNEVILLE POWER ADMINISTRATION	22,537	-	7.230%	2014	No	1969	-	-	-
70	BONNEVILLE POWER ADMINISTRATION	384	-	7.230%	2014	No	1969	-	-	-
71	BONNEVILLE POWER ADMINISTRATION	205	-	7.230%	2014	No	1969	-	-	-
72	BONNEVILLE POWER ADMINISTRATION	64,977	64,977	7.270%	2015	No	1970	-	-	-
73	BONNEVILLE POWER ADMINISTRATION	24,412	23,551	7.270%	2015	No	1970	-	-	-
74	BONNEVILLE POWER ADMINISTRATION	7,995	7,995	7.270%	2015	No	1970	-	-	-
75	BONNEVILLE POWER ADMINISTRATION	3,003	-	7.270%	2015	No	1970	-	-	-
76	BONNEVILLE POWER ADMINISTRATION	17,805	-	7.290%	2016	No	1971	-	-	-
77	BONNEVILLE POWER ADMINISTRATION	17,766	-	7.290%	2016	No	1971	-	-	-
78	BONNEVILLE POWER ADMINISTRATION	12,051	-	7.290%	2016	No	1971	-	-	-
79	BONNEVILLE POWER ADMINISTRATION	12,025	-	7.290%	2016	No	1971	-	-	-
80	BONNEVILLE POWER ADMINISTRATION	29,326	-	7.290%	2017	No	1972	-	-	-
81	BONNEVILLE POWER ADMINISTRATION	21,170	-	7.290%	2017	No	1972	-	-	-
82	BONNEVILLE POWER ADMINISTRATION	3,980	-	7.290%	2017	No	1972	-	-	-
83	BONNEVILLE POWER ADMINISTRATION	2,873	-	7.290%	2017	No	1972	-	-	-
84	BONNEVILLE POWER ADMINISTRATION	33,788	33,788	7.280%	2018	No	1973	-	-	-
85	BONNEVILLE POWER ADMINISTRATION	21,656	5,041	7.280%	2018	No	1973	-	-	-
86	BONNEVILLE POWER ADMINISTRATION	16,368	-	7.280%	2018	No	1973	-	-	-
87	BONNEVILLE POWER ADMINISTRATION	10,491	-	7.280%	2018	No	1973	-	-	-
88	BONNEVILLE POWER ADMINISTRATION	21,826	21,826	7.270%	2019	No	1974	-	-	-
89	BONNEVILLE POWER ADMINISTRATION	20,984	20,984	7.270%	2019	No	1974	-	-	-
90	BONNEVILLE POWER ADMINISTRATION	12,563	12,563	7.270%	2019	No	1974	-	-	-
91	BONNEVILLE POWER ADMINISTRATION	12,079	12,079	7.270%	2019	No	1974	-	-	-
92	BONNEVILLE POWER ADMINISTRATION	32,026	32,026	7.250%	2020	No	1975	-	-	-
93	BONNEVILLE POWER ADMINISTRATION	21,916	21,916	7.250%	2020	No	1975	-	-	-
94	BONNEVILLE POWER ADMINISTRATION	17,158	17,158	7.250%	2020	No	1975	-	-	-
95	BONNEVILLE POWER ADMINISTRATION	11,742	11,742	7.250%	2020	No	1975	-	-	-
96	BONNEVILLE POWER ADMINISTRATION	61,025	61,025	7.230%	2021	No	1976	-	-	-
97	BONNEVILLE POWER ADMINISTRATION	2,212	2,212	7.230%	2021	No	1976	-	-	-
98	BONNEVILLE POWER ADMINISTRATION	33,702	33,702	7.210%	2022	No	1977	-	-	-
99	BONNEVILLE POWER ADMINISTRATION	5,380	5,380	7.210%	2022	No	1977	-	-	-
100	BONNEVILLE POWER ADMINISTRATION	4,981	4,981	7.210%	2022	No	1977	-	-	-
101	BONNEVILLE POWER ADMINISTRATION	3,948	3,948	7.210%	2022	No	1977	-	-	-
102	BPA PROGRAM	24,222	-	8.950%	2013	No	1978	9	-	-
103	BPA PROGRAM	17,770	-	8.950%	2013	No	1978	9	-	-
104	BPA PROGRAM	4,619	-	8.950%	2013	No	1978	9	-	-
105	BPA PROGRAM	3,389	-	8.950%	2013	No	1978	9	-	-
106	BPA PROGRAM	21,228	-	9.900%	2014	No	1979	9	-	-
107	BPA PROGRAM	14,340	-	9.900%	2014	No	1979	9	-	-
108	BPA PROGRAM	10,610	-	9.900%	2014	No	1979	9	-	-
109	BPA PROGRAM	2,888	-	9.900%	2014	No	1979	9	-	-
110	BPA PROGRAM	605	-	9.900%	2014	No	1979	9	-	-
111	BPA PROGRAM	165	-	9.900%	2014	No	1979	9	-	-
112	BPA PROGRAM	98	-	9.900%	2014	No	1979	9	-	-
113	BPA PROGRAM	66	-	9.900%	2014	No	1979	9	-	-
114	BPA PROGRAM	26,690	-	9.450%	2014	No	1979	6	-	-
115	BPA PROGRAM	21,977	-	9.450%	2014	No	1979	6	-	-
116	BPA PROGRAM	9,804	-	9.450%	2014	No	1979	6	-	-
117	BPA PROGRAM	7,010	-	9.450%	2014	No	1979	6	-	-
118	BPA PROGRAM	6,026	-	9.450%	2014	No	1979	6	-	-
119	BPA PROGRAM	1,870	-	9.450%	2014	No	1979	6	-	-
120	BPA PROGRAM	1,371	-	9.450%	2014	No	1979	6	-	-
121	BPA PROGRAM	150	-	9.450%	2014	No	1979	6	-	-
122	BPA PROGRAM	102	-	9.450%	2014	No	1979	6	-	-
123	BPA PROGRAM	44,811	-	13.000%	2015	No	1980	9	-	-
124	BPA PROGRAM	39,696	-	13.000%	2015	No	1980	9	-	-
125	BPA PROGRAM	10,806	-	13.000%	2015	No	1980	9	-	-
126	BPA PROGRAM	9,292	-	13.000%	2015	No	1980	9	-	-
127	BPA PROGRAM	4,253	-	13.000%	2015	No	1980	9	-	-
128	BPA PROGRAM	2,263	-	13.000%	2015	No	1980	9	-	-
129	BPA PROGRAM	1,707	-	13.000%	2015	No	1980	9	-	-
130	BPA PROGRAM	1,469	-	13.000%	2015	No	1980	9	-	-
131	BPA PROGRAM	616	-	13.000%	2015	No	1980	9	-	-
132	BPA PROGRAM	56	-	13.000%	2015	No	1980	9	-	-
133	BPA PROGRAM	21	-	13.000%	2015	No	1980	9	-	-
134	BPA PROGRAM	10	-	13.000%	2015	No	1980	9	-	-

Table 10-3: Historical Federal Investments (\$000s)(FY 2011)

	A	B	C	D	E	F	G	H	I	J
	Project	Original Principal	Current Principal	Interest Rate	Due Date	Replacement?	In Service Date	Month	Rollover Date	Rollover Rate
135	BPA PROGRAM	119,775	-	16.600%	2016	No	1981	9	-	-
136	BPA PROGRAM	54,821	-	16.600%	2016	No	1981	9	-	-
137	BPA PROGRAM	277	-	16.600%	2016	No	1981	9	-	-
138	BPA PROGRAM	127	-	16.600%	2016	No	1981	9	-	-
139	BPA PROGRAM	46,980	-	14.400%	2017	No	1982	4	-	-
140	BPA PROGRAM	37,455	-	14.400%	2017	No	1982	4	-	-
141	BPA PROGRAM	34,221	-	14.400%	2017	No	1982	12	-	-
142	BPA PROGRAM	15,663	-	14.400%	2017	No	1982	12	-	-
143	BPA PROGRAM	9,975	-	14.400%	2017	No	1982	4	-	-
144	BPA PROGRAM	4,566	-	14.400%	2017	No	1982	4	-	-
145	BPA PROGRAM	551	-	14.400%	2017	No	1982	4	-	-
146	BPA PROGRAM	439	-	14.400%	2017	No	1982	4	-	-
147	BPA PROGRAM	80	-	14.400%	2017	No	1982	12	-	-
148	BPA PROGRAM	36	-	14.400%	2017	No	1982	12	-	-
149	BPA PROGRAM	23	-	14.400%	2017	No	1982	4	-	-
150	BPA PROGRAM	11	-	14.400%	2017	No	1982	4	-	-
151	BPA PROGRAM	77,807	-	14.150%	2017	No	1982	7	-	-
152	BPA PROGRAM	3,677	-	14.150%	2017	No	1982	7	-	-
153	BPA PROGRAM	2,932	-	14.150%	2017	No	1982	7	-	-
154	BPA PROGRAM	402	-	14.150%	2017	No	1982	7	-	-
155	BPA PROGRAM	105	-	14.150%	2017	No	1982	7	-	-
156	BPA PROGRAM	43	-	14.150%	2017	No	1982	7	-	-
157	BPA PROGRAM	34	-	14.150%	2017	No	1982	7	-	-
158	BPA PROGRAM	37,235	-	12.250%	2018	No	1983	9	-	-
159	BPA PROGRAM	6,708	-	12.250%	2018	No	1983	9	-	-
160	BPA PROGRAM	814	-	12.250%	2018	No	1983	9	-	-
161	BPA PROGRAM	203	-	12.250%	2018	No	1983	9	-	-
162	BPA PROGRAM	35	-	12.250%	2018	No	1983	9	-	-
163	BPA PROGRAM	4	-	12.250%	2018	No	1983	9	-	-
164	BPA PROGRAM	1	-	12.250%	2018	No	1983	9	-	-
165	BPA PROGRAM	29,806	-	11.700%	2018	No	1983	6	-	-
166	BPA PROGRAM	154	-	11.700%	2018	No	1983	6	-	-
167	BPA PROGRAM	40	-	11.700%	2018	No	1983	6	-	-
168	BPA PROGRAM	39,741	-	10.850%	2018	No	1983	11	-	-
169	BPA PROGRAM	205	-	10.850%	2018	No	1983	11	-	-
170	BPA PROGRAM	54	-	10.850%	2018	No	1983	11	-	-
171	BPA PROGRAM	50,567	-	13.050%	2019	No	1984	9	-	-
172	BPA PROGRAM	9,109	-	13.050%	2019	No	1984	9	-	-
173	BPA PROGRAM	276	-	13.050%	2019	No	1984	9	-	-
174	BPA PROGRAM	48	-	13.050%	2019	No	1984	9	-	-
175	BPA PROGRAM	25,283	-	12.300%	2019	No	1984	11	-	-
176	BPA PROGRAM	4,555	-	12.300%	2019	No	1984	11	-	-
177	BPA PROGRAM	138	-	12.300%	2019	No	1984	11	-	-
178	BPA PROGRAM	24	-	12.300%	2019	No	1984	11	-	-
179	BPA PROGRAM	15,182	-	11.250%	2029	No	1985	6	-	-
180	BPA PROGRAM	460	-	11.250%	2029	No	1985	6	-	-
181	BPA PROGRAM	80	-	11.250%	2029	No	1985	6	-	-
182	BPA PROGRAM	84,278	-	11.250%	2030	No	1985	6	-	-
183	BPA PROGRAM	68,194	-	8.150%	1996	No	1986	3	-	-
184	BPA PROGRAM	30,161	-	8.150%	1996	No	1986	3	-	-
185	BPA PROGRAM	870	-	8.150%	1996	No	1986	3	-	-
186	BPA PROGRAM	443	-	8.150%	1996	No	1986	3	-	-
187	BPA PROGRAM	169	-	8.150%	1996	No	1986	3	-	-
188	BPA PROGRAM	157	-	8.150%	1996	No	1986	3	-	-
189	BPA PROGRAM	5	-	8.150%	1996	No	1986	3	-	-
190	BPA PROGRAM	1	-	8.150%	1996	No	1986	3	-	-
191	BPA PROGRAM	180,054	-	8.950%	2031	No	1986	6	-	-
192	BPA PROGRAM	57,354	-	8.950%	2031	No	1986	6	-	-
193	BPA PROGRAM	40,000	-	8.950%	2031	No	1986	6	-	-
194	BPA PROGRAM	11,668	-	8.950%	2031	No	1986	6	-	-
195	BPA PROGRAM	5,161	-	8.950%	2031	No	1986	6	-	-
196	BPA PROGRAM	3,117	-	8.950%	2031	No	1986	6	-	-
197	BPA PROGRAM	1,819	-	8.950%	2031	No	1986	6	-	-
198	BPA PROGRAM	722	-	8.950%	2031	No	1986	6	-	-
199	BPA PROGRAM	76	-	8.950%	2031	No	1986	6	-	-
200	BPA PROGRAM	29	-	8.950%	2031	No	1986	6	-	-
201	BPA PROGRAM	96,519	-	8.350%	1992	No	1987	6	-	-

Table 10-3: Historical Federal Investments (\$000s)(FY 2011)

A	B	C	D	E	F	G	H	I	J
Project	Original Principal	Current Principal	Interest Rate	Due Date	Replacement?	In Service Date	Month	Rollover Date	Rollover Rate
202	BPA PROGRAM	2,498	-	8.350%	1992	No	1987	6	-
203	BPA PROGRAM	983	-	8.350%	1992	No	1987	6	-
204	BPA PROGRAM	86,958	-	9.550%	2017	No	1987	7	-
205	BPA PROGRAM	4,113	-	9.550%	2017	No	1987	7	-
206	BPA PROGRAM	3,274	-	9.550%	2017	No	1987	7	-
207	BPA PROGRAM	569	-	9.550%	2017	No	1987	7	-
208	BPA PROGRAM	48	-	9.550%	2017	No	1987	7	-
209	BPA PROGRAM	38	-	9.550%	2017	No	1987	7	-
210	BPA PROGRAM	37,342	-	9.550%	2032	No	1987	7	-
211	BPA PROGRAM	7,903	-	9.550%	2032	No	1987	7	-
212	BPA PROGRAM	3,109	-	9.550%	2032	No	1987	7	-
213	BPA PROGRAM	631	-	9.550%	2032	No	1987	7	-
214	BPA PROGRAM	618	-	9.550%	2032	No	1987	7	-
215	BPA PROGRAM	285	-	9.550%	2032	No	1987	7	-
216	BPA PROGRAM	112	-	9.550%	2032	No	1987	7	-
217	BPA PROGRAM	54,409	-	9.300%	2032	No	1987	4	-
218	BPA PROGRAM	43,236	-	9.300%	2032	No	1987	4	-
219	BPA PROGRAM	1,409	-	9.300%	2032	No	1987	4	-
220	BPA PROGRAM	554	-	9.300%	2032	No	1987	4	-
221	BPA PROGRAM	281	-	9.300%	2032	No	1987	4	-
222	BPA PROGRAM	111	-	9.300%	2032	No	1987	4	-
223	BPA PROGRAM	43,417	-	9.500%	2018	No	1988	2	-
224	BPA PROGRAM	283	-	9.500%	2018	No	1988	2	-
225	BPA PROGRAM	30,004	-	9.900%	2033	No	1988	6	-
226	BPA PROGRAM	9,018	-	9.900%	2033	No	1988	6	-
227	BPA PROGRAM	752	-	9.900%	2033	No	1988	6	-
228	BPA PROGRAM	226	-	9.900%	2033	No	1988	6	-
229	BPA PROGRAM	45,870	-	9.500%	2033	No	1988	2	-
230	BPA PROGRAM	28,513	-	9.500%	2033	No	1988	2	-
231	BPA PROGRAM	27,887	-	9.500%	2033	No	1988	2	-
232	BPA PROGRAM	22,923	-	9.500%	2033	No	1988	2	-
233	BPA PROGRAM	20,677	-	9.500%	2033	No	1988	2	-
234	BPA PROGRAM	1,725	-	9.500%	2033	No	1988	2	-
235	BPA PROGRAM	954	-	9.500%	2033	No	1988	2	-
236	BPA PROGRAM	933	-	9.500%	2033	No	1988	2	-
237	BPA PROGRAM	518	-	9.500%	2033	No	1988	2	-
238	BPA PROGRAM	56,257	-	8.950%	1999	No	1989	5	-
239	BPA PROGRAM	16,909	-	8.950%	1999	No	1989	5	-
240	BPA PROGRAM	1,410	-	8.950%	1999	No	1989	5	-
241	BPA PROGRAM	424	-	8.950%	1999	No	1989	5	-
242	BPA PROGRAM	41,894	-	9.250%	2030	No	1990	1	-
243	BPA PROGRAM	3,824	-	9.250%	2030	No	1990	1	-
244	BPA PROGRAM	3,008	-	9.250%	2030	No	1990	1	-
245	BPA PROGRAM	1,149	-	9.250%	2030	No	1990	1	-
246	BPA PROGRAM	96	-	9.250%	2030	No	1990	1	-
247	BPA PROGRAM	29	-	9.250%	2030	No	1990	1	-
248	BPA PROGRAM	54,145	-	7.550%	1995	No	1991	2	-
249	BPA PROGRAM	5,855	-	7.550%	1995	No	1991	2	-
250	BPA PROGRAM	80,000	-	6.200%	1995	No	1992	4	-
251	BPA PROGRAM	50,000	-	7.000%	1997	No	1992	4	-
252	BPA PROGRAM	28,300	-	7.000%	1997	No	1992	4	-
253	BPA PROGRAM	107,800	-	6.600%	2000	No	1992	8	-
254	BPA PROGRAM	107,700	-	7.250%	2007	No	1992	8	-
255	BPA PROGRAM	147,521	-	8.800%	2032	No	1992	4	-
256	BPA PROGRAM	2,479	-	8.800%	2032	No	1992	4	-
257	BPA PROGRAM	150,000	-	8.130%	2032	No	1992	7	-
258	BPA PROGRAM	50,000	-	6.050%	1998	No	1993	10	-
259	BPA PROGRAM	99,962	-	8.350%	2033	No	1993	10	-
260	BPA PROGRAM	130,000	-	7.800%	2033	No	1993	2	-
261	BPA PROGRAM	100,000	-	7.500%	2033	No	1993	4	-
262	BPA PROGRAM	110,000	-	6.950%	2033	No	1993	8	-
263	BPA PROGRAM	49,489	-	7.100%	1998	No	1994	5	-
264	BPA PROGRAM	43,155	-	7.100%	1998	No	1994	5	-
265	BPA PROGRAM	4,456	-	7.100%	1998	No	1994	5	-
266	BPA PROGRAM	55,000	-	7.650%	1999	No	1994	9	-
267	BPA PROGRAM	50,000	-	8.200%	2034	No	1994	5	-
268	BPA PROGRAM	50,000	-	7.050%	2034	No	1994	1	-

Table 10-3: Historical Federal Investments (\$000s)(FY 2011)

A	B	C	D	E	F	G	H	I	J
Project	Original Principal	Current Principal	Interest Rate	Due Date	Replacement?	In Service Date	Month	Rollover Date	Rollover Rate
269	BPA PROGRAM	108,400	-	6.850%	2034	No	1994	10	-
270	BPA PROGRAM	50,000	-	6.850%	2034	No	1994	10	-
271	BPA PROGRAM	55,000	-	8.350%	2001	No	1995	1	-
272	BPA PROGRAM	65,000	-	7.700%	2025	No	1995	8	-
273	BPA PROGRAM	49,933	-	7.700%	2025	No	1995	7	-
274	BPA PROGRAM	54,378	-	5.900%	2003	No	1996	1	-
275	BPA PROGRAM	70,000	-	7.050%	2006	No	1996	8	-
276	BPA PROGRAM	22,600	-	6.800%	2004	No	1997	1	-
277	BPA PROGRAM	80,000	-	6.900%	2005	No	1997	5	-
278	BPA PROGRAM	111,254	-	6.650%	2007	No	1997	8	-
279	BPA PROGRAM	75,300	-	6.000%	2008	No	1998	4	-
280	BPA PROGRAM	36,819	-	5.750%	2008	No	1998	8	-
281	BPA PROGRAM	72,700	72,700	6.000%	2009	No	1998	5	2021
282	BPA PROGRAM	40,000	40,000	6.200%	2011	No	1998	5	-
283	BPA PROGRAM	50,000	50,000	6.650%	2028	No	1998	4	-
284	BPA PROGRAM	112,300	112,300	5.850%	2028	No	1998	8	-
285	BPA PROGRAM	106,500	106,500	5.850%	2028	No	1998	8	2031
286	BPA PROGRAM	98,900	98,900	6.700%	2032	No	1998	5	-
287	BPA PROGRAM	40,000	-	6.200%	2002	No	1999	9	-
288	BPA PROGRAM	26,200	-	5.950%	2004	No	1999	5	-
289	BPA PROGRAM	59,050	59,050	5.900%	2014	No	1999	2	2025
290	BPA PROGRAM	15,300	-	6.850%	2003	No	2000	8	-
291	BPA PROGRAM	40,000	-	6.400%	2003	No	2000	11	-
292	BPA PROGRAM	39,052	-	7.000%	2004	No	2000	7	-
293	BPA PROGRAM	53,500	-	7.150%	2005	No	2000	1	-
294	BPA PROGRAM	40,000	-	6.750%	2006	No	2000	9	-
295	BPA PROGRAM	20,000	-	5.650%	2005	No	2001	1	-
296	BPA PROGRAM	59,932	59,932	6.050%	2010	No	2001	1	-
297	BPA PROGRAM	25,000	25,000	5.950%	2011	No	2001	6	-
298	BPA PROGRAM	50,000	50,000	5.750%	2011	No	2001	8	2026
299	BPA PROGRAM	108,010	-	4.600%	2005	No	2002	3	-
300	BPA PROGRAM	60,000	-	3.750%	2005	No	2002	6	-
301	BPA PROGRAM	100,000	-	3.050%	2006	No	2002	9	-
302	BPA PROGRAM	4,938	-	3.000%	2006	No	2003	10	-
303	BPA PROGRAM	40,000	-	2.800%	2006	No	2003	11	-
304	BPA PROGRAM	20,000	-	2.500%	2006	No	2003	9	-
305	BPA PROGRAM	75,000	-	2.300%	2006	No	2003	7	-
306	BPA PROGRAM	25,000	-	2.950%	2007	No	2003	7	-
307	BPA PROGRAM	40,000	-	2.900%	2007	No	2003	4	-
308	BPA PROGRAM	40,000	40,000	5.550%	2033	No	2003	4	-
309	BPA PROGRAM	50,000	-	3.450%	2007	No	2004	7	-
310	BPA PROGRAM	30,000	-	3.100%	2007	No	2004	9	-
311	BPA PROGRAM	65,000	-	2.950%	2007	No	2004	4	-
312	BPA PROGRAM	46,643	-	2.500%	2007	No	2004	1	-
313	BPA PROGRAM	25,000	-	3.800%	2008	No	2004	7	-
314	BPA PROGRAM	65,000	-	2.950%	2008	No	2004	1	-
315	BPA PROGRAM	40,000	40,000	5.600%	2034	No	2004	9	-
316	BPA PROGRAM	40,000	40,000	4.000%	2009	No	2005	6	2037
317	BPA PROGRAM	27,010	27,010	3.750%	2009	No	2005	11	-
318	BPA PROGRAM	40,000	40,000	5.500%	2035	No	2005	4	-
319	BPA PROGRAM	40,000	40,000	5.400%	2035	No	2005	1	-
320	BPA PROGRAM	45,000	45,000	5.250%	2035	No	2005	9	-
321	BPA PROGRAM	70,000	70,000	5.350%	2009	No	2006	7	2038
322	BPA PROGRAM	20,000	20,000	5.050%	2009	No	2006	3	-
323	BPA PROGRAM	20,000	20,000	4.950%	2010	No	2006	9	-
324	BPA PROGRAM	5,319	5,319	4.950%	2010	No	2006	9	-
325	BPA PROGRAM	50,000	50,000	5.200%	2010	No	2007	7	-
326	BPA PROGRAM	25,000	25,000	5.100%	2010	No	2007	1	-
327	BPA PROGRAM	40,000	40,000	4.850%	2012	No	2007	3	2026
328	BPA PROGRAM	35,000	35,000	6.400%	2037	No	2007	6	-
329	BPA PROGRAM	40,000	40,000	3.358%	2011	No	2008	5	-
330	BPA PROGRAM	25,000	25,000	3.151%	2011	No	2008	9	-
331	BPA PROGRAM	30,000	30,000	3.913%	2012	No	2008	7	2026
332	BPA PROGRAM	25,000	25,000	3.444%	2012	No	2008	9	-
333	BPA PROGRAM	30,000	30,000	3.200%	2012	No	2008	1	-
334	ENVIRONMENT	40,000	-	6.950%	2012	No	1997	11	-
335	ENVIRONMENT	30,000	30,000	6.050%	2010	No	2001	1	-

Table 10-3: Historical Federal Investments (\$000s)(FY 2011)

	A	B	C	D	E	F	G	H	I	J
	Project	Original Principal	Current Principal	Interest Rate	Due Date	Replacement?	In Service Date	Month	Rollover Date	Rollover Rate
336	ENVIRONMENT	30,000	-	3.050%	2006	No	2002	9	-	-
337	ENVIRONMENT	20,000	20,000	5.050%	2009	No	2006	3	-	-
338	ENVIRONMENT	10,000	10,000	3.151%	2011	No	2008	9	-	-

Table 10-4: Projected Federal Investments (\$000s)(FY 2011)

	A	B	C	D	E	F	G	H	I	J
	Project	Original Principal	Current Principal	Interest Rate	Due Date	Replacement?	In Service Date	Month	Rollover Date	Rollover Rate
1	BPA PROGRAM	277,265	277,265	5.350%	2044	No	2009	3	-	-
2	BPA PROGRAM	405,094	405,094	6.790%	2045	No	2010	3	-	-
3	BPA PROGRAM	414,465	414,465	6.930%	2046	No	2011	3	-	-
4	ENVIRONMENT	4,402	4,402	4.720%	2024	No	2009	3	-	-
5	ENVIRONMENT	5,369	5,369	5.870%	2025	No	2010	3	-	-
6	ENVIRONMENT	5,581	5,581	6.220%	2026	No	2011	3	-	-

11. REPAYMENT STUDY RESULTS CURRENT STUDY

Table 11-1: Summary of Interest (\$000s) (FY 2010)

	A	B	C	D	E	F	G	H	I	J	K	I	M
	Project	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1	BONNEVILLE POWER ADMINI	35,356	27,692	25,782	20,852	12,709	9,660	6,930	5,194	3,406	3,000	2,029	-
2	TOTAL APPROPRIATIONS	35,356	27,692	25,782	20,852	12,709	9,660	6,930	5,194	3,406	3,000	2,029	-
3													
4	BPA BORROWING:												
5													
6	BPA PROGRAM	81,467	100,200	110,121	114,159	123,792	134,277	145,138	156,133	167,381	178,876	190,612	191,839
7	ENVIRONMENT	3,244	2,495	838	523	523	523	523	523	523	523	523	523
8	PREMIUMS	-	-	-	-	-	-	-	-	-	-	7,988	8,349
9	(LESS INTEREST INCOME)	-5,830	-6,991	-6,717	-5,704	-2,734	-2,683	-2,429	-2,533	-2,181	-2,486	-6,782	-6,427
10													
11	TOTAL BPA BORROWING	78,881	95,704	104,242	108,978	121,581	132,117	143,232	154,123	165,723	176,912	192,340	194,283

Table 11-1: Summary of Interest (\$000s) (FY 2010)

	A	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA
	Project	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
1	BONNEVILLE POWER ADMINI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	TOTAL APPROPRIATIONS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3															
4	BPA BORROWING:														
5															
6	BPA PROGRAM	192,369	194,565	195,731	197,202	198,860	199,861	200,890	201,732	203,003	204,164	205,457	207,899	209,257	213,195
7	ENVIRONMENT	523	523	523	523	315	-	-	-	-	-	-	-	-	-
8	PREMIUMS	4,823	7,997	7,982	8,033	6,093	3,484	8,726	1,526	8,431	8,409	3,688	3,859	4,877	2,343
9	(LESS INTEREST INCOME)	-6,422	-6,398	-6,386	-6,515	-6,938	-6,932	-6,922	-6,913	-6,899	-6,887	-6,872	-6,843	-6,138	-4,754
10															
11	TOTAL BPA BORROWING	191,293	196,686	197,851	199,242	198,330	196,413	202,694	196,344	204,535	205,687	202,273	204,915	207,996	210,785

Table 11-1: Summary of Interest (\$000s) (FY 2010)

	A	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM
	Project	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	Total
1	BONNEVILLE POWER ADMINI	-	-	-	-	-	-	-	-	-	-	-	152,609
2	TOTAL APPROPRIATIONS	-	-	-	-	-	-	-	-	-	-	-	152,609
3													
4	BPA BORROWING:												
5													
6	BPA PROGRAM	221,102	224,393	227,488	239,059	245,282	247,609	250,050	252,626	255,360	259,737	264,890	7,205,777
7	ENVIRONMENT	-	-	-	-	-	-	-	-	-	-	-	13,691
8	PREMIUMS	2,296	5,008	-	1,968	5,980	5,853	5,712	5,561	1,610	-	4,519	135,113
9	(LESS INTEREST INCOME)	-6,839	-6,438	-3,592	-5,699	-6,862	-6,833	-6,802	-6,770	-6,737	-6,684	-6,572	-215,145
10													
11	TOTAL BPA BORROWING	216,559	222,963	223,896	235,327	244,401	246,629	248,960	251,416	250,233	253,053	262,837	7,139,436

Table 11-2: Interest Calculation Summary (\$000s) (FY 2010)

	Date	A Project	B TYPE	C Principal	D Rate	E Interest	F Premium	G Total
1	FY 2009	BONNEVILLE POWER ADMINISTRATION	HISTORICAL	488,605	7.236%	35,356	-	35,356
2	FY 2009	BPA PROGRAM	HISTORICAL	1,361,711	5.438%	74,050	-	74,050
3	FY 2009	BPA PROGRAM	NEW	277,265	2.675%	7,417	-	7,417
4	FY 2009	ENVIRONMENT	HISTORICAL	60,000	5.234%	3,140	-	3,140
5	FY 2009	ENVIRONMENT	NEW	4,402	2.360%	104	-	104
6	FY 2009	Float	HISTORICAL	-	-	-5,830	-	-5,830
7	Subtotal			\$2,191,983	-	\$114,237	-	\$114,237
8								
9	FY 2010	BONNEVILLE POWER ADMINISTRATION	HISTORICAL	382,956	7.231%	27,692	-	27,692
10	FY 2010	BPA PROGRAM	HISTORICAL	1,591,966	5.430%	86,447	-	86,447
11	FY 2010	BPA PROGRAM	NEW	405,094	3.395%	13,753	-	13,753
12	FY 2010	ENVIRONMENT	HISTORICAL	44,402	5.265%	2,338	-	2,338
13	FY 2010	ENVIRONMENT	NEW	5,369	2.935%	158	-	158
14	FY 2010	Float	HISTORICAL	-	-	-6,991	-	-6,991
15	Subtotal			\$2,429,787	-	\$123,396	-	\$123,396
16								
17	FY 2011	BONNEVILLE POWER ADMINISTRATION	HISTORICAL	356,589	7.230%	25,782	-	25,782
18	FY 2011	BPA PROGRAM	HISTORICAL	1,836,809	5.727%	105,199	-	105,199
19	FY 2011	ENVIRONMENT	HISTORICAL	19,771	4.239%	838	-	838
20	FY 2011	BPA PROGRAM	NEW	145,191	3.390%	4,922	-	4,922
21	FY 2011	Float	HISTORICAL	-	-	-6,717	-	-6,717
22	Subtotal			\$2,358,360	-	\$130,024	-	\$130,024
23								
24	FY 2012	BONNEVILLE POWER ADMINISTRATION	HISTORICAL	288,366	7.231%	20,852	-	20,852
25	FY 2012	BPA PROGRAM	HISTORICAL	1,706,809	5.816%	99,266	-	99,266
26	FY 2012	ENVIRONMENT	HISTORICAL	9,771	5.352%	523	-	523
27	FY 2012	BPA PROGRAM	HISTORICAL	145,191	6.780%	9,844	-	9,844
28	FY 2012	BPA PROGRAM	NEW	148,963	3.390%	5,050	-	5,050
29	FY 2012	Float	HISTORICAL	-	-	-5,704	-	-5,704
30	Subtotal			\$2,299,100	-	\$129,830	-	\$129,830
31								
32	FY 2013	BONNEVILLE POWER ADMINISTRATION	HISTORICAL	175,918	7.225%	12,709	-	12,709
33	FY 2013	BPA PROGRAM	HISTORICAL	1,651,809	5.973%	98,671	-	98,671
34	FY 2013	ENVIRONMENT	HISTORICAL	9,771	5.352%	523	-	523
35	FY 2013	BPA PROGRAM	HISTORICAL	294,154	6.780%	19,944	-	19,944
36	FY 2013	BPA PROGRAM	NEW	152,734	3.390%	5,178	-	5,178
37	FY 2013	Float	HISTORICAL	-	-	-2,734	-	-2,734
38	Subtotal			\$2,284,386	-	\$134,290	-	\$134,290
39								
40	FY 2014	BONNEVILLE POWER ADMINISTRATION	HISTORICAL	133,733	7.223%	9,660	-	9,660
41	FY 2014	BPA PROGRAM	HISTORICAL	1,651,809	5.973%	98,671	-	98,671
42	FY 2014	ENVIRONMENT	HISTORICAL	9,771	5.352%	523	-	523
43	FY 2014	BPA PROGRAM	HISTORICAL	446,888	6.780%	30,299	-	30,299
44	FY 2014	BPA PROGRAM	NEW	156,566	3.390%	5,308	-	5,308
45	FY 2014	Float	HISTORICAL	-	-	-2,683	-	-2,683
46	Subtotal			\$2,398,767	-	\$141,777	-	\$141,777
47								
48	FY 2015	BONNEVILLE POWER ADMINISTRATION	HISTORICAL	95,978	7.220%	6,930	-	6,930
49	FY 2015	BPA PROGRAM	HISTORICAL	1,651,809	5.981%	98,789	-	98,789
50	FY 2015	ENVIRONMENT	HISTORICAL	9,771	5.352%	523	-	523
51	FY 2015	BPA PROGRAM	HISTORICAL	603,454	6.780%	40,914	-	40,914
52	FY 2015	BPA PROGRAM	NEW	160,313	3.390%	5,435	-	5,435
53	FY 2015	Float	HISTORICAL	-	-	-2,429	-	-2,429
54	Subtotal			\$2,521,325	-	\$150,161	-	\$150,161
55								
56	FY 2016	BONNEVILLE POWER ADMINISTRATION	HISTORICAL	71,975	7.217%	5,194	-	5,194
57	FY 2016	BPA PROGRAM	HISTORICAL	1,651,809	5.981%	98,789	-	98,789
58	FY 2016	ENVIRONMENT	HISTORICAL	9,771	5.352%	523	-	523
59	FY 2016	BPA PROGRAM	HISTORICAL	763,767	6.780%	51,783	-	51,783
60	FY 2016	BPA PROGRAM	NEW	164,045	3.390%	5,561	-	5,561
61	FY 2016	Float	HISTORICAL	-	-	-2,533	-	-2,533
62	Subtotal			\$2,661,367	-	\$159,317	-	\$159,317
63								

Table 11-2: Interest Calculation Summary (\$000s) (FY 2010)

	Date	A Project	B TYPE	C Principal	D Rate	E Interest	F Premium	G Total
64	FY 2017	BONNEVILLE POWER ADMINISTRATION	HISTORICAL	47,242	7.210%	3,406	-	3,406
65	FY 2017	BPA PROGRAM	HISTORICAL	1,651,809	5.981%	98,789	-	98,789
66	FY 2017	ENVIRONMENT	HISTORICAL	9,771	5.352%	523	-	523
67	FY 2017	BPA PROGRAM	HISTORICAL	927,812	6.780%	62,906	-	62,906
68	FY 2017	BPA PROGRAM	NEW	167,759	3.390%	5,687	-	5,687
69	FY 2017	Float	HISTORICAL	-	-	-2,181	-	-2,181
70	Subtotal			\$2,804,393	-	\$169,129	-	\$169,129
71								
72	FY 2018	BONNEVILLE POWER ADMINISTRATION	HISTORICAL	41,606	7.210%	3,000	-	3,000
73	FY 2018	BPA PROGRAM	HISTORICAL	1,651,809	5.981%	98,789	-	98,789
74	FY 2018	ENVIRONMENT	HISTORICAL	9,771	5.352%	523	-	523
75	FY 2018	BPA PROGRAM	HISTORICAL	1,095,571	6.780%	74,280	-	74,280
76	FY 2018	BPA PROGRAM	NEW	171,303	3.390%	5,807	-	5,807
77	FY 2018	Float	HISTORICAL	-	-	-2,486	-	-2,486
78	Subtotal			\$2,970,060	-	\$179,912	-	\$179,912
79								
80	FY 2019	BONNEVILLE POWER ADMINISTRATION	HISTORICAL	28,143	7.210%	2,029	-	2,029
81	FY 2019	BPA PROGRAM	HISTORICAL	1,651,809	5.981%	98,789	7,988	106,776
82	FY 2019	ENVIRONMENT	HISTORICAL	9,771	5.352%	523	-	523
83	FY 2019	BPA PROGRAM	HISTORICAL	1,266,874	6.780%	85,894	-	85,894
84	FY 2019	BPA PROGRAM	NEW	171,303	3.390%	5,929	-	5,929
85	FY 2019	Float	HISTORICAL	-	-	-6,782	-	-6,782
86	Subtotal			\$3,131,488	-	\$186,381	\$7,988	\$194,369
87								
88	FY 2020	BPA PROGRAM	HISTORICAL	1,493,451	5.895%	88,036	8,349	96,385
89	FY 2020	ENVIRONMENT	HISTORICAL	9,771	5.352%	523	-	523
90	FY 2020	BPA PROGRAM	HISTORICAL	1,441,765	6.780%	97,752	-	97,752
91	FY 2020	BPA PROGRAM	NEW	178,490	3.390%	6,051	-	6,051
92	FY 2020	Float	HISTORICAL	-	-	-6,427	-	-6,427
93	Subtotal			\$3,123,477	-	\$185,935	\$8,349	\$194,283
94								
95	FY 2021	BPA PROGRAM	HISTORICAL	1,321,309	5.778%	76,348	3,473	79,821
96	FY 2021	ENVIRONMENT	HISTORICAL	9,771	5.352%	523	-	523
97	FY 2021	BPA PROGRAM	HISTORICAL	1,620,255	6.780%	109,853	1,350	111,203
98	FY 2021	BPA PROGRAM	NEW	181,955	3.390%	6,168	-	6,168
99	FY 2021	Float	HISTORICAL	-	-	-6,422	-	-6,422
100	Subtotal			\$3,133,290	-	\$186,470	\$4,823	\$191,293
101								
102	FY 2022	BPA PROGRAM	HISTORICAL	1,174,015	5.791%	67,982	-	67,982
103	FY 2022	ENVIRONMENT	HISTORICAL	9,771	5.352%	523	-	523
104	FY 2022	BPA PROGRAM	HISTORICAL	1,774,336	6.780%	120,300	7,997	128,297
105	FY 2022	BPA PROGRAM	NEW	185,323	3.390%	6,282	-	6,282
106	FY 2022	Float	HISTORICAL	-	-	-6,398	-	-6,398
107	Subtotal			\$3,143,445	-	\$188,690	\$7,997	\$196,686
108								
109	FY 2023	BPA PROGRAM	HISTORICAL	1,174,015	5.791%	67,982	-	67,982
110	FY 2023	ENVIRONMENT	HISTORICAL	9,771	5.352%	523	-	523
111	FY 2023	BPA PROGRAM	HISTORICAL	1,789,844	6.780%	121,351	7,982	129,333
112	FY 2023	BPA PROGRAM	NEW	188,717	3.390%	6,398	-	6,398
113	FY 2023	Float	HISTORICAL	-	-	-6,386	-	-6,386
114	Subtotal			\$3,162,347	-	\$189,869	\$7,982	\$197,851
115								
116	FY 2024	BPA PROGRAM	HISTORICAL	1,174,015	5.791%	67,982	-	67,982
117	FY 2024	ENVIRONMENT	HISTORICAL	9,771	5.352%	523	-	523
118	FY 2024	BPA PROGRAM	HISTORICAL	1,809,884	6.780%	122,710	8,033	130,743
119	FY 2024	BPA PROGRAM	NEW	192,018	3.390%	6,509	-	6,509
120	FY 2024	Float	HISTORICAL	-	-	-6,515	-	-6,515
121	Subtotal			\$3,185,688	-	\$191,209	\$8,033	\$199,242
122								
123	FY 2025	BPA PROGRAM	HISTORICAL	1,174,015	5.791%	67,982	-	67,982
124	FY 2025	ENVIRONMENT	HISTORICAL	5,369	5.870%	315	-	315

Table 11-2: Interest Calculation Summary (\$000s) (FY 2010)

	Date	A Project	B TYPE	C Principal	D Rate	E Interest	F Premium	G Total
125	FY 2025	BPA PROGRAM	HISTORICAL	1,832,817	6.780%	124,265	6,093	130,358
126	FY 2025	BPA PROGRAM	NEW	195,061	3.390%	6,613	-	6,613
127	FY 2025	Float	HISTORICAL	-	-	-6,938	-	-6,938
128	Subtotal			\$3,207,262	-	\$192,237	\$6,093	\$198,330
129								
130	FY 2026	BPA PROGRAM	HISTORICAL	1,114,965	5.774%	64,380	-	64,380
131	FY 2026	BPA PROGRAM	HISTORICAL	1,899,344	6.780%	128,776	3,484	132,260
132	FY 2026	BPA PROGRAM	NEW	197,787	3.390%	6,705	-	6,705
133	FY 2026	Float	HISTORICAL	-	-	-6,932	-	-6,932
134	Subtotal			\$3,212,096	-	\$192,929	\$3,484	\$196,413
135								
136	FY 2027	BPA PROGRAM	HISTORICAL	994,965	5.729%	57,000	-	57,000
137	FY 2027	BPA PROGRAM	HISTORICAL	2,022,192	6.780%	137,105	8,726	145,830
138	FY 2027	BPA PROGRAM	NEW	200,150	3.390%	6,785	-	6,785
139	FY 2027	Float	HISTORICAL	-	-	-6,922	-	-6,922
140	Subtotal			\$3,217,307	-	\$193,968	\$8,726	\$202,694
141								
142	FY 2028	BPA PROGRAM	HISTORICAL	994,965	5.729%	57,000	-	57,000
143	FY 2028	BPA PROGRAM	HISTORICAL	2,033,622	6.780%	137,880	1,526	139,405
144	FY 2028	BPA PROGRAM	NEW	202,131	3.390%	6,852	-	6,852
145	FY 2028	Float	HISTORICAL	-	-	-6,913	-	-6,913
146	Subtotal			\$3,230,718	-	\$194,819	\$1,526	\$196,344
147								
148	FY 2029	BPA PROGRAM	HISTORICAL	832,665	5.614%	46,744	-	46,744
149	FY 2029	BPA PROGRAM	HISTORICAL	2,202,931	6.780%	149,359	8,431	157,790
150	FY 2029	BPA PROGRAM	NEW	203,568	3.390%	6,901	-	6,901
151	FY 2029	Float	HISTORICAL	-	-	-6,899	-	-6,899
152	Subtotal			\$3,239,164	-	\$196,104	\$8,431	\$204,535
153								
154	FY 2030	BPA PROGRAM	HISTORICAL	832,665	5.614%	46,744	-	46,744
155	FY 2030	BPA PROGRAM	HISTORICAL	2,219,528	6.780%	150,484	8,409	158,893
156	FY 2030	BPA PROGRAM	NEW	204,618	3.390%	6,937	-	6,937
157	FY 2030	Float	HISTORICAL	-	-	-6,887	-	-6,887
158	Subtotal			\$3,256,811	-	\$197,278	\$8,409	\$205,687
159								
160	FY 2031	BPA PROGRAM	HISTORICAL	832,665	5.614%	46,744	-	46,744
161	FY 2031	BPA PROGRAM	HISTORICAL	2,238,296	6.780%	151,756	3,688	155,445
162	FY 2031	BPA PROGRAM	NEW	205,213	3.390%	6,957	-	6,957
163	FY 2031	Float	HISTORICAL	-	-	-6,872	-	-6,872
164	Subtotal			\$3,276,174	-	\$198,585	\$3,688	\$202,273
165								
166	FY 2032	BPA PROGRAM	HISTORICAL	726,165	5.629%	40,875	-	40,875
167	FY 2032	BPA PROGRAM	HISTORICAL	2,360,729	6.780%	160,057	3,859	163,916
168	FY 2032	BPA PROGRAM	NEW	205,493	3.390%	6,966	-	6,966
169	FY 2032	Float	HISTORICAL	-	-	-6,843	-	-6,843
170	Subtotal			\$3,292,387	-	\$201,056	\$3,859	\$204,915
171								
172	FY 2033	BPA PROGRAM	HISTORICAL	627,265	5.460%	34,249	-	34,249
173	FY 2033	BPA PROGRAM	HISTORICAL	2,478,491	6.780%	168,042	4,877	172,919
174	FY 2033	BPA PROGRAM	NEW	205,504	3.390%	6,967	-	6,967
175	FY 2033	Float	HISTORICAL	-	-	-6,138	-	-6,138
176	Subtotal			\$3,311,260	-	\$203,119	\$4,877	\$207,996
177								
178	FY 2034	BPA PROGRAM	HISTORICAL	587,265	5.454%	32,029	-	32,029
179	FY 2034	BPA PROGRAM	HISTORICAL	2,569,551	6.780%	174,216	2,343	176,559
180	FY 2034	BPA PROGRAM	NEW	205,027	3.390%	6,950	-	6,950
181	FY 2034	Float	HISTORICAL	-	-	-4,754	-	-4,754
182	Subtotal			\$3,361,843	-	\$208,442	\$2,343	\$210,785
183								
184	FY 2035	BPA PROGRAM	HISTORICAL	547,265	5.443%	29,789	-	29,789
185	FY 2035	BPA PROGRAM	HISTORICAL	2,719,507	6.780%	184,383	2,296	186,678

Table 11-2: Interest Calculation Summary (\$000s) (FY 2010)

	Date	A Project	B TYPE	C Principal	D Rate	E Interest	F Premium	G Total
186	FY 2035	BPA PROGRAM	NEW	204,432	3.390%	6,930	-	6,930
187	FY 2035	Float	HISTORICAL	-	-	-6,839	-	-6,839
188	Subtotal			\$3,471,204	-	\$214,263	\$2,296	\$216,559
189								
190	FY 2036	BPA PROGRAM	HISTORICAL	422,265	5.463%	23,067	75	23,141
191	FY 2036	BPA PROGRAM	HISTORICAL	2,867,510	6.780%	194,417	4,933	199,350
192	FY 2036	BPA PROGRAM	NEW	203,810	3.390%	6,909	-	6,909
193	FY 2036	Float	HISTORICAL	-	-	-6,438	-	-6,438
194	Subtotal			\$3,493,585	-	\$217,955	\$5,008	\$222,963
195								
196	FY 2037	BPA PROGRAM	HISTORICAL	387,269	5.378%	20,827	-	20,827
197	FY 2037	BPA PROGRAM	HISTORICAL	2,946,599	6.780%	199,779	-	199,779
198	FY 2037	BPA PROGRAM	NEW	203,009	3.390%	6,882	-	6,882
199	FY 2037	Float	HISTORICAL	-	-	-3,592	-	-3,592
200	Subtotal			\$3,536,878	-	\$223,896	-	\$223,896
201								
202	FY 2038	BPA PROGRAM	HISTORICAL	347,265	5.374%	18,663	-	18,663
203	FY 2038	BPA PROGRAM	HISTORICAL	3,149,608	6.780%	213,543	1,968	215,511
204	FY 2038	BPA PROGRAM	NEW	202,139	3.390%	6,853	-	6,853
205	FY 2038	Float	HISTORICAL	-	-	-5,699	-	-5,699
206	Subtotal			\$3,699,012	-	\$233,360	\$1,968	\$235,327
207								
208	FY 2039	BPA PROGRAM	HISTORICAL	277,265	5.350%	14,834	-	14,834
209	FY 2039	BPA PROGRAM	HISTORICAL	3,298,282	6.780%	223,624	5,980	229,604
210	FY 2039	BPA PROGRAM	NEW	201,332	3.390%	6,825	-	6,825
211	FY 2039	Float	HISTORICAL	-	-	-6,862	-	-6,862
212	Subtotal			\$3,776,879	-	\$238,421	\$5,980	\$244,401
213								
214	FY 2040	BPA PROGRAM	HISTORICAL	277,265	5.350%	14,834	-	14,834
215	FY 2040	BPA PROGRAM	HISTORICAL	3,332,939	6.780%	225,973	5,853	231,827
216	FY 2040	BPA PROGRAM	NEW	200,643	3.390%	6,802	-	6,802
217	FY 2040	Float	HISTORICAL	-	-	-6,833	-	-6,833
218	Subtotal			\$3,810,847	-	\$240,776	\$5,853	\$246,629
219								
220	FY 2041	BPA PROGRAM	HISTORICAL	277,265	5.350%	14,834	-	14,834
221	FY 2041	BPA PROGRAM	HISTORICAL	3,369,200	6.780%	228,432	5,712	234,144
222	FY 2041	BPA PROGRAM	NEW	200,138	3.390%	6,785	-	6,785
223	FY 2041	Float	HISTORICAL	-	-	-6,802	-	-6,802
224	Subtotal			\$3,846,603	-	\$243,248	\$5,712	\$248,960
225								
226	FY 2042	BPA PROGRAM	HISTORICAL	277,265	5.350%	14,834	-	14,834
227	FY 2042	BPA PROGRAM	HISTORICAL	3,407,347	6.780%	231,018	5,561	236,579
228	FY 2042	BPA PROGRAM	NEW	199,826	3.390%	6,774	-	6,774
229	FY 2042	Float	HISTORICAL	-	-	-6,770	-	-6,770
230	Subtotal			\$3,884,438	-	\$245,855	\$5,561	\$251,416
231								
232	FY 2043	BPA PROGRAM	HISTORICAL	277,265	5.350%	14,834	183	15,016
233	FY 2043	BPA PROGRAM	HISTORICAL	3,447,693	6.780%	233,754	1,427	235,181
234	FY 2043	BPA PROGRAM	NEW	199,785	3.390%	6,773	-	6,773
235	FY 2043	Float	HISTORICAL	-	-	-6,737	-	-6,737
236	Subtotal			\$3,924,743	-	\$248,623	\$1,610	\$250,233
237								
238	FY 2044	BPA PROGRAM	HISTORICAL	157,751	5.350%	8,440	-	8,440
239	FY 2044	BPA PROGRAM	HISTORICAL	3,606,380	6.780%	244,513	-	244,513
240	FY 2044	BPA PROGRAM	NEW	200,141	3.390%	6,785	-	6,785
241	FY 2044	Float	HISTORICAL	-	-	-6,684	-	-6,684
242	Subtotal			\$3,964,272	-	\$253,053	-	\$253,053
243								
244	FY 2045	BPA PROGRAM	HISTORICAL	3,806,521	6.780%	258,082	4,519	262,601
245	FY 2045	BPA PROGRAM	NEW	200,818	3.390%	6,808	-	6,808
246	FY 2045	Float	HISTORICAL	-	-	-6,572	-	-6,572
247	Subtotal			\$4,007,339	-	\$258,318	\$4,519	\$262,837
248								
249	Grand Total			\$117,820,086	-	\$7,156,933	\$135,113	\$7,292,045

Table 11-3: Summary of Amortization (\$000s) (FY 2010)

	A	B	C	D	E	F	G	H	I	J	K	I
	Project	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1	BONNEVILLE POWER ADMINISTRATION	105,649	26,367	68,223	112,448	42,186	37,754	24,003	24,733	5,636	13,463	28,143
2	TOTAL APPROPRIATIONS	105,649	26,367	68,223	112,448	42,186	37,754	24,003	24,733	5,636	13,463	28,143
3												
4	BPA BORROWING:											
5												
6	BPA PROGRAM	47,010	160,251	130,000	55,000	-	-	-	-	-	-	158,358
7	ENVIRONMENT	20,000	30,000	10,000	-	-	-	-	-	-	-	-
8	TOTAL BPA BORROWING	67,010	190,251	140,000	55,000	-	-	-	-	-	-	158,358
9												
10	TOTALS	172,659	216,618	208,223	167,448	42,186	37,754	24,003	24,733	5,636	13,463	186,501

Table 11-3: Summary of Amortization (\$000s) (FY 2010)

	A	M	N	O	P	Q	R	S	T	U	V	W
	Project	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1	BONNEVILLE POWER ADMINISTRATION	-	-	-	-	-	-	-	-	-	-	-
2	TOTAL APPROPRIATIONS	-	-	-	-	-	-	-	-	-	-	-
3												
4	BPA BORROWING:											
5												
6	BPA PROGRAM	172,141	175,168	169,815	168,677	169,084	187,584	194,940	188,720	195,122	186,971	185,851
7	ENVIRONMENT	-	-	-	-	4,402	5,369	-	-	-	-	-
8	TOTAL BPA BORROWING	172,141	175,168	169,815	168,677	173,486	192,953	194,940	188,720	195,122	186,971	185,851
9												
10	TOTALS	172,141	175,168	169,815	168,677	173,486	192,953	194,940	188,720	195,122	186,971	185,851

Table 11-3: Summary of Amortization (\$000s) (FY 2010)

	A	X	Y	Z	AA	AB	AC	AD	AE	AF	AG
	Project	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
1	BONNEVILLE POWER ADMINISTRATION	-	-	-	-	-	-	-	-	-	-
2	TOTAL APPROPRIATIONS	-	-	-	-	-	-	-	-	-	-
3											
4	BPA BORROWING:										
5											
6	BPA PROGRAM	189,280	186,631	154,444	95,071	181,429	159,716	40,004	123,466	166,675	164,382
7	ENVIRONMENT	-	-	-	-	-	-	-	-	-	-
8	TOTAL BPA BORROWING	189,280	186,631	154,444	95,071	181,429	159,716	40,004	123,466	166,675	164,382
9											
10	TOTALS	189,280	186,631	154,444	95,071	181,429	159,716	40,004	123,466	166,675	164,382

Table 11-3: Summary of Amortization (\$000s) (FY 2010)

	A	AH	AI	AJ	AK	AL	AM
	Project	2041	2042	2043	2044	2045	Total
1	BONNEVILLE POWER ADMINISTRATION	-	-	-	-	-	488,605
2	TOTAL APPROPRIATIONS	-	-	-	-	-	488,605
3							
4	BPA BORROWING:						
5							
6	BPA PROGRAM	161,991	159,480	160,612	157,751	145,788	4,791,412
7	ENVIRONMENT	-	-	-	-	-	69,771
8	TOTAL BPA BORROWING	161,991	159,480	160,612	157,751	145,788	4,861,183
9							
10	TOTALS	161,991	159,480	160,612	157,751	145,788	5,349,788

Table 11-4: Application of Amortization (\$000s) (FY 2010)

	A	B	C	D	E	F	G	H	I	
Date	Project	In Service	Due	Original Balance	Amount Available	Rate	Replacement?	Rollover?	Amount Amortized	
1	FY 2009	BONNEVILLE POWER ADMINISTRATION	1964	2009	4,151	4,151	7.060%	No	No	4,151
2	FY 2009	BONNEVILLE POWER ADMINISTRATION	1964	2009	5,738	5,738	7.060%	No	No	5,738
3	FY 2009	ENVIRONMENT	2006	2009	20,000	20,000	5.050%	No	No	20,000
4	FY 2009	BPA PROGRAM	2006	2009	20,000	20,000	5.050%	No	No	20,000
5	FY 2009	BPA PROGRAM	2005	2009	27,010	27,010	3.750%	No	No	27,010
6	FY 2009	BONNEVILLE POWER ADMINISTRATION	1970	2015	64,977	64,977	7.270%	No	No	25,385
7	FY 2009	BONNEVILLE POWER ADMINISTRATION	1970	2015	7,995	7,995	7.270%	No	No	7,995
8	FY 2009	BONNEVILLE POWER ADMINISTRATION	1970	2015	24,412	23,551	7.270%	No	No	23,551
9	FY 2009	BONNEVILLE POWER ADMINISTRATION	1973	2018	33,788	33,788	7.280%	No	No	33,788
10	FY 2009	BONNEVILLE POWER ADMINISTRATION	1973	2018	21,656	5,041	7.280%	No	No	5,041
11	Subtotal	-	-	\$229,727	\$212,251	-	No	No	\$172,659	
12										
13	FY 2010	BONNEVILLE POWER ADMINISTRATION	1965	2010	3,706	3,706	7.090%	No	No	3,706
14	FY 2010	BONNEVILLE POWER ADMINISTRATION	1965	2010	7,248	78	7.090%	No	No	78
15	FY 2010	ENVIRONMENT	2001	2010	30,000	30,000	6.050%	No	No	30,000
16	FY 2010	BPA PROGRAM	2001	2010	59,932	59,932	6.050%	No	No	59,932
17	FY 2010	BPA PROGRAM	2007	2010	50,000	50,000	5.200%	No	No	50,000
18	FY 2010	BPA PROGRAM	2007	2010	25,000	25,000	5.100%	No	No	25,000
19	FY 2010	BPA PROGRAM	2006	2010	5,319	5,319	4.950%	No	No	5,319
20	FY 2010	BPA PROGRAM	2006	2010	20,000	20,000	4.950%	No	No	20,000
21	FY 2010	BONNEVILLE POWER ADMINISTRATION	1970	2015	64,977	39,592	7.270%	No	No	22,583
22	Subtotal	-	-	\$266,182	\$233,627	-	No	No	\$216,618	
23										
24	FY 2011	BONNEVILLE POWER ADMINISTRATION	1966	2011	11,830	11,830	7.130%	No	No	11,830
25	FY 2011	BONNEVILLE POWER ADMINISTRATION	1966	2011	3,049	3,049	7.130%	No	No	3,049
26	FY 2011	BONNEVILLE POWER ADMINISTRATION	1966	2011	6,647	6,353	7.130%	No	No	6,353
27	FY 2011	BPA PROGRAM	1998	2011	40,000	40,000	6.200%	No	No	40,000
28	FY 2011	BPA PROGRAM	2001	2011	25,000	25,000	5.950%	No	No	25,000
29	FY 2011	BPA PROGRAM	2008	2011	40,000	40,000	3.358%	No	No	40,000
30	FY 2011	ENVIRONMENT	2008	2011	10,000	10,000	3.151%	No	No	10,000
31	FY 2011	BPA PROGRAM	2008	2011	25,000	25,000	3.151%	No	No	25,000
32	FY 2011	BONNEVILLE POWER ADMINISTRATION	1970	2015	64,977	17,009	7.270%	No	No	17,009
33	FY 2011	BONNEVILLE POWER ADMINISTRATION	1974	2019	12,563	12,563	7.270%	No	No	8,156
34	FY 2011	BONNEVILLE POWER ADMINISTRATION	1974	2019	21,826	21,826	7.270%	No	No	21,826
35	Subtotal	-	-	\$260,892	\$212,630	-	No	No	\$208,223	
36										
37	FY 2012	BONNEVILLE POWER ADMINISTRATION	1967	2012	19,003	19,003	7.160%	No	No	19,003
38	FY 2012	BONNEVILLE POWER ADMINISTRATION	1967	2012	4,566	355	7.160%	No	No	355
39	FY 2012	BPA PROGRAM	2008	2012	25,000	25,000	3.444%	No	No	25,000
40	FY 2012	BPA PROGRAM	2008	2012	30,000	30,000	3.200%	No	No	30,000
41	FY 2012	BONNEVILLE POWER ADMINISTRATION	1974	2019	12,079	12,079	7.270%	No	No	12,079
42	FY 2012	BONNEVILLE POWER ADMINISTRATION	1974	2019	20,984	20,984	7.270%	No	No	20,984
43	FY 2012	BONNEVILLE POWER ADMINISTRATION	1974	2019	12,563	4,407	7.270%	No	No	4,407
44	FY 2012	BONNEVILLE POWER ADMINISTRATION	1975	2020	32,026	32,026	7.250%	No	No	4,804
45	FY 2012	BONNEVILLE POWER ADMINISTRATION	1975	2020	21,916	21,916	7.250%	No	No	21,916
46	FY 2012	BONNEVILLE POWER ADMINISTRATION	1975	2020	17,158	17,158	7.250%	No	No	17,158
47	FY 2012	BONNEVILLE POWER ADMINISTRATION	1975	2020	11,742	11,742	7.250%	No	No	11,742
48	Subtotal	-	-	\$207,037	\$194,670	-	No	No	\$167,448	
49										
50	FY 2013	BONNEVILLE POWER ADMINISTRATION	1968	2013	41,070	18,250	7.200%	No	No	18,250
51	FY 2013	BONNEVILLE POWER ADMINISTRATION	1975	2020	32,026	27,222	7.250%	No	No	23,936
52	Subtotal	-	-	\$73,096	\$45,472	-	No	No	\$42,186	
53										
54	FY 2014	BONNEVILLE POWER ADMINISTRATION	1969	2014	42,237	19,198	7.230%	No	No	19,198
55	FY 2014	BONNEVILLE POWER ADMINISTRATION	1975	2020	32,026	3,287	7.250%	No	No	3,287
56	FY 2014	BONNEVILLE POWER ADMINISTRATION	1976	2021	61,025	61,025	7.230%	No	No	13,058
57	FY 2014	BONNEVILLE POWER ADMINISTRATION	1976	2021	2,212	2,212	7.230%	No	No	2,212
58	Subtotal	-	-	\$137,500	\$85,722	-	No	No	\$37,754	
59										
60	FY 2015	BONNEVILLE POWER ADMINISTRATION	1976	2021	61,025	47,967	7.230%	No	No	24,003
61	Subtotal	-	-	\$61,025	\$47,967	-	No	No	\$24,003	
62										
63	FY 2016	BONNEVILLE POWER ADMINISTRATION	1976	2021	61,025	23,964	7.230%	No	No	23,964
64	FY 2016	BONNEVILLE POWER ADMINISTRATION	1977	2022	4,981	4,981	7.210%	No	No	769
65	Subtotal	-	-	\$66,006	\$28,945	-	No	No	\$24,733	

Table 11-4: Application of Amortization (\$000s) (FY 2010)

	A	B	C	D	E	F	G	H	I	
Date	Project	In Service	Due	Original Balance	Amount Available	Rate	Replacement?	Rollover?	Amount Amortized	
66										
67	FY 2017	BONNEVILLE POWER ADMINISTRATION	1977	2022	33,702	33,702	7.210%	No	No	1,424
68	FY 2017	BONNEVILLE POWER ADMINISTRATION	1977	2022	4,981	4,212	7.210%	No	No	4,212
69	Subtotal		-	-	\$38,683	\$37,914	-	No	No	\$5,636
70										
71	FY 2018	BONNEVILLE POWER ADMINISTRATION	1977	2022	33,702	32,278	7.210%	No	No	13,463
72	Subtotal		-	-	\$33,702	\$32,278	-	No	No	\$13,463
73										
74	FY 2019	BONNEVILLE POWER ADMINISTRATION	1977	2022	3,948	3,948	7.210%	No	No	3,948
75	FY 2019	BONNEVILLE POWER ADMINISTRATION	1977	2022	5,380	5,380	7.210%	No	No	5,380
76	FY 2019	BONNEVILLE POWER ADMINISTRATION	1977	2022	33,702	18,815	7.210%	No	No	18,815
77	FY 2019	BPA PROGRAM	2010	2045	405,094	405,094	6.790%	No	No	158,358
78	Subtotal		-	-	\$448,124	\$433,237	-	No	No	\$186,501
79										
80	FY 2020	BONNEVILLE POWER ADMINISTRATION	1975	2020	32,026	0	7.250%	No	No	0
81	FY 2020	BPA PROGRAM	2010	2045	405,094	246,736	6.790%	No	No	172,141
82	Subtotal		-	-	\$437,120	\$246,736	-	No	No	\$172,141
83										
84	FY 2021	BPA PROGRAM	1998	2021	72,700	72,700	4.540%	No	Yes	72,700
85	FY 2021	BPA PROGRAM	2010	2045	405,094	74,594	6.790%	No	No	74,594
86	FY 2021	BPA PROGRAM	2011	2046	145,191	145,191	6.780%	Yes	No	27,874
87	Subtotal		-	-	\$622,985	\$292,485	-	Yes	Yes	\$175,168
88										
89	FY 2022	BPA PROGRAM	2011	2046	145,191	117,317	6.780%	Yes	No	117,317
90	FY 2022	BPA PROGRAM	2012	2047	148,963	148,963	6.780%	Yes	No	52,498
91	Subtotal		-	-	\$294,154	\$266,280	-	Yes	No	\$169,815
92										
93	FY 2023	BPA PROGRAM	2012	2047	148,963	96,465	6.780%	Yes	No	96,465
94	FY 2023	BPA PROGRAM	2013	2048	152,734	152,734	6.780%	Yes	No	72,212
95	Subtotal		-	-	\$301,697	\$249,199	-	Yes	No	\$168,677
96										
97	FY 2024	ENVIRONMENT	2009	2024	4,402	4,402	4.720%	No	No	4,402
98	FY 2024	BPA PROGRAM	2013	2048	152,734	80,522	6.780%	Yes	No	80,522
99	FY 2024	BPA PROGRAM	2014	2049	156,566	156,566	6.780%	Yes	No	88,563
100	Subtotal		-	-	\$313,702	\$241,490	-	Yes	No	\$173,486
101										
102	FY 2025	BPA PROGRAM	1999	2025	59,050	59,050	6.100%	No	Yes	59,050
103	FY 2025	ENVIRONMENT	2010	2025	5,369	5,369	5.870%	No	No	5,369
104	FY 2025	BPA PROGRAM	2014	2049	156,566	68,003	6.780%	Yes	No	68,003
105	FY 2025	BPA PROGRAM	2015	2050	160,313	160,313	6.780%	Yes	No	60,531
106	Subtotal		-	-	\$381,298	\$292,735	-	Yes	Yes	\$192,953
107										
108	FY 2026	BPA PROGRAM	2007	2026	40,000	40,000	6.200%	No	Yes	40,000
109	FY 2026	BPA PROGRAM	2008	2026	30,000	30,000	6.200%	No	Yes	30,000
110	FY 2026	BPA PROGRAM	2001	2026	50,000	50,000	6.080%	No	Yes	50,000
111	FY 2026	BPA PROGRAM	2015	2050	160,313	99,782	6.780%	Yes	No	74,940
112	Subtotal		-	-	\$280,313	\$219,782	-	Yes	Yes	\$194,940
113										
114	FY 2027	BPA PROGRAM	2015	2050	160,313	24,843	6.780%	Yes	No	24,843
115	FY 2027	BPA PROGRAM	2016	2051	164,045	164,045	6.780%	Yes	No	163,877
116	Subtotal		-	-	\$324,358	\$188,888	-	Yes	No	\$188,720
117										
118	FY 2028	BPA PROGRAM	1998	2028	50,000	50,000	6.650%	No	No	50,000
119	FY 2028	BPA PROGRAM	1998	2028	112,300	112,300	5.850%	No	No	112,300
120	FY 2028	BPA PROGRAM	2016	2051	164,045	168	6.780%	Yes	No	168
121	FY 2028	BPA PROGRAM	2017	2052	167,759	167,759	6.780%	Yes	No	32,654
122	Subtotal		-	-	\$494,104	\$330,227	-	Yes	No	\$195,122
123										
124	FY 2029	BPA PROGRAM	2017	2052	167,759	135,105	6.780%	Yes	No	135,105
125	FY 2029	BPA PROGRAM	2018	2053	171,303	171,303	6.780%	Yes	No	51,866
126	Subtotal		-	-	\$339,062	\$306,408	-	Yes	No	\$186,971
127										
128	FY 2030	BPA PROGRAM	2018	2053	171,303	119,437	6.780%	Yes	No	119,437
129	FY 2030	BPA PROGRAM	2019	2054	174,891	174,891	6.780%	Yes	No	66,413
130	Subtotal		-	-	\$346,194	\$294,328	-	Yes	No	\$185,851

Table 11-4: Application of Amortization (\$000s) (FY 2010)

	A	B	C	D	E	F	G	H	I	
	Date	Project	In Service	Due	Original Balance	Amount Available	Rate	Replacement?	Rollover?	Amount Amortized
131										
132	FY 2031	BPA PROGRAM	1998	2031	106,500	106,500	5.510%	No	Yes	106,500
133	FY 2031	BPA PROGRAM	2019	2054	174,891	108,478	6.780%	Yes	No	82,780
134	Subtotal		-	-	\$281,391	\$214,978	-	Yes	Yes	\$189,280
135										
136	FY 2032	BPA PROGRAM	1998	2032	98,900	98,900	6.700%	No	No	98,900
137	FY 2032	BPA PROGRAM	2019	2054	174,891	25,698	6.780%	Yes	No	25,698
138	FY 2032	BPA PROGRAM	2020	2055	178,490	178,490	6.780%	Yes	No	62,033
139	Subtotal		-	-	\$452,281	\$303,088	-	Yes	No	\$186,631
140										
141	FY 2033	BPA PROGRAM	2003	2033	40,000	40,000	5.550%	No	No	40,000
142	FY 2033	BPA PROGRAM	2020	2055	178,490	116,457	6.780%	Yes	No	114,444
143	Subtotal		-	-	\$218,490	\$156,457	-	Yes	No	\$154,444
144										
145	FY 2034	BPA PROGRAM	2004	2034	40,000	40,000	5.600%	No	No	40,000
146	FY 2034	BPA PROGRAM	2020	2055	178,490	2,013	6.780%	Yes	No	2,013
147	FY 2034	BPA PROGRAM	2021	2056	181,955	181,955	6.780%	Yes	No	53,058
148	Subtotal		-	-	\$400,445	\$223,968	-	Yes	No	\$95,071
149										
150	FY 2035	BPA PROGRAM	2005	2035	40,000	40,000	5.500%	No	No	40,000
151	FY 2035	BPA PROGRAM	2005	2035	40,000	40,000	5.400%	No	No	40,000
152	FY 2035	BPA PROGRAM	2005	2035	45,000	45,000	5.250%	No	No	45,000
153	FY 2035	BPA PROGRAM	2021	2056	181,955	128,897	6.780%	Yes	No	56,429
154	Subtotal		-	-	\$306,955	\$253,897	-	Yes	No	\$181,429
155										
156	FY 2036	BPA PROGRAM	2007	2037	35,000	35,000	6.400%	No	No	34,996
157	FY 2036	BPA PROGRAM	2021	2056	181,955	72,468	6.780%	Yes	No	72,468
158	FY 2036	BPA PROGRAM	2022	2057	185,323	185,323	6.780%	Yes	No	52,253
159	Subtotal		-	-	\$402,278	\$292,791	-	Yes	No	\$159,716
160										
161	FY 2037	BPA PROGRAM	2007	2037	35,000	4	6.400%	No	No	4
162	FY 2037	BPA PROGRAM	2005	2037	40,000	40,000	5.410%	No	Yes	40,000
163	Subtotal		-	-	\$75,000	\$40,004	-	No	Yes	\$40,004
164										
165	FY 2038	BPA PROGRAM	2006	2038	70,000	70,000	5.470%	No	Yes	70,000
166	FY 2038	BPA PROGRAM	2022	2057	185,323	133,070	6.780%	Yes	No	53,466
167	Subtotal		-	-	\$255,323	\$203,070	-	Yes	Yes	\$123,466
168										
169	FY 2039	BPA PROGRAM	2022	2057	185,323	79,605	6.780%	Yes	No	79,605
170	FY 2039	BPA PROGRAM	2023	2058	188,717	188,717	6.780%	Yes	No	87,070
171	Subtotal		-	-	\$374,040	\$268,322	-	Yes	No	\$166,675
172										
173	FY 2040	BPA PROGRAM	2023	2058	188,717	101,647	6.780%	Yes	No	101,647
174	FY 2040	BPA PROGRAM	2024	2059	192,018	192,018	6.780%	Yes	No	62,735
175	Subtotal		-	-	\$380,735	\$293,665	-	Yes	No	\$164,382
176										
177	FY 2041	BPA PROGRAM	2024	2059	192,018	129,283	6.780%	Yes	No	129,283
178	FY 2041	BPA PROGRAM	2025	2060	195,061	195,061	6.780%	Yes	No	32,708
179	Subtotal		-	-	\$387,079	\$324,344	-	Yes	No	\$161,991
180										
181	FY 2042	BPA PROGRAM	2025	2060	195,061	162,353	6.780%	Yes	No	159,480
182	Subtotal		-	-	\$195,061	\$162,353	-	Yes	No	\$159,480
183										
184	FY 2043	BPA PROGRAM	2009	2044	277,265	277,265	5.350%	No	No	119,514
185	FY 2043	BPA PROGRAM	2025	2060	195,061	2,873	6.780%	Yes	No	2,873
186	FY 2043	BPA PROGRAM	2026	2061	197,787	197,787	6.780%	Yes	No	38,225
187	Subtotal		-	-	\$670,113	\$477,925	-	Yes	No	\$160,612
188										
189	FY 2044	BPA PROGRAM	2009	2044	277,265	157,751	5.350%	No	No	157,751
190	Subtotal		-	-	\$277,265	\$157,751	-	No	No	\$157,751
191										
192	FY 2045	BPA PROGRAM	2026	2061	197,787	159,562	6.780%	Yes	No	145,788
193	Subtotal		-	-	\$197,787	\$159,562	-	Yes	No	\$145,788
194										
195	Grand Total		-	-	\$10,831,204	\$8,025,447	-	Yes	Yes	\$5,349,788

Table 11-5: Summary of Interest (\$000s) (FY 2011)

	A	B	C	D	E	F	G	H	I	J
	Project	2009	2010	2011	2012	2013	2014	2015	2016	2017
1	BONNEVILLE POWER ADMINISTRATION	35,356	27,692	25,887	20,076	11,720	8,466	5,537	3,611	1,647
2	TOTAL APPROPRIATIONS	35,356	27,692	25,887	20,076	11,720	8,466	5,537	3,611	1,647
3										
4	BPA BORROWING:									
5										
6	BPA PROGRAM	81,467	100,200	119,560	133,195	143,143	153,947	165,125	176,435	187,992
7	ENVIRONMENT	3,244	2,495	1,012	870	870	870	870	870	870
8	PREMIUMS	-	-	-	-	-	-	-	-	-
9	(LESS INTEREST INCOME)	-5,830	-6,958	-7,249	-5,980	-3,006	-2,951	-2,693	-2,794	-2,438
10	TOTAL BPA BORROWING	78,881	95,738	113,322	128,085	141,007	151,865	163,302	174,511	186,423
11										
12	TOTALS	114,237	123,430	139,210	148,161	152,727	160,331	168,839	178,123	188,070

Table 11-5: Summary of Interest (\$000s) (FY 2011)

	A	K	I	M	N	O	P	Q	R	S	T	U
	Project	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
1	BONNEVILLE POWER ADMINISTRATION	1,070	-	-	-	-	-	-	-	-	-	-
2	TOTAL APPROPRIATIONS	1,070	-	-	-	-	-	-	-	-	-	-
3												
4	BPA BORROWING:											
5												
6	BPA PROGRAM	199,786	211,760	211,097	211,578	213,846	215,095	216,649	218,392	219,499	221,029	221,968
7	ENVIRONMENT	870	870	870	870	870	870	870	662	347	-	-
8	PREMIUMS	45	9,976	8,934	5,219	8,504	8,472	8,509	6,463	3,468	9,198	1,631
9	(LESS INTEREST INCOME)	-2,740	-7,033	-6,700	-6,696	-6,671	-6,657	-6,786	-7,208	-7,200	-7,188	-7,179
10	TOTAL BPA BORROWING	197,962	215,573	214,201	210,972	216,549	217,780	219,242	218,310	216,113	223,039	216,421
11												
12	TOTALS	199,032	215,573	214,201	210,972	216,549	217,780	219,242	218,310	216,113	223,039	216,421

Table 11-5: Summary of Interest (\$000s) (FY 2011)

	A	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG
	Project	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
1	BONNEVILLE POWER ADMINISTRATION	-	-	-	-	-	-	-	-	-	-	-	-
2	TOTAL APPROPRIATIONS	-	-	-	-	-	-	-	-	-	-	-	-
3													
4	BPA BORROWING:												
5													
6	BPA PROGRAM	223,412	224,686	226,094	228,702	230,219	234,304	242,373	245,825	249,037	260,774	267,136	269,536
7	ENVIRONMENT	-	-	-	-	-	-	-	-	-	-	-	-
8	PREMIUMS	8,864	8,825	3,916	4,030	5,159	2,416	2,432	5,208	-	2,079	6,241	6,094
9	(LESS INTEREST INCOME)	-7,163	-7,149	-7,133	-7,102	-6,395	-5,009	-7,092	-6,689	-3,841	-5,946	-7,107	-7,077
10	TOTAL BPA BORROWING	225,114	226,362	222,877	225,630	228,982	231,711	237,714	244,344	245,195	256,907	266,269	268,552
11													
12	TOTALS	225,114	226,362	222,877	225,630	228,982	231,711	237,714	244,344	245,195	256,907	266,269	268,552

Table 11-5: Summary of Interest (\$000s) (FY 2011)

	A	AH	AI	AJ	AK	AL	AM	AN
	Project	2041	2042	2043	2044	2045	2046	Total
1	BONNEVILLE POWER ADMINISTRATION	-	-	-	-	-	-	141,062
2	TOTAL APPROPRIATIONS	-	-	-	-	-	-	141,062
3								
4	BPA BORROWING:							
5								
6	BPA PROGRAM	272,040	274,605	277,133	281,524	286,765	290,153	8,206,081
7	ENVIRONMENT	-	-	-	-	-	-	19,071
8	PREMIUMS	4,642	952	345	0	0	4,030	135,652
9	(LESS INTEREST INCOME)	-7,046	-7,014	-6,983	-6,930	-6,867	-6,777	-231,278
10	TOTAL BPA BORROWING	269,637	268,543	270,496	274,594	279,898	287,406	8,129,526
11								
12	TOTALS	269,637	268,543	270,496	274,594	279,898	287,406	8,270,588

Table 11-6: Interest Calculation Summary (\$000s) (FY 2011)

	Date	A Project	B TYPE	C Principal	D Rate	E Interest	F Premium	G Total
1	FY 2009	BONNEVILLE POWER ADMINISTRATION	HISTORICAL	488,605	7.236%	35,356	-	35,356
2	FY 2009	BPA PROGRAM	HISTORICAL	1,361,711	5.438%	74,050	-	74,050
3	FY 2009	BPA PROGRAM	NEW	277,265	2.675%	7,417	-	7,417
4	FY 2009	ENVIRONMENT	HISTORICAL	60,000	5.234%	3,140	-	3,140
5	FY 2009	ENVIRONMENT	NEW	4,402	2.360%	104	-	104
6	FY 2009	Float	HISTORICAL	-	-	-5,830	-	-5,830
7	Subtotal			\$2,191,983	-	\$114,237	-	\$114,237
8								
9	FY 2010	BONNEVILLE POWER ADMINISTRATION	HISTORICAL	382,956	7.231%	27,692	-	27,692
10	FY 2010	BPA PROGRAM	HISTORICAL	1,591,966	5.430%	86,447	-	86,447
11	FY 2010	BPA PROGRAM	NEW	405,094	3.395%	13,753	-	13,753
12	FY 2010	ENVIRONMENT	HISTORICAL	44,402	5.265%	2,338	-	2,338
13	FY 2010	ENVIRONMENT	NEW	5,369	2.935%	158	-	158
14	FY 2010	Float	HISTORICAL	-	-	-6,958	-	-6,958
15	Subtotal			\$2,429,787	-	\$123,430	-	\$123,430
16								
17	FY 2011	BONNEVILLE POWER ADMINISTRATION	HISTORICAL	358,037	7.230%	25,887	-	25,887
18	FY 2011	BPA PROGRAM	HISTORICAL	1,836,809	5.727%	105,199	-	105,199
19	FY 2011	BPA PROGRAM	NEW	414,465	3.465%	14,361	-	14,361
20	FY 2011	ENVIRONMENT	HISTORICAL	19,771	4.239%	838	-	838
21	FY 2011	ENVIRONMENT	NEW	5,581	3.110%	174	-	174
22	FY 2011	Float	HISTORICAL	-	-	-7,249	-	-7,249
23	Subtotal			\$2,634,663	-	\$139,210	-	\$139,210
24								
25	FY 2012	BONNEVILLE POWER ADMINISTRATION	HISTORICAL	277,696	7.230%	20,076	-	20,076
26	FY 2012	BPA PROGRAM	HISTORICAL	2,121,274	6.034%	127,988	-	127,988
27	FY 2012	ENVIRONMENT	HISTORICAL	15,352	5.667%	870	-	870
28	FY 2012	BPA PROGRAM	NEW	152,244	3.420%	5,207	-	5,207
29	FY 2012	Float	HISTORICAL	-	-	-5,980	-	-5,980
30	Subtotal			\$2,566,566	-	\$148,161	-	\$148,161
31								
32	FY 2013	BONNEVILLE POWER ADMINISTRATION	HISTORICAL	162,275	7.222%	11,720	-	11,720
33	FY 2013	BPA PROGRAM	HISTORICAL	2,066,274	6.165%	127,393	-	127,393
34	FY 2013	ENVIRONMENT	HISTORICAL	15,352	5.667%	870	-	870
35	FY 2013	BPA PROGRAM	HISTORICAL	152,244	6.840%	10,413	-	10,413
36	FY 2013	BPA PROGRAM	NEW	156,038	3.420%	5,337	-	5,337
37	FY 2013	Float	HISTORICAL	-	-	-3,006	-	-3,006
38	Subtotal			\$2,552,183	-	\$152,727	-	\$152,727
39								
40	FY 2014	BONNEVILLE POWER ADMINISTRATION	HISTORICAL	117,222	7.222%	8,466	-	8,466
41	FY 2014	BPA PROGRAM	HISTORICAL	2,066,274	6.165%	127,393	-	127,393
42	FY 2014	ENVIRONMENT	HISTORICAL	15,352	5.667%	870	-	870
43	FY 2014	BPA PROGRAM	HISTORICAL	308,282	6.840%	21,086	-	21,086
44	FY 2014	BPA PROGRAM	NEW	159,853	3.420%	5,467	-	5,467
45	FY 2014	Float	HISTORICAL	-	-	-2,951	-	-2,951
46	Subtotal			\$2,666,983	-	\$160,331	-	\$160,331
47								
48	FY 2015	BONNEVILLE POWER ADMINISTRATION	HISTORICAL	76,714	7.217%	5,537	-	5,537
49	FY 2015	BPA PROGRAM	HISTORICAL	2,066,274	6.171%	127,511	-	127,511
50	FY 2015	ENVIRONMENT	HISTORICAL	15,352	5.667%	870	-	870
51	FY 2015	BPA PROGRAM	HISTORICAL	468,135	6.840%	32,020	-	32,020
52	FY 2015	BPA PROGRAM	NEW	163,547	3.420%	5,593	-	5,593
53	FY 2015	Float	HISTORICAL	-	-	-2,693	-	-2,693
54	Subtotal			\$2,790,022	-	\$168,839	-	\$168,839
55								
56	FY 2016	BONNEVILLE POWER ADMINISTRATION	HISTORICAL	50,080	7.211%	3,611	-	3,611
57	FY 2016	BPA PROGRAM	HISTORICAL	2,066,274	6.171%	127,511	-	127,511
58	FY 2016	ENVIRONMENT	HISTORICAL	15,352	5.667%	870	-	870
59	FY 2016	BPA PROGRAM	HISTORICAL	631,682	6.840%	43,207	-	43,207
60	FY 2016	BPA PROGRAM	NEW	167,165	3.420%	5,717	-	5,717
61	FY 2016	Float	HISTORICAL	-	-	-2,794	-	-2,794
62	Subtotal			\$2,930,553	-	\$178,123	-	\$178,123

Table 11-6: Interest Calculation Summary (\$000s) (FY 2011)

	Date	Project	TYPE	Principal	Rate	Interest	Premium	Total
63								
64	FY 2017	BONNEVILLE POWER ADMINISTRATION	HISTORICAL	22,845	7.210%	1,647	-	1,647
65	FY 2017	BPA PROGRAM	HISTORICAL	2,066,274	6.171%	127,511	-	127,511
66	FY 2017	ENVIRONMENT	HISTORICAL	15,352	5.667%	870	-	870
67	FY 2017	BPA PROGRAM	HISTORICAL	798,847	6.840%	54,641	-	54,641
68	FY 2017	BPA PROGRAM	NEW	170,739	3.420%	5,839	-	5,839
69	FY 2017	Float	HISTORICAL	-	-	-2,438	-	-2,438
70		Subtotal		\$3,074,057		\$188,070		\$188,070
71								
72	FY 2018	BONNEVILLE POWER ADMINISTRATION	HISTORICAL	14,841	7.210%	1,070	-	1,070
73	FY 2018	BPA PROGRAM	HISTORICAL	2,066,274	6.171%	127,511	45	127,556
74	FY 2018	ENVIRONMENT	HISTORICAL	15,352	5.667%	870	-	870
75	FY 2018	BPA PROGRAM	HISTORICAL	969,586	6.840%	66,320	-	66,320
76	FY 2018	BPA PROGRAM	NEW	174,139	3.420%	5,956	-	5,956
77	FY 2018	Float	HISTORICAL	-	-	-2,740	-	-2,740
78		Subtotal		\$3,240,192		\$198,987	\$45	\$199,032
79								
80	FY 2019	BPA PROGRAM	HISTORICAL	2,065,463	6.171%	127,455	9,976	137,431
81	FY 2019	ENVIRONMENT	HISTORICAL	15,352	5.667%	870	-	870
82	FY 2019	BPA PROGRAM	HISTORICAL	1,143,725	6.840%	78,231	-	78,231
83	FY 2019	BPA PROGRAM	NEW	177,611	3.420%	6,074	-	6,074
84	FY 2019	Float	HISTORICAL	-	-	-7,033	-	-7,033
85		Subtotal		\$3,402,151		\$205,597	\$9,976	\$215,573
86								
87	FY 2020	BPA PROGRAM	HISTORICAL	1,878,855	6.095%	114,523	8,934	123,457
88	FY 2020	ENVIRONMENT	HISTORICAL	15,352	5.667%	870	-	870
89	FY 2020	BPA PROGRAM	HISTORICAL	1,321,336	6.840%	90,379	-	90,379
90	FY 2020	BPA PROGRAM	NEW	181,138	3.420%	6,195	-	6,195
91	FY 2020	Float	HISTORICAL	-	-	-6,700	-	-6,700
92		Subtotal		\$3,396,681		\$205,267	\$8,934	\$214,201
93								
94	FY 2021	BPA PROGRAM	HISTORICAL	1,705,320	6.010%	102,497	2,649	105,146
95	FY 2021	ENVIRONMENT	HISTORICAL	15,352	5.667%	870	-	870
96	FY 2021	BPA PROGRAM	HISTORICAL	1,502,474	6.840%	102,769	2,571	105,340
97	FY 2021	BPA PROGRAM	NEW	184,559	3.420%	6,312	-	6,312
98	FY 2021	Float	HISTORICAL	-	-	-6,696	-	-6,696
99		Subtotal		\$3,407,705		\$205,752	\$5,219	\$210,972
100								
101	FY 2022	BPA PROGRAM	HISTORICAL	1,579,109	6.047%	95,488	-	95,488
102	FY 2022	ENVIRONMENT	HISTORICAL	15,352	5.667%	870	-	870
103	FY 2022	BPA PROGRAM	HISTORICAL	1,636,441	6.840%	111,933	8,504	120,436
104	FY 2022	BPA PROGRAM	NEW	187,871	3.420%	6,425	-	6,425
105	FY 2022	Float	HISTORICAL	-	-	-6,671	-	-6,671
106		Subtotal		\$3,418,773		\$208,045	\$8,504	\$216,549
107								
108	FY 2023	BPA PROGRAM	HISTORICAL	1,579,109	6.047%	95,488	-	95,488
109	FY 2023	ENVIRONMENT	HISTORICAL	15,352	5.667%	870	-	870
110	FY 2023	BPA PROGRAM	HISTORICAL	1,653,046	6.840%	113,068	8,472	121,541
111	FY 2023	BPA PROGRAM	NEW	191,173	3.420%	6,538	-	6,538
112	FY 2023	Float	HISTORICAL	-	-	-6,657	-	-6,657
113		Subtotal		\$3,438,680		\$209,307	\$8,472	\$217,780
114								
115	FY 2024	BPA PROGRAM	HISTORICAL	1,579,109	6.047%	95,488	-	95,488
116	FY 2024	ENVIRONMENT	HISTORICAL	15,352	5.667%	870	-	870
117	FY 2024	BPA PROGRAM	HISTORICAL	1,674,156	6.840%	114,512	8,509	123,022
118	FY 2024	BPA PROGRAM	NEW	194,392	3.420%	6,648	-	6,648
119	FY 2024	Float	HISTORICAL	-	-	-6,786	-	-6,786
120		Subtotal		\$3,463,009		\$210,733	\$8,509	\$219,242
121								
122	FY 2025	BPA PROGRAM	HISTORICAL	1,579,109	6.047%	95,488	-	95,488
123	FY 2025	ENVIRONMENT	HISTORICAL	10,950	6.048%	662	-	662
124	FY 2025	BPA PROGRAM	HISTORICAL	1,698,149	6.840%	116,153	6,463	122,617
125	FY 2025	BPA PROGRAM	NEW	197,370	3.420%	6,750	-	6,750
126	FY 2025	Float	HISTORICAL	-	-	-7,208	-	-7,208
127		Subtotal		\$3,485,578		\$211,846	\$6,463	\$218,310

Table 11-6: Interest Calculation Summary (\$000s) (FY 2011)

	Date	Project	TYPE	Principal	Rate	Interest	Premium	Total
128								
129	FY 2026	BPA PROGRAM	HISTORICAL	1,520,059	6.045%	91,886	-	91,886
130	FY 2026	ENVIRONMENT	HISTORICAL	5,581	6.220%	347	-	347
131	FY 2026	BPA PROGRAM	HISTORICAL	1,765,648	6.840%	120,770	3,468	124,238
132	FY 2026	BPA PROGRAM	NEW	200,060	3.420%	6,842	-	6,842
133	FY 2026	Float	HISTORICAL	-	-	-7,200	-	-7,200
134		Subtotal		\$3,491,348		\$212,645	\$3,468	\$216,113
135								
136	FY 2027	BPA PROGRAM	HISTORICAL	1,400,059	6.036%	84,506	-	84,506
137	FY 2027	BPA PROGRAM	HISTORICAL	1,894,733	6.840%	129,600	9,198	138,798
138	FY 2027	BPA PROGRAM	NEW	202,425	3.420%	6,923	-	6,923
139	FY 2027	Float	HISTORICAL	-	-	-7,188	-	-7,188
140		Subtotal		\$3,497,217		\$213,841	\$9,198	\$223,039
141								
142	FY 2028	BPA PROGRAM	HISTORICAL	1,400,059	6.036%	84,506	-	84,506
143	FY 2028	BPA PROGRAM	HISTORICAL	1,907,468	6.840%	130,471	1,631	132,102
144	FY 2028	BPA PROGRAM	NEW	204,416	3.420%	6,991	-	6,991
145	FY 2028	Float	HISTORICAL	-	-	-7,179	-	-7,179
146		Subtotal		\$3,511,943		\$214,789	\$1,631	\$216,421
147								
148	FY 2029	BPA PROGRAM	HISTORICAL	1,237,759	5.999%	74,250	-	74,250
149	FY 2029	BPA PROGRAM	HISTORICAL	2,077,823	6.840%	142,123	8,864	150,987
150	FY 2029	BPA PROGRAM	NEW	205,837	3.420%	7,040	-	7,040
151	FY 2029	Float	HISTORICAL	-	-	-7,163	-	-7,163
152		Subtotal		\$3,521,419		\$216,249	\$8,864	\$225,114
153								
154	FY 2030	BPA PROGRAM	HISTORICAL	1,237,759	5.999%	74,250	-	74,250
155	FY 2030	BPA PROGRAM	HISTORICAL	2,095,954	6.840%	143,363	8,825	152,188
156	FY 2030	BPA PROGRAM	NEW	206,825	3.420%	7,073	-	7,073
157	FY 2030	Float	HISTORICAL	-	-	-7,149	-	-7,149
158		Subtotal		\$3,540,538		\$217,537	\$8,825	\$226,362
159								
160	FY 2031	BPA PROGRAM	HISTORICAL	1,237,759	5.999%	74,250	-	74,250
161	FY 2031	BPA PROGRAM	HISTORICAL	2,116,288	6.840%	144,754	3,916	148,670
162	FY 2031	BPA PROGRAM	NEW	207,329	3.420%	7,091	-	7,091
163	FY 2031	Float	HISTORICAL	-	-	-7,133	-	-7,133
164		Subtotal		\$3,561,376		\$218,962	\$3,916	\$222,877
165								
166	FY 2032	BPA PROGRAM	HISTORICAL	1,131,259	6.045%	68,381	-	68,381
167	FY 2032	BPA PROGRAM	HISTORICAL	2,240,128	6.840%	153,225	4,030	157,254
168	FY 2032	BPA PROGRAM	NEW	207,481	3.420%	7,096	-	7,096
169	FY 2032	Float	HISTORICAL	-	-	-7,102	-	-7,102
170		Subtotal		\$3,578,868		\$221,600	\$4,030	\$225,630
171								
172	FY 2033	BPA PROGRAM	HISTORICAL	1,032,359	5.982%	61,755	-	61,755
173	FY 2033	BPA PROGRAM	HISTORICAL	2,359,282	6.840%	161,375	5,159	166,534
174	FY 2033	BPA PROGRAM	NEW	207,284	3.420%	7,089	-	7,089
175	FY 2033	Float	HISTORICAL	-	-	-6,395	-	-6,395
176		Subtotal		\$3,598,925		\$223,824	\$5,159	\$228,982
177								
178	FY 2034	BPA PROGRAM	HISTORICAL	992,359	5.999%	59,535	-	59,535
179	FY 2034	BPA PROGRAM	HISTORICAL	2,451,800	6.840%	167,703	2,416	170,119
180	FY 2034	BPA PROGRAM	NEW	206,590	3.420%	7,065	-	7,065
181	FY 2034	Float	HISTORICAL	-	-	-5,009	-	-5,009
182		Subtotal		\$3,650,749		\$229,295	\$2,416	\$231,711

Table 11-6: Interest Calculation Summary (\$000s) (FY 2011)

	Date	Project	TYPE	Principal	Rate	Interest	Premium	Total
183								
184	FY 2035	BPA PROGRAM	HISTORICAL	952,359	6.016%	57,295	-	57,295
185	FY 2035	BPA PROGRAM	HISTORICAL	2,602,939	6.840%	178,041	2,432	180,474
186	FY 2035	BPA PROGRAM	NEW	205,764	3.420%	7,037	-	7,037
187	FY 2035	Float	HISTORICAL	-	-	-7,092	-	-7,092
188		Subtotal		\$3,761,062	-	\$235,281	\$2,432	\$237,714
189								
190	FY 2036	BPA PROGRAM	HISTORICAL	827,359	6.113%	50,573	75	50,647
191	FY 2036	BPA PROGRAM	HISTORICAL	2,752,126	6.840%	188,245	5,134	193,379
192	FY 2036	BPA PROGRAM	NEW	204,878	3.420%	7,007	-	7,007
193	FY 2036	Float	HISTORICAL	-	-	-6,689	-	-6,689
194		Subtotal		\$3,784,363	-	\$239,136	\$5,208	\$244,344
195								
196	FY 2037	BPA PROGRAM	HISTORICAL	792,360	6.100%	48,333	-	48,333
197	FY 2037	BPA PROGRAM	HISTORICAL	2,832,367	6.840%	193,734	-	193,734
198	FY 2037	BPA PROGRAM	NEW	203,804	3.420%	6,970	-	6,970
199	FY 2037	Float	HISTORICAL	-	-	-3,841	-	-3,841
200		Subtotal		\$3,828,532	-	\$245,195	-	\$245,195
201								
202	FY 2038	BPA PROGRAM	HISTORICAL	752,359	6.137%	46,169	-	46,169
203	FY 2038	BPA PROGRAM	HISTORICAL	3,036,171	6.840%	207,674	2,079	209,753
204	FY 2038	BPA PROGRAM	NEW	202,682	3.420%	6,932	-	6,932
205	FY 2038	Float	HISTORICAL	-	-	-5,946	-	-5,946
206		Subtotal		\$3,991,212	-	\$254,828	\$2,079	\$256,907
207								
208	FY 2039	BPA PROGRAM	HISTORICAL	682,359	6.205%	42,340	-	42,340
209	FY 2039	BPA PROGRAM	HISTORICAL	3,185,674	6.840%	217,900	6,241	224,141
210	FY 2039	BPA PROGRAM	NEW	201,642	3.420%	6,896	-	6,896
211	FY 2039	Float	HISTORICAL	-	-	-7,107	-	-7,107
212		Subtotal		\$4,069,675	-	\$260,029	\$6,241	\$266,269
213								
214	FY 2040	BPA PROGRAM	HISTORICAL	682,359	6.205%	42,340	-	42,340
215	FY 2040	BPA PROGRAM	HISTORICAL	3,221,221	6.840%	220,332	6,094	226,425
216	FY 2040	BPA PROGRAM	NEW	200,717	3.420%	6,865	-	6,865
217	FY 2040	Float	HISTORICAL	-	-	-7,077	-	-7,077
218		Subtotal		\$4,104,297	-	\$262,459	\$6,094	\$268,552
219								
220	FY 2041	BPA PROGRAM	HISTORICAL	682,359	6.205%	42,340	369	42,708
221	FY 2041	BPA PROGRAM	HISTORICAL	3,258,195	6.840%	222,861	4,274	227,135
222	FY 2041	BPA PROGRAM	NEW	199,999	3.420%	6,840	-	6,840
223	FY 2041	Float	HISTORICAL	-	-	-7,046	-	-7,046
224		Subtotal		\$4,140,553	-	\$264,994	\$4,642	\$269,637
225								
226	FY 2042	BPA PROGRAM	HISTORICAL	634,867	6.161%	39,115	952	40,067
227	FY 2042	BPA PROGRAM	HISTORICAL	3,343,091	6.840%	228,667	0	228,667
228	FY 2042	BPA PROGRAM	NEW	199,488	3.420%	6,822	-	6,822
229	FY 2042	Float	HISTORICAL	-	-	-7,014	-	-7,014
230		Subtotal		\$4,177,446	-	\$267,591	\$952	\$268,543
231								

Table 11-6: Interest Calculation Summary (\$000s) (FY 2011)

	Date	Project	TYPE	Principal	Rate	Interest	Premium	Total
232	FY 2043	BPA PROGRAM	HISTORICAL	471,238	5.943%	28,004	345	28,350
233	FY 2043	BPA PROGRAM	HISTORICAL	3,542,578	6.840%	242,312	-	242,312
234	FY 2043	BPA PROGRAM	NEW	199,309	3.420%	6,816	-	6,816
235	FY 2043	Float	HISTORICAL	-	-	-6,983	-	-6,983
236	Subtotal			\$4,213,125	-	\$270,150	\$345	\$270,496
237								
238	FY 2044	BPA PROGRAM	HISTORICAL	309,615	6.058%	18,755	0	18,755
239	FY 2044	BPA PROGRAM	HISTORICAL	3,741,887	6.840%	255,945	-	255,945
240	FY 2044	BPA PROGRAM	NEW	199,529	3.420%	6,824	-	6,824
241	FY 2044	Float	HISTORICAL	-	-	-6,930	-	-6,930
242	Subtotal			\$4,251,031	-	\$274,594	\$0	\$274,594
243								
244	FY 2045	BPA PROGRAM	HISTORICAL	152,135	6.790%	10,330	-	10,330
245	FY 2045	BPA PROGRAM	HISTORICAL	3,941,416	6.840%	269,593	0	269,593
246	FY 2045	BPA PROGRAM	NEW	200,066	3.420%	6,842	-	6,842
247	FY 2045	Float	HISTORICAL	-	-	-6,867	-	-6,867
248	Subtotal			\$4,293,617	-	\$279,898	\$0	\$279,898
249								
250	FY 2046	BPA PROGRAM	HISTORICAL	4,141,478	6.840%	283,277	4,030	287,307
251	FY 2046	BPA PROGRAM	NEW	201,060	3.420%	6,876	-	6,876
252	FY 2046	Float	HISTORICAL	-	-	-6,777	-	-6,777
253	Subtotal			\$4,342,538	-	\$283,377	\$4,030	\$287,406
254								
255	Grand Total			\$131,999,399	-	\$8,134,936	\$135,652	\$8,270,588

Table 11-7: Summary of Amortization (\$000s) (FY 2011)

	A	B	C	D	E	F	G	H	I	J	K	I
	Project	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1	BONNEVILLE POWER ADMINISTRATION	105,649	24,919	80,342	115,421	45,053	40,508	26,634	27,235	8,004	14,841	-
2	TOTAL APPROPRIATIONS	105,649	24,919	80,342	115,421	45,053	40,508	26,634	27,235	8,004	14,841	-
3												
4	BPA BORROWING:											
5												
6	BPA PROGRAM	47,010	160,251	130,000	55,000	-	-	-	-	-	811	186,608
7	ENVIRONMENT	20,000	30,000	10,000	-	-	-	-	-	-	-	-
8	TOTAL BPA BORROWING	67,010	190,251	140,000	55,000	-	-	-	-	-	811	186,608
9												
10	TOTALS	172,659	215,170	220,342	170,421	45,053	40,508	26,634	27,235	8,004	15,652	186,608

Table 11-7: Summary of Amortization (\$000s) (FY 2011)

	A	M	N	O	P	Q	R	S	T	U	V	W
	Project	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1	BONNEVILLE POWER ADMINISTRATION	-	-	-	-	-	-	-	-	-	-	-
2	TOTAL APPROPRIATIONS	-	-	-	-	-	-	-	-	-	-	-
3												
4	BPA BORROWING:											
5												
6	BPA PROGRAM	173,535	176,802	171,267	170,062	170,400	188,921	190,975	189,690	196,361	187,707	186,490
7	ENVIRONMENT	-	-	-	-	4,402	5,369	5,581	-	-	-	-
8	TOTAL BPA BORROWING	173,535	176,802	171,267	170,062	174,802	194,290	196,556	189,690	196,361	187,707	186,490
9												
10	TOTALS	173,535	176,802	171,267	170,062	174,802	194,290	196,556	189,690	196,361	187,707	186,490

Table 11-7: Summary of Amortization (\$000s) (FY 2011)

	A	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH
	Project	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
1	BONNEVILLE POWER ADMINISTRATION	-	-	-	-	-	-	-	-	-	-	-
2	TOTAL APPROPRIATIONS	-	-	-	-	-	-	-	-	-	-	-
3												
4	BPA BORROWING:											
5												
6	BPA PROGRAM	189,989	187,227	154,767	95,451	181,577	159,635	40,001	123,179	166,095	163,743	162,595
7	ENVIRONMENT	-	-	-	-	-	-	-	-	-	-	-
8	TOTAL BPA BORROWING	189,989	187,227	154,767	95,451	181,577	159,635	40,001	123,179	166,095	163,743	162,595
9												
10	TOTALS	189,989	187,227	154,767	95,451	181,577	159,635	40,001	123,179	166,095	163,743	162,595

Table 11-7: Summary of Amortization (\$000s) (FY 2011)

	A	AI	AJ	AK	AL	AM	AN
	Project	2042	2043	2044	2045	2046	Total
1	BONNEVILLE POWER ADMINISTRATION	-	-	-	-	-	488,605
2	TOTAL APPROPRIATIONS	-	-	-	-	-	488,605
3							
4	BPA BORROWING:						
5							
6	BPA PROGRAM	163,630	161,623	157,480	152,139	142,492	4,983,513
7	ENVIRONMENT	-	-	-	-	-	75,352
8	TOTAL BPA BORROWING	163,630	161,623	157,480	152,139	142,492	5,058,865
9							
10	TOTALS	163,630	161,623	157,480	152,139	142,492	5,547,470

Table 11-8: Application of Amortization (\$000s) (FY 2011)

	A	B	C	D	E	F	G	H	I	J
1	Date	Project	In Service	Due	Original Balance	Amount Available	Rate	Replacement?	Rollover?	Amount Amortized
2	FY 2009	BONNEVILLE POWER ADMINISTRATION	1964	2009	4,151	4,151	7.060%	No	No	4,151
3	FY 2009	BONNEVILLE POWER ADMINISTRATION	1964	2009	5,738	5,738	7.060%	No	No	5,738
4	FY 2009	ENVIRONMENT	2006	2009	20,000	20,000	5.050%	No	No	20,000
5	FY 2009	BPA PROGRAM	2006	2009	20,000	20,000	5.050%	No	No	20,000
6	FY 2009	BPA PROGRAM	2005	2009	27,010	27,010	3.750%	No	No	27,010
7	FY 2009	BONNEVILLE POWER ADMINISTRATION	1970	2015	64,977	64,977	7.270%	No	No	25,385
8	FY 2009	BONNEVILLE POWER ADMINISTRATION	1970	2015	7,995	7,995	7.270%	No	No	7,995
9	FY 2009	BONNEVILLE POWER ADMINISTRATION	1970	2015	24,412	23,551	7.270%	No	No	23,551
10	FY 2009	BONNEVILLE POWER ADMINISTRATION	1973	2018	33,788	33,788	7.280%	No	No	33,788
11	FY 2009	BONNEVILLE POWER ADMINISTRATION	1973	2018	21,656	5,041	7.280%	No	No	5,041
12	Subtotal		-	-	\$229,727	\$212,251	-	No	No	\$172,659
13										
14	FY 2010	BONNEVILLE POWER ADMINISTRATION	1965	2010	3,706	3,706	7.090%	No	No	3,706
15	FY 2010	BONNEVILLE POWER ADMINISTRATION	1965	2010	7,248	78	7.090%	No	No	78
16	FY 2010	ENVIRONMENT	2001	2010	30,000	30,000	6.050%	No	No	30,000
17	FY 2010	BPA PROGRAM	2001	2010	59,932	59,932	6.050%	No	No	59,932
18	FY 2010	BPA PROGRAM	2007	2010	50,000	50,000	5.200%	No	No	50,000
19	FY 2010	BPA PROGRAM	2007	2010	25,000	25,000	5.100%	No	No	25,000
20	FY 2010	BPA PROGRAM	2006	2010	5,319	5,319	4.950%	No	No	5,319
21	FY 2010	BPA PROGRAM	2006	2010	20,000	20,000	4.950%	No	No	20,000
22	FY 2010	BONNEVILLE POWER ADMINISTRATION	1970	2015	64,977	39,592	7.270%	No	No	21,135
23	Subtotal		-	-	\$266,182	\$233,627	-	No	No	\$215,170
24										
25	FY 2011	BONNEVILLE POWER ADMINISTRATION	1966	2011	11,830	11,830	7.130%	No	No	11,830
26	FY 2011	BONNEVILLE POWER ADMINISTRATION	1966	2011	3,049	3,049	7.130%	No	No	3,049
27	FY 2011	BONNEVILLE POWER ADMINISTRATION	1966	2011	6,647	6,353	7.130%	No	No	6,353
28	FY 2011	BPA PROGRAM	1998	2011	40,000	40,000	6.200%	No	No	40,000
29	FY 2011	BPA PROGRAM	2001	2011	25,000	25,000	5.950%	No	No	25,000
30	FY 2011	BPA PROGRAM	2008	2011	40,000	40,000	3.358%	No	No	40,000
31	FY 2011	ENVIRONMENT	2008	2011	10,000	10,000	3.151%	No	No	10,000
32	FY 2011	BPA PROGRAM	2008	2011	25,000	25,000	3.151%	No	No	25,000
33	FY 2011	BONNEVILLE POWER ADMINISTRATION	1970	2015	64,977	18,457	7.270%	No	No	18,457
34	FY 2011	BONNEVILLE POWER ADMINISTRATION	1974	2019	20,984	20,984	7.270%	No	No	6,263
35	FY 2011	BONNEVILLE POWER ADMINISTRATION	1974	2019	12,563	12,563	7.270%	No	No	12,563
36	FY 2011	BONNEVILLE POWER ADMINISTRATION	1974	2019	21,826	21,826	7.270%	No	No	21,826
37	Subtotal		-	-	\$281,876	\$235,062	-	No	No	\$220,342
38										
39	FY 2012	BONNEVILLE POWER ADMINISTRATION	1967	2012	19,003	19,003	7.160%	No	No	19,003
40	FY 2012	BONNEVILLE POWER ADMINISTRATION	1967	2012	4,566	355	7.160%	No	No	355
41	FY 2012	BPA PROGRAM	2008	2012	25,000	25,000	3.444%	No	No	25,000
42	FY 2012	BPA PROGRAM	2008	2012	30,000	30,000	3.200%	No	No	30,000
43	FY 2012	BONNEVILLE POWER ADMINISTRATION	1974	2019	12,079	12,079	7.270%	No	No	12,079
44	FY 2012	BONNEVILLE POWER ADMINISTRATION	1974	2019	20,984	14,721	7.270%	No	No	14,721
45	FY 2012	BONNEVILLE POWER ADMINISTRATION	1975	2020	32,026	32,026	7.250%	No	No	18,447
46	FY 2012	BONNEVILLE POWER ADMINISTRATION	1975	2020	21,916	21,916	7.250%	No	No	21,916
47	FY 2012	BONNEVILLE POWER ADMINISTRATION	1975	2020	17,158	17,158	7.250%	No	No	17,158
48	FY 2012	BONNEVILLE POWER ADMINISTRATION	1975	2020	11,742	11,742	7.250%	No	No	11,742
49	Subtotal		-	-	\$194,474	\$184,000	-	No	No	\$170,421
50										
51	FY 2013	BONNEVILLE POWER ADMINISTRATION	1968	2013	41,070	18,250	7.200%	No	No	18,250
52	FY 2013	BONNEVILLE POWER ADMINISTRATION	1969	2014	42,237	19,198	7.230%	No	No	13,224
53	FY 2013	BONNEVILLE POWER ADMINISTRATION	1975	2020	32,026	13,579	7.250%	No	No	13,579
54	Subtotal		-	-	\$115,333	\$51,027	-	No	No	\$45,053
55										

Table 11-8: Application of Amortization (\$000s) (FY 2011)

	A	B	C	D	E	F	G	H	I	J
1	Date	Project	In Service	Due	Original Balance	Amount Available	Rate	Replacement?	Rollover?	Amount Amortized
56	FY 2014	BONNEVILLE POWER ADMINISTRATION	1969	2014	42,237	5,974	7.230%	No	No	5,974
57	FY 2014	BONNEVILLE POWER ADMINISTRATION	1976	2021	61,025	61,025	7.230%	No	No	32,322
58	FY 2014	BONNEVILLE POWER ADMINISTRATION	1976	2021	2,212	2,212	7.230%	No	No	2,212
59		Subtotal	-	-	\$105,474	\$69,211	-	No	No	\$40,508
60										
61	FY 2015	BONNEVILLE POWER ADMINISTRATION	1976	2021	61,025	28,703	7.230%	No	No	26,634
62		Subtotal	-	-	\$61,025	\$28,703	-	No	No	\$26,634
63										
64	FY 2016	BONNEVILLE POWER ADMINISTRATION	1976	2021	61,025	2,069	7.230%	No	No	2,069
65	FY 2016	BONNEVILLE POWER ADMINISTRATION	1977	2022	33,702	33,702	7.210%	No	No	20,185
66	FY 2016	BONNEVILLE POWER ADMINISTRATION	1977	2022	4,981	4,981	7.210%	No	No	4,981
67		Subtotal	-	-	\$99,708	\$40,752	-	No	No	\$27,235
68										
69	FY 2017	BONNEVILLE POWER ADMINISTRATION	1977	2022	33,702	13,517	7.210%	No	No	8,004
70		Subtotal	-	-	\$33,702	\$13,517	-	No	No	\$8,004
71										
72	FY 2018	BONNEVILLE POWER ADMINISTRATION	1977	2022	3,948	3,948	7.210%	No	No	3,948
73	FY 2018	BONNEVILLE POWER ADMINISTRATION	1977	2022	5,380	5,380	7.210%	No	No	5,380
74	FY 2018	BONNEVILLE POWER ADMINISTRATION	1977	2022	33,702	5,513	7.210%	No	No	5,513
75	FY 2018	BPA PROGRAM	2011	2046	414,465	414,465	6.930%	No	No	811
76		Subtotal	-	-	\$457,495	\$429,306	-	No	No	\$15,652
77										
78	FY 2019	BPA PROGRAM	2011	2046	414,465	413,654	6.930%	No	No	186,608
79		Subtotal	-	-	\$414,465	\$413,654	-	No	No	\$186,608
80										
81	FY 2020	BONNEVILLE POWER ADMINISTRATION	1975	2020	32,026	-0	7.250%	No	No	-0
82	FY 2020	BPA PROGRAM	2011	2046	414,465	227,046	6.930%	No	No	173,535
83		Subtotal	-	-	\$446,491	\$227,046	-	No	No	\$173,535
84										
85	FY 2021	BONNEVILLE POWER ADMINISTRATION	1976	2021	61,025	0	7.230%	No	No	0
86	FY 2021	BPA PROGRAM	1998	2021	72,700	72,700	4.540%	No	Yes	72,700
87	FY 2021	BPA PROGRAM	2011	2046	414,465	53,511	6.930%	No	No	53,511
88	FY 2021	BPA PROGRAM	2012	2047	152,244	152,244	6.840%	Yes	No	50,592
89		Subtotal	-	-	\$700,434	\$278,455	-	Yes	Yes	\$176,802
90										
91	FY 2022	BONNEVILLE POWER ADMINISTRATION	1977	2022	33,702	-0	7.210%	No	No	-0
92	FY 2022	BPA PROGRAM	2012	2047	152,244	101,652	6.840%	Yes	No	101,652
93	FY 2022	BPA PROGRAM	2013	2048	156,038	156,038	6.840%	Yes	No	69,614
94		Subtotal	-	-	\$341,984	\$257,690	-	Yes	No	\$171,267
95										
96	FY 2023	BPA PROGRAM	2013	2048	156,038	86,424	6.840%	Yes	No	86,424
97	FY 2023	BPA PROGRAM	2014	2049	159,853	159,853	6.840%	Yes	No	83,639
98		Subtotal	-	-	\$315,891	\$246,277	-	Yes	No	\$170,062
99										
100	FY 2024	ENVIRONMENT	2009	2024	4,402	4,402	4.720%	No	No	4,402
101	FY 2024	BPA PROGRAM	2014	2049	159,853	76,214	6.840%	Yes	No	76,214
102	FY 2024	BPA PROGRAM	2015	2050	163,547	163,547	6.840%	Yes	No	94,185
103		Subtotal	-	-	\$327,802	\$244,163	-	Yes	No	\$174,802
104										
105	FY 2025	BPA PROGRAM	1999	2025	59,050	59,050	6.100%	No	Yes	59,050
106	FY 2025	ENVIRONMENT	2010	2025	5,369	5,369	5.870%	No	No	5,369
107	FY 2025	BPA PROGRAM	2015	2050	163,547	69,362	6.840%	Yes	No	69,362
108	FY 2025	BPA PROGRAM	2016	2051	167,165	167,165	6.840%	Yes	No	60,509
109		Subtotal	-	-	\$395,131	\$300,946	-	Yes	Yes	\$194,290
110										
111	FY 2026	ENVIRONMENT	2011	2026	5,581	5,581	6.220%	No	No	5,581
112	FY 2026	BPA PROGRAM	2007	2026	40,000	40,000	6.200%	No	Yes	40,000
113	FY 2026	BPA PROGRAM	2008	2026	30,000	30,000	6.200%	No	Yes	30,000
114	FY 2026	BPA PROGRAM	2001	2026	50,000	50,000	6.080%	No	Yes	50,000
115	FY 2026	BPA PROGRAM	2016	2051	167,165	106,656	6.840%	Yes	No	70,975
116		Subtotal	-	-	\$292,746	\$232,237	-	Yes	Yes	\$196,556
117										
118	FY 2027	BPA PROGRAM	2016	2051	167,165	35,681	6.840%	Yes	No	35,681
119	FY 2027	BPA PROGRAM	2017	2052	170,739	170,739	6.840%	Yes	No	154,009
120		Subtotal	-	-	\$337,904	\$206,420	-	Yes	No	\$189,690
121										
122	FY 2028	BPA PROGRAM	1998	2028	50,000	50,000	6.650%	No	No	50,000
123	FY 2028	BPA PROGRAM	1998	2028	112,300	112,300	5.850%	No	No	112,300
124	FY 2028	BPA PROGRAM	2017	2052	170,739	16,730	6.840%	Yes	No	16,730
125	FY 2028	BPA PROGRAM	2018	2053	174,139	174,139	6.840%	Yes	No	17,331
126		Subtotal	-	-	\$507,178	\$353,169	-	Yes	No	\$196,361

Table 11-8: Application of Amortization (\$000s) (FY 2011)

	A	B	C	D	E	F	G	H	I	J
1	Date	Project	In Service	Due	Original Balance	Amount Available	Rate	Replacement?	Rollover?	Amount Amortized
127										
128	FY 2029	BPA PROGRAM	2018	2053	174,139	156,808	6.840%	Yes	No	156,808
129	FY 2029	BPA PROGRAM	2019	2054	177,611	177,611	6.840%	Yes	No	30,898
130	Subtotal		-	-	\$351,750	\$334,419	-	Yes	No	\$187,707
131										
132	FY 2030	BPA PROGRAM	2019	2054	177,611	146,713	6.840%	Yes	No	146,713
133	FY 2030	BPA PROGRAM	2020	2055	181,138	181,138	6.840%	Yes	No	39,778
134	Subtotal		-	-	\$358,749	\$327,851	-	Yes	No	\$186,490
135										
136	FY 2031	BPA PROGRAM	1998	2031	106,500	106,500	5.510%	No	Yes	106,500
137	FY 2031	BPA PROGRAM	2020	2055	181,138	141,360	6.840%	Yes	No	83,489
138	Subtotal		-	-	\$287,638	\$247,860	-	Yes	Yes	\$189,989
139										
140	FY 2032	BPA PROGRAM	1998	2032	98,900	98,900	6.700%	No	No	98,900
141	FY 2032	BPA PROGRAM	2020	2055	181,138	57,871	6.840%	Yes	No	57,871
142	FY 2032	BPA PROGRAM	2021	2056	184,559	184,559	6.840%	Yes	No	30,456
143	Subtotal		-	-	\$464,597	\$341,330	-	Yes	No	\$187,227
144										
145	FY 2033	BPA PROGRAM	2003	2033	40,000	40,000	5.550%	No	No	40,000
146	FY 2033	BPA PROGRAM	2021	2056	184,559	154,103	6.840%	Yes	No	114,767
147	Subtotal		-	-	\$224,559	\$194,103	-	Yes	No	\$154,767
148										
149	FY 2034	BPA PROGRAM	2004	2034	40,000	40,000	5.600%	No	No	40,000
150	FY 2034	BPA PROGRAM	2021	2056	184,559	39,337	6.840%	Yes	No	39,337
151	FY 2034	BPA PROGRAM	2022	2057	187,871	187,871	6.840%	Yes	No	16,114
152	Subtotal		-	-	\$412,430	\$267,208	-	Yes	No	\$95,451
153										
154	FY 2035	BPA PROGRAM	2005	2035	40,000	40,000	5.500%	No	No	40,000
155	FY 2035	BPA PROGRAM	2005	2035	40,000	40,000	5.400%	No	No	40,000
156	FY 2035	BPA PROGRAM	2005	2035	45,000	45,000	5.250%	No	No	45,000
157	FY 2035	BPA PROGRAM	2022	2057	187,871	171,757	6.840%	Yes	No	56,577
158	Subtotal		-	-	\$312,871	\$296,757	-	Yes	No	\$181,577
159										
160	FY 2036	BPA PROGRAM	2007	2037	35,000	35,000	6.400%	No	No	34,999
161	FY 2036	BPA PROGRAM	2022	2057	187,871	115,180	6.840%	Yes	No	115,180
162	FY 2036	BPA PROGRAM	2023	2058	191,173	191,173	6.840%	Yes	No	9,457
163	Subtotal		-	-	\$414,044	\$341,353	-	Yes	No	\$159,635
164										
165	FY 2037	BPA PROGRAM	2007	2037	35,000	1	6.400%	No	No	1
166	FY 2037	BPA PROGRAM	2005	2037	40,000	40,000	5.410%	No	Yes	40,000
167	Subtotal		-	-	\$75,000	\$40,001	-	No	Yes	\$40,001
168										
169	FY 2038	BPA PROGRAM	2006	2038	70,000	70,000	5.470%	No	Yes	70,000
170	FY 2038	BPA PROGRAM	2023	2058	191,173	181,716	6.840%	Yes	No	53,179
171	Subtotal		-	-	\$261,173	\$251,716	-	Yes	Yes	\$123,179

Table 11-8: Application of Amortization (\$000s) (FY 2011)

	A	B	C	D	E	F	G	H	I	J
1	Date	Project	In Service	Due	Original Balance	Amount Available	Rate	Replacement?	Rollover?	Amount Amortized
172										
173	FY 2039	BPA PROGRAM	2023	2058	191,173	128,537	6.840%	Yes	No	128,537
174	FY 2039	BPA PROGRAM	2024	2059	194,392	194,392	6.840%	Yes	No	37,558
175		Subtotal	-	-	\$385,565	\$322,929	-	Yes	No	\$166,095
176										
177	FY 2040	BPA PROGRAM	2024	2059	194,392	156,834	6.840%	Yes	No	156,834
178	FY 2040	BPA PROGRAM	2025	2060	197,370	197,370	6.840%	Yes	No	6,909
179		Subtotal	-	-	\$391,762	\$354,204	-	Yes	No	\$163,743
180										
181	FY 2041	BPA PROGRAM	2010	2045	405,094	405,094	6.790%	No	No	47,492
182	FY 2041	BPA PROGRAM	2025	2060	197,370	190,461	6.840%	Yes	No	115,104
183		Subtotal	-	-	\$602,464	\$595,555	-	Yes	No	\$162,595
184										
185	FY 2042	BPA PROGRAM	2010	2045	405,094	357,602	6.790%	No	No	163,630
186	FY 2042	BPA PROGRAM	2025	2060	197,370	75,358	6.840%	Yes	No	0
187		Subtotal	-	-	\$602,464	\$432,960	-	Yes	No	\$163,630
188										
189	FY 2043	BPA PROGRAM	2009	2044	277,265	277,265	5.350%	No	No	119,792
190	FY 2043	BPA PROGRAM	2010	2045	405,094	193,973	6.790%	No	No	41,832
191		Subtotal	-	-	\$682,359	\$471,238	-	No	No	\$161,623
192										
193	FY 2044	BPA PROGRAM	2009	2044	277,265	157,473	5.350%	No	No	157,473
194	FY 2044	BPA PROGRAM	2010	2045	405,094	152,141	6.790%	No	No	6
195		Subtotal	-	-	\$682,359	\$309,615	-	No	No	\$157,480
196										
197	FY 2045	BPA PROGRAM	2010	2045	405,094	152,135	6.790%	No	No	152,135
198	FY 2045	BPA PROGRAM	2025	2060	197,370	75,357	6.840%	Yes	No	4
199		Subtotal	-	-	\$602,464	\$227,492	-	Yes	No	\$152,139

12. REPAYMENT THEORY OF OPERATION

12.1 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.

12.2 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).

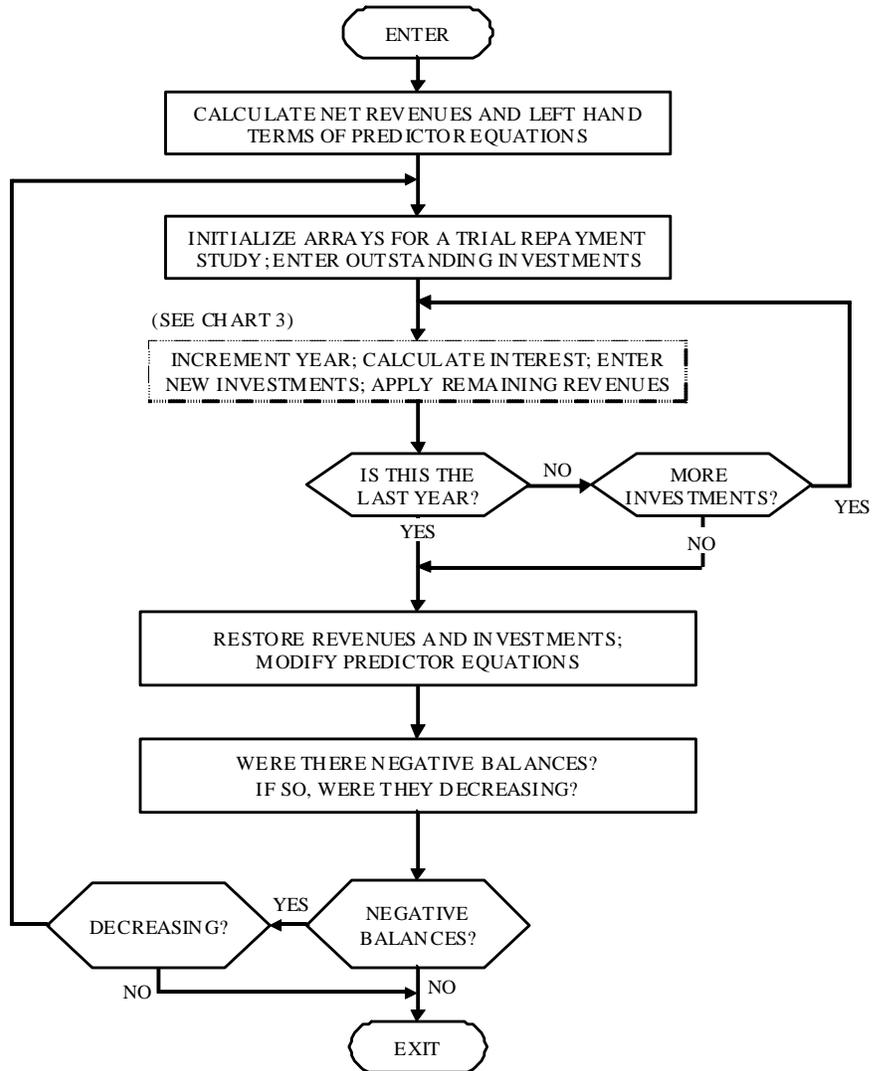
Predictor equation: For each future year the accumulated revenues less the accumulated interest less the accumulated investments due is equal to the accumulated payments on high interest rate investments which are not due.

12.3 Bond Rollover Feature

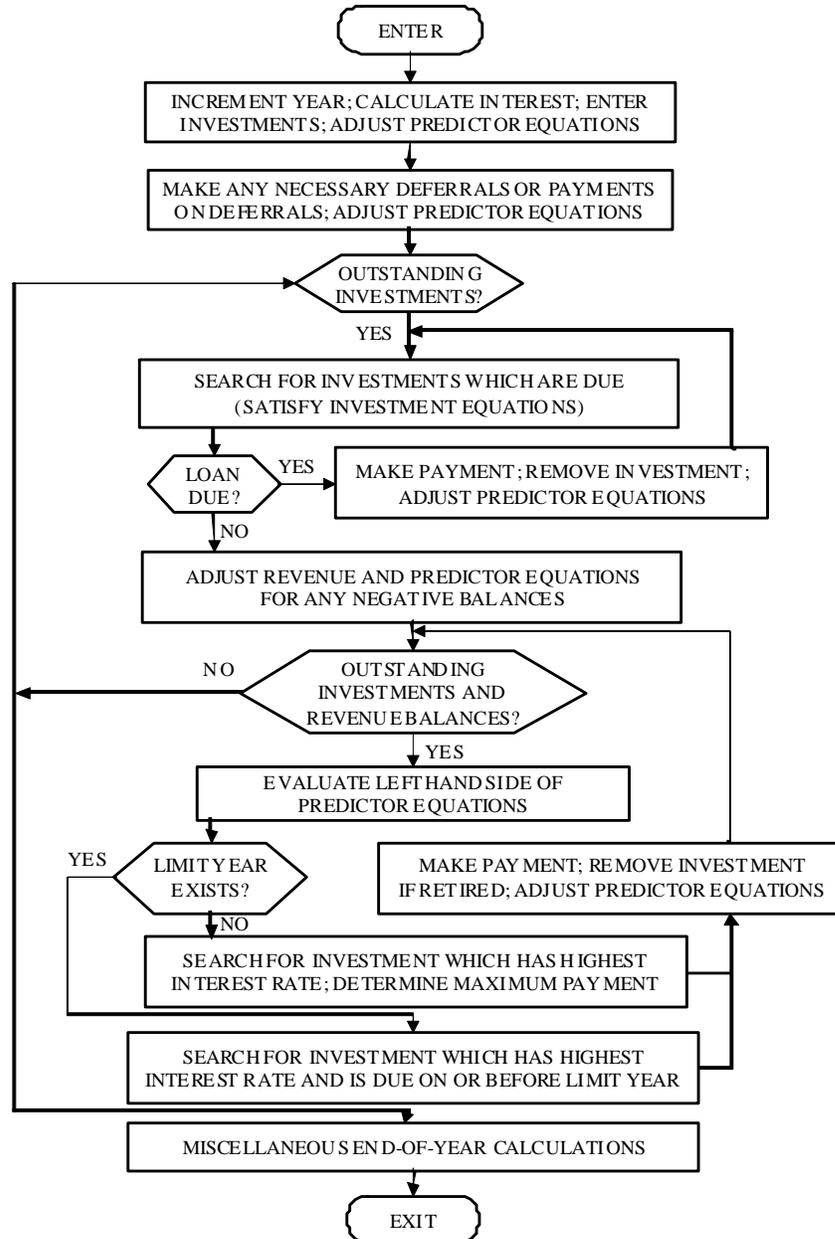
Since the 2004 Transmission Rate Case, BPA has incorporated a new data manipulation feature associated with the repayment program. This does not change any methodology of the model. It allows the user to assume that short-term bond(s) associated with assets with average service

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 rates. 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
(TEST FOR SUFFICIENCY)**



**REPAYMENT PROGRAM
(APPLICATION OF REVENUES)**



13. DEBT OPTIMIZATION DEMONSTRATION

13.1 Background

In FY 2001 BPA began carrying out the Debt Optimization Program (DOP) in conjunction with Energy Northwest (EN) as a means for BPA to replenish its Treasury borrowing authority. The basic mechanism of the DOP program is that, shortly before the principal of qualifying outstanding EN debt reaches its final maturity (due date) it is repaid with the proceeds of new EN debt that has a final maturity at a later date. The cash that otherwise would have been used to pay the principal of the refunded EN debt is used to repay an equivalent amount of Federal obligations, thereby restoring Treasury borrowing authority or providing opportunities for future restoration of borrowing authority for the agency.

To expand the capability to restore Treasury borrowing authority, BPA instituted the Debt Service Reassignment (DSR) concept, whereby cash flows generated through DO are used to repay transmission-related Treasury obligations. Under the DSR concept, the transmission function is responsible for the recovery of any and all relevant costs associated with the swap of EN debt service for Federal obligations associated with transmission, and BPA's generation function is held harmless. For BPA's Power Services (PS), it is as if the refinancing transactions related to DSR never took place. That is, power rates were set to recover the maturing EN principal payment as it came due, and actual power revenues were available to do so. Therefore, PS's obligation to recover the maturing EN principal has been satisfied -- the generation function no longer has the repayment obligation for that portion of the debt service associated with refinanced EN debt assigned to transmission through DSR, and recovery of the associated debt service is no longer reflected in the costs of BPA's generation function.

13.2 DO Demonstration and Slice Settlement Agreement

BPA has committed to manage DOP in a manner such that rates are no higher with DOP than they would be in the absence of DOP. BPA complies with this commitment by conducting annual DOP analysis that involves running two 20-year repayment studies for both transmission and generation, as follows: 1) a base repayment study that includes all debt management activities completed up through the prior year, and 2) a repayment study that includes the above plus new DOP and DSR projections for the current and upcoming fiscal years. BPA demonstrates achievement of the "rates no higher" commitment when the comparison of the two studies shows that the combined levelized Federal and non-Federal debt service in the repayment study that includes DO is equal to or lower than the debt service in the repayment study that does not include DOP.

As part of the Slice Settlement Agreement MOU, BPA agreed to make the above demonstration annually to customers in the late fall/early winter period and that, for purposes of the 2010

Transmission Rate Case, the Initial Proposal would include this demonstration, among other things. This demonstration is contained in the tables described below.

13.3 The Demonstration Tables

Table 13-1 is the comparison of the results of the two repayment studies. Column A is the total levelized debt service calculated in the transmission base repayment study, which matches Column A of Table 13-2. Column B is the total levelized debt service calculated in the transmission debt optimization repayment study, which matches Column A of Table 13-4. Column C shows the difference between columns A and B.

Table 13-2 summarizes the results of the transmission base repayment study. This study incorporates all debt management transactions, Federal and non-Federal, made on behalf of transmission through September 30, 2008. It does not include projections of future DOP actions. The study shows what the combined levelized debt service levels would be if no additional DO transactions occurred. Column A is the total levelized Federal and non Federal debt service. Column B is non-Federal debt service. Column C is gross Federal interest expense calculated in the repayment study. Column D is Federal principal amortization. Column E is the revenue surplus.

Table 13-3 shows the projected Federal investments used in the base study.

Table 13-4 contains the results of the transmission debt optimization repayment study. This study incorporates all elements from the base study noted above, plus the DOP/DSR projections for the current and upcoming fiscal years. Incorporating future DOP/DSR into this study is the only difference between this and the base study. The table is laid out in the same manner as Table 13-2, Summary of Base Repayment Study.

Table 13-5 shows the projected Federal investments used in the twenty-year study, which matches the projections shown in Table 13-3.

Table 13-6 shows the projected net debt service associated with the projected DOP bonds. The par amount of the projected bonds and the issuance year are shown in the bottom half of the table. The resulting net debt service stream is in the top half of the table.

13.4 Attachment A, Excerpt from the Slice Settlement Agreement

Sections B-1 through B-4 of Schedule D of Exhibit D, the Memorandum of Understanding Concerning the BPA Debt Optimization Program.

Table 13-1: Comparison of Transmission Repayment Studies
(\$000s)

Fiscal Year	A	B	C
	Base Total Debt Service	Debt Optimization Total Debt Service	Delta
2009	362,541	361,595	(946)
2010	408,683	408,391	(292)
2011	429,952	429,658	(294)
2012	455,944	455,663	(281)
2013	478,246	477,977	(269)
2014	496,552	496,289	(263)
2015	510,618	510,357	(261)
2016	531,404	531,142	(262)
2017	548,236	547,963	(273)
2018	560,707	560,435	(272)
2019	572,527	572,253	(274)
2020	585,251	584,976	(275)
2021	598,592	598,318	(274)
2022	613,132	612,858	(274)
2023	628,991	628,716	(275)
2024	644,298	644,024	(274)
2025	661,201	660,928	(273)
2026	678,765	678,492	(273)
2027	696,473	696,199	(274)
2028	714,743	714,469	(274)
Total			(6,153)

Table 13-2: Summary of Base Repayment Study (\$000s)

Fiscal Year	A Total Debt Service	B 3rd Party Debt Service	C Federal Gross Interest	D Federal Amortization	E Rev. Surplus
2009	362,541	75,645	114,237	172,659	-
2010	408,683	70,026	123,428	215,229	-
2011	429,952	71,861	139,240	218,851	-
2012	455,944	112,894	159,199	183,851	-
2013	478,246	233,761	184,844	59,641	-
2014	496,552	230,773	212,183	53,596	0
2015	510,618	236,208	237,103	37,307	0
2016	531,404	226,390	265,002	40,012	0
2017	548,236	235,745	290,902	21,589	-
2018	560,707	217,209	314,463	29,035	-
2019	572,527	29,791	339,773	202,964	0
2020	585,251	44,313	347,988	192,950	-
2021	598,592	44,357	355,301	198,934	0
2022	613,132	44,400	372,202	196,529	-
2023	628,991	44,452	384,120	200,419	0
2024	644,298	38,333	401,591	204,374	-
2025	661,201	19,855	415,153	226,193	0
2026	678,765	19,857	428,915	229,993	-
2027	696,473	19,860	450,369	226,244	0
2028	714,743	19,863	461,263	233,618	-
Total	\$11,176,856	\$2,015,730	\$5,536,015	\$2,910,367	\$0

Table 13-3: Projected Federal Investments in Base Study (\$000s)

A	B	C	D	E	F	G	H	I	J	
Project	Original Principal	Current Principal	Interest Rate	Due Date	Replacement?	In Service Date	Month	Rollover Date	Rollover Rate	
1	BPA PROGRAM	277,265	277,265	5.350%	2044	-	2009	3	-	-
2	BPA PROGRAM	405,094	405,094	6.790%	2045	-	2010	3	-	-
3	BPA PROGRAM	414,465	414,465	6.930%	2046	-	2011	3	-	-
4	BPA PROGRAM	495,298	495,298	6.690%	2047	-	2012	3	-	-
5	BPA PROGRAM	475,761	475,761	6.690%	2048	-	2013	3	-	-
6	BPA PROGRAM	462,764	462,764	6.690%	2049	-	2014	3	-	-
7	BPA PROGRAM	375,823	375,823	6.690%	2050	-	2015	3	-	-
8	BPA PROGRAM	465,446	465,446	6.690%	2051	-	2016	3	-	-
9	BPA PROGRAM	405,352	405,352	6.690%	2052	-	2017	3	-	-
10	BPA PROGRAM	329,582	329,582	6.690%	2053	-	2018	3	-	-
11	BPA PROGRAM	327,100	327,100	6.690%	2054	-	2019	3	-	-
12	BPA PROGRAM	349,000	349,000	6.690%	2055	-	2020	3	-	-
13	BPA PROGRAM	365,800	365,800	6.690%	2056	-	2021	3	-	-
14	BPA PROGRAM	391,000	391,000	6.690%	2057	-	2022	3	-	-
15	BPA PROGRAM	418,000	418,000	6.690%	2058	-	2023	3	-	-
16	BPA PROGRAM	418,000	418,000	6.690%	2059	-	2024	3	-	-
17	BPA PROGRAM	446,475	446,475	6.690%	2060	-	2025	3	-	-
18	BPA PROGRAM	459,869	459,869	6.690%	2061	-	2026	3	-	-
19	BPA PROGRAM	464,467	464,467	6.690%	2062	-	2027	3	-	-
20	BPA PROGRAM	480,925	480,925	6.690%	2063	-	2028	3	-	-
21	ENVIRONMENT	4,402	4,402	4.720%	2024	-	2009	3	-	-
22	ENVIRONMENT	5,369	5,369	5.870%	2025	-	2010	3	-	-
23	ENVIRONMENT	5,581	5,581	6.220%	2026	-	2011	3	-	-
24	ENVIRONMENT	5,869	5,869	6.210%	2027	-	2012	3	-	-
25	ENVIRONMENT	5,984	5,984	6.210%	2028	-	2013	3	-	-
26	ENVIRONMENT	6,101	6,101	6.210%	2029	-	2014	3	-	-
27	ENVIRONMENT	8,082	8,082	6.210%	2030	-	2015	3	-	-
28	ENVIRONMENT	8,246	8,246	6.210%	2031	-	2016	3	-	-
29	ENVIRONMENT	8,412	8,412	6.210%	2032	-	2017	3	-	-
30	ENVIRONMENT	8,582	8,582	6.210%	2033	-	2018	3	-	-
31	ENVIRONMENT	10,200	10,200	6.210%	2034	-	2019	3	-	-
32	ENVIRONMENT	10,900	10,900	6.210%	2035	-	2020	3	-	-
33	ENVIRONMENT	11,700	11,700	6.210%	2036	-	2021	3	-	-
34	ENVIRONMENT	12,500	12,500	6.210%	2037	-	2022	3	-	-
35	ENVIRONMENT	13,400	13,400	6.210%	2038	-	2023	3	-	-
36	ENVIRONMENT	13,905	13,905	6.210%	2039	-	2024	3	-	-
37	ENVIRONMENT	14,322	14,322	6.210%	2040	-	2025	3	-	-
38	ENVIRONMENT	14,752	14,752	6.210%	2041	-	2026	3	-	-
39	ENVIRONMENT	15,195	15,195	6.210%	2042	-	2027	3	-	-
40	ENVIRONMENT	15,651	15,651	6.210%	2043	-	2028	3	-	-

Table 13-4: Summary of Debt Optimization Repayment Study (\$000s)

	A	B	C	D	E
Fiscal Year	Total Debt Service	3rd Party Debt Service	Federal Gross Interest	Federal Amortization	Rev. Surplus
2009	361,595	35,645	113,291	212,659	-
2010	408,391	71,929	120,572	215,890	-
2011	429,658	73,764	136,336	219,558	-
2012	455,663	114,797	156,246	184,620	-
2013	477,977	235,664	181,849	60,464	-
2014	496,289	242,676	209,365	44,248	-
2015	510,357	242,658	236,442	31,256	-
2016	531,142	237,607	262,827	30,708	0
2017	547,963	241,483	289,537	16,944	-
2018	560,435	227,701	313,272	19,462	1
2019	572,253	29,791	339,533	202,929	0
2020	584,976	44,313	347,818	192,845	-
2021	598,318	44,357	355,039	198,922	0
2022	612,858	44,400	371,941	196,517	-
2023	628,716	44,452	383,871	200,393	0
2024	644,024	38,333	401,336	204,355	-
2025	660,928	19,855	414,900	226,174	0
2026	678,492	19,857	428,670	229,965	0
2027	696,199	19,860	450,119	226,220	0
2028	714,469	19,863	461,013	233,593	-
Total	11,170,703	2,049,005	5,973,975	3,147,723	1

Table 13-5: Projected Federal Investments in Debt Optimization Study (\$000s)

	A	B	C	D	E	F	G	H	I	J
	Project	Original Principal	Current Principal	Interest Rate	Due Date	Replacement?	In Service Date	Month	Rollover Date	Rollover Rate
1	BPA PROGRAM	277,265	277,265	5.350%	2044	No	2009	3	-	-
2	BPA PROGRAM	405,094	405,094	6.790%	2045	No	2010	3	-	-
3	BPA PROGRAM	414,465	414,465	6.930%	2046	No	2011	3	-	-
4	BPA PROGRAM	495,298	495,298	6.690%	2047	No	2012	3	-	-
5	BPA PROGRAM	475,761	475,761	6.690%	2048	No	2013	3	-	-
6	BPA PROGRAM	462,764	462,764	6.690%	2049	No	2014	3	-	-
7	BPA PROGRAM	375,823	375,823	6.690%	2050	No	2015	3	-	-
8	BPA PROGRAM	465,446	465,446	6.690%	2051	No	2016	3	-	-
9	BPA PROGRAM	405,352	405,352	6.690%	2052	No	2017	3	-	-
10	BPA PROGRAM	329,582	329,582	6.690%	2053	No	2018	3	-	-
11	BPA PROGRAM	327,100	327,100	6.690%	2054	No	2019	3	-	-
12	BPA PROGRAM	349,000	349,000	6.690%	2055	No	2020	3	-	-
13	BPA PROGRAM	365,800	365,800	6.690%	2056	No	2021	3	-	-
14	BPA PROGRAM	391,000	391,000	6.690%	2057	No	2022	3	-	-
15	BPA PROGRAM	418,000	418,000	6.690%	2058	No	2023	3	-	-
16	BPA PROGRAM	418,000	418,000	6.690%	2059	No	2024	3	-	-
17	BPA PROGRAM	446,475	446,475	6.690%	2060	No	2025	3	-	-
18	BPA PROGRAM	459,869	459,869	6.690%	2061	No	2026	3	-	-
19	BPA PROGRAM	464,467	464,467	6.690%	2062	No	2027	3	-	-
20	BPA PROGRAM	480,925	480,925	6.690%	2063	No	2028	3	-	-
21	ENVIRONMENT	4,402	4,402	4.720%	2024	No	2009	3	-	-
22	ENVIRONMENT	5,369	5,369	5.870%	2025	No	2010	3	-	-
23	ENVIRONMENT	5,581	5,581	6.220%	2026	No	2011	3	-	-
24	ENVIRONMENT	5,869	5,869	6.210%	2027	No	2012	3	-	-
25	ENVIRONMENT	5,984	5,984	6.210%	2028	No	2013	3	-	-
26	ENVIRONMENT	6,101	6,101	6.210%	2029	No	2014	3	-	-
27	ENVIRONMENT	8,082	8,082	6.210%	2030	No	2015	3	-	-
28	ENVIRONMENT	8,246	8,246	6.210%	2031	No	2016	3	-	-
29	ENVIRONMENT	8,412	8,412	6.210%	2032	No	2017	3	-	-
30	ENVIRONMENT	8,582	8,582	6.210%	2033	No	2018	3	-	-
31	ENVIRONMENT	10,200	10,200	6.210%	2034	No	2019	3	-	-
32	ENVIRONMENT	10,900	10,900	6.210%	2035	No	2020	3	-	-
33	ENVIRONMENT	11,700	11,700	6.210%	2036	No	2021	3	-	-
34	ENVIRONMENT	12,500	12,500	6.210%	2037	No	2022	3	-	-
35	ENVIRONMENT	13,400	13,400	6.210%	2038	No	2023	3	-	-
36	ENVIRONMENT	13,905	13,905	6.210%	2039	No	2024	3	-	-
37	ENVIRONMENT	14,322	14,322	6.210%	2040	No	2025	3	-	-
38	ENVIRONMENT	14,752	14,752	6.210%	2041	No	2026	3	-	-
39	ENVIRONMENT	15,195	15,195	6.210%	2042	No	2027	3	-	-
40	ENVIRONMENT	15,651	15,651	6.210%	2043	No	2028	3	-	-

Table 13-6: Projected Energy Northwest Debt Service with Debt Optimization

		A	B	C
	Fiscal Year	Principal	Interest	Net New D/S
1	2009	-	-	-
2	2010	-	1,903,000	1,903,000
3	2011	-	1,903,000	1,903,000
4	2012	-	1,903,000	1,903,000
5	2013	-	1,903,000	1,903,000
6	2014	10,000,000	1,903,000	11,903,000
7	2015	5,000,000	1,450,000	6,450,000
8	2016	10,000,000	1,217,000	11,217,000
9	2017	5,000,000	738,000	5,738,000
10	2018	10,000,000	492,000	10,492,000
11	Total	40,000,000	13,412,000	53,412,000

Par Amounts Of Selected Issues		
12	NET2009-DUE14-18	40,000,000
13	TOTAL	40,000,000

improvements in BPA's communications concerning the development and implementation of DOP. This MOU is entered in connection with the settlement of certain litigation involving the Participants. The settlement separately provides for certain actions that will resolve issues in the litigation concerning DOP and other financial issues, and are intended to avoid similar disputes in the future. The Participants intend this MOU to restore and maintain confidence that BPA is effectively managing the DOP in accordance with its commitments and to the benefit of its customers and public purposes.

B. BPA Commitments Concerning the Debt Optimization Program

1. BPA, working with Energy Northwest ("EN"), has developed the DOP to increase its available borrowing authority from the United States Treasury using proceeds accomplished as a result of EN bond refinancings.
2. One of the fundamental principles of the DOP, created at the time Debt Service Reassignment (DSR) (described more fully in Section B.4 below) was developed, is that the rates of each of BPA's business lines (Transmission Business Line ("TBL") and Power Business Line ("PBL")) are no higher with the DOP than they would have been in the absence of the DOP. BPA will manage the DOP in conformance with, and to achieve realization of, this principle, notwithstanding that the mechanics of recording the DOP transactions and understanding their impact on rates are complex. BPA annually demonstrates achievement of this principle by running repayment studies that compare a base repayment study that includes all debt management activities completed to date with a DOP repayment study that includes new DOP projections for the upcoming years, the results of which comply with such principle. BPA will continue to so demonstrate achievement of this principle annually and in the next and subsequent general wholesale power and transmission rate proceedings so long as new DOP refinancings occur. The demonstration for power rates will be made in the power rate case, and for the transmission rates in the transmission rate case. The Participants agree that for purposes of making its demonstration in the next general transmission rate proceeding, BPA will introduce the information for the first time in its rebuttal case, and the Administrator will direct the hearing officer in writing to provide parties a reasonable period of time to respond to such information with surrebuttal testimony and, if requested by any party (including BPA), a further reasonable period of time to respond to such surrebuttal with sur-surrebuttal testimony. Furthermore, BPA will adhere to this principle and will not move away from adherence to this principle without a public review and comment period, consistent with Section C of this MOU and any requirements of law.

3. In a letter to the EN Executive Board on December 11, 2000, BPA's Administrator stated that the success of the DOP in achieving its objectives depends both on the successful completion of the extension of the Columbia Generating Station debt and on the disciplined application of the proceeds from that action by BPA to amortize more Federal debt than would otherwise be scheduled for amortization. The Administrator gave the EN Executive Board BPA's commitment that this increased amortization would equal the reduction in BPA's net billing obligation resulting from debt management actions under this program on an annual basis and that only under extreme financial pressure would BPA consider deviating from the actions required to implement this program. These assurances also apply to extensions of Projects 1 and 3 debt. BPA will adhere to this principle and will not move away from adherence to this principle without a public review and comment period, consistent with Section C of this MOU and any requirements of law.

4. Customers have expressed a desire for assurance that BPA match, by business line, the benefit received (prepayment of Federal debt) with the obligation incurred (issuance of new EN debt). BPA has researched and believes it has implemented the appropriate accounting treatment and rate case methodologies to ensure that costs are recovered (per the repayment study) and debt service expense is attributed accurately as reflected in BPA's PBL and TBL income statements, thereby matching, by business line, the benefit received (prepayment of Federal debt allocated to a business line) with the obligation incurred (issuance of new EN debt) under DOP. When EN debt is issued and there is a resulting benefit to TBL, the original EN debt that was due in that particular year (and refinanced) is considered "paid" by the PBL. The original debt is no longer in existence due to the refinancing and the TBL responsibility for paying the debt service on the new debt is reflected in the accounting and rate case methodologies mentioned above. This all describes DSR, which is a component of DOP. References in this MOU to DOP shall include DSR, unless the context clearly requires otherwise.

BPA intends and will act to ensure that any EN debt service assigned to TBL through DSR cannot be later reassigned or reallocated to PBL customers during the term of such debt, consistent with law and contract. While net billing constraints, priority of payment requirements, and BPA ratemaking requirements to assure total cost recovery make it possible—though a very remote possibility—that BPA could find itself in a position unable to fulfill this commitment, BPA will seek to prevent that and, if it cannot, will inform the Participants consistent with Section C of this MOU. BPA does not now see any reason why it could or would not continue to set transmission rates to recover transmission costs and power rates to recover power costs, *i.e.*, it does not anticipate being in the situation where a transmission cost (*e.g.*, in this context, obligations

resulting from DSR) would need to be reallocated or reassigned to PBL for recovery, but in any event BPA will utilize the Communication Protocols set forth in Section C of this MOU to keep customers apprized of any change in circumstances.

Under BPA's priority of payment requirements, obligations resulting from DSR must be repaid before BPA repays Federal interest and amortization. That priority of payments makes it even more unlikely that obligations resulting from DSR would ever need to be allocated or assigned from TBL to PBL in order to assure total BPA cost recovery. However, in the event BPA did find itself in the situation where obligations resulting from DSR needed to be allocated or assigned back from TBL to PBL in order to assure total BPA cost recovery, BPA commits to treat the allocation or assignment in a manner where the costs would be tracked and the PBL would be fully compensated for its recovery of the TBL cost. The means of compensation would be proposed in a rate case and would be subject to review and comment by parties in that rate case, as addressed below.

5. In each general BPA PBL and TBL wholesale rate proceeding conducted while EN bonds refinanced under DOP, including EN debt service reassigned under DSR to TBL, are still outstanding, BPA will include the language of Sections B.1, B.2, B.3 and B.4 above in its Revenue Requirement Study, will clearly and transparently describe the DOP-related costs for the business line (PBL or TBL) for which rates are then being set, and will draw attention to that language in its testimony, except that the references to "Section C of this MOU" will be changed to give a complete citation to this MOU. After BPA's rate proceeding, and when BPA files its proposed rates with the Federal Energy Regulatory Commission (FERC), BPA will draw FERC's attention to such Revenue Requirement Study language in its cover letter. BPA will take all necessary and appropriate actions to defend the commitments made in this Section B, before FERC and elsewhere. In the event BPA were to propose to allocate or assign obligations resulting from DSR from TBL to PBL for recovery, BPA agrees that allocation or assignment must be implemented through a section 7(i) hearing and that it will not argue or otherwise assert that the Participant(s) are precluded from arguing or otherwise asserting in any such section 7(i) rate proceeding and thereafter in any proceeding before the FERC for approval of BPA wholesale rates, and thereafter in any proceeding for judicial review of BPA's rates, that BPA's proposal violates the equitable allocation standard or other standard of law.

C. Annual Communication and Management Protocols

1. Participants have requested and BPA will provide them early annual estimates of potential financings under DOP. While these preliminary estimates will be provided by BPA to customers and constituents even if

14. SALES AND REVENUE FORECAST

Table 14-1: Transmission Sales Forecast, FY 2009 - FY 2011 (Megawatts)

	(A)	(B)	(C)	
	FY 2009	FY 2010	FY 2011	
Rate Schedule				
Network				
1	Formula Power Transmission (FPT.1,3).....	1,814	1,524	1,497
2	Integration of Resources (IR).....	4,009	2,163	1,456
3	Network (NT) Base.....	6,316	6,063	6,276
4	Long-term Point to Point (PTP)			
5	CONFIRMED Sales.....	17,983	18,183	16,218
6	CONFIRMED Short Distance Discount (SDD).....	-299	-284	-159
7	STUDY Sales.....	148	338	588
8	Expected Sales.....	657	3,491	6,652
9	Expected SDD.....	65	-49	-261
10	Subtotal Long-term PTP.....	18,553	21,679	23,037
11	PTP Short Term.....	891	891	891
12	Subtotal Network.....	31,584	32,320	33,157
Southern Intertie				
	Long-term Intertie South (IS)			
13	CONFIRMED Sales.....	4,054	3,596	3,344
14	STUDY Sales.....	375	450	450
15	Expected Sales.....	882	1,365	1,586
16	Subtotal Long-term IS.....	5,311	5,411	5,380
17	IS Short Term.....	209	209	209
18	Subtotal Intertie.....	5,520	5,620	5,589
19	NT Load Shaping.....	6,574	6,360	6,533
20	Utility Delivery Charge.....	204	198	181
21	Montana Intertie.....	16	16	16
Sales Receiving Transmission Credits				
22	Long-Term PTP.....	504	1,442	1,743
23	NT/NT_LS.....	0	50	113
24	Long-Term IS.....	0	301	451

Table 14-2: Transmission Revenues, Current Rates FY 2009 - FY 2011
(\$000s)

	(A)	(B)	(C)	
	FY2009	FY2010	FY2011	
Long-Term				
Network				
1	Formula Power Transmission, one yr rate.....	28,845	24,549	24,124
2	Formula Power Transmission, three yr rate.....	0	0	0
3	Integration of Resources.....	72,406	38,887	26,171
4	Point to Point.....	288,690	337,672	358,823
5	Network Integration Transmission, Base Charge.....	88,774	94,433	97,757
6	Network Integration Transmission, Load Shaping.....	25,306	27,833	28,772
Interties				
7	Intertie South.....	82,333	83,960	83,479
8	Montana Intertie.....	252	252	252
Short-Term				
9	Network.....	20,975	21,181	21,181
10	PSW Intertie.....	4,407	4,438	4,438
Delivery				
11	Utility.....	2,583	2,664	2,424
12	Industry.....	1,828	1,765	1,765
Ancillary				
13	Scheduling Control & Dispatch.....	76,344	84,680	88,432
14	Generation Supplied Reactive.....	0	0	0
15	Operating Reserves.....	34,205	35,011	36,262
16	Regulation and Frequency Response.....	14,296	17,603	18,219
17	Wind Integration - Within-hour Balancing.....	15,714	26,082	34,984
18	Generation and Load Imbalances.....	1,036	0	0
Revenue Credits				
19	UFT Fixed Dollar Amount	4,513	4,530	4,435
20	UFT Variable Service Amt.....	1,215	992	967
21	TGT Firm Demand.....	9,796	9,796	9,796
22	O&M Non-Federal Facility.....	777	784	784
23	O&M Federal Facility.....	368	337	361
24	PTP Reservation Fee.....	1,310	792	1,666
25	SINT AC Non Federal O&M.....	1,412	1,391	1,391
26	SINT AC Non Fed Replacements.....	421	500	500
27	Power Factor Penalty Lagging.....	304	317	317
28	Power Factor Penalty Leading.....	41	31	31
29	PPF Lagging Ratchet.....	3,676	3,552	3,552
30	PPF Leading Ratchet.....	520	503	503
31	PCS Wireless Leases.....	4,456	4,397	4,397
32	PCS Construction.....	616	671	671
33	PCS Application Fee.....	0	50	50
34	Fiber Leases.....	7,365	7,287	7,090
35	Fiber Operations & Maintenance.....	1,020	901	909
36	Land Use/Lease/Sale.....	220	216	216
37	Misc Leases.....	157	164	160
38	Right-Of-Way Lease.....	87	84	84
39	COE/BOR Project Revenue.....	954	954	954
40	3rd AC Remedial Action Sceme.....	51	51	51
41	Transmission Share of IPP.....	383	382	382
42	Use of Communication Equipmnt.....	101	97	77
43	Amort NonFed PNW AC Intertie.....	3,065	3,065	3,065
44	Generation Integration.....	6,815	8,000	8,000
45	Subtotal Network.....	524,996	544,555	556,828
46	Subtotal Interties.....	86,992	88,650	88,168
47	Subtotal Delivery.....	4,411	4,429	4,189
48	Subtotal Ancillary.....	141,595	163,376	177,897
49	Subtotal Revenue Credits.....	49,644	49,844	50,410
50	Total TS.....	807,638	850,853	877,492

Table 14-3: Transmission Revenues, Proposed Rates FY 2010 - FY 2011
(\$000s)

	(A) FY2010	(B) FY2011	
Long-Term			
Network			
1	Formula Power Transmission, one yr rate.....	24,549	24,124
2	Formula Power Transmission, three yr rate.....	0	0
3	Integration of Resources.....	38,887	26,171
4	Point to Point.....	337,672	358,823
5	Network Integration Transmission, Base Charge.....	94,433	97,757
6	Network Integration Transmission, Load Shaping.....	27,833	28,772
Interties			
7	Intertie South.....	83,960	83,479
8	Montana Intertie.....	252	252
Short-Term			
9	Network.....	21,181	21,181
10	PSW Intertie.....	4,438	4,438
Delivery			
11	Utility.....	2,664	2,424
12	Industry.....	1,765	1,765
Ancillary			
13	Scheduling Control & Dispatch.....	84,680	88,432
14	Generation Supplied Reactive.....	0	0
15	Operating Reserves.....	46,345	48,000
16	Regulation and Frequency Response.....	14,364	14,866
17	Wind Integration - Within-hour Balancing.....	104,346	139,960
18	Generation and Load Imbalances.....	0	0
Revenue Credits			
19	UFT Fixed Dollar Amount	4,530	4,435
20	UFT Variable Service Amt.....	992	967
21	TGT Firm Demand.....	9,796	9,796
22	O&M Non-Federal Facility.....	784	784
23	O&M Federal Facility.....	337	361
24	PTP Reservation Fee.....	792	1,666
25	SINT AC Non Federal O&M.....	1,391	1,391
26	SINT AC Non Fed Replacements.....	500	500
27	Power Factor Penalty Lagging.....	317	317
28	Power Factor Penalty Leading.....	31	31
29	PFM Lagging Ratchet.....	3,552	3,552
30	PFM Leading Ratchet.....	503	503
31	PCS Wireless Leases.....	4,397	4,397
32	PCS Construction.....	671	671
33	PCS Application Fee.....	50	50
34	Fiber Leases.....	7,287	7,090
35	Fiber Operations & Maintenance.....	901	909
36	Land Use/Lease/Sale.....	216	216
37	Misc Leases.....	164	160
38	Right-Of-Way Lease.....	84	84

**Table 14-4: LGIA Transmission Credits and Interest at Current Rates
(\$000s)**

Generation Project	FY 2009		FY 2010		FY 2011	
	Interest Expense	Transmission Credits Repaid	Interest Expense	Transmission Credits Repaid	Interest Expense	Transmission Credits Repaid
1 Generation Project A	93	1,089	49	1,089	1	181
2 Generation Project B	868	1,558	1,060	1,558	1,147	1,558
3 Generation Project C	615	6,230	388	6,230	46	3,115
4 Generation Project D	932	1,493	967	6,230	666	6,230
5 Generation Project E	671	935	838	935	931	935
6 Generation Project F	427	1,745	456	1,745	365	1,745
7 Generation Project G	324	1,558	492	1,558	952	1,558
8 Generation Project H	98	2,338	7	779	-	-
9 Generation Project I	414	1,573	352	1,573	284	1,573
10 Generation Project J	558	-	2,781	273	4,972	1,168
11 Generation Project K	169	62	223	62	262	62
12 Generation Project L	60	-	81	-	98	-
13 Generation Project M	278	1,184	290	1,184	254	1,184
14 Generation Project N	47	-	63	-	76	-
15 Generation Project O	238	1,465	149	3,115	6	779
16 Generation Project P	58	-	220	2,336	45	3,115
17 Generation Project Q	151	125	147	1,495	58	1,495
18 Generation Project R	7	389	-	-	-	-
19 Generation Project S	114	-	282	966	261	966
20 Generation Project T	697	-	940	-	1,013	3,894
21 Generation Project U	94	519	107	1,558	17	909
22 Generation Project V	526	-	3,036	-	5,032	1,298
23 Generation Project W	7	-	243	65	280	779
24 Generation Project X	-	-	1	-	0	592
25 Generation Project Y	3	-	18	51	4	255
26 Generation Project Z	5	-	91	-	143	857
27 Generation Project AA	5	-	310	52	663	623
28 Generation Project AB	10	-	122	52	166	623
29 Generation Project AC	5	-	272	195	501	2,336
30 Generation Project AD	5	-	272	-	599	260
31 Generation Project AE	445	-	1,311	-	2,259	260
32 Generation Project AF	184	-	518	-	878	260
33 Generation Project AG	-	-	-	50	-	-
34 Non-LGIA Project						
35 ANNUAL TOTALS	\$ 8,108	\$ 22,262	\$ 16,087	\$ 33,150	\$ 21,979	\$ 38,608

**Table 14-5: LGIA Transmission Credits and Interest at Proposed Rates
(\$000s)**

Generation Project	FY 2009		FY 2010		FY 2011	
	Interest Expense	Transmission Credits Repaid	Interest Expense	Transmission Credits Repaid	Interest Expense	Transmission Credits Repaid
1 Generation Project A	93	1,089	49	1,089	1	181
2 Generation Project B	868	1,558	1,060	1,558	1,147	1,558
3 Generation Project C	615	6,230	388	6,230	46	3,115
4 Generation Project D	932	1,493	967	6,230	666	6,230
5 Generation Project E	671	935	838	935	931	935
6 Generation Project F	427	1,745	456	1,745	365	1,745
7 Generation Project G	324	1,558	492	1,558	952	1,558
8 Generation Project H	98	2,338	7	779	-	-
9 Generation Project I	414	1,573	352	1,573	284	1,573
10 Generation Project J	558	-	2,781	273	4,972	1,168
11 Generation Project K	169	62	223	62	262	62
12 Generation Project L	60	-	81	-	98	-
13 Generation Project M	278	1,184	290	1,184	254	1,184
14 Generation Project N	47	-	63	-	76	-
15 Generation Project O	238	1,465	149	3,115	6	779
16 Generation Project P	58	-	220	2,336	45	3,115
17 Generation Project Q	151	125	147	1,495	58	1,495
18 Generation Project R	7	389	-	-	-	-
19 Generation Project S	114	-	282	966	261	966
20 Generation Project T	697	-	940	-	1,013	3,894
21 Generation Project U	94	519	107	1,558	17	909
22 Generation Project V	526	-	3,036	-	5,032	1,298
23 Generation Project W	7	-	243	65	280	779
24 Generation Project X	-	-	1	-	0	592
25 Generation Project Y	3	-	18	51	4	255
26 Generation Project Z	5	-	91	-	143	857
27 Generation Project AA	5	-	310	52	663	623
28 Generation Project AB	10	-	122	52	166	623
29 Generation Project AC	5	-	272	195	501	2,336
30 Generation Project AD	5	-	272	-	599	260
31 Generation Project AE	445	-	1,311	-	2,259	260
32 Generation Project AF	184	-	518	-	878	260
33 Generation Project AG	-	-	-	50	-	-
34 Non-LGIA Project						
35 ANNUAL TOTALS	\$ 8,108	\$ 22,262	\$ 16,087	\$ 33,150	\$ 21,979	\$ 38,608

Table 14-6: FERC Interest Rate Assumptions

Fiscal Year	Assumed Annual Rate
2009	5.40%
2010	6.85%
2011	7.64%

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